



**Minto Explorations Ltd.**

A SUBSIDIARY OF CAPSTONE MINING LTD.

## APPENDIX L

# Characterization of Baseline and Operational Water Quality of Minto Creek

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**Characterization of  
Baseline and Operational  
Water Quality of Minto Creek  
2010**

**Report Prepared for:**

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**Report Prepared by:**

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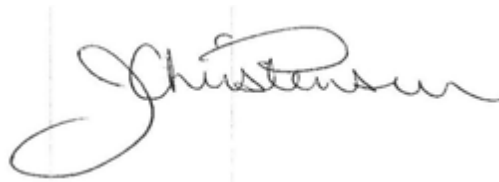
# **Characterization of Baseline and Operational Water Quality of Minto Creek 2010**

**Report Prepared for:**

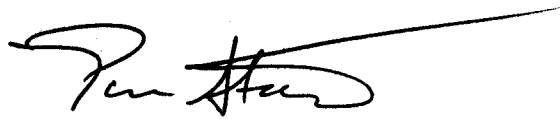
**Minto Explorations Ltd.**

**Report Prepared by:**

**Minnow Environmental Inc.**

A handwritten signature in dark ink, appearing to read 'J Christensen', written over a horizontal line.

**Jennie Christensen, Ph.D., RPBio  
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A handwritten signature in dark ink, appearing to read 'Pierre Stecko', written over a horizontal line.

**Pierre Stecko, M.Sc., CCEP, RPBio  
Project Principal**

**August 2010**

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## **1.0 INTRODUCTION**

### **1.1 Project Background**

Minto Explorations Ltd. (MintoEx), a wholly owned subsidiary of Capstone Mining Corp. (Capstone), owns and operates a high-grade copper mine (the Minto Mine), located approximately 240 km northwest of Whitehorse, Yukon Territory (Figure 1.1). The project is located within Selkirk First Nation (Selkirk) Category A Settlement Land Parcel R-6A, and is centered at approximately 62°37'N latitude and 137°15'W longitude.

Minnow Environmental Inc. was contracted by Access Consulting Group (ACG) on behalf of MintoEx to complete a water quality characterization as part of the information required for permitting for possible future expansion of the Minto Mine. The water quality characterization involves an update of the water quality of Minto Creek (and tributaries) previously conducted by Minnow (Minnow 2009).

Background water quality of Minto Creek was previously characterized based on data collected to the end of 2008 (Minnow 2009). The previous characterization was focused on defining the background concentrations of key metals to represent the Creek as a whole and for potential application as site-specific water quality objectives in lower Minto Creek. The water quality characterization herein expands upon the previous one by including data to the end of 2009, by independently characterizing water quality associated with the various receiving water stations (upper Minto Creek, lower Minto Creek and reference tributaries), and by characterizing water quality associated with discrete intervals of relevance to the mine (pre-operation, operation [no discharge], and operation [discharge]).

### **1.2 Objective**

The objective of this report is to update the water quality characterization of Minto Creek (and tributaries) previously conducted by Minnow (Minnow 2009).

### **1.3 Report Overview**

This report is presented in five sections, the first of which is this introduction (Section 1.0). Section 2.0 provides an overview of the methods used in this evaluation. Section 3.0 characterizes the water quality of Minto Creek. Section 4.0 summarizes the results of this report. All references cited throughout this report are listed in Section 5.0.



## MINTO PROJECT



**Minto Explorations Ltd.**

A SUBSIDIARY OF CAPSTONE MINING LTD.

## ENVIRONMENTAL EFFECTS MONITORING STUDY DESIGN CYCLE 2

**FIGURE 1.1**  
**PROJECT LOCATION**



## 2.0 METHODS

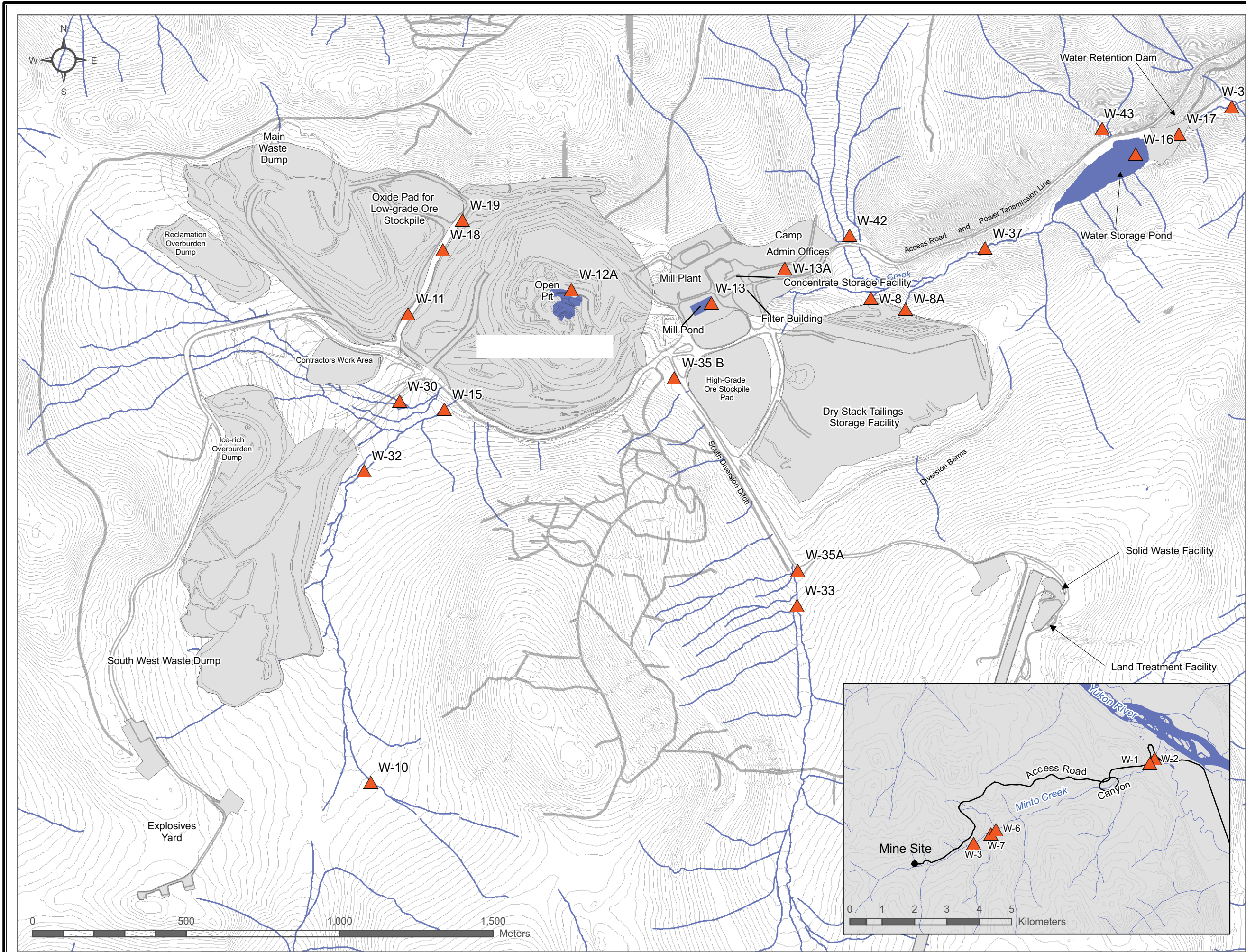
### 2.1 Water Quality Data Handling and Summarization

Water quality data were obtained from the Access Consulting Group and the Minto Mine for Minto Creek (and tributaries; Appendix A). Prior to data analysis, water quality data from the mine were subject to a data quality assessment (DQA; Appendix B), which examined laboratory blanks, laboratory accuracy (Certified Reference Material recovery), laboratory precision (laboratory duplicates), field and trip blanks, and field precision (field duplicates).

Water quality was monitored at a total of 13 water quality stations in Minto Creek from 2005 to 2009 (W2, W3, W6, W7, W8/8A, W10, W12, W13, W15, W16, W17 and W50; Figure 2.1). While all water quality data for Minto Creek are provided in Appendix B, the focus of this report is on four of these stations: W2, W3, W6 and W7. Station W2 is the receiving water quality station (exposed; lower Minto Creek), W3 is the effluent station, and W6 and W7 are considered reference stations (in tributaries to Minto Creek). The focus of this report is also on only those parameters with either CCME water quality guidelines (CCME 1999). These parameters include pH, nitrate, nitrite, aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, thallium, and zinc. Total suspended solids (TSS) concentrations have also been considered.

Undetected concentrations in a water sample were substituted with  $\frac{1}{2}$  method detection limit (MDL) for statistical analysis and calculations. For each of the parameters noted above, the mean and standard deviation was calculated for each station for the period of 2005 to 2009, to identify any outliers, which were defined as concentrations exceeding mean + 3 standard deviations (Appendix C). For stations W2, W3, W6 and W7 specifically, where summary statistics were calculated, outliers identified as high MDLs were omitted prior to data analysis. In addition, any sample dates that exhibited a number of parameter concentrations identified as “outliers” were also omitted prior to data analysis. Outlier values not included in the summary statistics are identified in the water quality tables for each station (Appendix A).

Minto Creek water quality data were divided into three phases: pre-operation (prior to April 1, 2006), operational (April 1, 2006 – December 31, 2009) with no discharge and operational with discharge. Discharge periods were from August 26 – September 30, 2008, June 26 – August 6, 2009, and August 13 – October 30, 2009. Mean concentration, number of samples, percentage greater than method detection limit, percentage greater than water quality guideline, and where appropriate, percentage greater than site-specific water quality objective (i.e., aluminum, copper and iron; Minnow 2009) were calculated and tabulated.



# MINTO PROJECT

## MINTO CREEK BASELINE WATER QUALITY JULY 2010



- ▲ Water Quality Station
- Mine Feature Form Line
- Mine Road
- Watercourse
- Contour
- Mine Feature Footprint
- Waterbody

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NAD 83 UTM Zone 8N

FIGURE 2.1  
WATER QUALITY  
SAMPLING LOCATIONS



|             |           |                |
|-------------|-----------|----------------|
| Drawn by MD | JULY 2010 | Verified by SK |
|-------------|-----------|----------------|

|                                                                             |            |
|-----------------------------------------------------------------------------|------------|
| D:\Project\AllProjects\Minto\gis\mxd\MintoNorth\2009_Environmental_Summary\ | Proj.:2335 |
|-----------------------------------------------------------------------------|------------|

## 2.2 Interpretation of Water Quality Data

The water quality data of Minto Creek were interpreted using one approach with five different steps to ensure an adequate assessment of water quality characterization.

First, average water quality was examined relative to the respective water quality guidelines, which helped identify which parameters have naturally high concentrations (e.g., regularly exceed guidelines even in reference areas or in pre-operation periods) and those parameters that exceed the guidelines only during specific periods of time (e.g., discharge events). Water quality data were compared to Canadian Water Quality Guidelines (CWQG) for the protection of aquatic life (CCME 1999). It should be noted that W6 and W7 had a very small number of samples taken during each of the different operational phases, and that W2 and W3 had a very small number of samples taken pre-operation.

Second, concentrations of water quality parameters were examined in individual samples; more specifically, the percentage of samples exceeding the guidelines was examined for any changes that occurred during the various phases identified above. Naturally elevated parameters were then identified as those that exceeded applicable CWQGs at a frequency of greater than 5% on a regional basis during pre-operation (W2 and W3) or during any/all operational phases (reference stations W6 and W7).

Third, changes in the percentage of individual samples with detectable concentrations among the different phases were examined, as these may also indicate changes in water quality due to a mine-influence (even if concentrations are well below the respective water quality guideline).

Fourth, concentrations were plotted over time and examined for any changes potentially related to discharge events. This allowed for actual visualization of both background water quality and any spikes in concentration as a result of discharge or stormwater events.

Finally, concentrations at exposed stations of Minto Creek were compared to the upper 95<sup>th</sup> percentile of reference stations (calculated and reported in Minnow 2009) to assess deviation from background “reference” conditions.

## 3.0 CHARACTERIZATION OF WATER QUALITY

### 3.1 Average Concentrations Relative to Water Quality Guidelines

Average concentrations of water quality parameters with water quality guidelines were examined for three operational periods for each of stations W2, W3, W6 and W7 (Tables 3.1-3.4). No station had any concentrations exceeding the water quality guidelines or SSWQOs during the pre-operational phase (before April 2006; Tables 3.1 - 3.4). During mine operation - no discharge, only the effluent station W3 had any elevated parameters, and only cadmium (Table 3.2).

During mine operation while discharging, there was very little to no change in the water quality at the reference stations, W6 and W7 (Tables 3.3 to 3.4), as expected, and no average concentration of any parameter exceeded the water quality guidelines or SSWQOs. Conversely, at the effluent station (W3) and the effluent-exposed receiving water station (W2) water quality was impacted by the discharge events. At W3, water quality guideline and SSWQO exceedences were evident for cadmium, copper, selenium, nitrite and nitrate (Table 3.2). Mean nitrite concentration exceedences, however, appear to have been influenced by some high method detection limits, and thus should be reviewed with caution (Appendix A). No water quality parameter exceeded MMER guidelines at any time at W3. While nitrite and nitrate were only slightly elevated (between 1 and 2X greater than the water quality guideline) at W3, copper (4.9X) and selenium (2.1X) were more elevated. At the receiving station, W2, similar water quality patterns were apparent, where CWQG exceedences were evident for aluminum, cadmium, copper, iron and nitrate (Table 3.1). Here, all parameters only slightly exceeded the guideline (<2X), on average.

### 3.2 Individual Sample Concentrations Relative to Water Quality Guidelines

Even when average water quality concentrations do not exceed applicable water quality guidelines, individual samples may nonetheless be elevated on occasion (i.e. exceed guidelines). Thus, examining the percentage of samples which exceed the guideline for any of the water quality parameters helps differentiate between naturally elevated parameters and those parameters that may be influenced by mine operations and/or discharge.

At the reference station, W7, chromium was exceeded during most or all of the operational periods at a low to moderate frequency (Table 3.4), whereas at the other reference station, W6, chromium was only exceeded during operational – no discharge periods (Table 3.3). Other parameters that were elevated in a low percentage of samples (<25%) at both reference stations were aluminum, cadmium, iron, and nitrite, while selenium was elevated in

Table 3.1: Summary of water quality data at Station W2<sup>d</sup>, Minto Mine

| Parameter              | Unit     | Baseline<br>95th<br>Percentile <sup>a</sup> | SSWQO <sup>a</sup> | CCME Guideline           | averages          |                              |                        | number            |                              |                        | %>MDL             |                              |                        | %>CCME or SSWQO   |                              |                        |
|------------------------|----------|---------------------------------------------|--------------------|--------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|
|                        |          |                                             |                    |                          | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge |
| Total Metals           |          |                                             |                    |                          |                   |                              |                        |                   |                              |                        |                   |                              |                        |                   |                              |                        |
| Aluminum               | mg/L     | 0.618                                       | 0.62               | 0.1                      | 0.258             | 0.506                        | 0.706                  | 7                 | 83                           | 28                     | 100               | 100                          | 108                    | 14                | 21                           | 27                     |
| Arsenic                | mg/L     | 0.0008                                      | -                  | 0.005                    | 0.0007            | 0.0007                       | 0.0008                 | 7                 | 83                           | 28                     | 100               | 100                          | 108                    | 0                 | 0                            | 4                      |
| Cadmium                | mg/L     | 0.00004                                     | -                  | 0.000051 <sup>b</sup>    | 0.00002           | 0.00003                      | 0.00006                | 7                 | 82                           | 28                     | 0                 | 26                           | 96                     | 0                 | 11                           | 25                     |
| Chromium               | mg/L     | 0.002                                       | 0.002              | 0.001                    | 0.0009            | 0.0012                       | 0.0017                 | 7                 | 83                           | 28                     | 43                | 55                           | 46                     | 14                | 18                           | 25                     |
| Copper                 | mg/L     | 0.013                                       | 0.013              | 0.002-0.004 <sup>c</sup> | 0.003             | 0.006                        | 0.022                  | 7                 | 83                           | 28                     | 100               | 100                          | 100                    | 0                 | 9                            | 62                     |
| Iron                   | mg/L     | 1.08                                        | 1.1                | 0.3                      | 0.555             | 0.803                        | 1.188                  | 7                 | 83                           | 28                     | 100               | 84                           | 100                    | 14                | 21                           | 31                     |
| Lead                   | mg/L     | 0.00041                                     | -                  | 0.002-0.007 <sup>c</sup> | 0.0002            | 0.0003                       | 0.0006                 | 7                 | 83                           | 28                     | 29                | 56                           | 88                     | 0                 | 0                            | 4                      |
| Mercury                | mg/L     | 0.00005                                     | -                  | 0.0001                   | 0.00001           | 0.00003                      | 0.00002                | 3                 | 28                           | 28                     | 0                 | 15                           | 38                     | 0                 | 0                            | 0                      |
| Molybdenum             | mg/L     | 0.002                                       | -                  | 0.073                    | 0.001             | 0.001                        | 0.008                  | 6                 | 83                           | 28                     | 67                | 94                           | 100                    | 0                 | 0                            | 0                      |
| Nickel                 | mg/L     | 0.003                                       | -                  | 0.065-0.15 <sup>c</sup>  | 0.002             | 0.002                        | 0.003                  | 7                 | 83                           | 28                     | 100               | 95                           | 100                    | 0                 | 0                            | 0                      |
| Selenium               | mg/L     | 0.0005                                      | -                  | 0.001                    | 0.0005            | 0.0004                       | 0.0010                 | 6                 | 83                           | 28                     | 0                 | 17                           | 92                     | 0                 | 0                            | 69                     |
| Silver                 | mg/L     | 0.0001                                      | -                  | 0.0001                   | 0.00001           | 0.00004                      | 0.00002                | 6                 | 82                           | 28                     | 0                 | 32                           | 15                     | 0                 | 4                            | 4                      |
| Thallium               | mg/L     | 0.0001                                      | -                  | 0.0008                   | 0.00005           | 0.00004                      | 0.00002                | 3                 | 82                           | 27                     | 0                 | 5                            | 4                      | 0                 | 0                            | 0                      |
| Zinc                   | mg/L     | 0.0105                                      | -                  | 0.03                     | 0.002             | 0.006                        | 0.007                  | 7                 | 83                           | 28                     | 29                | 95                           | 58                     | 0                 | 1                            | 4                      |
| Non-Metallic Paramters |          |                                             |                    |                          |                   |                              |                        |                   |                              |                        |                   |                              |                        |                   |                              |                        |
| Nitrite                | mg/L     | 0.03                                        | -                  | 0.06                     | 0.0007            | 0.0063                       | 0.0246                 | 7                 | 58                           | 32                     | 29                | 29                           | 87                     | 0                 | 0                            | 3                      |
| Nitrate                | mg/L     | 0.193                                       | -                  | 2.9                      | 0.1               | 0.1                          | 3.0                    | 7                 | 73                           | 32                     | 100               | 62                           | 100                    | 0                 | 0                            | 53                     |
| pH-L                   | pH units | 8.22                                        | -                  | 6.5-9.0                  | 8.1               | 8.0                          | 8.1                    | 7                 | 81                           | 111                    | 100               | 100                          | 100                    | 0                 | 0                            | 0                      |
| TSS                    | mg/L     | 24.58                                       | -                  | -                        | 17                | 23                           | 16                     | 7                 | 80                           | 114                    | 71                | 54                           | 84                     | -                 | -                            | -                      |

Between 5 and 25% of individual samples are >CWQG

Between 25 and 50% of individual samples are >CWQG

>50% of individual samples are >CWQG

Average concentration of all samples is greater than respective water quality guideline/objective

Bolded water quality guidelines/objectives denote the standard by which water quality at this station was compared

<sup>a</sup> 95th percentile and site specific water quality guideline developed by Minnow (2009)

<sup>b</sup> Cadmium guideline dependant on average water hardness for W2 at 165 mg/L

<sup>c</sup> Copper, lead and nickel guidelines dependant on water hardness

<sup>d</sup> Data from April 5, 2006 (all parameters), April 6, 2006 (all parameters), June 2, 2006 (all parameters), May 27, 2009 (Cd), June 17, 2009 (Ag) were not included in the calculation of the summary stats due to abnormally high concentrations that are not a reflection of normal conditions (likely a result of a stormwater event increasing TSS-associated concentrations)

Table 3.2: Summary of water quality data at Station W3<sup>d,e</sup>, Minto Mine

| Parameter               | Units    | Baseline<br>95th<br>Percentile <sup>a</sup> | SSWQO <sup>a</sup> | CCME Guideline           | MMER<br>Authorized<br>Monthly<br>Mean | MMER<br>Authorized in<br>Grab | averages          |                              |                        | number            |                              |                        | %>MDL             |                              |                        | %>CCME or SSWQO   |                              |                        |
|-------------------------|----------|---------------------------------------------|--------------------|--------------------------|---------------------------------------|-------------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|
|                         |          |                                             |                    |                          |                                       |                               | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge |
| Total Metals            |          |                                             |                    |                          |                                       |                               |                   |                              |                        |                   |                              |                        |                   |                              |                        |                   |                              |                        |
| Aluminum                | mg/L     | 0.618                                       | 0.62               | 0.1                      | -                                     | -                             | 0.216             | 0.221                        | 0.609                  | 7                 | 196                          | 41                     | 100               | 98                           | 98                     | 14                | 7                            | 37                     |
| Arsenic                 | mg/L     | 0.0008                                      | -                  | 0.005                    | 0.5                                   | 1                             | 0.0005            | 0.0005                       | 0.0007                 | 7                 | 196                          | 41                     | 86                | 90                           | 98                     | 0                 | 0                            | 0                      |
| Cadmium                 | mg/L     | 0.00004                                     | -                  | 0.000061 <sup>b</sup>    | -                                     | -                             | 0.00002           | 0.00010                      | 0.00008                | 7                 | 195                          | 41                     | 0                 | 44                           | 98                     | 0                 | 3                            | 34                     |
| Chromium                | mg/L     | 0.002                                       | 0.002              | 0.001                    | -                                     | -                             | 0.0006            | 0.0007                       | 0.0013                 | 7                 | 196                          | 41                     | 29                | 55                           | 49                     | 0                 | 5                            | 29                     |
| Copper                  | mg/L     | 0.013                                       | 0.013              | 0.002-0.004 <sup>c</sup> | 0.3                                   | 0.6                           | 0.008             | 0.011                        | 0.064                  | 7                 | 196                          | 41                     | 100               | 99                           | 98                     | 14                | 24                           | 76                     |
| Iron                    | mg/L     | 1.08                                        | 1.1                | 0.3                      | -                                     | -                             | 0.532             | 0.341                        | 1.099                  | 7                 | 192                          | 41                     | 86                | 92                           | 98                     | 14                | 5                            | 32                     |
| Lead                    | mg/L     | 0.00041                                     | -                  | 0.002-0.007 <sup>c</sup> | 0.2                                   | 0.4                           | 0.0002            | 0.0002                       | 0.0006                 | 7                 | 194                          | 41                     | 29                | 58                           | 78                     | 0                 | 0                            | 0                      |
| Mercury                 | mg/L     | 0.00005                                     | -                  | 0.0001                   | -                                     | -                             | 0.00001           | 0.00003                      | 0.00002                | 3                 | 129                          | 41                     | 0                 | 5                            | 51                     | 0                 | 0                            | 0                      |
| Molybdenum              | mg/L     | 0.002                                       | -                  | 0.073                    | -                                     | -                             | 0.0014            | 0.0025                       | 0.0130                 | 7                 | 196                          | 41                     | 100               | 98                           | 98                     | 0                 | 0                            | 2                      |
| Nickel                  | mg/L     | 0.003                                       | -                  | 0.065-0.15 <sup>c</sup>  | 0.5                                   | 1                             | 0.0015            | 0.0015                       | 0.0031                 | 7                 | 196                          | 41                     | 86                | 85                           | 88                     | 0                 | 0                            | 0                      |
| Selenium                | mg/L     | 0.0005                                      | -                  | 0.001                    | -                                     | -                             | 0.0005            | 0.0004                       | 0.0021                 | 7                 | 194                          | 41                     | 0                 | 38                           | 68                     | 0                 | 2                            | 59                     |
| Silver                  | mg/L     | 0.0001                                      | -                  | 0.0001                   | -                                     | -                             | 0.00001           | 0.00004                      | 0.00002                | 7                 | 191                          | 41                     | 29                | 19                           | 15                     | 0                 | 3                            | 7                      |
| Thallium                | mg/L     | 0.0001                                      | -                  | 0.0008                   | -                                     | -                             | 0.0001            | 0.00003                      | 0.00002                | 7                 | 196                          | 41                     | 0                 | 4                            | 20                     | 0                 | 0                            | 0                      |
| Zinc                    | mg/L     | 0.0105                                      | -                  | 0.03                     | 0.5                                   | 1                             | 0.002             | 0.006                        | 0.009                  | 7                 | 196                          | 41                     | 14                | 95                           | 73                     | 0                 | 2                            | 2                      |
| Non-Metallic Parameters |          |                                             |                    |                          |                                       |                               |                   |                              |                        |                   |                              |                        |                   |                              |                        |                   |                              |                        |
| Nitrite                 | mg/L     | 0.03                                        | -                  | 0.06                     | -                                     | -                             | 0.001             | 0.014                        | 0.106                  | 7                 | 139                          | 42                     | 0                 | 12                           | 86                     | 0                 | 4                            | 69                     |
| Nitrate                 | mg/L     | 0.193                                       | -                  | 2.9                      | -                                     | -                             | 0.26              | 0.83                         | 3.41                   | 7                 | 157                          | 42                     | 86                | 75                           | 98                     | 0                 | 10                           | 50                     |
| pH-L                    | pH units | 8.22                                        | -                  | 6.5-9.0                  | 6.0-9.5                               | 6.0-9.5                       | 7.98              | 7.93                         | 8.02                   | 7                 | 192                          | 120                    | 100               | 99                           | 99                     | 0                 | 0                            | 0                      |
| TSS                     | mg/L     | 24.58                                       | -                  | -                        | 15                                    | 30                            | 8                 | 7                            | 9                      | 7                 | 192                          | 124                    | 57                | 57                           | 49                     | -                 | -                            | -                      |

Between 5 and 25% of individual samples are >CWQG

Between 25 and 50% of individual samples are >CWQG

>50% of individual samples are >CWQG

Average concentration of all samples is greater than respective water quality guideline/objective

Bolded water quality guidelines/objectives denote the standard by which water quality at this station was compared

<sup>a</sup> 95th percentile and site specific water quality guideline developed by Minnow (2009)

<sup>b</sup> Cadmium guideline dependant on average water hardness for W3 of 202 mg/L

<sup>c</sup> Copper, lead and nickel guidelines dependant on water hardness

<sup>d</sup> Data from April 5, 2006 (Se), November 1, 2006 (all parameters), November 30, 2006 (Pb), March 3, 2008 (Ag), March 19, 2008 (Se), August 12, 2008 (Ag), August 25, 2008 (all parameters), January 2, 2009 (Ag), June 3, 2009 (Cd, Pb),

June 18, 2009 (Ag) were not included in the calculation of the summary stats due to abnormally high concentrations that are not a reflection of normal conditions (likely a result of a stormwater event increasing TSS-associated concentrations)

<sup>e</sup> Data from July 7, 2006 (Ag), March 19, 2008 (Hg), June 5, 2008 (Hg), June 11, 2008 (Hg), and June 17, 2008 (Hg) were not included in the calculation of the summary stats due to abnormally high method detection limits (MDLs)

Table 3.3: Summary of water quality data at Station W6<sup>de</sup>, Minto Mine

| Parameter               | Unit     | Baseline 95th Percentile <sup>a</sup> | SSWQO <sup>a</sup> | CCME Guideline           | averages      |                        |                     | number        |                        |                     | %>MDL         |                        |                     | %>CCME or SSWQO |                        |                     |
|-------------------------|----------|---------------------------------------|--------------------|--------------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|-----------------|------------------------|---------------------|
|                         |          |                                       |                    |                          | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation   | operation no discharge | operation discharge |
| Total Metals            |          |                                       |                    |                          |               |                        |                     |               |                        |                     |               |                        |                     |                 |                        |                     |
| Aluminum                | mg/L     | 0.618                                 | 0.62               | 0.1                      | 0.179         | 0.369                  | 0.088               | 6             | 6                      | 3                   | 100           | 100                    | 100                 | 0               | 16.7                   | 0                   |
| Arsenic                 | mg/L     | 0.0008                                | -                  | 0.005                    | 0.0004        | 0.0006                 | 0.0004              | 6             | 6                      | 3                   | 66.7          | 100                    | 66.7                | 0               | 0                      | 0                   |
| Cadmium                 | mg/L     | 0.00004                               | -                  | 0.000033 <sup>b</sup>    | 0.00002       | 0.00002                | 0.00001             | 6             | 6                      | 3                   | 0             | 0                      | 33.3                | 0               | 17                     | 0                   |
| Chromium                | mg/L     | 0.002                                 | 0.002              | 0.001                    | 0.0006        | 0.0011                 | 0.0009              | 6             | 6                      | 3                   | 33.3          | 50                     | 100                 | 0.0             | 17                     | 0                   |
| Copper                  | mg/L     | 0.013                                 | 0.013              | 0.002-0.004 <sup>c</sup> | 0.0031        | 0.0019                 | 0.0053              | 6             | 6                      | 3                   | 100           | 83.3                   | 100                 | 0               | 0                      | 0                   |
| Iron                    | mg/L     | 1.08                                  | 1.1                | 0.3                      | 0.344         | 0.573                  | 0.068               | 6             | 6                      | 3                   | 100           | 66.7                   | 100                 | 0               | 16.7                   | 0                   |
| Lead                    | mg/L     | 0.00041                               | -                  | 0.002-0.007 <sup>c</sup> | 0.0002        | 0.0002                 | 0.0005              | 6             | 6                      | 3                   | 33.3          | 33.3                   | 66.7                | 0               | 0                      | 0                   |
| Mercury                 | mg/L     | 0.00005                               | -                  | 0.0001                   | 0.00001       | 0.00005                | 0.000005            | 3             | 3                      | 2                   | 0             | 0                      | 0                   | 0               | 0                      | 0                   |
| Molybdenum              | mg/L     | 0.002                                 | -                  | 0.073                    | 0.0006        | 0.0006                 | 0.0046              | 6             | 6                      | 2                   | 50            | 33.3                   | 100                 | 0               | 0                      | 0                   |
| Nickel                  | mg/L     | 0.003                                 | -                  | 0.065-0.15 <sup>c</sup>  | 0.0015        | 0.0020                 | 0.0013              | 6             | 6                      | 3                   | 100           | 100                    | 100                 | 0               | 0                      | 0                   |
| Selenium                | mg/L     | 0.0005                                | -                  | 0.001                    | 0.00050       | 0.00027                | 0.00093             | 6             | 6                      | 3                   | 0             | 33.3                   | 66.7                | 0               | 0                      | 33.3                |
| Silver                  | mg/L     | 0.0001                                | -                  | 0.0001                   | 0.000008      | 0.00005                | 0.00003             | 6             | 6                      | 3                   | 0             | 16.7                   | 33.3                | 0               | 0                      | 0                   |
| Thallium                | mg/L     | 0.0001                                | -                  | 0.0008                   | 0.00008       | 0.00003                | 0.00001             | 6             | 6                      | 3                   | 0             | 0                      | 0                   | 0               | 0                      | 0                   |
| Zinc                    | mg/L     | 0.0105                                | -                  | 0.03                     | 0.002         | 0.006                  | 0.005               | 6             | 6                      | 3                   | 0             | 83.3                   | 100                 | 0               | 0                      | 0                   |
| Non-Metallic Parameters |          |                                       |                    |                          |               |                        |                     |               |                        |                     |               |                        |                     |                 |                        |                     |
| Nitrite                 | mg/L     | 0.03                                  | -                  | 0.06                     | 0.001         | 0.026                  | 0.005               | 6             | 4                      | 1                   | 16.7          | 25                     | 0                   | 0               | 25.0                   | 0                   |
| Nitrate                 | mg/L     | 0.193                                 | -                  | 2.9                      | 0.012         | 0.029                  | 0.005               | 6             | 6                      | 1                   | 66.7          | 50                     | 0                   | 0               | 0                      | 0                   |
| pH-L                    | pH units | 8.22                                  | -                  | 6.5-9.0                  | 7.90          | 7.84                   | 7.89                | 6             | 6                      | 4                   | 100           | 100                    | 100                 | 0               | 0                      | 0                   |
| TSS                     | mg/L     | 24.58                                 | -                  | -                        | 9.0           | 32.0                   | 11.1                | 6             | 5                      | 4                   | 66.7          | 100                    | 50                  | -               | -                      | -                   |

|  |                                                                                                   |
|--|---------------------------------------------------------------------------------------------------|
|  | Between 5 and 25% of individual samples are >CWQG                                                 |
|  | Between 25 and 50% of individual samples are >CWQG                                                |
|  | >50% of individual samples are >CWQG                                                              |
|  | Average concentration of all samples is greater than respective water quality guideline/objective |

Bolded water quality guidelines/objectives denote the standard by which water quality at this station was compared

<sup>a</sup> 95th percentile and site specific water quality guideline developed by Minnow (2009)

<sup>b</sup> Cadmium guideline dependant on average water hardness at W6 of 100 mg/L

<sup>c</sup> Lead and nickel guidelines dependant on water hardness

<sup>d</sup> Data from April 14, 2009 (all parameters), April 30, 2009 (all parameters), and October 7, 2009 (Mo) were not included in the calculation of the summary stats due to abnormally high concentrations that are not a reflection of normal conditions (likely a result of a stormwater event increasing TSS-associated concentrations)

<sup>e</sup> Data from June 17, 2008 (Hg) was not included in the calculation of summary statistics due to abnormally high method detection limits

Table 3.4: Summary of water quality data at Station W7<sup>d,e</sup>, Minto Mine

| Parameter               | Unit     | Baseline 95th Percentile <sup>a</sup> | SSWQO <sup>a</sup> | CCME Guideline           | averages      |                        |                     | number        |                        |                     | %>MDL         |                        |                     | %>CCME or SSWQO |                        |                     |
|-------------------------|----------|---------------------------------------|--------------------|--------------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|-----------------|------------------------|---------------------|
|                         |          |                                       |                    |                          | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation   | operation no discharge | operation discharge |
| Total Metals            |          |                                       |                    |                          |               |                        |                     |               |                        |                     |               |                        |                     |                 |                        |                     |
| Aluminum                | mg/L     | 0.618                                 | 0.62               | 0.1                      | 0.49          | 0.32                   | 0.24                | 6             | 28                     | 3                   | 100           | 96.4                   | 100                 | 16.7            | 14.3                   | 0                   |
| Arsenic                 | mg/L     | 0.0008                                | -                  | 0.005                    | 0.0007        | 0.0005                 | 0.0005              | 6             | 28                     | 3                   | 100           | 89.3                   | 100                 | 0               | 0                      | 0                   |
| Cadmium                 | mg/L     | 0.00004                               | -                  | 0.000037 <sup>b</sup>    | 0.00003       | 0.00002                | 0.00001             | 6             | 28                     | 2                   | 16.7          | 25                     | 50                  | 17              | 11                     | 0                   |
| Chromium                | mg/L     | 0.002                                 | 0.002              | 0.001                    | 0.0014        | 0.0010                 | 0.0015              | 6             | 28                     | 3                   | 83.3          | 57.1                   | 100                 | 17              | 14.0                   | 33.0                |
| Copper                  | mg/L     | 0.013                                 | 0.013              | 0.002-0.004 <sup>c</sup> | 0.0040        | 0.0026                 | 0.0033              | 6             | 28                     | 3                   | 100           | 78.6                   | 100                 | 0               | 0                      | 0                   |
| Iron                    | mg/L     | 1.08                                  | 1.1                | 0.3                      | 1.03          | 0.48                   | 0.46                | 6             | 28                     | 3                   | 100           | 85.7                   | 100                 | 16.7            | 10.7                   | 0                   |
| Lead                    | mg/L     | 0.00041                               | -                  | 0.002-0.007 <sup>c</sup> | 0.0004        | 0.0003                 | 0.0007              | 6             | 28                     | 3                   | 66.7          | 60.7                   | 100                 | 0               | 3.6                    | 0                   |
| Mercury                 | mg/L     | 0.00005                               | -                  | 0.0001                   | 0.000010      | 0.00003                | 0.000005            | 3             | 10                     | 2                   | 0             | 10                     | 0                   | 0               | 0                      | 0                   |
| Molybdenum              | mg/L     | 0.002                                 | -                  | 0.073                    | 0.0010        | 0.0011                 | 0.0012              | 6             | 28                     | 3                   | 83.3          | 85.7                   | 100                 | 0               | 0                      | 0                   |
| Nickel                  | mg/L     | 0.003                                 | -                  | 0.065-0.15 <sup>c</sup>  | 0.0027        | 0.0017                 | 0.0017              | 6             | 28                     | 3                   | 100           | 89.3                   | 100                 | 0               | 0                      | 0                   |
| Selenium                | mg/L     | 0.0005                                | -                  | 0.001                    | 0.0005        | 0.0003                 | 0.0005              | 6             | 28                     | 3                   | 0             | 46.4                   | 33.3                | 0               | 0                      | 0                   |
| Silver                  | mg/L     | 0.0001                                | -                  | 0.0001                   | 0.00001       | 0.00005                | 0.00003             | 6             | 28                     | 3                   | 0             | 7.1                    | 66.7                | 0               | 3.6                    | 0                   |
| Thallium                | mg/L     | 0.0001                                | -                  | 0.0008                   | 0.00008       | 0.00003                | 0.00001             | 6             | 28                     | 3                   | 0             | 0                      | 0                   | 0               | 0                      | 0                   |
| Zinc                    | mg/L     | 0.0105                                | -                  | 0.03                     | 0.0034        | 0.0051                 | 0.0067              | 6             | 28                     | 3                   | 33.3          | 89.3                   | 100                 | 0               | 0                      | 0                   |
| Non-Metallic Parameters |          |                                       |                    |                          |               |                        |                     |               |                        |                     |               |                        |                     |                 |                        |                     |
| Nitrite                 | mg/L     | 0.03                                  | -                  | 0.06                     | 0.001         | 0.046                  | 0.005               | 6             | 9                      | 1                   | 33.3          | 44.4                   | 0                   | 0               | 22.2                   | 0                   |
| Nitrate                 | mg/L     | 0.193                                 | -                  | 2.9                      | 0.10          | 0.13                   | 0.03                | 6             | 25                     | 1                   | 100           | 88.0                   | 100                 | 0               | 0                      | 0                   |
| pH-L                    | pH units | 8.22                                  | -                  | 6.5-9.0                  | 7.66          | 7.82                   | 8.05                | 6             | 27                     | 4                   | 100           | 100                    | 100                 | 0               | 0                      | 0                   |
| TSS                     | mg/L     | 24.58                                 | -                  | -                        | 72.6          | 14.1                   | 10.3                | 6             | 25                     | 4                   | 100           | 76.0                   | 100                 | -               | -                      | -                   |

|  |                                                                                                   |
|--|---------------------------------------------------------------------------------------------------|
|  | Between 5 and 25% of individual samples are >CWQG                                                 |
|  | Between 25 and 50% of individual samples are >CWQG                                                |
|  | >50% of individual samples are >CWQG                                                              |
|  | Average concentration of all samples is greater than respective water quality guideline/objective |

Bolded water quality guidelines/objectives denote the standard by which water quality at this station was compared

<sup>a</sup> 95th percentile and site specific water quality guideline developed by Minnow (2009)

<sup>b</sup> Cadmium guideline dependant on average water hardness at W7 of 115 mg/L

<sup>c</sup> Lead and nickel guidelines dependant on water hardness

<sup>d</sup> Data from June 2, 2006 (all parameters), June 23, 2006 (all parameters), and October 7, 2009 (Cd) were not included in the calculation of the summary stats due to abnormally high concentrations that are not a reflection of normal conditions (likely a result of a stormwater event increasing TSS-associated concentrations)

<sup>e</sup> Data from June 17, 2008 (Hg) was not included in the calculation of the summary stats due to abnormally high method detection limits (MDLs)

33% of the samples at W6 (1 of 3 samples). Selenium did not exceed the guideline in any samples from W7. The percentage of exceedences for these parameters also did not appear to change as a result of the different operational phases of the mine.

At W3 (effluent) and W2 (exposed), exceedences for these same parameters (i.e. aluminum, cadmium, chromium, iron, and selenium) were observed, with the addition of copper, nitrate and silver (Tables 3.1 and 3.2). The biggest difference between the water quality of the exposed stations versus the reference stations, was that there was a definite increase in the percentage of exceedences, mostly during the operational phase with discharge (Tables 3.1 to 3.4), as would be expected. For example, the frequency of SSWQO exceedence for copper at W2 increased from 0% during pre-operation to 9% during operation with no discharge to 62% during discharge events (17 of 28 individual sampling events). The increased incidence of exceedences during discharge events at W2 and W3 only, indicate that discharge events were influencing the concentrations of cadmium, chromium, copper, iron, selenium, nitrate and nitrite. This was the case even for substances whose concentrations were naturally high in the area, such as for aluminum, cadmium, chromium and iron, where concentrations were elevated at reference stations, but were also showing an increase in guideline (or SSWQO) exceedence at exposed stations during discharge events.

### **3.3 Percentage of Detectable Concentrations**

Even when concentrations of water quality parameters are below the water quality guidelines, their detectability during baseline conditions and changes in detectability during mine operations and discharge can indicate which parameters may be influenced by mine operation and/or construction in receiving environments (assuming no changes in method detection limits). At stations W2 and W3, the percentage of detectable concentrations increased from pre-operation to operation with no discharge, and from operation with no discharge to operation with discharge for cadmium, mercury (which was undetected during pre-operation), molybdenum, lead, selenium, and nitrite (Tables 3.1 and 3.2). Detectability of some parameters increased from pre-operation to operation (with or without discharge), such as zinc and chromium at W3, suggesting that construction-related activities may have contributed to some water quality changes for these parameters. Conversely at the reference stations, mercury, thallium, and nitrite showed no to low percent detections during all phases of operation, while aluminum, arsenic, copper, iron, and nickel at both stations W6 and W7, and chromium, lead, molybdenum and nitrate at W7 only, showed moderate to high detectability (Tables 3.3 and 3.4). At stations W6 and W7, silver, cadmium, selenium, and zinc showed increases in percent detections from pre-operation to operation no discharge to

operation discharge, but percentages should be evaluated with caution since sample sizes are very small for these reference stations.

### **3.4 Water Quality Over Time**

For the parameters that exceeded their respective water quality guideline or objective in at least one individual sample, data were plotted over time for each station (Figure 3.1). These plots also included any data points (concentrations) that were considered outliers (not included in the summary statistic calculations discussed in Sections 3.1 to 3.3), and not generally representative of normal baseline conditions.

Aluminum, chromium, copper, iron, and lead first displayed increasing concentrations at the initiation of mine operations in April 2006. This pattern is generally apparent for all sampling stations. This could be the result of disturbance and sedimentation from construction activity occurring at that time, which may have increased the total suspended solid (TSS) concentrations in the water column (Figure 3.1k). At stations W2 and W3, aluminum, chromium, copper, and iron again increased during discharge events, while at W6 and W7 concentrations of these parameters did not increase beyond normal variability. Also during discharge events, cadmium, selenium, nitrate and nitrite concentrations at W2 and W3 increased relative to non-discharge events and relative to reference stations. These parameters did not increase during the early operational phase (April 2006) suggesting they are most likely related to the mine discharge, rather than site disturbance.

There were some instances outside of discharge periods where concentrations of some parameters were elevated relative to background, generally preceding a discharge event. Their increases were likely linked to elevated TSS concentrations during significant storm events (e.g., mid to late April 2009), as some parameters (e.g., aluminum, iron) are highly correlated to TSS (Minnow 2010). It is these storm events which triggered the discharges.

### **3.5 Water Quality at Exposed Stations Relative to Background**

As part of the development of site specific water quality objectives for Minto Creek, Minnow calculated “background” concentration (95<sup>th</sup> percentile) of reference stations using data from pre-2006 (Minnow 2009). Average concentrations at stations W3 (effluent) and W2 (exposed) during the three operational phases were compared to the 95<sup>th</sup> percentile concentrations to monitor any increases in concentrations in the receiving environment above that which would be considered background.

Generally, it was the operational phase with discharge that pushed the concentrations beyond background levels (i.e., cadmium, copper, molybdenum, nickel, selenium, zinc,

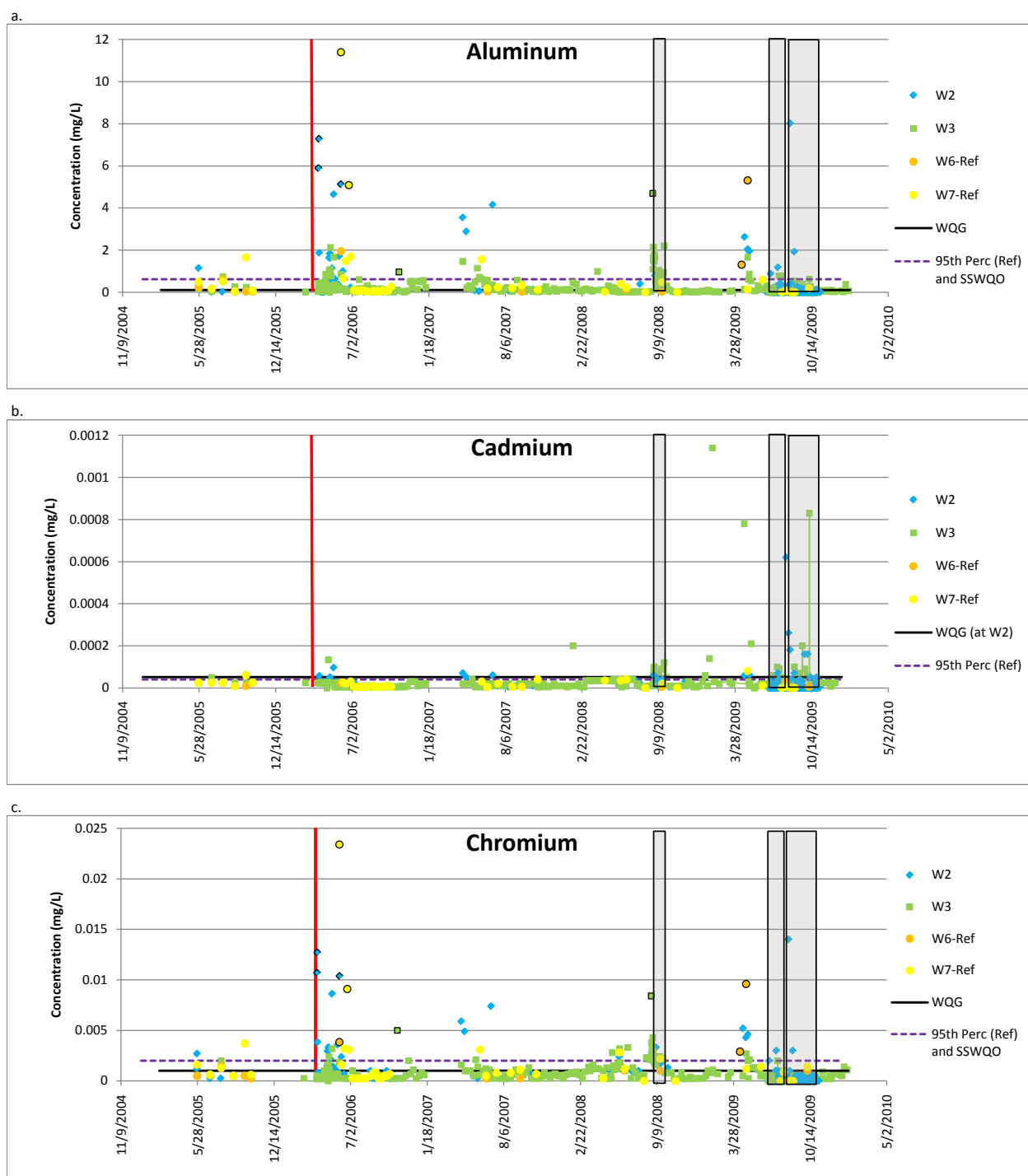


Figure 3.1: Concentrations of a) aluminum, b) cadmium, c) chromium, d) copper, e) iron, f) lead, g) nitrate, h) nitrite, i) selenium, j) silver, k) total suspended solids (TSS) and l) zinc, at stations W2, W3, W6 and W7 during discharge and non-discharge periods from 2005-2009, Minto Creek  
Red line denotes commencement of construction. Shaded areas denote operational periods with discharge.  
Data points outlined in black were omitted from the summary statistics

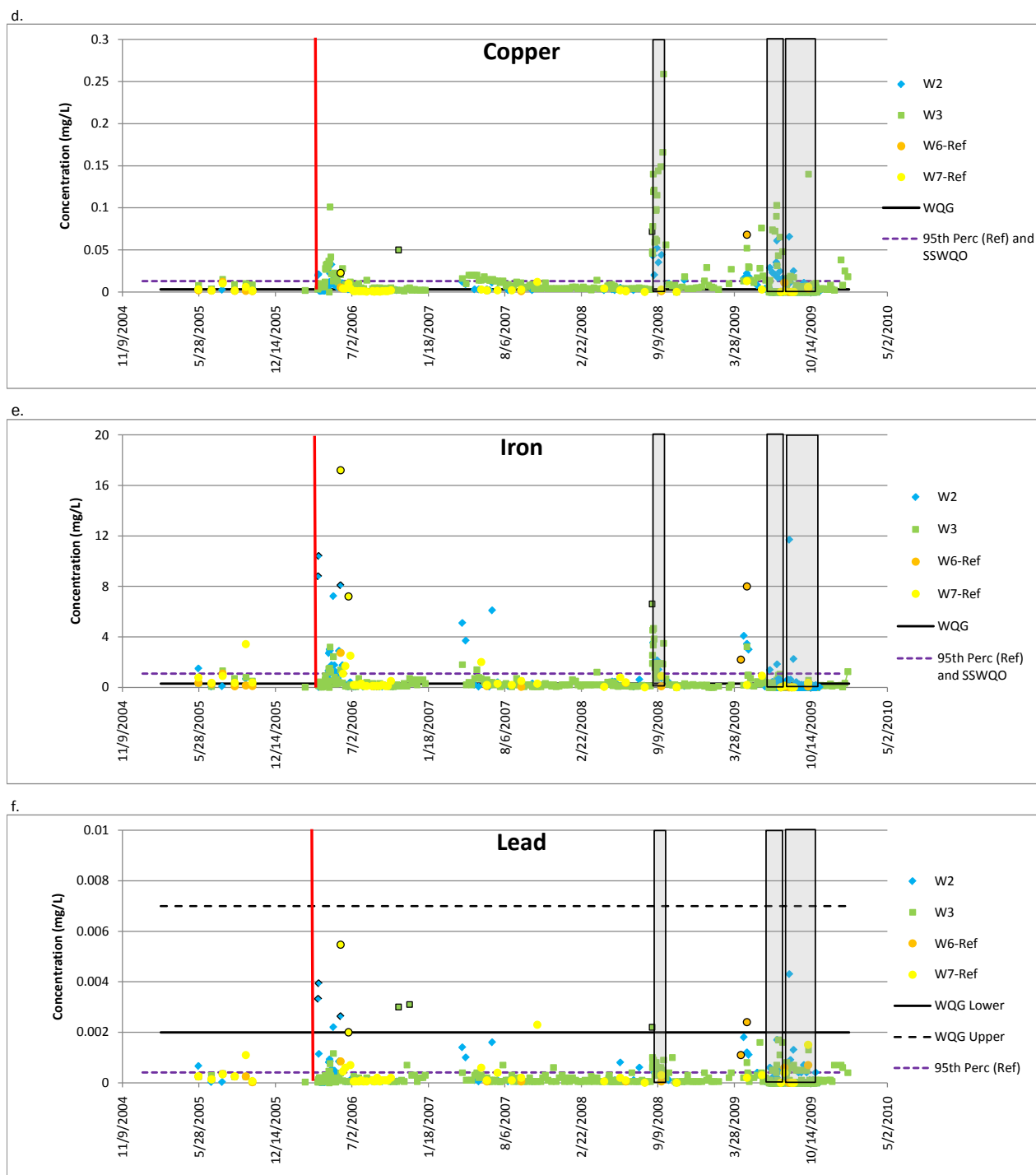


Figure 3.1: Concentrations of a) aluminum, b) cadmium, c) chromium, d) copper, e) iron, f) lead, g) nitrate, h) nitrite, i) selenium, j) silver, k) total suspended solids (TSS) and l) zinc, at stations W2, W3, W6 and W7 during discharge and non-discharge periods from 2005-2009, Minto Creek  
Red line denotes commencement of construction. Shaded areas denote operational periods with discharge.  
Data points outlined in black were omitted from the summary statistics

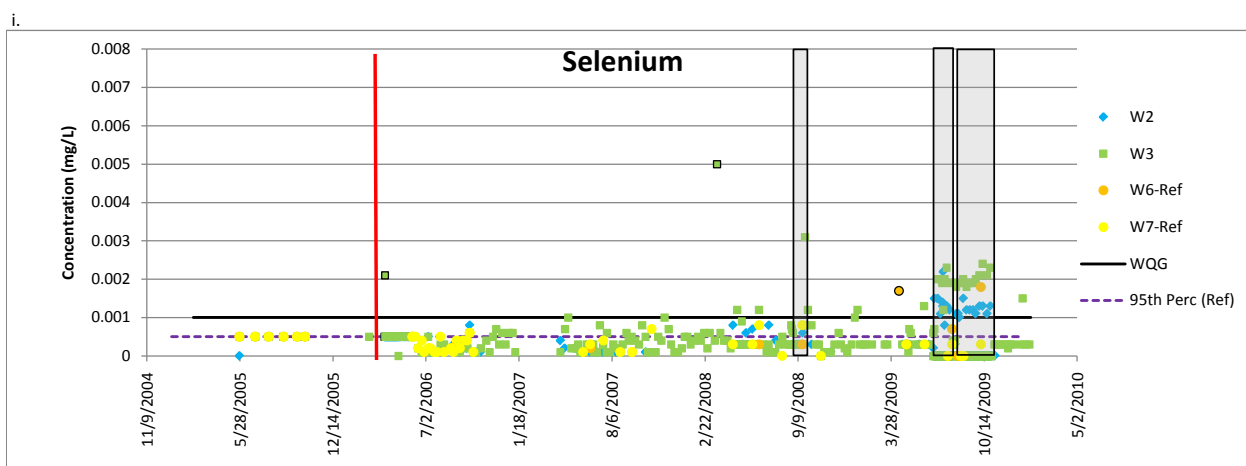
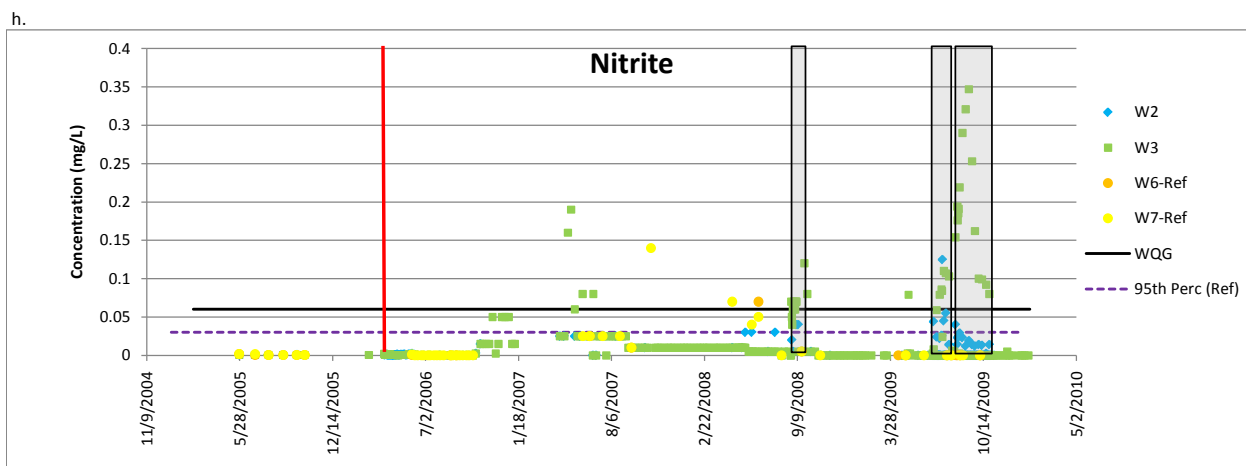
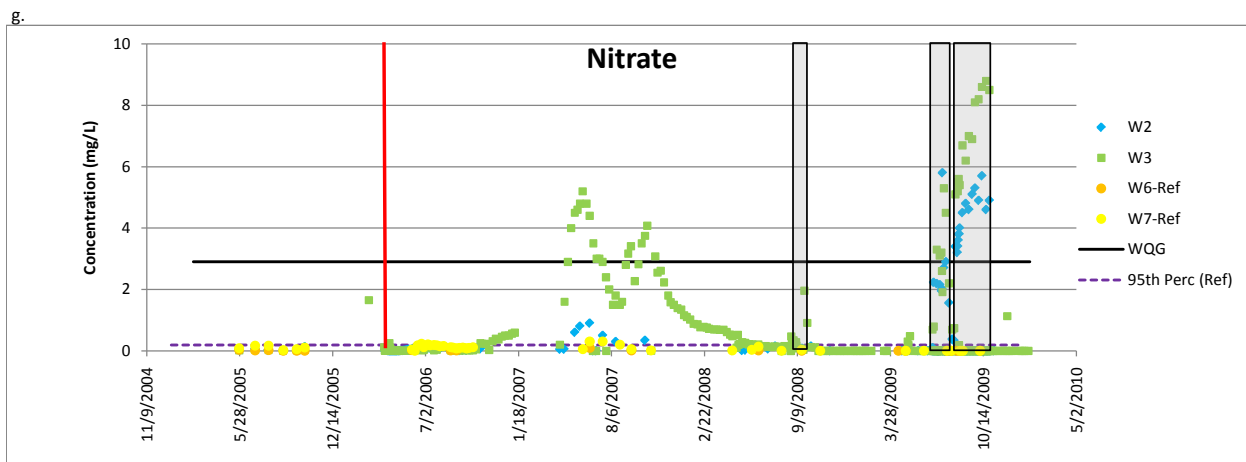


Figure 3.1: Concentrations of a) aluminum, b) cadmium, c) chromium, d) copper, e) iron, f) lead, g) nitrate, h) nitrite, i) selenium, j) silver, k) total suspended solids (TSS) and l) zinc, at stations W2, W3, W6 and W7 during discharge and non-discharge periods from 2005-2009, Minto Creek  
Red line denotes commencement of construction. Shaded areas denote operational periods with discharge.  
Data points outlined in black were omitted from the summary statistics

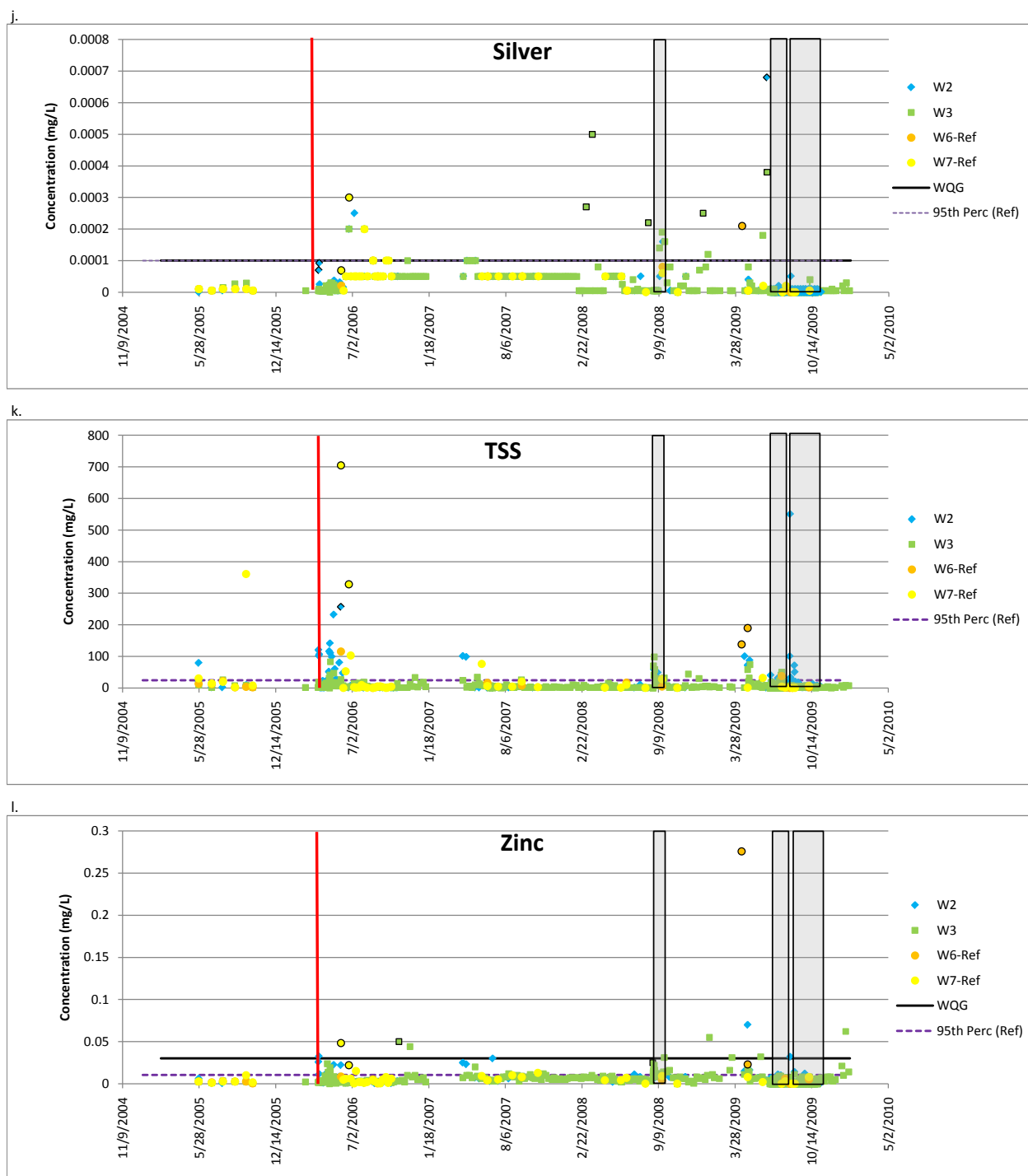


Figure 3.1: Concentrations of a) aluminum, b) cadmium, c) chromium, d) copper, e) iron, f) lead, g) nitrate, h) nitrite, i) selenium, j) silver, k) total suspended solids (TSS) and l) zinc, at stations W2, W3, W6 and W7 during discharge and non-discharge periods from 2005-2009, Minto Creek  
Red line denotes commencement of construction. Shaded areas denote operational periods with discharge.  
Data points outlined in black were omitted from the summary statistics

nitrite, and nitrate), suggesting a mine-related influence on water quality in these receiving environments (Figure 3.2). In most of the cases, the applicable water quality guideline was also exceeded for those parameters (i.e., copper, selenium, nitrite, and nitrate) during discharge. For all eight parameters, there was a definite pattern at both exposed stations showing an increase from pre-operation to operation (no discharge) and from operation (no discharge) to operation (discharge). These results clearly indicate that the CCME water quality guidelines and SSWQOs are able to differentiate between background variability and the influence of discharge.

There were many instances of water quality at W2 and W3 being elevated >5% relative to reference background concentrations (Table 3.5). Almost all parameters were elevated during mine operation with no discharge or with discharge, with exception to silver, mercury, and thallium. The most notable increases in exceedences for W3 during discharge were for aluminum, arsenic, cadmium, chromium, copper, iron, molybdenum, nickel, lead, selenium, zinc, nitrite, and nitrate. The frequency of exceedences during discharge most notably increased at W2 for cadmium, copper, molybdenum, lead, selenium, zinc, nitrite and nitrate indicating that these parameters were likely a result of mine-influence, and supports the results using the other approaches.

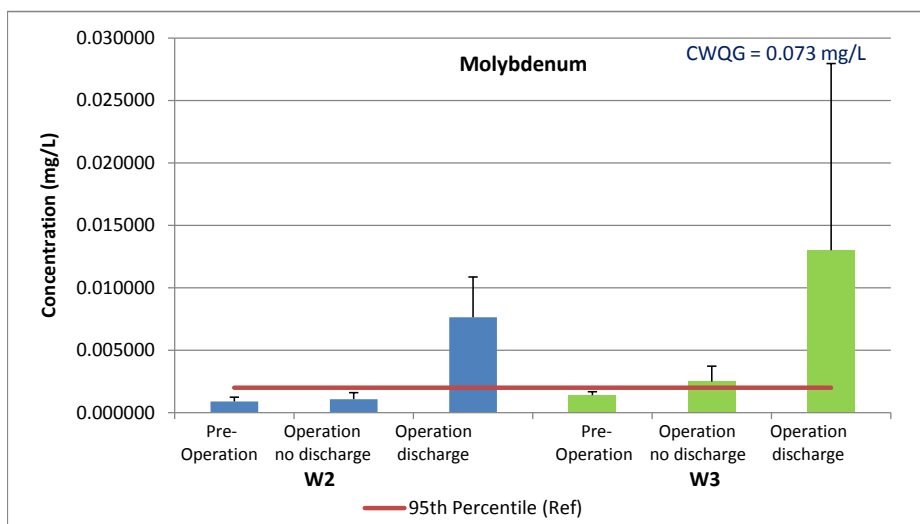
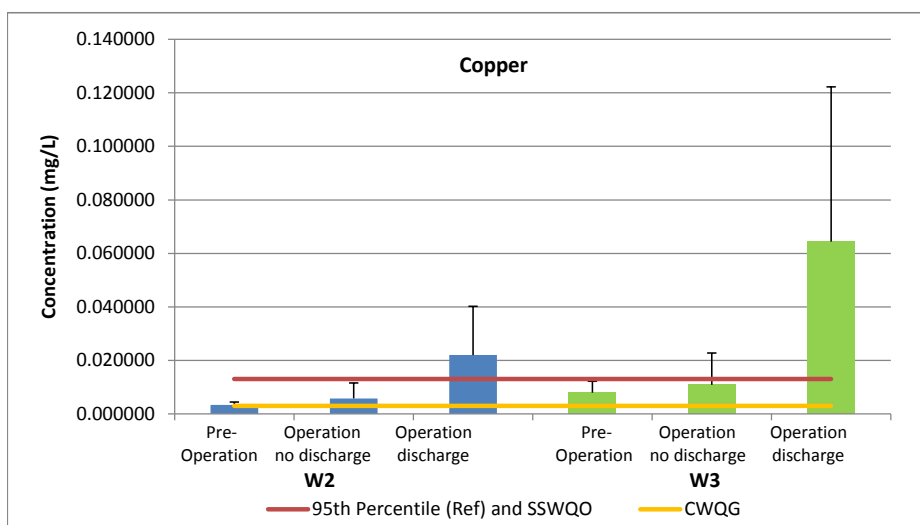
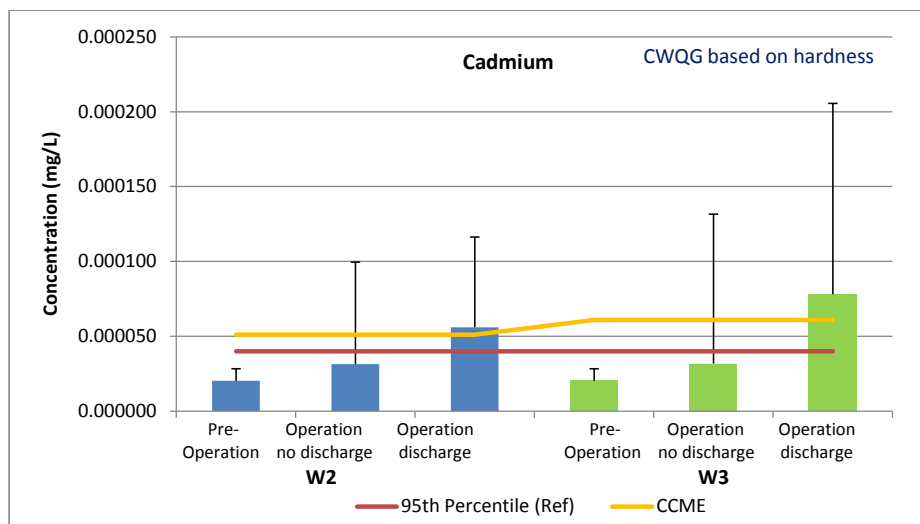


Figure 3.2: Average concentrations of a) cadmium, b) copper, c) molybdenum, d) nickel, e) selenium, f) zinc, g) nitrite, and h) nitrate at exposed stations W2 and W3 relative to the upper 95th percentile for reference stations

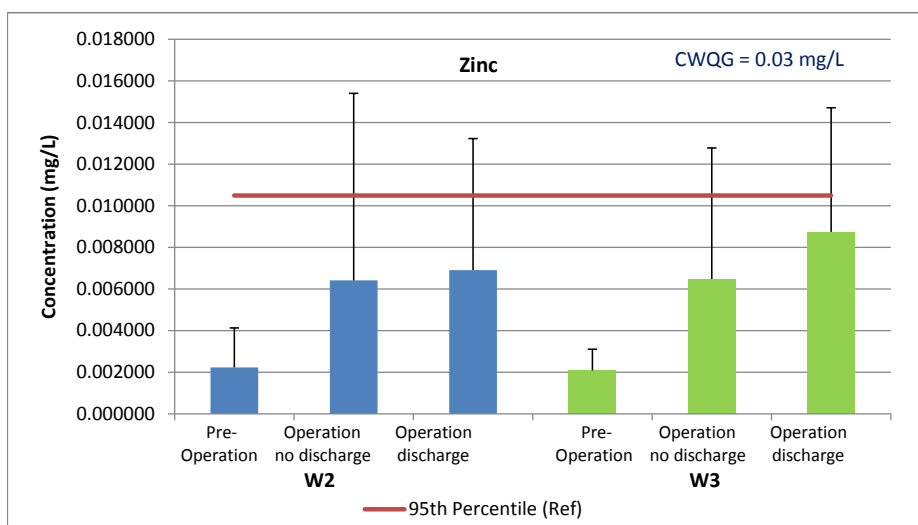
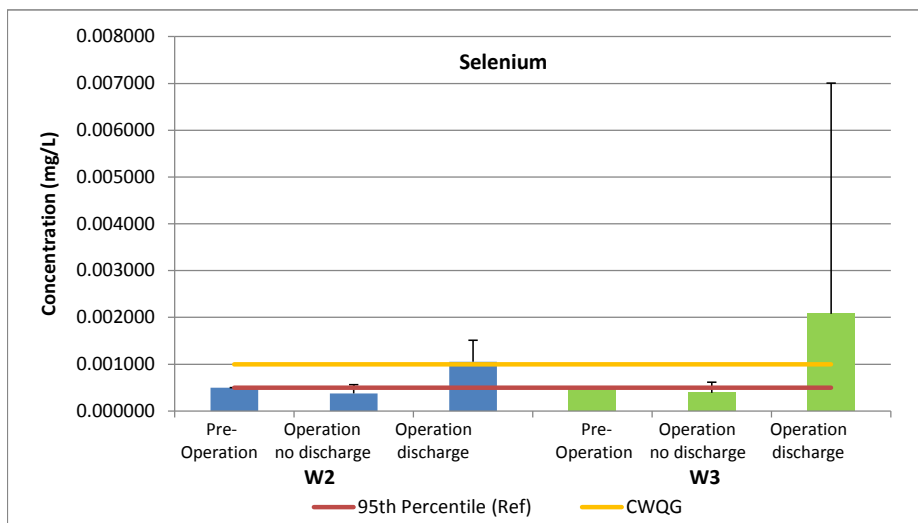
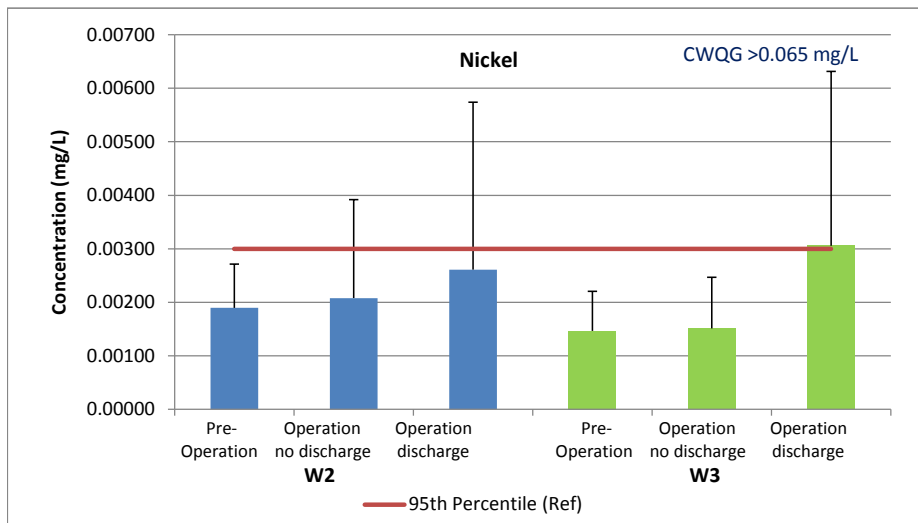


Figure 3.2: Average concentrations of a) cadmium, b) copper, c) molybdenum, d) nickel, e) selenium, f) zinc, g) nitrite, and h) nitrate at exposed stations W2 and W3 relative to the upper 95th percentile for reference stations

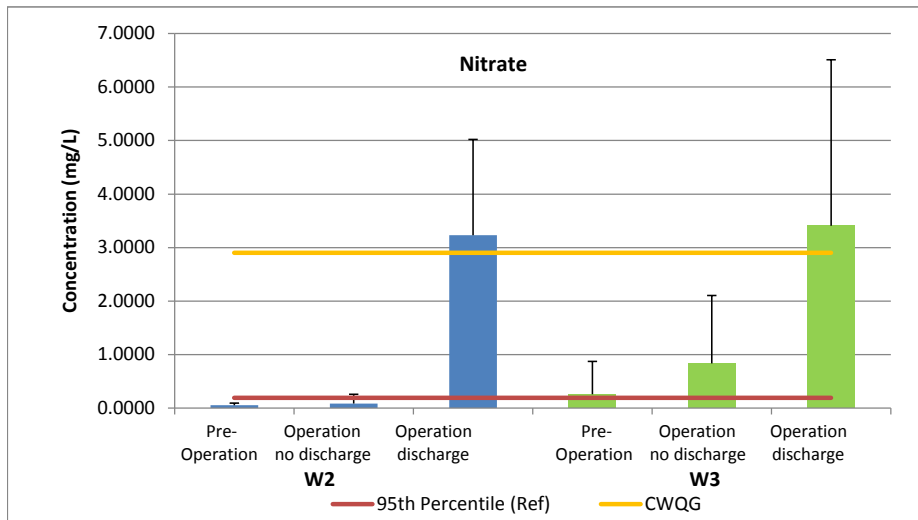
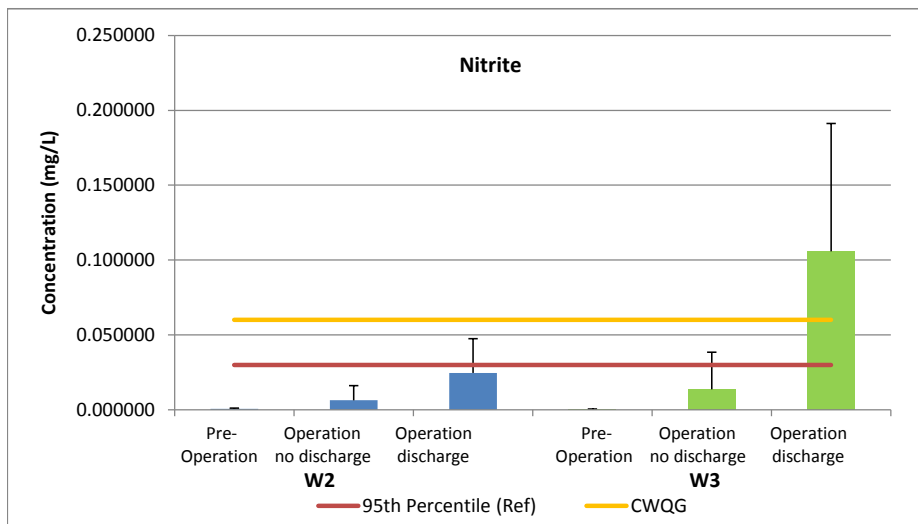


Figure 3.2: Average concentrations of a) cadmium, b) copper, c) molybdenum, d) nickel, e) selenium, f) zinc, g) nitrite, and h) nitrate at exposed stations W2 and W3 relative to the upper 95th percentile for reference stations

**Table 3.5: Frequency of concentrations above the 95th Percentile Background Concentrations, Minto**

| Parameter | Unit     | W2                     |                     | W3                     |                     |
|-----------|----------|------------------------|---------------------|------------------------|---------------------|
|           |          | Operation no discharge | Operation discharge | Operation no discharge | Operation discharge |
| Ag-T      | mg/L     | 4                      | 4                   | 3                      | 7                   |
| Al-T      | mg/L     | 20                     | 25                  | 7                      | 37                  |
| As-T      | mg/L     | 22                     | 25                  | 6                      | 34                  |
| Cd-T      | mg/L     | 12                     | 32                  | 4                      | 59                  |
| Cr-T      | mg/L     | 18                     | 25                  | 5                      | 29                  |
| Cu-T      | mg/L     | 8                      | 57                  | 24                     | 76                  |
| Fe-T      | mg/L     | 20                     | 29                  | 5                      | 32                  |
| Hg-T      | mg/L     | 0                      | 4                   | 2                      | 5                   |
| Mo-T      | mg/L     | 6                      | 96                  | 50                     | 100                 |
| Ni-T      | mg/L     | 22                     | 18                  | 6                      | 24                  |
| Pb-T      | mg/L     | 23                     | 46                  | 6                      | 63                  |
| Se-T      | mg/L     | 6                      | 82                  | 14                     | 71                  |
| Tl-T      | mg/L     | 0                      | 0                   | 0                      | 0                   |
| Zn-T      | mg/L     | 12                     | 21                  | 10                     | 37                  |
| N-NO2     | mg/L     | 0                      | 22                  | 7                      | 83                  |
| N-NO3     | mg/L     | 11                     | 81                  | 52                     | 81                  |
| pH-L      | pH units | 22                     | 5                   | 11                     | 1                   |
| TSS       | mg/L     | 21                     | 11                  | 7                      | 9                   |

|  |                                                          |
|--|----------------------------------------------------------|
|  | Between 5 and 25% of individual samples are >background  |
|  | Between 25 and 50% of individual samples are >background |
|  | >50% of individual samples are >background               |

## 4.0 SUMMARY

This report examines the baseline and operational water quality at Minto Creek at four stations, W2 (exposed), W3 (effluent), W6 (reference), and W7 (reference). Water quality data was divided into three operational periods: pre-operation, operational no discharge and operational discharge to examine possible influences of the mine effluent on water quality in Minto Creek over time.

In summary, at the effluent-exposed receiving environment station (W2; Lower Minto Creek), concentrations of aluminum, cadmium, chromium, copper, iron, molybdenum, lead, selenium, zinc, nitrite, and nitrate tended to increase from pre-operation to operation no discharge to operation discharge, consistent with higher concentrations of these same parameters measured in effluent (W3). Of these, average concentrations of aluminum, cadmium, copper, iron and nitrate exceeded the applicable water quality guideline or SSWQO. Conversely, very few parameters exceeded water quality guidelines/SSWQOs in the reference stations. Consistently, there were higher incidences of individual sample exceedences of water quality guidelines/SSWQOs, and increased number of detections during operational discharge periods at W2, that were not observed in reference stations. Plotted over time, the concentrations of these same mine-associated parameters had a clear relationship with discharge periods, where highest concentrations (and most exceedences) occurred during these times. It was mainly cadmium, copper, molybdenum, lead, selenium, zinc, nitrite and nitrate concentrations at W2 that increased beyond the 95<sup>th</sup> percentile of background concentrations (reference) during operational discharge periods, in association with increases in these same parameters at W3. Overall, water quality at W2 has been influenced by mine effluent, with the greatest influence occurring during periods of discharge for aluminum, cadmium, chromium, copper, iron, selenium, nitrite and nitrate.

## 5.0 REFERENCES

- Access (Access Consulting Group). 2007a. Project Proposal – Revision No. 2. Carmacks Copper Project. Yukon Territory Volume I – Main Report. Prepared by Access Consulting Group. February 2007.
- Access (Access Consulting Group). 2007b. Environmental Monitoring Program Update and Data Summary – Revision No. 2. Carmacks Copper Project. Yukon Territory. Prepared by Access Consulting Group. March 2007.
- BCMELP (British Columbia Ministry of Environment, Lands and Parks). 1997. Methods for Deriving Site-Specific Water Quality Objectives in British Columbia and Yukon. Waste Management Branch. November 1997.
- CCME (Canadian Council of Ministers of the Environment). 2003. Guidance on the Site-Specific Application of Water Quality Guidelines in Canada: Procedures for Deriving Numerical Water Quality Objectives. In: Canadian Environmental Quality Guidelines. 1999. Canadian Council of Ministers of the Environment, Winnipeg.
- CCME (Canadian Council of Ministers of the Environment). 1999. Canadian Environmental Quality Guidelines. Canadian Council of Ministers of the Environment, Winnipeg. With Updates.
- Green, R., J. Kennish, J. French and J. Banata. 2007. “Below-MDL” Values - What Are They and How Should Datasets Including Them be Treated? Presented at the 34<sup>th</sup> Annual Aquatic Toxicity Workshop. September 30<sup>th</sup> - October 3<sup>rd</sup>, 2007.
- Hill, J.R., S.R. Roe, U. Schneider, and L. Swain. 2006. The challenge and necessity of estimating natural background for site-specific Canadian Water Quality Guidelines. Presented at the 27th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Palais des Congres, Montreal, Quebec, 5-9 November, 2006.
- Minnow Environmental Inc. 2008. Development and Evaluation of Preliminary Site-Specific Water Quality Objectives for Lower Minto Creek. Report Prepared for the Access Consulting Group. April 2008.
- Minnow Environmental Inc. 2009. Evaluation of the Background Water Quality of Minto Creek and Options for the Derivation of Site Specific Water Quality Objectives.

Report prepared for the Access Consulting Group and Minto Explorations Ltd. April. 2009.

Minnow Environmental Inc. 2010. Relationship between metals and total suspended solids. Prepared for Minto Explorations Ltd. May 21, 2010.

Roe, S., J. Hill, U. Schneider, and L. Swain. 2006. Re-thinking the Background Approach to Setting Site-Specific Water Quality Guidelines (SSGs). Presented at the 33rd Annual Aquatic Toxicity Workshop, Jasper Park Lodge, Jasper, Alberta, 1-4 October, 2006.

SPSS version 12. 2003. SPSS Inc. 233 S. Wacker Drive, 11th floor Chicago, Illinois, U.S.A.

**APPENDIX A**

**Water Quality Data**



Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | F0001    | F0001    | F0001    | F0001    | F0001    | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     |          |
|------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Smpl Date        |          | 4/5/2006 | 4/6/2006 | 4/7/2006 | 4/8/2006 | 4/9/2006 | 4/10/2006 | 4/11/2006 | 4/12/2006 | 4/13/2006 | 4/14/2006 | 4/15/2006 | 4/16/2006 | 4/17/2006 | 4/18/2006 | 4/19/2006 | 4/20/2006 | 4/21/2006 | 4/22/2006 | 4/23/2006 | 4/24/2006 | 4/25/2006 | 4/26/2006 | 4/27/2006 | 4/28/2006 | 4/29/2006 | 4/30/2006 | 5/1/2006 |
| Station Name     |          | W2       | W2       | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        |          |
| Sample Class     |          | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |          |
| Sb-D             | mg/L     |          |          | 0.00011  |          |          |           |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           |          |
| S-D              | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Se-D             | mg/L     |          |          | <0.0010  |          |          |           |           |           |           |           |           |           | <0.0010   |           |           |           |           |           |           | <0.0010   |           |           |           |           |           |           |          |
| Si-D             | mg/L     |          |          | 11.6     |          |          |           |           |           |           |           |           |           | 10.8      |           |           |           |           |           |           | 4.54      |           |           |           |           |           |           |          |
| Sn-D             | mg/L     |          |          | <0.00010 |          |          |           |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           |          |
| Sr-D             | mg/L     |          |          | 0.6      |          |          |           |           |           |           |           |           |           | 0.7       |           |           |           |           |           |           | 0.2       |           |           |           |           |           |           |          |
| Te-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Th-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Ti-D             | mg/L     |          |          | <0.010   |          |          |           |           |           |           |           |           |           | <0.010    |           |           |           |           |           |           | <0.010    |           |           |           |           |           |           |          |
| Tl-D             | mg/L     |          |          | <0.00010 |          |          |           |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           | <0.00010  |           |           |           |           |           |           |          |
| U-D              | mg/L     |          |          | 0.00368  |          |          |           |           |           |           |           |           |           | 0.00273   |           |           |           |           |           |           | 0.00048   |           |           |           |           |           |           |          |
| V-D              | mg/L     |          |          | <0.0010  |          |          |           |           |           |           |           |           |           | <0.0010   |           |           |           |           |           |           | <0.0010   |           |           |           |           |           |           |          |
| Zn-D             | mg/L     |          |          | 0.0015   |          |          |           |           |           |           |           |           |           | 0.0012    |           |           |           |           |           |           | 0.0018    |           |           |           |           |           |           |          |
| Zr-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Alk-Bicrb        | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Alk-Carb         | mg/L     | 86       | 84       | 239      | 261      | 273      | 245       | 224       | 210       | 218       | 218       | 222       | 235       | 286       | 246       | 222       | 235       | 203       | 165       | 135       | 103       | 77        | 78        | 75        | 71        | 77        | 75        | 80       |
| Alk-OH           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Alk-P            | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Alk-T            | mg/L     |          |          |          | 261      | 273      | 245       | 224       | 210       | 218       | 218       | 222       | 235       | 286       | 246       | 222       | 235       | 203       | 165       | 135       | 103       | 77        | 78        | 75.2      | 71.2      | 76.7      | 74.5      | 79.8     |
| Bromine          | mg/L     | <0.050   | <0.050   | <0.050   | <0.050   | <0.050   | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    | <0.050    |          |
| C-TIC            | mg/L     |          |          | 59.4     |          |          |           |           |           |           |           |           |           | 67.3      |           |           |           |           |           |           | 18.5      |           |           |           |           |           |           |          |
| C-TOC            | mg/L     |          |          | 21.7     |          |          |           |           |           |           |           |           |           | 12.5      |           |           |           |           |           |           | 16.4      |           |           |           |           |           |           |          |
| Chloride         | mg/L     | 0.81     | 0.65     | 2.60     | 1.50     | 1.79     | 1.57      | 1.37      | 1.32      | 1.32      | 1.29      | 1.32      | 1.48      | 2         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 1.13      | 1.07      | 1.05      | 1.01      | 0.98     |
| Colour           | TCU      |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Cond-F           | µS/cm    |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Cond-L           | µS/cm    | 173      | 161      | 507      | 519      | 576      | 507       | 471       | 462       | 468       | 465       | 478       | 496       | 602       | 520       | 458       | 442       | 423       | 348       | 268       | 212       | 151       | 161       | 165       | 149       | 156       | 161       | 169      |
| Discharge        | L/s      |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Fluoride         | mg/L     | 0.31     | 0.33     | 0.57     | 0.75     | 0.80     | 0.65      | 0.62      | 0.587     | 0.578     | 0.565     | 0.569     | 0.579     | 0.73      | 0.64      | 0.57      | 0.59      | 0.55      | 0.45      | 0.33      | 0.28      | 0.19      | 0.19      | 0.18      | 0.17      | 0.18      | 0.18      | 0.19     |
| Hard-D           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Hard-T           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| IB               | %        |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Ammonia          | mg/L     | 0.0067   | 0.0093   | 0.006    | 0.01     | 0.0133   | 0.016     | 0.0087    | <0.0050   | <0.0050   | <0.0050   | <0.0050   | 0.0173    | 0         | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | 0         |           |           |           |           |           |           |          |
| Ammonium         | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| N-NO2            | mg/L     | <0.0010  | 0.0011   | 0.0012   | 0.0012   | 0.0010   | 0.0011    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | 0         | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010  |
| NO2+NO3          | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| N-NO3            | mg/L     | 0.0169   | 0.023    | 0.1160   | 0.076    | 0.0426   | 0.016     | 0.0134    | 0.0088    | <0.0050   | 0.0102    | <0.0050   | <0.0050   | 0         | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050  |
| pH-F             | pH units | 8.1      | 8.50     |          | 8.10     | 8.30     | 8.50      | 8.50      | 8.40      | 8.40      | 8.4       | 8.6       | 8.4       | 8.5       | 8.4       | 8.5       | 8.5       | 8.45      | 8.45      | 8.45      | 8.55      | 8.5       | 8.6       | 8.1       | 8.1       | 8.3       | 8.5       | 8.3      |
| pH-L             | pH units | 8.11     | 8.10     | 8.20     | 8.25     | 8.34     | 8.34      | 8.34      | 8.23      | 8.33      | 8.37      | 8.38      | 8.37      | 8.39      | 8.20      | 8.34      | 8.35      | 8.33      | 8.31      | 8.24      | 8.15      | 7.75      | 7.82      | 7.89      | 7.88      | 7.93      | 7.97      | 7.99     |
| Radium - 226     |          |          |          | <0.0050  |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| SO4-D            | mg/L     |          |          |          | 43.6     | 63.1     | 55.8      | 47.8      | 44.4      | 44.5      | 44.4      | 44.9      | 46.3      | 58.2      | 49.3      | 39.5      | 38        | 36.3      | 27        | 18.7      | 13.4      | 8.41      | 9.62      | 10.1      | 8.73      | 8.69      | 8.72      | 9.28     |
| SO4-T            | mg/L     | 2.9      | 2.9      | 49.1     | 43.6     | 63.1     | 55.8      | 47.8      | 44.4      | 44.5      | 44.4      | 44.9      | 46.3      | 58.2      | 49.3      | 39.5      | 38        | 36.3      | 27        | 18.7      | 13.4      | 8.41      | 9.62      | 10.1      | 8.7       | 8.7       | 8.7       | 9.3      |
| Sulphide         | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| TDS              | mg/L     | 122      | 158      | 354      | 342      | 394      | 337       | 309       | 293       | 296       | 196       | 303       | 304       | 393       | 334       | 292       | 278       | 281       | 222       | 170       | 140       | 128       | 139       | 146       | 73        | 144       | 148       | 161      |
| Temp-F           | C        |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Temp-obs-pH      | C        |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| TSS              | mg/L     | 120.0    | 102.0    | 106.0    | 4.1      | <3.0     | <3.0      | <3.0      | <3.0      | <3.0      | <3.0      | <3.0      | 22.4      | <3.0      | <3.0      | <3.0      | <3.0      | <3.0      | <3.0      | <3.0      | 3.7       | 4.2       | 22.1      | 14.1      | 20.6      | 20.6      | 17.6      | 23.1     |
| Turb             | NTU      |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |
| Turb-F           | NTU      |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |

Data omitted from calculation of summary statistics (if whole day removed, due to a large number of parameters that were considered outliers for that day)

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | F0001     | F0001     | F0001    | F0001     | F0001     | X5825     | X5825     | X6214     | X6214     | X6214     | X6722     | X6722     | X6722    | X7055    | 875460    | 870006    | 875467    | 874757   | 877405    | 884596    | 885912   | 910505    | 898580    | 1202879  | 905086    | 908518    | 927184    | 916843    |
|------------------|------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| Smpl Date        |      | 5/2/2006  | 5/3/2006  | 5/5/2006 | 5/6/2006  | 5/8/2006  | 5/10/2006 | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/26/2006 | 5/29/2006 | 6/2/2006 | 6/7/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 7/31/2006 | 8/2/2006 | 8/23/2006 | 8/30/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 | 9/28/2006 | 10/4/2006 |
| Station Name     |      | W2        | W2        | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2        | W2        | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2        | W2        |
| Sample Class     |      | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | P         | P        | P         | P         | P        | P         | P         | P         | P         |
| Ag-T             | mg/L | 0.000015  | 0.000018  | 0.000018 | 0.000025  | 0.000014  | 0.000029  | 0.000037  | <0.00001  | 0.000012  | <0.00001  | <0.00001  | 0.000031  | 0.000066 | 0.000015 | <0.0001   | 0.0002    | <0.0001   | <0.0005  | <0.0001   | <0.0001   | 0.0002   | <0.0002   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002   |
| Al-T             | mg/L | 0.808     | 1.640     | 1.830    | 1.630     | 0.667     | 1.13      | 4.65      | 0.621     | 0.415     | 0.307     | 0.362     | 1.71      | 5.13     | 0.997    | 0.084     | 0.031     | 0.223     | 0.04     | 0.022     | 0.035     | 0.016    | 0.01      | 0.013     | 0.012    | 0.015     | 0.012     | 0.02      | 0.01      |
| As-T             | mg/L | 0.00071   | 0.00116   | 0.00120  | 0.00121   | 0.00067   | 0.0009    | 0.00242   | 0.00093   | 0.0008    | 0.00078   | 0.00076   | 0.00147   | 0.00296  | 0.00114  | 0.0006    | 0.0003    | 0.0006    | <0.001   | 0.0004    | 0.0005    | 0.0006   | <0.0004   | 0.0004    | 0.0004   | 0.0004    | 0.0004    | 0.0005    | 0.0005    |
| Ba-T             | mg/L | 0.048     | 0.064     | 0.063    | 0.060     | 0.0396    | 0.0552    | 0.123     | 0.0496    | 0.0472    | 0.0488    | 0.0523    | 0.0728    | 0.142    | 0.0605   | 0.057     | 0.063     | 0.062     | 0.065    | 0.062     | 0.064     | 0.066    | 0.063     | 0.06      | 0.06     | 0.062     | 0.06      | 0.062     | 0.06      |
| Be-T             | mg/L | <0.00050  | <0.00050  | <0.00050 | <0.00050  | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0001   | <0.0001   | <0.0001   | <0.0005  | <0.0001   | <0.0001   | <0.0001  | <0.0002   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002   |
| Bi-T             | mg/L | <0.00050  | <0.00050  | <0.00050 | <0.00050  | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0002  | <0.0005   | <0.0005   | <0.0005  | <0.001    | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.001    |
| B-T              | mg/L | <0.010    | <0.010    | <0.010   | <0.010    | <0.010    | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01    | <0.01    | 0.006     | 0.004     | 0.007     | 0.01     | 0.006     | 0.006     | 0.006    | 0.009     | 0.006     | 0.006    | 0.007     | 0.006     | 0.008     | 0.007     |
| Ca-T             | mg/L | 18.4      | 16.9      | 11.9     | 12.3      | 12.4      | 14.3      | 15.4      | 17.2      | 18.6      | 22.1      | 26.3      | 22.1      | 26.7     | 23.6     | 32.7      | 37.8      | 36.4      | 39.6     | 39.8      | 39.7      | 39.5     | 39.5      | 39.9      | 41       | 42.2      | 40.2      | 41.3      | 38        |
| Cd-T             | mg/L | <0.000050 | <0.000050 | 0.000051 | <0.000050 | <0.000050 | <0.00005  | 0.000096  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | 0.000135 | <0.00005 | <0.00001  | <0.00001  | <0.00001  | <0.00005 | <0.00001  | <0.00001  | <0.00001 | <0.00002  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00002  | <0.00002  |
| CN-T             | mg/L |           |           |          |           | 0.027     |           | 0.0232    |           |           |           |           |           | 0.0184   | <0.005   | <0.001    | <0.001    | 0.001     | 0.001    | 0.001     | 0.001     | 0.01     | <0.001    | <0.001    | <0.001   | 0.001     | 0.001     | 0.001     | <0.001    |
| Co-T             | mg/L | 0.00069   | 0.0014    | 0.00171  | 0.00144   | 0.00062   | 0.00103   | 0.00336   | 0.00088   | 0.00062   | 0.00044   | 0.00035   | 0.00131   | 0.00364  | 0.00079  | <0.0001   | <0.0001   | 0.0001    | <0.0005  | <0.0001   | <0.0001   | <0.0001  | <0.0002   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002   |
| Cr-T             | mg/L | 0.0015    | 0.00297   | 0.00334  | 0.00295   | 0.00135   | 0.00218   | 0.00862   | 0.00142   | 0.00104   | 0.00082   | 0.00102   | 0.00361   | 0.0104   | 0.00238  | 0.0007    | <0.0005   | <0.0005   | <0.002   | <0.0005   | <0.0005   | <0.0005  | 0.001     | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.001    | 0.001     |
| Cu-T             | mg/L | 0.0086    | 0.0106    | 0.0119   | 0.0222    | 0.00803   | 0.0323    | 0.0191    | 0.00806   | 0.00753   | 0.00653   | 0.00546   | 0.0121    | 0.0214   | 0.0104   | 0.004     | 0.003     | 0.003     | <0.005   | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.004    | 0.002     | 0.002     | 0.003     | 0.002     |
| Fe-T             | mg/L | 1.310     | 2.710     | 3.010    | 2.880     | 1.140     | 1.76      | 7.23      | 1.74      | 1.22      | 0.917     | 0.707     | 2.89      | 8.09     | 1.75     | 0.2       | <0.1      | 0.4       | <0.1     | <0.1      | <0.1      | <0.1     | <0.2      | <0.1      | <0.1     | <0.1      | <0.1      | <0.2      | <0.2      |
| Hg-T             | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| K-T              | mg/L | 2.3       | 2.3       | 2.1      | 2         | <2.0      | <2        | <2        | <2        | <2        | <2        | <2        | <2        | <2       | <2       | 1.1       | 1.2       | 1.1       | 1.2      | 1.3       | 1.2       | 1.3      | 1.6       | 1.2       | 1.3      | 1.3       | 1.3       | 1.2       | 1.2       |
| Li-T             | mg/L | <0.0050   | <0.0050   | <0.0050  | <0.0050   | <0.0050   | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005   | <0.005   | 0.002     | 0.002     | 0.001     | <0.005   | 0.002     | 0.002     | 0.002    | 0.003     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.002     |
| Mg-T             | mg/L | 6.7       | 5.8       | 4.1      | 4.1       | 4.0       | 5.34      | 5.65      | 5.81      | 6.51      | 8.01      | 9.47      | 7.77      | 9.99     | 7.78     | 10.7      | 11.6      | 11.5      | 12       | 11.7      | 13.3      | 12.4     | 12        | 12.8      | 13       | 13.5      | 14        | 13        | 12        |
| Mn-T             | mg/L | 0.0921    | 0.1960    | 0.1890   | 0.1650    | 0.0706    | 0.174     | 0.266     | 0.101     | 0.0821    | 0.0678    | 0.0573    | 0.139     | 0.294    | 0.0631   | 0.008     | 0.02      | 0.018     | 0.013    | 0.014     | 0.014     | 0.013    | 0.02      | 0.011     | 0.018    | 0.015     | 0.019     | 0.01      | 0.01      |
| Mo-T             | mg/L | 0.000586  | 0.000524  | 0.000382 | 0.000375  | 0.00039   | 0.000699  | 0.000593  | 0.000502  | 0.000702  | 0.000907  | 0.00107   | 0.000943  | 0.00119  | 0.00104  | 0.001     | 0.001     | 0.001     | <0.005   | <0.001    | 0.001     | 0.001    | <0.002    | 0.001     | 0.001    | 0.001     | 0.001     | <0.002    | <0.002    |
| Na-T             | mg/L | 3.2       | 2.6       | <2.0     | <2.0      | <2.0      | 2.4       | 2.3       | 3.6       | 4.2       | 5.2       | 6.1       | 5         | 5.7      | 4.8      | 7.4       | 7.9       | 7.7       | 9.1      | 8.7       | 8.6       | 9.7      | 9.4       | 9.2       | 9.5      | 9.8       | 8.6       | 8.8       | 8.6       |
| Ni-T             | mg/L | 0.0025    | 0.0042    | 0.0048   | 0.0044    | 0.00274   | 0.00343   | 0.00948   | 0.00334   | 0.00285   | 0.00241   | 0.0023    | 0.00535   | 0.0115   | 0.00385  | 0.0017    | 0.0013    | 0.0011    | 0.003    | 0.0012    | 0.0011    | 0.0012   | 0.001     | 0.0013    | 0.0013   | 0.0013    | 0.0016    | 0.002     | 0.0024    |
| N-TKN            | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Pb-T             | mg/L | 0.000362  | 0.000816  | 0.000926 | 0.000845  | 0.000329  | 0.00053   | 0.0022    | 0.000478  | 0.00034   | 0.000261  | 0.00019   | 0.000846  | 0.00264  | 0.000457 | <0.0001   | <0.0001   | 0.0001    | <0.0005  | <0.0001   | <0.0001   | <0.0001  | <0.0002   | <0.0001   | 0.0001   | <0.0001   | <0.0001   | <0.0002   | <0.0002   |
| P-PO4-T          | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| P-T              | mg/L | <0.30     | <0.30     | <0.30    | <0.30     | <0.30     | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3     | <0.3     |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| P-TRP (Ortho)    | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Sb-T             | mg/L | <0.00010  | <0.00010  | <0.00010 | 0.00014   | <0.00010  | 0.00015   | 0.00024   | <0.0001   | <0.0001   | <0.0001   | 0.00017   | 0.00021   | 0.00038  | 0.00015  | <0.0002   | <0.0002   | <0.0002   | <0.001   | <0.0002   | <0.0002   | <0.0002  | <0.0004   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0004   |
| Se-T             | mg/L | <0.0010   | <0.0010   | <0.0010  | <0.0010   | <0.0010   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | 0.0002    | <0.0002   | <0.0002   | <0.001   | <0.0002   | <0.0002   | 0.0002   | <0.0004   | 0.0003    | 0.0003   | <0.0002   | 0.0004    | <0.0004   | 0.0008    |
| Si-T             | mg/L | 5.4       | 6.33      | 5.61     | 5.32      | 3.68      | 4.84      | 11.7      | 4.55      | 4.31      | 4.55      | 4.71      | 6.97      | 13.1     | 6.22     | 5.21      | 5.13      | 5.83      | 5.67     | 5.62      | 6.11      | 5.66     | 5.19      | 5.73      | 5.65     | 5.97      | 5.66      | 5.43      | 5.31      |
| Sn-T             | mg/L | <0.00010  | <0.00010  | <0.00010 | <0.00010  | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.00019   | 0.00027   | <0.0001  | 0.00013  | <0.001    | <0.001    | <0.001    | <0.005   | <0.001    | <0.001    | <0.001   | <0.002    | <0.001    | <0.001   | <0.001    | <0.001    | <0.002    | <0.002    |
| Sr-T             | mg/L | 0.135     | 0.126     | 0.0854   | 0.0827    | 0.082     | 0.0969    | 0.111     | 0.111     | 0.133     | 0.157     | 0.212     | 0.17      | 0.206    | 0.179    | 0.306     | 0.344     | 0.29      | 0.37     | 0.355     | 0.357     | 0.401    | 0.388     | 0.405     | 0.399    | 0.409     | 0.398     | 0.371     | 0.368     |
| S-T              | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          | 5.7       | 6.6       | 6.2       | 6.9      | 7.2       | 7.4       | 7.6      | 6.8       | 6.6       | 7.7      | 7.5       | 7.1       | 6.4       | 7         |
| Te-T             | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Th-T             | mg/L |           |           |          |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Ti-T             | mg/L | 0.034     | 0.072     | 0.072    | 0.07      | 0.032     | 0.042     | 0.157     | 0.023     | 0.014     | 0.011     | 0.014     | 0.063     | 0.195    | 0.039    | 0.0041    | 0.0016    | 0.0192    | <0.002   | 0.0009    | 0.0018    | 0.0008   | <0.0010   | 0.0009    | 0.0008   | 0.0008    | 0.0008    | <0.001    | 0.001     |
| Tl-T             | mg/L | <0.00010  | <0.00010  | <0.00010 | <0.00010  | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.00005  | <0.00005  | <0.00005  | <0.0002  | <0.00005  | <0.00005  | <0.00005 | <0.0001   | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.0001   | <0.0001   |
| U-T              | mg/L | 0.00030   | 0.00036   | 0.00029  | 0.00030   | 0.00020   | 0.000197  | 0.000689  | 0.000358  | 0.000391  | 0.000523  | 0.000727  | 0.000565  | 0.000992 | 0.000546 | 0.001     | 0.0011    | 0.0014    | <0.002   | 0.0014    | 0.0015    | 0.0015   | 0.002     | 0.0016    | 0.0018   | 0.0018    | 0.0016    | 0.002     | 0.002     |
| V-T              | mg/L | 0.0028    | 0.0055    | 0.0062   | 0.006     | 0.0026    | 0.0039    | 0.0147    | 0.0034    | 0.0026    | 0.0022    | 0.0021    | 0.0065    | 0.0173   | 0.0045   | 0.0014    | 0.0008    | 0.00      |          |           |           |          |           |           |          |           |           |           |           |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | F0001    | F0001    | F0001    | F0001    | F0001    | X5825     | X5825     | X6214     | X6214     | X6214     | X6722     | X6722     | X6722    | X7055    | 875460    | 870006    | 875467    | 874757   | 877405    | 884596    | 885912   | 910505    | 898580    | 1202879  | 905086    | 908518    | 927184    | 916843    |
|------------------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 5/2/2006 | 5/3/2006 | 5/5/2006 | 5/6/2006 | 5/8/2006 | 5/10/2006 | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/26/2006 | 5/29/2006 | 6/2/2006 | 6/7/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 7/31/2006 | 8/2/2006 | 8/23/2006 | 8/30/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 | 9/28/2006 | 10/4/2006 |
| Station Name     |          | W2       | W2       | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2        | W2        | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2        | W2        |
| Sample Class     |          | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | P         | P        | P         | P         | P        | P         | P         | P         | P         |
| Sb-D             | mg/L     |          |          |          |          | <0.00010 |           | <0.0001   |           |           | <0.0001   |           |           | 0.00013  |          | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   |           |
| S-D              | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          | 6.4       | 7.2       | 6.6       | 7.8      | 7.9       | 7.5       | 7.8      | 7.1       | 6.8       | 7.3      | 7.2       | 7.7       | 6.7       | 7.6       |
| Se-D             | mg/L     |          |          |          |          | <0.0010  |           | <0.001    |           |           | <0.001    |           |           | <0.001   |          | <0.0002   | 0.0002    | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   |           |
| Si-D             | mg/L     |          |          |          |          | 2.69     |           | 3.11      |           |           | 4.14      |           |           | 4.19     |          | 5.8       | 5.54      | 5.49      | 6.5      | 5.69      | 6.03      | 3.79     | 5.81      | 5.77      | 5.75     | 5.27      | 5.76      | 6.13      | 6.02      |
| Sn-D             | mg/L     |          |          |          |          | <0.00010 |           | <0.0001   |           |           | <0.0001   |           |           | <0.0001  |          | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    |           |
| Sr-D             | mg/L     |          |          |          |          | 0.1      |           | 0.0801    |           |           | 0.162     |           |           | 0.162    |          | 0.288     | 0.344     | 0.304     | 0.358    | 0.37      | 0.256     | 0.289    | 0.39      | 0.37      | 0.407    | 0.372     | 0.366     | 0.39      | 0.378     |
| Te-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Th-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Ti-D             | mg/L     |          |          |          |          | <0.010   |           | <0.01     |           |           | <0.01     |           |           | <0.01    |          | 0.0006    | 0.0006    | 0.0006    | 0.0009   | 0.0007    | 0.0006    | <0.0005  | 0.0006    | <0.0005   | 0.0005   | 0.0007    | <0.0005   | 0.0006    | 0.0008    |
| Tl-D             | mg/L     |          |          |          |          | <0.00010 |           | <0.0001   |           |           | <0.0001   |           |           | <0.0001  |          | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.00005  |           |
| U-D              | mg/L     |          |          |          |          | 0.00012  |           | 0.00015   |           |           | 0.00048   |           |           | 0.000477 |          | 0.0009    | 0.0012    | 0.0012    | 0.0012   | 0.0009    | 0.0015    | 0.0015   | 0.0015    | 0.0016    | 0.0016   | 0.0016    | 0.0018    | 0.0015    | 0.0015    |
| V-D              | mg/L     |          |          |          |          | <0.0010  |           | <0.001    |           |           | <0.001    |           |           | 0.0015   |          | 0.0012    | 0.001     | 0.0011    | 0.0034   | 0.0019    | 0.0003    | 0.0015   | 0.0014    | 0.0016    | 0.0019   | 0.0015    | 0.0015    | 0.0016    | 0.0012    |
| Zn-D             | mg/L     |          |          |          |          | 0.0024   |           | <0.001    |           |           | <0.001    |           |           | 0.0012   |          | <0.001    | 0.004     | <0.001    | 0.002    | 0.001     | <0.001    | <0.001   | 0.003     | <0.001    | 0.001    | 0.001     | 0.002     | 0.002     | <0.001    |
| Zr-D             | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Alk-Bicrb        | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          | 143       | 161       | 162       | 165      | 160       | 173       | 185      | 180       | 183       | 182      | 190       | 183       | 184       | 185       |
| Alk-Carb         | mg/L     | 65       | 50       | 32       | 27       | 34       |           |           |           |           |           |           |           |          |          | <6        | <6        | <6        | <6       | <6        | <6        | <6       | <6        | <6        | <6       | <6        | <6        | <6        | <6        |
| Alk-OH           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          | <5        | <5        | <5        | <5       | <5        | <5        | <5       | <5        | <5        | <5       | <5        | <5        | <5        | <5        |
| Alk-P            | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Alk-T            | mg/L     |          |          |          |          |          | 34.5      | 32.1      | 63.1      | 70.6      | 72.2      | 94.3      | 82        | 91.8     | 83.4     | 117       | 132       | 133       | 135      | 132       | 142       | 152      | 148       | 150       | 149      | 156       | 150       | 151       | 152       |
| Bromine          | mg/L     | <0.050   | <0.050   | <0.050   | <0.050   | <0.050   | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| C-TIC            | mg/L     |          |          |          |          | 4.33     |           | 4.03      |           |           | 13.5      |           |           | 13.8     | 14.4     | 31        | 32.6      | 33.9      | 35.4     | 36.3      | 36.8      | 36.5     | 37.3      | 38.2      | 37.6     | 37.8      | 37.6      | 36.7      | 37.8      |
| C-TOC            | mg/L     |          |          |          |          | 32.7     |           | 34.2      |           |           | 20        |           |           | 29.5     | 23.9     | 12        | 9.7       | 13.4      | 9.2      | 10        | 8.7       | 8.5      | 8.1       | 8.6       | 8.2      | 8.7       | 8.3       | 8.4       | 7.8       |
| Chloride         | mg/L     | 0.81     | 0.73     | <0.50    | <0.50    | <0.50    | <0.5      | <0.5      | 0.57      | 0.54      | 0.55      | 0.54      | <0.5      | <0.5     | <0.5     |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Colour           | TCU      |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Cond-F           | µS/cm    |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Cond-L           | µS/cm    | 139      | 117      | 76       | 74       | 81       | 83.4      | 81.3      | 116       | 136       | 166       | 193       | 148       | 159      | 179      | 248       | 300       | 286       | 259      | 298       | 309       | 319      | 316       | 317       | 322      | 320       | 317       | 329       | 321       |
| Discharge        | L/s      |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Fluoride         | mg/L     | 0.16     | 0.14     | 0.11     | 0.11     | 0.11     | 0.112     | 0.136     | 0.158     | 0.179     | 0.211     | 0.227     | 0.192     | 0.21     | 0.209    |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Hard-D           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          | 139       | 154       | 142       | 140      | 143       | 153       | 10       | 154       | 154       | 161      | 167       | 164       | 161       | 160       |
| Hard-T           | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| IB               | %        |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Ammonia          | mg/L     |          |          |          |          | 0        |           | 0.05      |           |           | 0.0147    |           |           | 0.04     | 0.038    | 0.01      | 0.01      | 0.003     |          | 0.008     | 0.003     | 0.006    | <0.002    | 0.005     | 0.004    | 0.008     | 0.006     | 0.008     | 0.053     |
| Ammonium         | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           | 0.004    |           |           |           |           |
| N-NO2            | mg/L     | 0.0015   | <0.0010  | <0.0010  | <0.0010  | <0.0010  | 0.0013    | 0.0012    | 0.0016    | <0.001    | <0.001    | 0.0016    | 0.0014    | 0.0024   | 0.0013   |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| NO2+NO3          | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| N-NO3            | mg/L     | <0.0050  | <0.0050  | <0.0050  | <0.0050  | <0.0050  | 0.0082    | 0.0083    | 0.0171    | 0.0237    | 0.0368    | 0.0463    | 0.0415    | 0.0567   | 0.0716   | 0.1       | 0.05      | 0.05      | 0.076    | 0.09      | 0.07      | 0.06     | <0.03     | <0.03     | <0.03    | 0.003     | <0.03     | <0.03     | 0.04      |
| pH-F             | pH units | 8.3      | 8.2      |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| pH-L             | pH units | 7.95     | 7.86     | 7.63     | 7.60     | 7.65     | 7.65      | 7.61      | 7.69      | 7.81      | 7.93      | 7.71      | 7.66      | 7.19     | 7.92     | 8.11      | 7.92      | 8.05      | 7.91     | 7.93      | 7.82      | 7.86     | 8.03      | 7.87      | 7.93     | 7.99      | 7.87      | 7.64      | 8.32      |
| Radium - 226     |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| SO4-D            | mg/L     |          |          |          |          |          | 3.4       | 3.21      | 5.43      | 7.6       | 10.7      | 13.2      | 8.76      | 9.14     | 10.6     | 19        | 20.9      |           | 21.7     | 21.3      | 22.5      | 20.9     | 22.3      | 13.9      | 21.3     | 22        | 22.3      | 20.9      | 23.7      |
| SO4-T            | mg/L     | 7.9      | 5.4      | 2.9      | 2.6      | 2.85     |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Sulphide         | mg/L     |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| TDS              | mg/L     | 129      | 102      | 86       | 88       | 94       | 101       | 103       | 115       | 115       | 129       | 145       | 119       | 140      | 142      | 166       | 222       | 170       | 204      |           |           |          | 216       | 220       |          |           |           | 124       |           |
| Temp-F           | C        |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Temp-obs-pH      | C        |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| TSS              | mg/L     | 51.4     | 116.0    | 141.0    | 110.0    | 40.9     | 98.3      | 232       | 59.6      | 28.1      | 22.1      | 11.4      | 79.9      | 257      | 47.1     | 2         | <2        | 7         | <2       | <2        | <2        | <2       |           | <2        | 2        | <2        | <2        | <2        | <2        |
| Turb             | NTU      |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |
| Turb-F           | NTU      |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |          |           |           |          |           |           |           |           |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 934140     | 925266     | 953902     | 989744    | 995754    | 1004203   | 1008503   | 1015480   | 1018416   | 1020545  | 1203450   | 1036694   | 1050334   | 1065056    | 1112510   | 1120081   | 1122144   | 1125108  | 1133503  | 1137485   | 1140669  | 1146370   | 1146370   | 1148362  | 1149927   | 1151901   | 1160286   | 1171319    |
|------------------|------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|----------|----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|------------|
| Smpl Date        |      | 10/12/2006 | 10/18/2006 | 10/28/2006 | 4/17/2007 | 4/26/2007 | 5/19/2007 | 5/30/2007 | 6/20/2007 | 6/27/2007 | 7/4/2007 | 7/18/2007 | 8/15/2007 | 9/18/2007 | 10/17/2007 | 4/22/2008 | 5/13/2008 | 5/20/2008 | 6/3/2008 | 7/8/2008 | 7/23/2008 | 8/7/2008 | 8/28/2008 | 8/31/2008 | 9/7/2008 | 9/11/2008 | 9/19/2008 | 10/8/2008 | 10/29/2008 |
| Station Name     |      | W2         | W2         | W2         | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2        | W2        | W2        | W2         | W2        | W2        | W2        | W2       | W2       | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2        | W2         |
| Sample Class     |      | P          | P          | P          | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         | P          | P         | P         | P         | P        | P        | P         | P        | M         | P         | P        | P         | P         | P         | P          |
| Ag-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0002   | <0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | 0.00005   |          | <0.00001  | <0.00001  | <0.00001 | 0.00005   | 0.00016   | <0.00001  |            |
| Al-T             | mg/L | 0.055      | 0.007      | 0.08       | 3.55      | 2.88      | 0.079     | 0.041     | 0.065     | 0.036     | 4.15     | 0.253     | 0.071     | 0.09      | 0.125      | 0.01      | 0.11      | 0.17      | 0.01     | 0.01     | 0.385     |          | 1.41      | 0.798     | 0.944    | 0.614     | 0.312     | 0.118     |            |
| As-T             | mg/L | 0.0003     | 0.0003     | 0.0004     | 0.0022    | 0.001     | 0.0005    | 0.0003    | 0.0004    | 0.0005    | 0.0023   | 0.0008    | 0.0005    | 0.0006    | 0.0005     | 0.0009    | 0.0012    | <0.0002   | 0.0007   | 0.0004   | 0.0007    |          | 0.001     | 0.0008    | 0.0011   | 0.0011    | 0.0003    | 0.0006    |            |
| Ba-T             | mg/L | 0.06       | 0.065      | 0.071      | 0.127     | 0.078     | 0.048     | 0.056     | 0.063     | 0.062     | 0.134    | 0.074     | 0.069     | 0.055     | 0.058      | 0.057     | 0.038     | 0.043     | 0.047    | 0.058    | 0.056     |          | 0.088     | 0.078     | 0.097    | 0.077     | 0.067     | 0.046     |            |
| Be-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0002   | <0.0002   | <0.0001   | <0.0001   | <0.0001   | 0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.00004  | <0.00004  | <0.00004  | 0.00004  | <0.00004 | <0.0001   |          | 0.00007   | <0.00004  | 0.00008  | <0.00004  | <0.00004  | <0.00004  |            |
| Bi-T             | mg/L | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.001    | <0.001    | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005    |           |           |           |          | <0.0005  |           |          |           |           |          | <0.0001   | <0.0001   | <0.0001   |            |
| B-T              | mg/L | 0.006      | 0.005      | 0.006      | 0.008     | 0.004     | 0.007     | 0.007     | 0.008     | 0.007     | 0.008    | 0.007     | 0.006     | 0.005     | 0.005      | <0.005    | <0.005    | <0.005    | 0.006    | <0.005   | 0.241     |          | 0.007     | 0.008     | 0.013    | 0.01      | 0.011     | <0.005    |            |
| Ca-T             | mg/L | 40.4       | 41.2       | 43.6       | 56.5      | 17        | 30.6      | 33        | 39.2      | 38.2      | 32.6     | 41.6      | 43.4      | 33.3      | 36.8       | 42.6      | 20.4      | 24.2      | 31.2     | 41       | 30.8      |          | 37        | 38.9      | 40.9     | 35.6      | 39.4      | 35.3      |            |
| Cd-T             | mg/L | <0.00001   | <0.00001   | <0.00001   | 0.00007   | 0.00005   | <0.00002  | <0.00001  | <0.00001  | 0.00002   | 0.00006  | 0.00001   | <0.00001  | <0.00001  | 0.00001    | <0.00007  | <0.00007  | <0.00007  | <0.00007 | <0.00008 | 0.00002   |          | 0.00006   | 0.00002   | 0.00004  | <0.00001  | 0.00004   | <0.00001  |            |
| CN-T             | mg/L | <0.001     |            | <0.001     |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Co-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | 0.0024    | 0.002     | <0.0002   | 0.0001    | 0.0001    | 0.0001    | 0.0027   | 0.0002    | <0.0001   | 0.0002    | 0.0002     | 0.0001    | 0.00018   | 0.00023   | 0.00008  | 0.00009  | 0.0003    |          | 0.00104   | 0.00065   | 0.001    | 0.00062   | 0.00045   | 0.00023   |            |
| Cr-T             | mg/L | <0.0005    | <0.0005    | <0.0005    | 0.0059    | 0.0049    | <0.001    | <0.0005   | 0.0008    | <0.0005   | 0.0074   | 0.0007    | <0.0005   | 0.0007    | 0.0007     | <0.0005   | 0.0009    | 0.0014    | 0.0024   | 0.0009   | 0.001     |          | 0.0036    | 0.0025    | 0.0033   | 0.0022    | 0.0017    | 0.0013    |            |
| Cu-T             | mg/L | 0.002      | 0.002      | 0.002      | 0.012     | 0.009     | 0.003     | 0.003     | 0.003     | 0.002     | 0.011    | 0.003     | 0.002     | 0.002     | 0.002      | 0.002     | 0.003     | 0.002     | 0.005    | 0.002    | 0.004     |          | 0.043     | 0.02      | 0.052    | 0.035     | 0.044     | 0.01      |            |
| Fe-T             | mg/L | 0.1        | <0.1       | 0.1        | 5.1       | 3.7       | 0.2       | <0.1      | 0.1       | <0.1      | 6.1      | 0.4       | <0.2      | 0.3       | 0.3        | 0.03      | 0.46      | 0.44      | 0.12     | 0.05     | 0.61      |          | 3.55      | 2.05      | 2.14     | 1.39      | 0.72      | 0.38      |            |
| Hg-T             | mg/L |            |            | <0.00005   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.0001   |          | 0.00001   | <0.00001  | <0.00001 | 0.00001   | <0.00001  | <0.00001  |            |
| K-T              | mg/L | 1.2        | 1.3        | 1.6        | 5.5       | 2.6       | 1         | 1.5       | 1.3       | 1.3       | 1.4      | 1.5       | 1         | 1.2       | 1          | 3.04      | 1.22      | 1.25      | 1.24     | 1.4      | 1         |          | 2.34      | 2.86      | 4.56     | 3.59      | 4.3       | 1.2       |            |
| Li-T             | mg/L | 0.002      | 0.002      | 0.003      | 0.006     | 0.002     | <0.002    | 0.001     | 0.002     | 0.002     | 0.005    | 0.002     | 0.002     | 0.002     | 0.002      | 0.002     | 0.001     | 0.001     | 0.001    | 0.002    | 0.001     |          | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.001     |            |
| Mg-T             | mg/L | 13.5       | 13.7       | 13.5       | 22.9      | 4.8       | 10        | 10.9      | 11.7      | 12.2      | 10.3     | 13.5      | 13        | 10.1      | 11         | 17.6      | 6.51      | 7.73      | 10.2     | 12.4     | 9.4       |          | 10.3      | 11.3      | 12.3     | 10        | 11.3      | 10.2      |            |
| Mn-T             | mg/L | 0.022      | 0.025      | 0.035      | 0.189     | 0.2       | 0.02      | 0.006     | 0.007     | 0.006     | 0.167    | 0.018     | 0.01      | 0.021     | 0.023      | 0.0244    | 0.0211    | 0.0223    | 0.0076   | 0.0058   | 0.032     |          | 0.103     | 0.0718    | 0.116    | 0.0852    | 0.102     | 0.034     |            |
| Mo-T             | mg/L | 0.001      | 0.001      | 0.001      | 0.001     | <0.002    | <0.002    | 0.001     | 0.001     | 0.002     | 0.001    | 0.001     | 0.001     | 0.001     | <0.001     | 0.00089   | 0.00066   | 0.00072   | 0.00097  | 0.00108  | <0.001    |          | 0.00208   | 0.00273   | 0.00344  | 0.00276   | 0.00285   | 0.00099   |            |
| Na-T             | mg/L | 8.1        | 8.6        | 10.2       | 15.3      | 3.5       | 6         | 7.6       | 8.4       | 8.9       | 7.3      | 9.5       | 9.6       | 7.6       | 7.2        | 11.4      | 5         | 6.4       | 8        | 8.8      | 11.7      |          | 9.4       | 10.4      | 12.6     | 10.5      | 10.7      |           |            |
| Ni-T             | mg/L | 0.0013     | 0.0014     | 0.0013     | 0.0066    | 0.0061    | 0.002     | 0.0007    | 0.0013    | 0.0011    | 0.0087   | 0.0008    | 0.0013    | 0.0018    | 0.0015     | <0.001    | 0.004     | 0.004     | <0.001   | 0.001    | 0.0042    |          | 0.01      | 0.006     | 0.002    | 0.003     | 0.001     | 0.002     |            |
| N-TKN            | mg/L |            | 0.24       |            | 0.95      | 1.35      | 0.44      | 0.61      | 0.25      |           |          | 0.35      | 0.3       | 0.42      | 0.37       | 0.34      | 0.64      | 0.51      | 0.3      | 0.5      | 0.6       |          | 1.03      |           |          | 0.96      | 0.91      | 0.49      |            |
| Pb-T             | mg/L | <0.0001    | 0.0001     | <0.0001    | 0.0014    | 0.001     | <0.0002   | <0.0001   | <0.0001   | <0.0001   | 0.0016   | 0.0001    | <0.0001   | <0.0001   | <0.0001    | <0.0001   | <0.0001   | 0.0001    | 0.0008   | 0.0001   | 0.0006    |          | 0.0007    | 0.0004    | 0.0006   | 0.0006    | 0.0002    | 0.0001    |            |
| P-PO4-T          | mg/L |            | 0.04       |            | 0.1       | 0.03      | 0.04      | 0.03      | 0.04      |           |          | 0.06      | 0.07      | 0.07      | <0.05      | <0.05     | 0.06      | <0.05     | <0.05    | <0.05    | <0.05     |          | 0.07      |           |          | <0.05     | <0.05     | <0.05     |            |
| P-T              | mg/L |            | 0.08       |            | 0.17      | 0.2       | 0.05      | <0.05     | <0.05     |           |          |           | <0.05     | <0.05     |            | 0.05      | 0.04      | 0.04      | 0.02     | 0.01     |           | 0.1      | 0.07      | 0.07      | 0.06     | 0.03      | <0.01     |           |            |
| P-TRP (Ortho)    | mg/L |            |            |            |           |           |           |           |           |           |          | 0.05      |           |           | 0.03       | 0.11      | 0.06      | 0.05      | 0.04     | 0.05     | 0.05      |          | 0.07      |           |          | 0.06      | 0.08      | 0.06      |            |
| Sb-T             | mg/L | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0004   | <0.0004   | <0.0002   | <0.0002   | <0.0002   | 0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   |          | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   |            |
| Se-T             | mg/L | <0.0002    | <0.0002    | <0.0002    | 0.0004    | <0.0004   | <0.0004   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002    | 0.0008    | <0.0006   | 0.0006    | 0.0007   | 0.0008   | 0.0004    |          | <0.0006   | <0.0006   | <0.0006  | <0.0006   | 0.0006    | <0.0006   |            |
| Si-T             | mg/L | 4.5        | 5.81       | 5.92       | 14        | 8.92      | 5.21      | 4.35      | 5.2       | 5.01      | 11       | 5.97      | 6.21      | 6.4       | 6.03       | 3.91      | 2.46      | 2.33      | 2.33     | 4.58     | 6.11      |          | 8.38      | 7.11      | 7.13     | 6.26      | 6.07      | 6.55      |            |
| Sn-T             | mg/L | <0.001     | <0.001     | <0.001     | <0.001    | <0.002    | <0.002    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001     | <0.0001   | <0.0001   | <0.0001   | 0.0006   | <0.0001  | <0.001    |          | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |            |
| Sr-T             | mg/L | 0.385      | 0.445      | 0.43       | 0.555     | 0.12      | 0.252     | 0.302     | 0.339     | 0.347     | 0.258    | 0.426     | 0.373     | 0.298     | 0.31       | 0.457     | 0.166     | 0.196     | 0.267    | 0.361    | 0.259     |          | 0.26      | 0.295     | 0.351    | 0.304     | 0.331     | 0.258     |            |
| S-T              | mg/L | 6.9        | 7.7        | 7.5        | 11.7      | 1         | 5.2       | 6.2       | 6.8       | 6.8       | 3.8      | 6.7       | 6.6       | 3.8       | 4.7        |           |           |           |          |          | 4         |          |           |           |          |           |           |           |            |
| Te-T             | mg/L |            |            |            |           |           |           |           |           |           |          |           |           |           |            | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |           |          | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |            |
| Th-T             | mg/L |            |            |            |           |           |           |           |           |           |          |           |           |           |            | 0.0002    | 0.0003    | <0.0001   | 0.0001   | <0.0001  |           |          | <0.0001   | <0.0001   | 0.0004   | 0.0001    | <0.0001   | 0.0002    |            |
| Ti-T             | mg/L | 0.0034     | <0.0005    | 0.004      | 0.129     | 0.116     | <0.001    | 0.0019    | 0.003     | 0.0017    | 0.146    | 0.0107    | 0.0029    | 0.0038    | 0.0026     | 0.0004    | 0.0054    | 0.0064    | 0.0013   | 0.0009   | 0.0174    |          | 0.0417    | 0.0357    | 0.042    | 0.0294    | 0.0142    | 0.006     |            |
| Tl-T             | mg/L | <0.00005   | <0.00005   | <0.00005   | <0.00005  | <0.0001   | <0.0001   | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005   | 0.00004   | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00005  |          | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  |            |
| U-T              | mg/L | 0.0015     | 0.0019     | 0.0021     | 0.0017    | <0.001    | 0.001     | 0.0014    | 0.0015    | 0.0016    | 0.0011   | 0.0016    | 0.0017    | 0.001     | 0.0011     | 0.0013    | 0.0006    | 0.0007    | 0.0012   | 0.0014   | 0.0009    |          | 0.0008    | 0.0009    | 0.001    | 0.0008    | 0.001     | 0.0007    |            |
| V-T              | mg/L | 0.0007     | 0.0005     | 0.0006     | 0.0123    | 0.0084    | 0.001     | 0.0008    | 0.0012    | 0.0009    | 0.015    | 0.0018    | 0.0012    | 0.0011    | 0.001      | 0.00022   | 0.00104   | 0.00117   | 0.00081  | 0.00047  | 0.0021    |          | 0.00537   | 0.00366   |          |           |           |           |            |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 934140     | 925266     | 953902     | 989744    | 995754    | 1004203   | 1008503   | 1015480   | 1018416   | 1020545  | 1203450   | 1036694   | 1050334   | 1065056    | 1112510   | 1120081   | 1122144   | 1125108  | 1133503  | 1137485   | 1140669  | 1146370   | 1146370   | 1148362  | 1149927   | 1151901   | 1160286   | 1171319    |
|------------------|----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|----------|----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|------------|
| Smpl Date        |          | 10/12/2006 | 10/18/2006 | 10/28/2006 | 4/17/2007 | 4/26/2007 | 5/19/2007 | 5/30/2007 | 6/20/2007 | 6/27/2007 | 7/4/2007 | 7/18/2007 | 8/15/2007 | 9/18/2007 | 10/17/2007 | 4/22/2008 | 5/13/2008 | 5/20/2008 | 6/3/2008 | 7/8/2008 | 7/23/2008 | 8/7/2008 | 8/28/2008 | 8/31/2008 | 9/7/2008 | 9/11/2008 | 9/19/2008 | 10/8/2008 | 10/29/2008 |
| Station Name     |          | W2         | W2         | W2         | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2        | W2        | W2        | W2         | W2        | W2        | W2        | W2       | W2       | W2        | W2       | W2        | W2        | W2       | W2        | W2        | W2        | W2         |
| Sample Class     |          | P          | P          | P          | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         | P          | P         | P         | P         | P        | P        | P         | P        | M         | P         | P        | P         | P         | P         | P          |
| Sb-D             | mg/L     | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   |           |          | <0.0002   | <0.0002   | <0.0002   | 0.001      | 0.0008    | 0.0006    | 0.0007    |          | 0.0007   | 0.0014    | 0.0009   | 0.0005    |           |          |           | 0.0008    | 0.0003    | 0.001      |
| S-D              | mg/L     | 7          | 7.8        | 8.2        | 11.4      | 1.4       | 5         | 6.1       | 7         |           |          | 6.5       | 6.6       | 3.9       | 4.9        |           |           |           |          |          | 3.7       | 6.8      |           |           |          |           |           |           |            |
| Se-D             | mg/L     | <0.0002    | <0.0002    | <0.0002    | 0.0004    | <0.0002   | <0.0002   | <0.0002   | <0.0002   |           |          | <0.0002   | <0.0002   | 0.0002    | <0.0002    | <0.0006   | <0.0006   | <0.0006   |          | <0.0006  | <0.0002   | <0.0002  | <0.0006   |           |          |           | 0.0013    | <0.0006   | <0.0006    |
| Si-D             | mg/L     | 6.05       | 5.82       | 6.07       | 9.97      | 3.46      | 5.29      | 4.33      | 5.05      |           |          | 6.2       | 6.06      | 5.98      | 6.22       | 3.67      | 2.02      | 2.01      |          | 4.49     | 5.58      | 5.48     | 5.69      |           |          |           | 5.42      | 5.6       | 6.72       |
| Sn-D             | mg/L     | <0.001     | <0.001     | <0.001     | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |           |          | <0.001    | <0.001    | <0.001    | <0.001     | <0.004    | <0.004    | <0.004    |          | <0.0001  | <0.001    | <0.001   | <0.0001   |           |          |           | <0.0001   | 0.0002    | 0.0006     |
| Sr-D             | mg/L     | 0.39       | 0.42       | 0.407      | 0.483     | 0.099     | 0.248     | 0.29      | 0.351     |           |          | 0.368     | 0.371     | 0.308     | 0.317      | 0.419     | 0.154     | 0.203     |          | 0.344    | 0.262     | 0.374    | 0.247     |           |          |           | 0.317     | 0.248     | 0.344      |
| Te-D             | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            | <0.0001   | <0.0001   | <0.0001   |          | <0.0001  |           |          | <0.0001   |           |          |           | <0.0001   | <0.0001   | <0.0001    |
| Th-D             | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            | <0.0001   | <0.0001   | <0.0001   |          | <0.0001  |           |          | <0.0001   |           |          |           | <0.0001   | <0.0001   | <0.0001    |
| Ti-D             | mg/L     | 0.0008     | 0.0005     | 0.0009     | 0.0028    | <0.0005   | 0.001     | 0.001     | 0.001     |           |          | 0.0009    | 0.0008    | 0.0008    | 0.0007     | 0.0008    | 0.0007    | 0.0009    |          | 0.0007   | 0.0007    | <0.0005  | 0.0036    |           |          |           | 0.0026    | 0.0013    | 0.0014     |
| Tl-D             | mg/L     | <0.00005   | <0.00005   | <0.00005   | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  |           |          | <0.00005  | <0.00005  | <0.00005  | <0.00005   | <0.00001  | <0.00001  | <0.00001  |          | <0.00001 | <0.00005  | <0.00005 | <0.00001  |           |          |           | <0.00001  | 0.00001   | <0.00001   |
| U-D              | mg/L     | 0.0015     | 0.0018     | 0.0017     | 0.0014    | <0.0005   | 0.001     | 0.0013    | 0.0014    |           |          | 0.0015    | 0.0016    | 0.001     | 0.0011     | 0.0012    | <0.0006   | 0.0007    |          | 0.0014   | 0.0008    | 0.0016   | 0.0007    |           |          |           | 0.0009    | 0.0007    | 0.0011     |
| V-D              | mg/L     | 0.0009     | 0.0009     | 0.0021     | 0.0043    | 0.0007    | 0.0014    | 0.001     | 0.0014    |           |          | 0.001     | 0.0018    | 0.0009    | 0.0009     | 0.00026   | 0.00057   | 0.00064   |          | 0.0006   | 0.0008    | 0.001    | 0.0014    |           |          |           | 0.00156   | 0.00069   | 0.00055    |
| Zn-D             | mg/L     | <0.001     | 0.002      | 0.002      | 0.008     | 0.009     | 0.001     | 0.002     | 0.002     |           |          | 0.003     | 0.005     | 0.007     | 0.001      | 0.003     | 0.002     | 0.003     |          | 0.003    | 0.004     | 0.004    | 0.003     |           |          |           | 0.003     | 0.002     | 0.007      |
| Zr-D             | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            | 0.0001    | 0.0002    | 0.0002    |          | 0.0004   |           |          | 0.0004    |           |          |           | 0.0004    | 0.0003    | 0.0002     |
| Alk-Bicrb        | mg/L     | 178        | 236        | 184        | 241       | 54        | 127       | 141       | 167       |           |          | 188       | 202       | 175       | 160        | 206       | 93        | 100       | 140      | 170      | 100       |          | 140       | 140       | 170      | 160       | 180       | 140       |            |
| Alk-Carb         | mg/L     | <6         | <6         | <6         | <6        | <6        | <6        | <6        | <6        |           |          | <6        | <6        | <6        | <6         | <6        | <6        | <6        | <6       | <6       | <6        |          | <6        | <6        | <6       | <6        | <6        | <6        |            |
| Alk-OH           | mg/L     | <5         | <5         | <5         | <5        | <5        | <5        | <5        | <5        |           |          | <5        | <5        | <5        | <5         | <5        | <5        | <5        | <5       | <5       | <5        |          | <5        | <5        | <5       | <5        | <5        | <5        |            |
| Alk-P            | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Alk-T            | mg/L     | 146        | 194        | 151        | 197       | 44        | 104       | 116       | 137       |           |          | 154       | 166       | 144       | 132        | 169       | 77        | 89        | 116      | 138      | 92        |          | 113       | 118       | 139      | 129       | 147       | 113       |            |
| Bromine          | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| C-TIC            | mg/L     | 37.3       | 47.6       | 39.1       |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| C-TOC            | mg/L     | 8.2        | 7.5        | 7.9        |           |           |           |           |           |           |          |           |           |           |            |           | 17        |           |          |          | 9.8       |          | 9.5       | 23.4      |          | 21.5      | 20.5      | 14.5      |            |
| Chloride         | mg/L     |            | 1.3        | 1.42       | 2.7       | 1.4       | 0.9       | 1         | 1.1       |           |          | 1.3       | 1.2       | 0.99      | 1.21       | 1.35      | 0.82      | 0.91      | 1.01     | 1.14     | 0.79      |          | 1.5       | 1.55      | 2.21     | 1.89      | 2.33      | 1.12      |            |
| Colour           | TCU      |            | 18         | 25         | >60       | >60       | 70        | 36        | 35        |           |          | 50        | 36        | 47        | 30         | 42        | 120       | 80        | 35       | 36       | 80        |          | 80        | 80        | 110      | 90        | 80        | 55        |            |
| Cond-F           | µS/cm    |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Cond-L           | µS/cm    | 319        | 443        | 323        | 400       | 89        | 240       | 264       | 283       |           |          | 310       | 306       | 266       | 275        | 341       | 159       | 192       | 253      | 292      | 221       |          | 244       | 272       | 319      | 279       | 320       | 223       |            |
| Discharge        | L/s      |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Fluoride         | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Hard-D           | mg/L     | 158        | 160        | 163        | 216       | 52        | 116       |           | 149       |           |          | 161       | 160       | 129       | 139        | 162       | 70        | 89        |          |          | 120       | 153      |           |           |          |           |           |           | 169        |
| Hard-T           | mg/L     |            |            |            |           |           |           | 127       |           |           | 124      |           |           |           |            |           |           |           | 120      |          |           |          |           |           |          |           |           |           |            |
| IB               | %        |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Ammonia          | mg/L     | 0.006      | <0.05      | 0.01       |           | <0.05     | <0.05     | <0.05     | <0.05     |           |          | <0.05     | <0.05     | <0.05     | <0.05      | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    | <0.05     |          | <0.05     |           |          | 0.1       | 0.12      | 0.07      |            |
| Ammonium         | mg/L     |            |            |            | <0.05     |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| N-NO2            | mg/L     |            | <0.005     | <0.03      | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     |           |          | <0.05     | <0.05     | <0.02     | <0.02      | <0.02     | <0.02     | 0.03      | 0.03     | <0.01    | 0.03      |          | 0.02      | <0.01     | 0.04     | 0.04      | <0.01     | <0.01     |            |
| NO2+NO3          | mg/L     |            | 0.08       |            | <0.02     | 0.02      | 0.59      | 0.78      | 0.84      |           |          | 0.49      | 0.21      | 0.06      | 0.31       | <0.01     | <0.01     | <0.01     | 0.05     | 0.06     | <0.1      |          | 0.13      |           |          | 0.12      | 0.09      | 0.16      |            |
| N-NO3            | mg/L     | 0.04       | 0.08       | 0.06       | <0.1      | <0.1      | 0.6       | 0.8       | 0.9       |           |          | 0.5       | 0.3       | 0.04      | 0.34       | <0.02     | <0.02     | 0.02      | 0.04     | 0.06     | 0.15      |          | 0.12      | 0.16      | 0.16     | 0.09      | 0.08      | 0.15      |            |
| pH-F             | pH units |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| pH-L             | pH units | 7.54       | 8.2        | 7.77       | 8.34      | 7.44      | 8.03      | 8.1       | 7.95      |           |          | 7.96      | 8.18      | 8.18      | 8.17       | 8.3       | 7.94      | 7.98      | 8.04     | 8.15     | 8.03      |          | 8.04      | 8.1       | 8.14     | 8.07      | 8.12      | 8.03      |            |
| Radium - 226     |          |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| SO4-D            | mg/L     | 20.9       |            | 22         | 32        | 3.4       | 15.1      | 19.6      | 21.4      |           |          | 21.2      | 21        | 12        |            | 26.8      | 8.43      | 10.2      | 15.1     | 20.8     | 10.6      |          | 15        | 18.5      | 25.4     | 20.8      | 20.9      | 12.3      |            |
| SO4-T            | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           | 15.2       |           |           |           |          |          |           |          |           |           |          |           |           |           |            |
| Sulphide         | mg/L     |            |            |            |           |           |           |           |           |           |          |           |           |           |            |           |           |           |          |          |           |          |           |           |          |           |           |           | </         |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 1178181    | 1214867   | 1216270   | 1217968  | 1224045   | 1231771   | A933193   | 39991     | 39992     | 39993     | 39994     | A934681   | 39995    | 39996    | 39997    | A934681  | A934681  | 40000    | 40001    | 40002    | A936189  | 40003    | A936189  | 40004     | A936189   | 40005     | A936189   | 40006     | A936189   | 40007     |
|------------------|------|------------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |      | 11/18/2008 | 4/22/2009 | 4/30/2009 | 5/5/2009 | 5/27/2009 | 6/17/2009 | 6/26/2009 | 6/27/2009 | 6/28/2009 | 6/29/2009 | 6/30/2009 | 6/30/2009 | 7/1/2009 | 7/2/2009 | 7/3/2009 | 7/4/2009 | 7/5/2009 | 7/6/2009 | 7/7/2009 | 7/8/2009 | 7/8/2009 | 7/9/2009 | 7/9/2009 | 7/10/2009 | 7/10/2009 | 7/11/2009 | 7/11/2009 | 7/12/2009 | 7/12/2009 | 7/13/2009 |
| Station Name     |      | W2         | W2        | W2        | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        |           |
| Sample Class     |      | P          | P         | P         | P        | P         | P         | P         | M         | M         | P         | M         | P         | P        | P        | P        | P        | P        | P        | M        | M        | P        | M        | P        | M         | P         | M         | P         | M         | M         |           |
| Ag-T             | mg/L | 0.00005    | <0.00001  | 0.00004   | <0.00001 | <0.00001  | 0.00068   | <0.00002  |           |           | <0.00002  |           |           |          |          |          |          | <0.00002 |          |          |          |          |          |          |           |           |           |           | <0.00002  |           |           |
| Al-T             | mg/L | 0.062      | 2.62      | 2.04      | 1.93     | 0.11      | 0.025     | 0.034     |           |           | 0.871     |           |           |          |          |          |          | 0.212    |          |          |          |          |          |          |           |           |           |           | 0.15      |           |           |
| As-T             | mg/L | 0.0002     | 0.0018    | 0.001     | 0.0011   | 0.0005    | 0.0003    | 0.0004    |           |           | 0.001     |           |           |          |          |          |          | 0.0006   |          |          |          |          |          |          |           |           |           |           | 0.0005    |           |           |
| Ba-T             | mg/L | 0.064      | 0.109     | 0.06      | 0.06     | 0.058     | 0.055     | 0.067     |           |           | 0.107     |           |           |          |          |          |          | 0.091    |          |          |          |          |          |          |           |           |           |           | 0.092     |           |           |
| Be-T             | mg/L | <0.0001    | 0.00009   | <0.00004  | 0.00008  | <0.00004  | <0.00004  | <0.0001   |           |           | <0.0001   |           |           |          |          |          |          | <0.0001  |          |          |          |          |          |          |           |           |           |           | <0.0001   |           |           |
| Bi-T             | mg/L | <0.0005    | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.001    |           |           | <0.001    |           |           |          |          |          |          | <0.001   |          |          |          |          |          |          |           |           |           |           | <0.001    |           |           |
| B-T              | mg/L | 0.008      | <0.005    | <0.005    | <0.005   | <0.005    | <0.005    | <0.05     |           |           | <0.05     |           |           |          |          |          |          | <0.05    |          |          |          |          |          |          |           |           |           |           | <0.05     |           |           |
| Ca-T             | mg/L | 41.5       | 42.9      | 10        | 11.4     | 32.4      | 35.2      | 41.4      |           |           | 43.7      |           |           |          |          |          |          | 47.5     |          |          |          |          |          |          |           |           |           |           | 49.4      |           |           |
| Cd-T             | mg/L | 0.00003    | 0.00006   | 0.00007   | 0.00006  | 0.00094   | 0.00001   | 0.00002   |           |           | 0.00003   |           |           |          |          |          |          | 0.00002  |          |          |          |          |          |          |           |           |           |           | 0.00003   |           |           |
| CN-T             | mg/L |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Co-T             | mg/L | <0.0001    | 0.00175   | 0.00146   | 0.00152  | 0.00018   | 0.00009   | <0.0005   |           |           | 0.0007    |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| Cr-T             | mg/L | <0.0005    | 0.0052    | 0.0043    | 0.0046   | 0.0012    | 0.0005    | <0.001    |           |           | 0.002     |           |           |          |          |          |          | <0.001   |          |          |          |          |          |          |           |           |           |           | <0.001    |           |           |
| Cu-T             | mg/L | 0.014      | 0.016     | 0.022     | 0.018    | 0.008     | 0.004     | 0.0049    |           |           | 0.0287    |           |           |          |          |          |          | 0.0231   |          |          |          |          |          |          |           |           |           |           | 0.0205    |           |           |
| Fe-T             | mg/L | 0.1        | 4.08      | 3.45      | 2.98     | 0.26      | 0.06      | 0.07      |           |           | 1.37      |           |           |          |          |          |          | 0.427    |          |          |          |          |          |          |           |           |           |           | 0.301     |           |           |
| Hg-T             | mg/L | <0.0001    | 0.00001   | 0.00002   | 0.00001  | <0.00001  | <0.00001  | <0.00002  |           |           | <0.00002  |           |           |          |          |          |          | <0.00002 |          |          |          |          |          |          |           |           |           |           | 0.00003   |           |           |
| K-T              | mg/L | 1.4        | 3.7       | 2.3       | 1.6      | 1.5       | 1.4       | 1.56      |           |           | 3.75      |           |           |          |          |          |          | 3.91     |          |          |          |          |          |          |           |           |           |           | 3.87      |           |           |
| Li-T             | mg/L | 0.003      | 0.004     | 0.002     | 0.002    | 0.001     | 0.001     | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Mg-T             | mg/L | 12.4       | 16.3      | 3.44      | 3.34     | 10.6      | 11.1      | 12.7      |           |           | 13.6      |           |           |          |          |          |          | 13.9     |          |          |          |          |          |          |           |           |           |           | 15.1      |           |           |
| Mn-T             | mg/L | 0.021      | 0.113     | 0.155     | 0.135    | 0.0215    | 0.0042    | 0.006     |           |           | 0.112     |           |           |          |          |          |          | 0.028    |          |          |          |          |          |          |           |           |           |           | 0.023     |           |           |
| Mo-T             | mg/L | 0.001      | 0.00072   | 0.00024   | 0.00028  | 0.00173   | 0.00162   | 0.002     |           |           | 0.007     |           |           |          |          |          |          | 0.007    |          |          |          |          |          |          |           |           |           |           | 0.007     |           |           |
| Na-T             | mg/L | 9.6        | 9.83      | 1.73      | 1.7      | 8.08      | 8.25      | 9.04      |           |           | 12.9      |           |           |          |          |          |          | 13.1     |          |          |          |          |          |          |           |           |           |           | 13.6      |           |           |
| Ni-T             | mg/L | 0.0014     | 0.004     | 0.004     | 0.005    | 0.002     | 0.001     | 0.001     |           |           | 0.003     |           |           |          |          |          |          | 0.001    |          |          |          |          |          |          |           |           |           |           | 0.001     |           |           |
| N-TKN            | mg/L | 0.59       | 0.8       | 1         |          | 0.37      | 0.56      |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Pb-T             | mg/L | <0.0001    | 0.0018    | 0.0012    | 0.0011   | 0.0004    | <0.0001   | <0.0002   |           |           | 0.0006    |           |           |          |          |          |          | 0.0002   |          |          |          |          |          |          |           |           |           |           | 0.0002    |           |           |
| P-PO4-T          | mg/L | <0.05      | 0.1       | 0.07      |          | 0.02      | 0.03      |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| P-T              | mg/L |            | 0.18      | 0.19      | 0.162    | <0.05     | 0.014     |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| P-TRP (Ortho)    | mg/L | 0.1        |           |           |          |           | 0.1       | <0.005    |           |           | <0.005    |           | <0.005    |          |          |          | <0.005   | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Sb-T             | mg/L | <0.0002    | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0005   |           |           | <0.0005   |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| Se-T             | mg/L | <0.0002    | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006   | 0.0002    |           |           | 0.0015    |           |           |          |          |          |          | 0.0015   |          |          |          |          |          |          |           |           |           |           | 0.0011    |           |           |
| Si-T             | mg/L | 5.26       | 10.7      | 5.45      | 4.86     | 4.52      | 4.49      | 5.65      |           |           | 6.48      |           |           |          |          |          |          | 5.61     |          |          |          |          |          |          |           |           |           |           | 5.68      |           |           |
| Sn-T             | mg/L | <0.001     | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Sr-T             | mg/L | 0.417      | 0.354     | 0.354     | 0.062    | 0.296     | 0.326     | 0.357     |           |           | 0.425     |           |           |          |          |          |          | 0.49     |          |          |          |          |          |          |           |           |           |           | 0.504     |           |           |
| S-T              | mg/L | 7.5        | 7.7       | 0.6       | 0.6      | 5.9       | 6.3       | 6         |           |           | 13        |           |           |          |          |          |          | 22       |          |          |          |          |          |          |           |           |           |           | 17        |           |           |
| Te-T             | mg/L |            | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Th-T             | mg/L |            | <0.0001   | <0.0001   | <0.0001  | <0.0001   | 0.0002    |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Ti-T             | mg/L | 0.0026     | 0.102     | 0.0733    | 0.0673   | 0.0059    | 0.0022    | <0.005    |           |           | 0.035     |           |           |          |          |          |          | 0.013    |          |          |          |          |          |          |           |           |           |           | 0.005     |           |           |
| Tl-T             | mg/L | <0.00005   | 0.00003   | 0.00002   | 0.00002  | <0.00001  | <0.00001  | <0.00005  |           |           | <0.00005  |           |           |          |          |          |          | <0.00005 |          |          |          |          |          |          |           |           |           |           | <0.00005  |           |           |
| U-T              | mg/L | 0.0016     | 0.0008    | <0.0004   | <0.0004  | 0.0013    | 0.0011    | 0.0014    |           |           | 0.0013    |           |           |          |          |          |          | 0.0013   |          |          |          |          |          |          |           |           |           |           | 0.0015    |           |           |
| V-T              | mg/L | 0.0006     | 0.00751   | 0.00554   | 0.00584  | 0.00116   | 0.00066   | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Zn-T             | mg/L | 0.008      | 0.015     | 0.07      | 0.016    | 0.007     | 0.004     | <0.005    |           |           | 0.007     |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | 0.006     |           |           |
| Zr-T             | mg/L | <0.001     | 0.0008    | 0.0006    | 0.0006   | 0.0005    | 0.0004    | <0.0005   |           |           | <0.0005   |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| Ag-D             | mg/L | <0.00001   | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00002  |           |           | <0.00002  |           |           |          |          |          |          | <0.00002 |          |          |          |          |          |          |           |           |           |           | <0.00002  |           |           |
| Al-D             | mg/L | 0.016      | 0.055     | 0.076     | 0.102    | 0.013     | 0.013     | 0.007     |           |           | 0.027     |           |           |          |          |          |          | 0.017    |          |          |          |          |          |          |           |           |           |           | 0.013     |           |           |
| As-D             | mg/L | 0.0003     | 0.0005    | 0.0003    | 0.0003   | 0.0004    | 0.0004    | 0.0004    |           |           | 0.0005    |           |           |          |          |          |          | 0.0005   |          |          |          |          |          |          |           |           |           |           | 0.0005    |           |           |
| Ba-D             | mg/L | 0.067      | 0.049     | 0.016     | 0.02     | 0.051     | 0.051     | 0.059     |           |           | 0.079     |           |           |          |          |          |          | 0.08     |          |          |          |          |          |          |           |           |           |           | 0.084     |           |           |
| B-D              | mg/L | 0.006      | <0.004    | 0.005     | <0.004   | <0.004    | <0.004    | <0.05     |           |           | <0.05     |           |           |          |          |          |          | <0.05    |          |          |          |          |          |          |           |           |           |           | <0.05     |           |           |
| Be-D             | mg/L | <0.0001    | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.0001   |           |           | <0.0001   |           |           |          |          |          |          | <0.0001  |          |          |          |          |          |          |           |           |           |           | <0.0001   |           |           |
| Bi-D             | mg/L | <0.0005    | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.001    |           |           | <0.001    |           |           |          |          |          |          | <0.001   |          |          |          |          |          |          |           |           |           |           | <0.001    |           |           |
| Ca-D             | mg/L | 39.4       | 36.6      | 8.18      | 9.87     | 30.4      | 34        | 39        |           |           | 43.2      |           |           |          |          |          |          | 50       |          |          |          |          |          |          |           |           |           |           | 48.4      |           |           |
| Cd-D             | mg/L | 0.00002    | 0.00004   | 0.00104   | 0.00008  | 0.00025   | <0.00001  | <0.00001  |           |           | 0.00002   |           |           |          |          |          |          | 0.00002  |          |          |          |          |          |          |           |           |           |           | 0.00001   |           |           |
| C-DOC            | mg/L |            |           | 20.8      |          |           | 10.7      | 10.1      |           |           | 12.5      |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           | 12.2      |           |
| Co-D             | mg/L | <0.0001    | 0.00031   | 0.00016   | 0.00021  | 0.00011   | 0.00011   | <0.0005   |           |           | <0.0005   |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| Cr-D             | mg/L | <0.0005    | 0.0005    | 0.0008    | 0.0012   | 0.0015    | <0.0004   | <0.001    |           |           | <0.001    |           |           |          |          |          |          | <0.001   |          |          |          |          |          |          |           |           |           |           | <0.001    |           |           |
| Cu-D             | mg/L | 0.005      | 0.006     | 0.01      | 0.006    | 0.01      | 0.003     | 0.0029    |           |           | 0.0167    |           |           |          |          |          |          | 0.0194   |          |          |          |          |          |          |           |           |           |           | 0.0163    |           |           |
| Fe-D             | mg/L | 0.05       | 0.08      | 0.14      | 0.28     | 0.1       | 0.04      | 0.022     |           |           | 0.127     |           |           |          |          |          |          | 0.081    |          |          |          |          |          |          |           |           |           |           | 0.063     |           |           |
| Hg-D             | mg/L | <0.0001    | <0.00001  | 0.00001   | <0.00001 | <0.00001  | <0.00001  | <0.00002  |           |           | <0.00002  |           |           |          |          |          |          | <0.00002 |          |          |          |          |          |          |           |           |           |           |           |           |           |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 1178181    | 1214867   | 1216270   | 1217968  | 1224045   | 1231771   | A933193   | 39991     | 39992     | 39993     | 39994     | A934681   | 39995    | 39996    | 39997    | A934681  | A934681  | 40000    | 40001    | 40002    | A936189  | 40003    | A936189  | 40004     | A936189   | 40005     | A936189   | 40006     | A936189   | 40007     |
|------------------|----------|------------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 11/18/2008 | 4/22/2009 | 4/30/2009 | 5/5/2009 | 5/27/2009 | 6/17/2009 | 6/26/2009 | 6/27/2009 | 6/28/2009 | 6/29/2009 | 6/30/2009 | 6/30/2009 | 7/1/2009 | 7/2/2009 | 7/3/2009 | 7/4/2009 | 7/5/2009 | 7/6/2009 | 7/7/2009 | 7/8/2009 | 7/8/2009 | 7/9/2009 | 7/9/2009 | 7/10/2009 | 7/10/2009 | 7/11/2009 | 7/11/2009 | 7/12/2009 | 7/12/2009 | 7/13/2009 |
| Station Name     |          | W2         | W2        | W2        | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        |           |
| Sample Class     |          | P          | P         | P         | P        | P         | P         | P         | M         | M         | P         | M         | P         | P        | P        | P        | P        | P        | P        | M        | M        | P        | M        | P        | M         | P         | M         | P         | M         | P         | M         |
| Sb-D             | mg/L     | 0.0009     | 0.0016    | 0.0009    | 0.0011   | 0.0013    | <0.0002   | <0.0005   |           |           | <0.0005   |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| S-D              | mg/L     | 7.4        | 7.8       | 0.6       | 0.7      | 5.5       | 6.1       | 8         |           |           | 15        |           |           |          |          |          |          | 14       |          |          |          |          |          |          |           |           |           |           | 16        |           |           |
| Se-D             | mg/L     | <0.0002    | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006   | 0.0001    |           |           | 0.0015    |           |           |          |          |          |          | 0.0014   |          |          |          |          |          |          |           |           |           |           | 0.0011    |           |           |
| Si-D             | mg/L     | 5.69       | 5.91      | 1.87      | 1.99     | 4.16      | 4.29      | 5.5       |           |           | 5.14      |           |           |          |          |          |          | 4.86     |          |          |          |          |          |          |           |           |           |           | 5.35      |           |           |
| Sn-D             | mg/L     | <0.001     | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Sr-D             | mg/L     | 0.407      | 0.32      | 0.046     | 0.052    | 0.253     | 0.33      | 0.331     |           |           | 0.406     |           |           |          |          |          |          | 0.464    |          |          |          |          |          |          |           |           |           |           | 0.487     |           |           |
| Te-D             | mg/L     |            | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Th-D             | mg/L     |            | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Ti-D             | mg/L     | 0.0011     | 0.0047    | 0.0028    | 0.0043   | 0.0011    | 0.0005    | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Tl-D             | mg/L     | <0.00005   | 0.00002   | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00005  |           |           | <0.00005  |           |           |          |          |          |          | <0.00005 |          |          |          |          |          |          |           |           |           |           | <0.00005  |           |           |
| U-D              | mg/L     | 0.0017     | 0.0005    | <0.0004   | <0.0004  | 0.0012    | 0.0008    | 0.0014    |           |           | 0.0013    |           |           |          |          |          |          | 0.0013   |          |          |          |          |          |          |           |           |           |           | 0.0014    |           |           |
| V-D              | mg/L     | 0.0005     | 0.00053   | 0.00043   | 0.00068  | 0.0007    | 0.00051   | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Zn-D             | mg/L     | 0.006      | 0.005     | 0.006     | 0.004    | 0.004     | 0.001     | <0.005    |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           | <0.005    |           |           |
| Zr-D             | mg/L     |            | 0.0003    | 0.0002    | 0.0003   | <0.0001   | 0.0002    | <0.0005   |           |           | <0.0005   |           |           |          |          |          |          | <0.0005  |          |          |          |          |          |          |           |           |           |           | <0.0005   |           |           |
| Alk-Bicrb        | mg/L     | 180        | 160       | 30        | 30       | 130       | 150       |           |           |           | 150       |           |           |          |          |          |          | 180      |          |          |          |          |          |          |           |           |           |           | 190       |           |           |
| Alk-Carb         | mg/L     | <6         | <6        | <6        | <6       | <6        | <6        |           |           |           | <0.5      |           |           |          |          |          |          | <0.5     |          |          |          |          |          |          |           |           |           |           | <0.5      |           |           |
| Alk-OH           | mg/L     | <5         | <5        | <5        | <5       | <5        | <5        |           |           |           | <0.5      |           |           |          |          |          |          | <0.5     |          |          |          |          |          |          |           |           |           |           | <0.5      |           |           |
| Alk-P            | mg/L     |            |           |           |          |           |           |           |           |           | <0.5      |           |           |          |          |          |          | <0.5     |          |          |          |          |          |          |           |           |           |           | <0.5      |           |           |
| Alk-T            | mg/L     | 150        | 134       | 23        | 24       | 110       | 122       |           |           |           | 130       |           |           |          |          |          |          | 150      |          |          |          |          |          |          |           |           |           |           | 160       |           |           |
| Bromine          | mg/L     |            |           |           |          |           |           |           |           |           | <0.4      |           |           |          |          |          |          | <0.4     |          |          |          |          |          |          |           |           |           |           | <0.4      |           |           |
| C-TIC            | mg/L     |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| C-TOC            | mg/L     | 9.5        |           | 21        |          |           | 10.9      |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Chloride         | mg/L     | 1.73       | 1.4       | 0.54      | 0.5      | 0.87      | 1.22      |           |           |           | 2.6       |           |           |          |          |          |          | 2.7      |          |          |          |          |          |          |           |           |           |           | 2.8       |           |           |
| Colour           | TCU      | 23         | 76        | 140       | 160      | 43        | 52        |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Cond-F           | µS/cm    |            |           |           |          |           |           |           | 350       | 265       | 219       | 358       |           | 381      | 387      | 390      | 394      | 396      | 401      | 394      | 409      |          | 412      |          | 408       |           | 411       |           | 413       |           | 412       |
| Cond-L           | µS/cm    | 321        | 291       | 54        | 54       | 252       | 280       | 305       |           |           | 371       |           |           | 383      | 423      | 391      |          | 396      |          |          |          |          |          |          |           |           |           |           | 407       |           |           |
| Discharge        | L/s      |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Fluoride         | mg/L     |            |           |           |          |           |           |           |           |           | 0.43      |           |           |          |          |          |          | 0.43     |          |          |          |          |          |          |           |           |           |           |           | 0.41      |           |
| Hard-D           | mg/L     |            | 151       | 30        | 35       | 117       | 129       | 147       |           |           | 164       |           |           |          |          |          |          | 182      |          |          |          |          |          |          |           |           |           |           |           | 180       |           |
| Hard-T           | mg/L     |            |           |           |          |           |           | 156       |           |           | 165       |           |           |          |          |          |          | 176      |          |          |          |          |          |          |           |           |           |           |           | 185       |           |
| IB               | %        |            |           |           |          |           | 121       |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Ammonia          | mg/L     | <0.05      |           |           |          |           |           | 0.007     |           |           | <0.005    |           |           |          |          |          |          | <0.005   |          |          |          |          |          |          |           |           |           |           |           | <0.005    |           |
| Ammonium         | mg/L     |            | 0.08      | <0.05     | 0.02     | <0.05     | <0.05     |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| N-NO2            | mg/L     |            |           |           |          |           |           | <0.005    |           |           | 0.044     |           |           |          |          |          |          | 0.024    |          |          |          |          |          |          |           |           |           |           |           | 0.022     |           |
| NO2+NO3          | mg/L     | 0.17       | 0.03      | 0.04      |          | 0.07      | 0.15      | 0.1       |           |           | 2.27      |           |           |          |          |          |          | 2.21     |          |          |          |          |          |          |           |           |           |           |           | 2.17      |           |
| N-NO3            | mg/L     |            |           |           |          |           |           | 0.1       |           |           | 2.23      |           |           |          |          |          |          | 2.19     |          |          |          |          |          |          |           |           |           |           |           | 2.15      |           |
| pH-F             | pH units |            |           |           |          |           |           |           | 8.21      | 8.29      | 7.9       | 8.26      |           | 8.32     | 8.2      | 8.18     | 8.2      | 8.17     | 8.11     | 8.2      | 8.17     |          | 8.46     |          | 8.4       |           | 8.38      |           | 8.39      |           | 8.4       |
| pH-L             | pH units | 7.88       | 7.92      | 7.07      | 7.03     | 7.98      | 7.98      | 8.2       |           |           | 8.2       |           |           | 8.3      | 8.2      | 8.3      |          | 8.2      |          |          |          |          |          |          |           |           |           |           |           | 8.3       |           |
| Radium - 226     |          |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| SO4-D            | mg/L     | 23.2       | 21.5      | 1.02      | 1.4      | 17.9      | 18        |           |           |           | 29        |           |           |          |          |          |          | 41       |          |          |          |          |          |          |           |           |           |           |           | 39        |           |
| SO4-T            | mg/L     |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| Sulphide         | mg/L     |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| TDS              | mg/L     | 250        | 222       | 64        | 52       | 176       | 138       | 180       |           |           | 230       |           |           | 250      | 270      | 240      |          | 240      |          |          |          |          |          |          |           |           |           |           |           | 270       |           |
| Temp-F           | C        |            |           |           |          |           |           |           | 7.94      | 10.16     | 7.95      | 7.99      |           | 8.43     | 9.2      | 9.85     | 9.19     | 9.75     | 11.9     | 8.65     | 12.01    |          | 13.03    |          | 11.83     |           | 12        |           | 11.07     |           | 9.72      |
| Temp-obs-pH      | C        |            |           |           |          |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |
| TSS              | mg/L     | <2         | 100       | 72        | 87       | 8         | <2        | 8         |           |           | 40        |           |           | 21       | 7        | 10       |          | 10       |          |          |          | 9        |          | 10       |           | 9         |           | 7         |           | 6         |           |
| Turb             | NTU      | 1          | 63        | 4         | 9.3      | <0.1      | 0.8       | 2.6       |           |           | 15.7      |           |           | 6.2      | 2.5      | 4.3      |          | 2.4      |          |          |          |          |          |          |           |           |           |           |           | 2.9       |           |
| Turb-F           | NTU      |            |           |           |          |           |           |           | 3.9       | 20.8      | 0.3       | 3.6       |           | 8.8      | 6.3      | 3.7      | 6.7      | 3.2      | 9.7      | 0        | 2.5      |          | 2.6      |          | 2.1       |           | 2.1       |           | 1.3       |           | 0.9       |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 40008     | 40009     | 40010     | 40011     | 40012     | A938109   | 40014     | A938109   | A938824   | A938824   | 40017     | 40018     | A938824   | 40019     | A938824   | A939770   | A939770   | A939770   | 40022     | 40023     | 40024     | 40025     | A940612  | 40026    | A940612  | 40027    | A940612  | 40028    | 40029    |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| Smpl Date        |      | 7/14/2009 | 7/15/2009 | 7/16/2009 | 7/17/2009 | 7/18/2009 | 7/19/2009 | 7/20/2009 | 7/21/2009 | 7/22/2009 | 7/22/2009 | 7/23/2009 | 7/24/2009 | 7/24/2009 | 7/25/2009 | 7/25/2009 | 7/26/2009 | 7/26/2009 | 7/27/2009 | 7/28/2009 | 7/29/2009 | 7/30/2009 | 7/31/2009 | 8/1/2009 | 8/1/2009 | 8/2/2009 | 8/2/2009 | 8/3/2009 | 8/3/2009 | 8/4/2009 |
| Station Name     |      | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       | W2       |
| Sample Class     |      | M         | P         | P         | P         | P         | P         | P         | P         | M         | P         | M         | M         | P         | M         | P         | M         | P         | P         | P         | P         | P         | P         | P        | M        | P        | M        | M        | M        | P        |
| Ag-T             | mg/L |           |           | <0.00002  | <0.00002  | 0.00002   |           |           | <0.00002  |           |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002 |          |          |          |          |          |          |
| Al-T             | mg/L |           |           | 0.221     | 0.161     | 1.18      |           |           | 0.374     |           |           |           |           |           |           | 0.395     |           |           |           |           |           |           |           | 0.192    |          |          |          |          |          |          |
| As-T             | mg/L |           |           | 0.0006    | 0.0005    | 0.0015    |           |           | 0.0005    |           |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0005   |          |          |          |          |          |          |
| Ba-T             | mg/L |           |           | 0.096     | 0.089     | 0.154     |           |           | 0.079     |           |           |           |           |           |           | 0.091     |           |           |           |           |           |           |           | 0.088    |          |          |          |          |          |          |
| Be-T             | mg/L |           |           | <0.0001   | <0.0001   | <0.0001   |           |           | <0.0001   |           |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001  |          |          |          |          |          |          |
| Bi-T             | mg/L |           |           | <0.001    | <0.001    | <0.001    |           |           | <0.001    |           |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |
| B-T              | mg/L |           |           | <0.05     | <0.05     | <0.05     |           |           | <0.05     |           |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           | <0.05    |          |          |          |          |          |          |
| Ca-T             | mg/L |           |           | 53        | 51.5      | 41.5      |           |           | 43.2      |           |           |           |           |           |           | 49.3      |           |           |           |           |           |           |           | 48.5     |          |          |          |          |          |          |
| Cd-T             | mg/L |           |           | 0.00003   | 0.00002   | 0.00007   |           |           | 0.00004   |           |           |           |           |           |           | <0.00001  |           |           |           |           |           |           |           | 0.00003  |          |          |          |          |          |          |
| CN-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Co-T             | mg/L |           |           | <0.0005   | <0.0005   | 0.001     |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| Cr-T             | mg/L |           |           | 0.001     | <0.001    | 0.003     |           |           | 0.001     |           |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |
| Cu-T             | mg/L |           |           | 0.0352    | 0.0318    | 0.0611    |           |           | 0.0166    |           |           |           |           |           |           | 0.0243    |           |           |           |           |           |           |           | 0.0161   |          |          |          |          |          |          |
| Fe-T             | mg/L |           |           | 0.468     | 0.352     | 1.82      |           |           | 0.647     |           |           |           |           |           |           | 0.596     |           |           |           |           |           |           |           | 0.312    |          |          |          |          |          |          |
| Hg-T             | mg/L |           |           | <0.00002  | 0.00016   | 0.00004   |           |           | <0.00002  |           |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | 0.00002  |          |          |          |          |          |          |
| K-T              | mg/L |           |           | 4.52      | 4.48      | 3.71      |           |           | 2.66      |           |           |           |           |           |           | 3.64      |           |           |           |           |           |           |           | 3.4      |          |          |          |          |          |          |
| Li-T             | mg/L |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Mg-T             | mg/L |           |           | 16.2      | 15.8      | 11.4      |           |           | 12.1      |           |           |           |           |           |           | 13.8      |           |           |           |           |           |           |           | 14.3     |          |          |          |          |          |          |
| Mn-T             | mg/L |           |           | 0.033     | 0.025     | 0.156     |           |           | 0.038     |           |           |           |           |           |           | 0.051     |           |           |           |           |           |           |           | 0.025    |          |          |          |          |          |          |
| Mo-T             | mg/L |           |           | 0.009     | 0.009     | 0.017     |           |           | 0.007     |           |           |           |           |           |           | 0.009     |           |           |           |           |           |           |           | 0.008    |          |          |          |          |          |          |
| Na-T             | mg/L |           |           | 15        | 14.9      | 11.7      |           |           | 9.89      |           |           |           |           |           |           | 13.3      |           |           |           |           |           |           |           | 13.5     |          |          |          |          |          |          |
| Ni-T             | mg/L |           |           | 0.002     | 0.001     | 0.004     |           |           | 0.002     |           |           |           |           |           |           | 0.002     |           |           |           |           |           |           |           | 0.001    |          |          |          |          |          |          |
| N-TKN            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Pb-T             | mg/L |           |           | 0.0002    | 0.0002    | 0.0017    |           |           | 0.0004    |           |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0005   |          |          |          |          |          |          |
| P-PO4-T          | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| P-T              | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| P-TRP (Ortho)    | mg/L |           |           | <0.005    | <0.005    | <0.005    |           |           | 0.009     |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Sb-T             | mg/L |           |           | <0.0005   | <0.0005   | 0.0009    |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| Se-T             | mg/L |           |           | 0.0014    | 0.0013    | 0.0022    |           |           | 0.0008    |           |           |           |           |           |           | 0.0013    |           |           |           |           |           |           |           | 0.0012   |          |          |          |          |          |          |
| Si-T             | mg/L |           |           | 6.65      | 5.92      | 6.33      |           |           | 5.8       |           |           |           |           |           |           | 5.94      |           |           |           |           |           |           |           | 5.42     |          |          |          |          |          |          |
| Sn-T             | mg/L |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Sr-T             | mg/L |           |           | 0.547     | 0.516     | 0.645     |           |           | 0.45      |           |           |           |           |           |           | 0.484     |           |           |           |           |           |           |           | 0.526    |          |          |          |          |          |          |
| S-T              | mg/L |           |           | 17        | 21        | 18        |           |           | 15        |           |           |           |           |           |           | 15        |           |           |           |           |           |           |           | 17       |          |          |          |          |          |          |
| Te-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Th-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Ti-T             | mg/L |           |           | 0.012     | 0.007     | 0.057     |           |           | 0.02      |           |           |           |           |           |           | 0.014     |           |           |           |           |           |           |           | 0.008    |          |          |          |          |          |          |
| Tl-T             | mg/L |           |           | <0.00005  | <0.00005  | <0.00005  |           |           | <0.00005  |           |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005 |          |          |          |          |          |          |
| U-T              | mg/L |           |           | 0.0016    | 0.0015    | 0.0015    |           |           | 0.0013    |           |           |           |           |           |           | 0.0013    |           |           |           |           |           |           |           | 0.0012   |          |          |          |          |          |          |
| V-T              | mg/L |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Zn-T             | mg/L |           |           | <0.005    | <0.005    | 0.011     |           |           | 0.009     |           |           |           |           |           |           | 0.01      |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Zr-T             | mg/L |           |           | <0.0005   | <0.0005   | 0.001     |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| Ag-D             | mg/L |           |           | <0.00002  | <0.00002  | <0.00002  |           |           | <0.00002  |           |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002 |          |          |          |          |          |          |
| Al-D             | mg/L |           |           | 0.016     | 0.015     | 0.046     |           |           | 0.011     |           |           |           |           |           |           | 0.013     |           |           |           |           |           |           |           | 0.035    |          |          |          |          |          |          |
| As-D             | mg/L |           |           | 0.0005    | 0.0005    | 0.0009    |           |           | 0.0004    |           |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0005   |          |          |          |          |          |          |
| Ba-D             | mg/L |           |           | 0.077     | 0.077     | 0.116     |           |           | 0.068     |           |           |           |           |           |           | 0.078     |           |           |           |           |           |           |           | 0.083    |          |          |          |          |          |          |
| B-D              | mg/L |           |           | <0.05     | <0.05     | <0.05     |           |           | <0.05     |           |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           | <0.05    |          |          |          |          |          |          |
| Be-D             | mg/L |           |           | <0.0001   | <0.0001   | <0.0001   |           |           | <0.0001   |           |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001  |          |          |          |          |          |          |
| Bi-D             | mg/L |           |           | <0.001    | <0.001    | <0.001    |           |           | <0.001    |           |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |
| Ca-D             | mg/L |           |           | 48.2      | 47.2      | 37.1      |           |           | 43        |           |           |           |           |           |           | 43.5      |           |           |           |           |           |           |           | 52.3     |          |          |          |          |          |          |
| Cd-D             | mg/L |           |           | 0.00001   | <0.00001  | 0.00003   |           |           | 0.00002   |           |           |           |           |           |           | 0.00002   |           |           |           |           |           |           |           | 0.00003  |          |          |          |          |          |          |
| C-DOC            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Co-D             | mg/L |           |           | <0.0005   | <0.0005   | <0.0005   |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| Cr-D             | mg/L |           |           | <0.001    | <0.001    | <0.001    |           |           | <0.001    |           |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |
| Cu-D             | mg/L |           |           | 0.0227    | 0.0226    | 0.0192    |           |           | 0.0084    |           |           |           |           |           |           | 0.0128    |           |           |           |           |           |           |           | 0.0097   |          |          |          |          |          |          |
| Fe-D             | mg/L |           |           | 0.077     | 0.076     | 0.097     |           |           | 0.043     |           |           |           |           |           |           | 0.052     |           |           |           |           |           |           |           | 0.047    |          |          |          |          |          |          |
| Hg-D             | mg/L |           |           | <0.00002  | <0.00002  | 0.00003   |           |           | 0.00007   |           |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | 0.00004  |          |          |          |          |          |          |
| K-D              | mg/L |           |           | 4.01      | 4.04      | 3.02      |           |           | 2.66      |           |           |           |           |           |           | 3.38      |           |           |           |           |           |           |           | 3.46     |          |          |          |          |          |          |
| Li-D             | mg/L |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Mg-D             | mg/L |           |           | 14.2      | 13.8      | 9.37      |           |           | 12.8      |           |           |           |           |           |           | 12.3      |           |           |           |           |           |           |           | 13.6     |          |          |          |          |          |          |
| Mn-D             | mg/L |           |           | 0.002     | 0.003     | 0.093     |           |           | 0.004     |           |           |           |           |           |           | 0.002     |           |           |           |           |           |           |           | 0.003    |          |          |          |          |          |          |
| Mo-D             | mg/L |           |           | 0.007     | 0.008     | 0.015     |           |           | 0.007     |           |           |           |           |           |           | 0.009     |           |           |           |           |           |           |           | 0.008    |          |          |          |          |          |          |
| Na-D             | mg/L |           |           | 13.7      | 13.4      | 10.4      |           |           | 10.8      |           |           |           |           |           |           | 11.5      |           |           |           |           |           |           |           | 13.2     |          |          |          |          |          |          |
| Ni-D             | mg/L |           |           | 0.001     | 0.001     | 0.001     |           |           | 0.001     |           |           |           |           |           |           | 0.001     |           |           |           |           |           |           |           | 0.001    |          |          |          |          |          |          |
| O-DO             | mg/L | 110       | 104.7     | 106.7     | 111.2     | 112.4     | 117.5     | 124.5     | 121       | 122.3     |           | 110.5     | 115.2     |           | 111.4     |           |           | 116.2     | 150.2     | 152.1     | 86        |           |           |          |          |          |          |          |          |          |
| Pb-D             | mg/L |           |           | <0.0002   | <0.0002   | 0.0003    |           |           | <0.0002   |           |           |           |           |           |           | <0.0002   |           |           |           |           |           |           |           | <0.0002  |          |          |          |          |          |          |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 40008     | 40009     | 40010     | 40011     | 40012     | A938109   | 40014     | A938109   | A938824   | A938824   | 40017     | 40018     | A938824   | 40019     | A938824   | A939770   | A939770   | A939770   | 40022     | 40023     | 40024     | 40025     | A940612  | 40026    | A940612  | 40027    | A940612  | 40028    | 40029    |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| Smpl Date        |          | 7/14/2009 | 7/15/2009 | 7/16/2009 | 7/17/2009 | 7/18/2009 | 7/19/2009 | 7/20/2009 | 7/21/2009 | 7/22/2009 | 7/22/2009 | 7/23/2009 | 7/24/2009 | 7/24/2009 | 7/25/2009 | 7/25/2009 | 7/26/2009 | 7/26/2009 | 7/27/2009 | 7/28/2009 | 7/29/2009 | 7/30/2009 | 7/31/2009 | 8/1/2009 | 8/1/2009 | 8/2/2009 | 8/2/2009 | 8/3/2009 | 8/3/2009 | 8/4/2009 |
| Station Name     |          | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       | W2       |
| Sample Class     |          | M         | P         | P         | P         | P         | P         | P         | P         | M         | P         | M         | M         | P         | M         | P         | M         | P         | P         | P         | P         | P         | P         | P        | M        | P        | M        | M        | M        | P        |
| Sb-D             | mg/L     |           |           | <0.0005   | <0.0005   | 0.0008    |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| S-D              | mg/L     |           |           | 16        | 16        | 15        |           |           | 13        |           |           |           |           |           |           | 15        |           |           |           |           |           |           |           | 15       |          |          |          |          |          |          |
| Se-D             | mg/L     |           |           | 0.0013    | 0.0013    | 0.0021    |           |           | 0.0009    |           |           |           |           |           |           | 0.0014    |           |           |           |           |           |           |           | 0.0012   |          |          |          |          |          |          |
| Si-D             | mg/L     |           |           | 5.31      | 5.28      | 3.14      |           |           | 5.01      |           |           |           |           |           |           | 4.97      |           |           |           |           |           |           |           | 5.23     |          |          |          |          |          |          |
| Sn-D             | mg/L     |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Sr-D             | mg/L     |           |           | 0.479     | 0.468     | 0.569     |           |           | 0.415     |           |           |           |           |           |           | 0.488     |           |           |           |           |           |           |           | 0.52     |          |          |          |          |          |          |
| Te-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Th-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Ti-D             | mg/L     |           |           | <0.005    | <0.005    | 0.007     |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Tl-D             | mg/L     |           |           | <0.00005  | <0.00005  | <0.00005  |           |           | <0.00005  |           |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005 |          |          |          |          |          |          |
| U-D              | mg/L     |           |           | 0.0014    | 0.0014    | 0.0012    |           |           | 0.0013    |           |           |           |           |           |           | 0.0012    |           |           |           |           |           |           |           | 0.0013   |          |          |          |          |          |          |
| V-D              | mg/L     |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Zn-D             | mg/L     |           |           | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |
| Zr-D             | mg/L     |           |           | <0.0005   | <0.0005   | 0.0005    |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |
| Alk-Bicrb        | mg/L     |           |           | 190       | 190       | 100       |           |           |           |           |           |           |           |           |           | 170       |           |           |           | 130       |           |           |           | 170      |          |          |          |          |          |          |
| Alk-Carb         | mg/L     |           |           | <0.5      | <0.5      | <0.5      |           |           |           |           |           |           |           |           |           | <0.5      |           |           |           | <6        |           |           |           | <0.5     |          |          |          |          |          |          |
| Alk-OH           | mg/L     |           |           | <0.5      | <0.5      | <0.5      |           |           |           |           |           |           |           |           |           | <0.5      |           |           |           | <5        |           |           |           | <0.5     |          |          |          |          |          |          |
| Alk-P            | mg/L     |           |           | <0.5      | <0.5      | <0.5      |           |           |           |           |           |           |           |           |           | <0.5      |           |           |           |           |           |           |           | <0.5     |          |          |          |          |          |          |
| Alk-T            | mg/L     |           |           | 160       | 160       | 84        |           |           |           |           |           |           |           |           |           | 140       |           |           |           | 107       |           |           |           | 140      |          |          |          |          |          |          |
| Bromine          | mg/L     |           |           | <0.4      | <0.4      | <0.4      |           |           |           |           |           |           |           |           |           | <0.4      |           |           |           |           |           |           |           | <0.4     |          |          |          |          |          |          |
| C-TIC            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| C-TOC            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Chloride         | mg/L     |           |           | 3.1       | 3         | 8.6       |           |           |           |           |           |           |           |           |           | 5.6       |           |           |           | 5.65      |           |           |           | 6.2      |          |          |          |          |          |          |
| Colour           | TCU      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 33        |           |           |           |          |          |          |          |          |          |          |
| Cond-F           | µS/cm    | 412       | 408       | 406       | 408       | 407       | 367       | 362       | 357       | 352       |           | 350       | 372       |           | 381       |           |           | 377       | 380       | 348       | 357       | 357       | 370       |          | 401      |          | 442      |          | 409      | 408      |
| Cond-L           | µS/cm    |           | 403       | 404       | 404       | 331       | 368       |           |           | 348       | 345       |           |           | 366       |           | 382       | 344       | 373       | 375       | 342       | 351       | 350       | 362       | 390      |          | 395      |          | 394      |          | 405      |
| Discharge        | L/s      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Fluoride         | mg/L     |           |           | 0.43      | 0.46      | 0.37      |           |           |           |           |           |           |           |           |           | 0.38      |           |           |           |           |           |           |           | 0.37     |          |          |          |          |          |          |
| Hard-D           | mg/L     |           |           | 179       | 175       | 131       |           |           | 160       |           |           |           |           |           |           | 159       |           |           |           | 155       |           |           |           | 186      |          |          |          |          |          |          |
| Hard-T           | mg/L     |           |           | 199       | 194       | 150       |           |           | 158       |           |           |           |           |           |           | 180       |           |           |           |           |           |           |           | 180      |          |          |          |          |          |          |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Ammonia          | mg/L     |           |           | 0.007     | <0.005    | 0.83      |           |           | 0.029     |           |           |           |           |           |           | 0.013     |           |           |           |           |           |           |           | 0.01     |          |          |          |          |          |          |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| N-NO2            | mg/L     |           |           | 0.026     | 0.025     | 0.125     |           |           | 0.045     |           |           |           |           |           |           | 0.055     |           |           |           |           |           |           |           | 0.014    |          |          |          |          |          |          |
| NO2+NO3          | mg/L     |           |           | 1.99      | 2.05      | 5.9       |           |           | 2.7       |           |           |           |           |           |           | 3         |           |           |           |           |           |           |           | 1.57     |          |          |          |          |          |          |
| N-NO3            | mg/L     |           |           | 1.96      | 2.02      | 5.8       |           |           | 2.7       |           |           |           |           |           |           | 2.9       |           |           |           |           |           |           |           | 1.56     |          |          |          |          |          |          |
| pH-F             | pH units | 8.42      | 8.36      | 8.41      | 8.3       | 8.61      | 8.34      | 8.19      | 8.34      | 8.43      |           | 8.32      | 8.37      |           | 8.39      |           | 8.43      | 8.4       | 7.94      | 7.9       | 7.79      | 8.36      |           | 8.1      |          | 7.87     |          | 8.13     | 8        |          |
| pH-L             | pH units |           | 8.3       | 8.2       | 8.2       | 8         | 8.2       |           |           | 8.1       | 8         |           |           | 8.2       |           | 8.2       | 8.1       | 8.2       | 8.05      | 8.1       | 8.1       | 8.1       | 8.2       |          | 8.2      |          | 8.1      |          |          | 8.3      |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| SO4-D            | mg/L     |           |           | 47        | 46        | 46        |           |           |           |           |           |           |           |           |           | 42        |           |           |           | 37.9      |           |           |           | 38       |          |          |          |          |          |          |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| TDS              | mg/L     |           | 260       | 240       | 230       | 210       | 220       |           |           | 210       | 230       |           |           | 220       |           | 240       | 200       | 230       | 230       | 224       | 210       | 200       | 210       | 230      |          | 240      |          | 240      |          | 260      |
| Temp-F           | C        | 9.76      | 10.33     | 7.93      | 7.62      | 7.81      | 7.86      | 8.9       | 8.39      | 9.09      |           | 9.37      | 10.47     |           | 8.44      |           |           | 10.19     | 12.02     | 10.69     | 9.17      | 8.84      | 9.48      |          | 11.13    |          | 13.65    |          | 7.96     | 7.97     |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| TSS              | mg/L     |           | 11        | 10        | 8         | 31        |           |           |           | 5         | 6         |           |           | 17        |           | 14        | 8         | 11        | 8         | 12        | <4        | <4        | 4         | 5        |          | 4        |          | <4       |          | 7        |
| Turb             | NTU      |           | 4.4       | 6.3       | 3.5       | 50        |           |           |           | 2.3       | 1.8       |           |           | 4         |           | 7.2       | 11.8      | 6.5       | 6.1       | 9.4       | 2         | 0.5       | 2         | 2.6      |          | 3.3      |          | 2.5      |          | 1        |
| Turb-F           | NTU      | 1         | 4.2       | 2.8       | 0.9       | 2.5       | 1         | 1.5       | 1.4       | 1.6       |           | 1.6       | 6.7       |           | 8.1       |           |           | 6.1       | 6.2       | 12        | 0.5       | 0         | 3.2       |          | 2.3      |          | 4.2      |          | 1.4      | 0.7      |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 40030    | A942378  | 40034    | 1242427   | A943004   | 40039     | 40040     | 40041     | 40042     | 40043     | 40044     | 40045     | 40046     | 40047     | 40048     | 40049     | 40050     | 40051     | 40052     | 40053     | 40054     | 40055     | 40056     | 40057    | 40058    | 40059    | 40060    | 40061    | 40062    | 40063    |
|------------------|------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| Smpl Date        |      | 8/5/2009 | 8/8/2009 | 8/9/2009 | 8/11/2009 | 8/12/2009 | 8/14/2009 | 8/15/2009 | 8/16/2009 | 8/17/2009 | 8/18/2009 | 8/19/2009 | 8/20/2009 | 8/21/2009 | 8/22/2009 | 8/23/2009 | 8/24/2009 | 8/25/2009 | 8/26/2009 | 8/27/2009 | 8/28/2009 | 8/29/2009 | 8/30/2009 | 8/31/2009 | 9/1/2009 | 9/2/2009 | 9/3/2009 | 9/4/2009 | 9/5/2009 | 9/6/2009 | 9/7/2009 |
| Station Name     |      | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       |          |
| Sample Class     |      | P        | P        | M        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P        | P        | P        | P        |          |
| Ag-T             | mg/L |          | <0.00002 |          | <0.00001  | <0.00002  |           | <0.00002  |           |           |           | 0.00005   |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |          |          |          |          | <0.00002 |          |          |
| Al-T             | mg/L |          | 0.14     |          | 0.05      | 0.047     |           | 0.339     |           |           |           | 8.02      |           |           | 0.395     |           |           |           |           |           |           |           | 1.92      |           |          |          |          |          | 0.257    |          |          |
| As-T             | mg/L |          | 0.0006   |          | 0.0007    | 0.0003    |           | 0.0005    |           |           |           | 0.0052    |           |           | 0.0006    |           |           |           |           |           |           |           | 0.0012    |           |          |          |          |          | 0.0005   |          |          |
| Ba-T             | mg/L |          | 0.086    |          | 0.056     | 0.069     |           | 0.096     |           |           |           | 0.287     |           |           | 0.092     |           |           |           |           |           |           |           | 0.151     |           |          |          |          |          | 0.1      |          |          |
| Be-T             | mg/L |          | <0.0001  |          | <0.00004  | <0.0001   |           | <0.0001   |           |           |           | 0.0003    |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001   |           |          |          |          |          | <0.0001  |          |          |
| Bi-T             | mg/L |          | <0.001   |          | <0.001    | <0.001    |           | <0.001    |           |           |           | <0.001    |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |          |          |          |          | <0.001   |          |          |
| B-T              | mg/L |          | <0.05    |          | 0.009     | <0.05     |           | <0.05     |           |           |           | <0.05     |           |           | <0.05     |           |           |           |           |           |           |           | <0.05     |           |          |          |          |          | <0.05    |          |          |
| Ca-T             | mg/L |          | 51.6     |          | 39.5      | 41.7      |           | 45.8      |           |           |           | 62.8      |           |           | 44        |           |           |           |           |           |           |           | 61.6      |           |          |          |          |          | 48       |          |          |
| Cd-T             | mg/L |          | 0.00062  |          | <0.00001  | 0.00003   |           | 0.00026   |           |           |           | 0.00018   |           |           | 0.00004   |           |           |           |           |           |           |           | 0.00007   |           |          |          |          |          | 0.00003  |          |          |
| CN-T             | mg/L |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Co-T             | mg/L |          | <0.0005  |          | 0.00013   | <0.0005   |           | <0.0005   |           |           |           | 0.0062    |           |           | <0.0005   |           |           |           |           |           |           |           | 0.0011    |           |          |          |          |          | <0.0005  |          |          |
| Cr-T             | mg/L |          | <0.001   |          | 0.001     | <0.001    |           | <0.001    |           |           |           | 0.014     |           |           | 0.001     |           |           |           |           |           |           |           | 0.003     |           |          |          |          |          | <0.001   |          |          |
| Cu-T             | mg/L |          | 0.0127   |          | 0.004     | 0.0113    |           | 0.0118    |           |           |           | 0.0656    |           |           | 0.011     |           |           |           |           |           |           |           | 0.0247    |           |          |          |          |          | 0.0056   |          |          |
| Fe-T             | mg/L |          | 0.371    |          | 0.204     | 0.124     |           | 0.625     |           |           |           | 11.7      |           |           | 0.614     |           |           |           |           |           |           |           | 2.24      |           |          |          |          |          | 0.411    |          |          |
| Hg-T             | mg/L |          | <0.00002 |          |           | 0.00002   |           | <0.00002  |           |           |           | <0.00002  |           |           | 0.00003   |           |           |           |           |           |           |           | <0.00002  |           |          |          |          |          | <0.00002 |          |          |
| K-T              | mg/L |          | 2.47     |          | 1.6       | 1.67      |           | 2.83      |           |           |           | 4.11      |           |           | 2.66      |           |           |           |           |           |           |           | 3.74      |           |          |          |          |          | 2.75     |          |          |
| Li-T             | mg/L |          | <0.005   |          | 0.002     | <0.005    |           | <0.005    |           |           |           | 0.007     |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          | <0.005   |          |          |
| Mg-T             | mg/L |          | 15.9     |          | 12.5      | 12.9      |           | 12.6      |           |           |           | 16.6      |           |           | 12.5      |           |           |           |           |           |           |           | 18.3      |           |          |          |          |          | 13.4     |          |          |
| Mn-T             | mg/L |          | 0.026    |          | 0.014     | 0.012     |           | 0.056     |           |           |           | 0.443     |           |           | 0.049     |           |           |           |           |           |           |           | 0.165     |           |          |          |          |          | 0.046    |          |          |
| Mo-T             | mg/L |          | 0.003    |          | 0.0021    | 0.002     |           | 0.009     |           |           |           | 0.008     |           |           | 0.009     |           |           |           |           |           |           |           | 0.011     |           |          |          |          |          | 0.009    |          |          |
| Na-T             | mg/L |          | 11.6     |          | 9.12      | 9.29      |           | 12.5      |           |           |           | 12        |           |           | 12.1      |           |           |           |           |           |           |           | 19        |           |          |          |          |          | 14.9     |          |          |
| Ni-T             | mg/L |          | 0.002    |          | 0.002     | 0.001     |           | 0.002     |           |           |           | 0.015     |           |           | 0.001     |           |           |           |           |           |           |           | 0.004     |           |          |          |          |          | 0.001    |          |          |
| N-TKN            | mg/L |          |          |          | 0.3       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Pb-T             | mg/L |          | 0.0006   |          | 0.0003    | 0.0005    |           | 0.0008    |           |           |           | 0.0043    |           |           | 0.0009    |           |           |           |           |           |           |           | 0.0013    |           |          |          |          |          | 0.0005   |          |          |
| P-PO4-T          | mg/L |          |          |          | 0.03      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| P-T              | mg/L |          |          |          | <0.01     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| P-TRP (Ortho)    | mg/L |          | <0.005   |          | <0.05     | <0.005    |           | <0.005    |           |           |           | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    |           |           |           |           |           | <0.005    |           |          |          |          | <0.005   |          |          |          |
| Sb-T             | mg/L |          | <0.0005  |          | <0.0002   | <0.0005   |           | <0.0005   |           |           |           | 0.0008    |           |           | <0.0005   |           |           |           |           |           |           |           | 0.0006    |           |          |          |          |          | <0.0005  |          |          |
| Se-T             | mg/L |          | 0.0003   |          | <0.0006   | 0.0003    |           | 0.0011    |           |           |           | 0.0011    |           |           | 0.001     |           |           |           |           |           |           |           | 0.0015    |           |          |          |          |          | 0.0012   |          |          |
| Si-T             | mg/L |          | 7.8      |          | 6         | 6.07      |           | 5.44      |           |           |           | 20.9      |           |           | 5.32      |           |           |           |           |           |           |           | 9.15      |           |          |          |          |          | 4.96     |          |          |
| Sn-T             | mg/L |          | <0.005   |          | <0.0001   | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          | <0.005   |          |          |
| Sr-T             | mg/L |          | 0.505    |          | 0.326     | 0.412     |           | 0.52      |           |           |           | 0.556     |           |           | 0.506     |           |           |           |           |           |           |           | 0.678     |           |          |          |          |          | 0.538    |          |          |
| S-T              | mg/L |          | 11       |          | 6.5       | 5         |           | 21        |           |           |           | 13        |           |           | 18        |           |           |           |           |           |           |           | 20        |           |          |          |          |          | 19       |          |          |
| Te-T             | mg/L |          |          |          | <0.0001   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Th-T             | mg/L |          |          |          | <0.0004   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |
| Ti-T             | mg/L |          | 0.005    |          | 0.0026    | <0.005    |           | 0.019     |           |           |           | 0.349     |           |           | 0.019     |           |           |           |           |           |           |           | 0.072     |           |          |          |          |          | 0.01     |          |          |
| Tl-T             | mg/L |          | <0.00005 |          | <0.00001  | <0.00005  |           | <0.00005  |           |           |           | 0.0001    |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005  |           |          |          |          |          | <0.00005 |          |          |
| U-T              | mg/L |          | 0.0015   |          | 0.0014    | 0.0014    |           | 0.0009    |           |           |           | 0.0013    |           |           | 0.0007    |           |           |           |           |           |           |           | 0.0009    |           |          |          |          |          | 0.0006   |          |          |
| V-T              | mg/L |          | <0.005   |          | 0.0009    | <0.005    |           | <0.005    |           |           |           | 0.021     |           |           | <0.005    |           |           |           |           |           |           |           | 0.005     |           |          |          |          |          | <0.005   |          |          |
| Zn-T             | mg/L |          | 0.007    |          | 0.002     | <0.005    |           | 0.006     |           |           |           | 0.032     |           |           | 0.005     |           |           |           |           |           |           |           | 0.014     |           |          |          |          |          | <0.005   |          |          |
| Zr-T             | mg/L |          | <0.0005  |          | 0.0002    | <0.0005   |           | <0.0005   |           |           |           | 0.0015    |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |          |          |          |          | <0.0005  |          |          |
| Ag-D             | mg/L |          |          |          | <0.00001  | <0.00002  |           | <0.00002  |           |           |           | <0.00002  |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |          |          |          |          | <0.00002 |          |          |
| Al-D             | mg/L |          |          |          | 0.008     | 0.007     |           | 0.016     |           |           |           | 0.023     |           |           | 0.018     |           |           |           |           |           |           |           | 0.072     |           |          |          |          |          | 0.03     |          |          |
| As-D             | mg/L |          |          |          | 0.0004    | 0.0004    |           | 0.0004    |           |           |           | 0.0006    |           |           | 0.0004    |           |           |           |           |           |           |           | 0.0003    |           |          |          |          |          | 0.0004   |          |          |
| Ba-D             | mg/L |          |          |          | 0.053     | 0.06      |           | 0.078     |           |           |           | 0.087     |           |           | 0.086     |           |           |           |           |           |           |           | 0.092     |           |          |          |          |          | 0.088    |          |          |
| B-D              | mg/L |          |          |          | <0.004    | <0.05     |           | <0.05     |           |           |           | <0.05     |           |           | <0.05     |           |           |           |           |           |           |           | <0.05     |           |          |          |          |          | <0.05    |          |          |
| Be-D             | mg/L |          |          |          | <0.00004  | <0.0001   |           | <0.0001   |           |           |           | <0.0001   |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001   |           |          |          |          |          | <0.0001  |          |          |
| Bi-D             | mg/L |          |          |          | <0.001    | <0.001    |           | <0.001    |           |           |           | <0.001    |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |          |          |          |          | <0.001   |          |          |
| Ca-D             | mg/L |          |          |          | 36.6      | 39.9      |           | 44.7      |           |           |           | 42.5      |           |           | 46        |           |           |           |           |           |           |           | 44.9      |           |          |          |          |          | 42.7     |          |          |
| Cd-D             | mg/L |          |          |          | <0.00001  | <0.00001  |           | 0.00001   |           |           |           | 0.00001   |           |           | 0.00002   |           |           |           |           |           |           |           | <0.00001  |           |          |          |          |          | <0.00001 |          |          |
| C-DOC            | mg/L |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 9.7       |          |          |          |          |          |          |          |
| Co-D             | mg/L |          |          |          | 0.00007   | <0.0005   |           | <0.0005   |           |           |           | <0.0005   |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |          |          |          |          | <0.0005  |          |          |
| Cr-D             | mg/L |          |          |          | 0.0009    | <0.001    |           | <0.001    |           |           |           | <0.001    |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |          |          |          |          | <0.001   |          |          |
| Cu-D             | mg/L |          |          |          | 0.001     | 0.0028    |           | 0.0037    |           |           |           | 0.0036    |           |           | 0.0035    |           |           |           |           |           |           |           | 0.0079    |           |          |          |          |          | 0.0016   |          |          |
| Fe-D             | mg/L |          |          |          | 0.05      | 0.042     |           | 0.027     |           |           |           | 0.041     |           |           | 0.035     |           |           |           |           |           |           |           | 0.033     |           |          |          |          |          | 0.024    |          |          |
| Hg-D             | mg/L |          |          |          |           | <0.00002  |           | <0.00002  |           |           |           | <0.00002  |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |          |          |          |          | <0.00002 |          |          |
| K-D              | mg/L |          |          |          | 1.4       | 1.65      |           | 2.75      |           |           |           | 2.54      |           |           | 2.82      |           |           |           |           |           |           |           | 2.66      |           |          |          |          |          | 2.37     |          |          |
| Li-D             | mg/L |          |          |          | 0.001     | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          | <0.005   |          |          |
| Mg-D             | mg/L |          |          |          | 11.4      | 11.9      |           | 12.2      |           |           |           | 12.7      |           |           | 12.7      |           |           |           |           |           |           |           | 13.3      |           |          |          |          |          | 11.8     |          |          |
| Mn-D             | mg/L |          |          |          | 0.0046    | 0.005     |           | 0.001     |           |           |           | <0.001    |           |           | 0.002     |           |           |           |           |           |           |           | 0.005     |           |          |          |          |          | 0.002    |          |          |
| Mo-D             | mg/L |          |          |          | 0.0019    | 0.002     |           | 0.009     |           |           |           | 0.008     |           |           | 0.009     |           |           |           |           |           |           |           | 0.008     |           |          |          |          |          | 0.009    |          |          |
| Na-D             | mg/L |          |          |          | 8.4       | 8.72      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 40030    | A942378  | 40034    | 1242427   | A943004   | 40039     | 40040     | 40041     | 40042     | 40043     | 40044     | 40045     | 40046     | 40047     | 40048     | 40049     | 40050     | 40051     | 40052     | 40053     | 40054     | 40055     | 40056     | 40057    | 40058    | 40059    | 40060    | 40061    | 40062    | 40063    |     |
|------------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|-----|
| Smpl Date        |          | 8/5/2009 | 8/8/2009 | 8/9/2009 | 8/11/2009 | 8/12/2009 | 8/14/2009 | 8/15/2009 | 8/16/2009 | 8/17/2009 | 8/18/2009 | 8/19/2009 | 8/20/2009 | 8/21/2009 | 8/22/2009 | 8/23/2009 | 8/24/2009 | 8/25/2009 | 8/26/2009 | 8/27/2009 | 8/28/2009 | 8/29/2009 | 8/30/2009 | 8/31/2009 | 9/1/2009 | 9/2/2009 | 9/3/2009 | 9/4/2009 | 9/5/2009 | 9/6/2009 | 9/7/2009 |     |
| Station Name     |          | W2       | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2       | W2       | W2       | W2       | W2       | W2       |          |     |
| Sample Class     |          | P        | P        | M        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P        | P        | P        | P        |          |     |
| Sb-D             | mg/L     |          |          |          | <0.0002   | <0.0005   |           | <0.0005   |           |           |           | <0.0005   |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |          |          |          |          | <0.0005  |          |          |     |
| S-D              | mg/L     |          |          |          | 8.1       | 7         |           | 15        |           |           |           | 13        |           |           | 16        |           |           |           |           |           |           |           | 15        |           |          |          |          |          |          | 15       |          |     |
| Se-D             | mg/L     |          |          |          | <0.0006   | 0.0002    |           | 0.0011    |           |           |           | 0.001     |           |           | 0.0011    |           |           |           |           |           |           |           | 0.0011    |           |          |          |          |          |          | 0.0011   |          |     |
| Si-D             | mg/L     |          |          |          | 5.46      | 5.94      |           | 4.65      |           |           |           | 4.99      |           |           | 4.79      |           |           |           |           |           |           |           | 4.69      |           |          |          |          |          |          | 4.33     |          |     |
| Sn-D             | mg/L     |          |          |          | <0.0001   | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          |          | <0.005   |          |     |
| Sr-D             | mg/L     |          |          |          | 0.319     | 0.377     |           | 0.476     |           |           |           | 0.449     |           |           | 0.501     |           |           |           |           |           |           |           | 0.526     |           |          |          |          |          |          | 0.512    |          |     |
| Te-D             | mg/L     |          |          |          | <0.0001   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Th-D             | mg/L     |          |          |          | <0.0004   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Ti-D             | mg/L     |          |          |          | 0.0007    | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          |          | <0.005   |          |     |
| Tl-D             | mg/L     |          |          |          | <0.00001  | <0.00005  |           | <0.00005  |           |           |           | <0.00005  |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005  |           |          |          |          |          |          | <0.00005 |          |     |
| U-D              | mg/L     |          |          |          | 0.0011    | 0.0013    |           | 0.0009    |           |           |           | 0.0008    |           |           | 0.0008    |           |           |           |           |           |           |           | 0.0006    |           |          |          |          |          |          | 0.0005   |          |     |
| V-D              | mg/L     |          |          |          | 0.0005    | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          |          | <0.005   |          |     |
| Zn-D             | mg/L     |          |          |          | 0.001     | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |          |          | <0.005   |          |     |
| Zr-D             | mg/L     |          |          |          | 0.0002    | <0.0005   |           | <0.0005   |           |           |           | <0.0005   |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |          |          |          |          |          | <0.0005  |          |     |
| Alk-Bicrb        | mg/L     |          |          |          | 170       | 180       |           | 150       |           |           |           | 150       | 150       | 150       | 140       | 140       | 140       |           |           |           |           |           | 130       |           |          |          |          |          |          | 130      |          |     |
| Alk-Carb         | mg/L     |          |          |          | <6        | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |          |          | <0.5     |          |     |
| Alk-OH           | mg/L     |          |          |          | <5        | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |          |          | <0.5     |          |     |
| Alk-P            | mg/L     |          |          |          |           | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |          |          | <0.5     |          |     |
| Alk-T            | mg/L     |          |          |          | 140       | 140       |           | 120       |           |           |           | 120       | 120       | 120       | 120       | 120       | 110       |           |           |           |           |           | 110       |           |          |          |          |          |          | 100      |          |     |
| Bromine          | mg/L     |          |          |          |           | <0.4      |           | <0.4      |           |           |           | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      |           |           |           |           |           | <0.4      |           |          |          |          |          |          | <0.4     |          |     |
| C-TIC            | mg/L     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| C-TOC            | mg/L     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 9.6       |          |          |          |          |          |          |          |     |
| Chloride         | mg/L     |          |          |          | 1.91      | 2.2       |           | 11        |           |           |           | 10        | 11        | 11        | 12        | 12        | 14        |           |           |           |           |           | 20        |           |          |          |          |          |          | 22       |          |     |
| Colour           | TCU      |          |          |          | 46        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Cond-F           | µS/cm    | 405      |          | 325      |           |           | 371       | 381       | 380       | 377       | 373       | 361       | 367       | 372       | 376       | 378       | 374       | 377       | 367       | 368       | 377       | 385       | 382       | 365       | 375      | 381      | 385      | 388      | 389      | 390      | 390      |     |
| Cond-L           | µS/cm    | 400      | 319      |          | 302       | 316       | 364       | 377       | 376       | 375       | 369       | 357       | 363       | 368       | 374       | 376       | 381       | 382       | 370       | 367       | 367       | 379       | 385       | 382       | 371      | 380      | 386      | 391      | 393      | 394      | 396      | 393 |
| Discharge        | L/s      |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Fluoride         | mg/L     |          |          |          |           | 0.32      |           | 0.27      |           |           |           | 0.26      | 0.28      | 0.28      | 0.29      | 0.29      | 0.28      |           |           |           |           |           | 0.26      |           |          |          |          |          |          | 0.25     |          |     |
| Hard-D           | mg/L     |          |          |          | 138       | 148       |           | 164       |           |           |           | 157       |           |           | 167       |           |           |           |           |           |           |           | 167       |           |          |          |          |          |          | 155      |          |     |
| Hard-T           | mg/L     |          | 194      |          |           | 157       |           | 166       |           |           |           | 225       |           |           | 161       |           |           |           |           |           |           |           | 229       |           |          |          |          |          |          | 175      |          |     |
| IB               | %        |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Ammonia          | mg/L     |          | <0.005   |          |           | <0.005    |           | 0.012     |           |           |           | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    |           |           |           |           |           | <0.005    |           |          |          |          |          |          | <0.005   |          |     |
| Ammonium         | mg/L     |          |          |          | <0.05     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| N-NO2            | mg/L     |          | <0.005   |          |           | <0.005    |           | 0.04      |           |           |           | 0.014     | 0.023     | 0.024     | 0.024     | 0.025     | 0.029     |           |           |           |           |           | 0.023     |           |          |          |          |          |          | 0.012    |          |     |
| NO2+NO3          | mg/L     |          | 0.38     |          | 0.3       | 0.33      |           | 3.4       |           |           |           | 3.2       | 3.4       | 3.6       | 3.8       | 3.9       | 4         |           |           |           |           |           | 4.5       |           |          |          |          |          |          | 4.8      |          |     |
| N-NO3            | mg/L     |          | 0.38     |          |           | 0.33      |           | 3.4       |           |           |           | 3.2       | 3.4       | 3.6       | 3.8       | 3.8       | 4         |           |           |           |           |           | 4.5       |           |          |          |          |          |          | 4.8      |          |     |
| pH-F             | pH units | 8.34     |          | 7.85     |           |           | 7.87      | 7.83      | 7.79      | 7.87      | 7.84      | 7.96      | 8.1       | 8.08      | 7.93      | 8.08      | 8.07      | 7.97      | 8.01      | 8.02      | 7.97      | 8.04      | 7.87      | 7.95      | 7.94     | 7.97     | 7.95     | 7.91     | 8        | 8.07     | 8.13     |     |
| pH-L             | pH units | 8.3      | 8.2      |          | 8.05      | 8.1       | 8.1       | 8.2       | 8.2       | 8.2       | 8.2       | 8         | 8.1       | 8.1       | 8.1       | 8.1       | 8.2       | 8.2       | 8.2       | 8         | 8.1       | 8         | 8         | 8         | 8.1      | 8.1      | 8.1      | 8.1      | 8.1      | 8        | 8.1      |     |
| Radium - 226     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| SO4-D            | mg/L     |          |          |          | 24        | 19        |           | 38        |           |           |           | 30        | 32        | 33        | 35        | 35        | 34        |           |           |           |           |           | 39        |           |          |          |          |          |          | 42       |          |     |
| SO4-T            | mg/L     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| Sulphide         | mg/L     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| TDS              | mg/L     | 240      | 200      |          | 234       | 220       | 260       | 220       | 230       | 240       | 240       | 220       | 210       | 220       | 230       | 230       | 180       | 240       | 240       | 240       | 240       | 250       | 230       | 230       | 230      | 240      | 250      | 230      | 250      | 240      | 240      |     |
| Temp-F           | C        | 8.35     |          | 7.17     |           |           | 7.49      | 8.64      | 9.35      | 9.75      | 9.06      | 8.26      | 8.23      | 8.22      | 9.54      | 9.42      | 8.62      | 8.8       | 8.72      | 7.82      | 9.69      | 9.13      | 9.51      | 8.61      | 8.01     | 7.67     | 7.23     | 7.83     | 8.06     | 7.39     | 6.87     |     |
| Temp-obs-pH      | C        |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |     |
| TSS              | mg/L     | <4       | <4       |          | <2        | <4        | 18        | 15        | 13        | 17        | 100       | 550       | 33        | 21        | 15        | 20        | 13        | 13        | 22        | 15        | 15        | 13        | 71        | 50        | 20       | 14       | 13       | 14       | 11       | 12       | 7        |     |
| Turb             | NTU      | 1.4      | 1.6      |          | 0.7       | 0.7       | 4.5       | 3.7       | 2.7       | 4.4       | 23.1      | 352       | 9         | 8.9       | 6.2       | 6.1       | 6.8       | 6.7       | 7.3       | 5.2       | 3.8       | 4.7       | 20.9      | 9.1       | 5.2      | 5.4      | 2.9      | 3.1      | 3.9      | 3.3      | 1.6      |     |
| Turb-F           | NTU      | 0        |          | 0        |           |           | 6.7       | 5.1       | 2.9       | 4.7       | 32.4      | 12.7      | 9.5       | 8.4       | 6.6       | 6.6       | 5.2       | 4.8       | 6.9       | 4.7       | 4         | 3.2       | 21.4      | 14.6      | 6.4      | 4.9      | 3.4      | 3.8      | 3.8      | 2.9      | 1.9      |     |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 40064    | 40065    | 40066     | 40067     | 40068     | 40069     | 40070     | 40071     | 40072     | 40073     | 40074     | 40075     | 40076     | 40077     | 40078     | 40079     | 40080     | 40081     | 40082     | 40083     | 40084     | 40085     | 40086     | 40087     | 40088     | 40089     | 40090     | 40091     | 40092     |  |
|------------------|------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| Smpl Date        |      | 9/8/2009 | 9/9/2009 | 9/10/2009 | 9/11/2009 | 9/12/2009 | 9/13/2009 | 9/14/2009 | 9/15/2009 | 9/16/2009 | 9/17/2009 | 9/18/2009 | 9/19/2009 | 9/20/2009 | 9/21/2009 | 9/22/2009 | 9/23/2009 | 9/24/2009 | 9/25/2009 | 9/26/2009 | 9/27/2009 | 9/28/2009 | 9/29/2009 | 9/30/2009 | 10/1/2009 | 10/2/2009 | 10/3/2009 | 10/4/2009 | 10/5/2009 | 10/6/2009 |  |
| Station Name     |      | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        |  |
| Sample Class     |      | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |  |
| Ag-T             | mg/L |          |          |           |           |           | <0.00002  |           |           |           |           |           |           | <0.00002  |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |           |  |
| Al-T             | mg/L |          |          |           |           |           | 0.191     |           |           |           |           |           |           | 0.169     |           |           |           |           |           | 0.127     |           |           |           |           |           |           |           |           | 0.131     |           |  |
| As-T             | mg/L |          |          |           |           |           | 0.0004    |           |           |           |           |           |           | 0.0004    |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           |           | 0.0004    |           |  |
| Ba-T             | mg/L |          |          |           |           |           | 0.104     |           |           |           |           |           |           | 0.105     |           |           |           |           |           | 0.101     |           |           |           |           |           |           |           |           | 0.101     |           |  |
| Be-T             | mg/L |          |          |           |           |           | <0.0001   |           |           |           |           |           |           | <0.0001   |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           |           | <0.0001   |           |  |
| Bi-T             | mg/L |          |          |           |           |           | <0.001    |           |           |           |           |           |           | <0.001    |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           |           | <0.001    |           |  |
| B-T              | mg/L |          |          |           |           |           | <0.05     |           |           |           |           |           |           | <0.05     |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           |           | <0.05     |           |  |
| Ca-T             | mg/L |          |          |           |           |           | 46.9      |           |           |           |           |           |           | 51.2      |           |           |           |           |           | 48.1      |           |           |           |           |           |           |           |           | 50.9      |           |  |
| Cd-T             | mg/L |          |          |           |           |           | 0.00004   |           |           |           |           |           |           | 0.00003   |           |           |           |           |           | 0.00016   |           |           |           |           |           |           |           |           | 0.00016   |           |  |
| CN-T             | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| Co-T             | mg/L |          |          |           |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           |           | <0.0005   |           |  |
| Cr-T             | mg/L |          |          |           |           |           | <0.001    |           |           |           |           |           |           | <0.001    |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           |           | <0.001    |           |  |
| Cu-T             | mg/L |          |          |           |           |           | 0.0035    |           |           |           |           |           |           | 0.0034    |           |           |           |           |           | 0.0109    |           |           |           |           |           |           |           |           | 0.008     |           |  |
| Fe-T             | mg/L |          |          |           |           |           | 0.237     |           |           |           |           |           |           | 0.199     |           |           |           |           |           | 0.178     |           |           |           |           |           |           |           |           | 0.177     |           |  |
| Hg-T             | mg/L |          |          |           |           |           | <0.00002  |           |           |           |           |           |           | 0.00003   |           |           |           |           |           | 0.00003   |           |           |           |           |           |           |           |           | <0.00002  |           |  |
| K-T              | mg/L |          |          |           |           |           | 2.7       |           |           |           |           |           |           | 2.9       |           |           |           |           |           | 2.44      |           |           |           |           |           |           |           |           | 2.62      |           |  |
| Li-T             | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |  |
| Mg-T             | mg/L |          |          |           |           |           | 13.1      |           |           |           |           |           |           | 14.7      |           |           |           |           |           | 13.8      |           |           |           |           |           |           |           |           | 13.6      |           |  |
| Mn-T             | mg/L |          |          |           |           |           | 0.029     |           |           |           |           |           |           | 0.03      |           |           |           |           |           | 0.03      |           |           |           |           |           |           |           |           | 0.038     |           |  |
| Mo-T             | mg/L |          |          |           |           |           | 0.009     |           |           |           |           |           |           | 0.01      |           |           |           |           |           | 0.01      |           |           |           |           |           |           |           |           | 0.011     |           |  |
| Na-T             | mg/L |          |          |           |           |           | 14.4      |           |           |           |           |           |           | 15.3      |           |           |           |           |           | 14.6      |           |           |           |           |           |           |           |           | 13.9      |           |  |
| Ni-T             | mg/L |          |          |           |           |           | 0.001     |           |           |           |           |           |           | 0.001     |           |           |           |           |           | 0.003     |           |           |           |           |           |           |           |           | 0.001     |           |  |
| N-TKN            | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| Pb-T             | mg/L |          |          |           |           |           | 0.0004    |           |           |           |           |           |           | 0.0004    |           |           |           |           |           | 0.0007    |           |           |           |           |           |           |           |           | 0.0004    |           |  |
| P-PO4-T          | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| P-T              | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| P-TRP (Ortho)    | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |  |
| Sb-T             | mg/L |          |          |           |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           |           | <0.0005   |           |  |
| Se-T             | mg/L |          |          |           |           |           | 0.0012    |           |           |           |           |           |           | 0.0012    |           |           |           |           |           | 0.0011    |           |           |           |           |           |           |           |           | 0.0013    |           |  |
| Si-T             | mg/L |          |          |           |           |           | 4.9       |           |           |           |           |           |           | 5.3       |           |           |           |           |           | 4.62      |           |           |           |           |           |           |           |           | 4.6       |           |  |
| Sn-T             | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |  |
| Sr-T             | mg/L |          |          |           |           |           | 0.573     |           |           |           |           |           |           | 0.546     |           |           |           |           |           | 0.544     |           |           |           |           |           |           |           |           | 0.596     |           |  |
| S-T              | mg/L |          |          |           |           |           | 14        |           |           |           |           |           |           | 19        |           |           |           |           |           | 22        |           |           |           |           |           |           |           |           | 21        |           |  |
| Te-T             | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| Th-T             | mg/L |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| Ti-T             | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | 0.005     |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |  |
| Tl-T             | mg/L |          |          |           |           |           | <0.00005  |           |           |           |           |           |           | <0.00005  |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           |           | <0.00005  |           |  |
| U-T              | mg/L |          |          |           |           |           | 0.0006    |           |           |           |           |           |           | 0.0006    |           |           |           |           |           | 0.0006    |           |           |           |           |           |           |           |           | 0.0007    |           |  |
| V-T              | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |  |
| Zn-T             | mg/L |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           | </        |           |           |           |           |           |           |           |           |           |           |           |           |  |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 40064    | 40065    | 40066     | 40067     | 40068     | 40069     | 40070     | 40071     | 40072     | 40073     | 40074     | 40075     | 40076     | 40077     | 40078     | 40079     | 40080     | 40081     | 40082     | 40083     | 40084     | 40085     | 40086     | 40087     | 40088     | 40089     | 40090     | 40091     | 40092     |
|------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 9/8/2009 | 9/9/2009 | 9/10/2009 | 9/11/2009 | 9/12/2009 | 9/13/2009 | 9/14/2009 | 9/15/2009 | 9/16/2009 | 9/17/2009 | 9/18/2009 | 9/19/2009 | 9/20/2009 | 9/21/2009 | 9/22/2009 | 9/23/2009 | 9/24/2009 | 9/25/2009 | 9/26/2009 | 9/27/2009 | 9/28/2009 | 9/29/2009 | 9/30/2009 | 10/1/2009 | 10/2/2009 | 10/3/2009 | 10/4/2009 | 10/5/2009 | 10/6/2009 |
| Station Name     |          | W2       | W2       | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        | W2        |
| Sample Class     |          | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |
| Sb-D             | mg/L     |          |          |           |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |           |
| S-D              | mg/L     |          |          |           |           |           | 16        |           |           |           |           |           |           | 17        |           |           |           |           |           | 17        |           |           |           |           |           |           |           |           | 19        |           |
| Se-D             | mg/L     |          |          |           |           |           | 0.0011    |           |           |           |           |           |           | 0.0013    |           |           |           |           |           | 0.0012    |           |           |           |           |           |           |           |           | 0.0013    |           |
| Si-D             | mg/L     |          |          |           |           |           | 4.4       |           |           |           |           |           |           | 4.4       |           |           |           |           |           | 4.87      |           |           |           |           |           |           |           |           | 4.31      |           |
| Sn-D             | mg/L     |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |
| Sr-D             | mg/L     |          |          |           |           |           | 0.542     |           |           |           |           |           |           | 0.565     |           |           |           |           |           | 0.562     |           |           |           |           |           |           |           |           | 0.589     |           |
| Te-D             | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Th-D             | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ti-D             | mg/L     |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |
| Tl-D             | mg/L     |          |          |           |           |           | <0.00005  |           |           |           |           |           |           | <0.00005  |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           |           | <0.00005  |           |
| U-D              | mg/L     |          |          |           |           |           | 0.0006    |           |           |           |           |           |           | 0.0006    |           |           |           |           |           | 0.0006    |           |           |           |           |           |           |           |           | 0.0007    |           |
| V-D              | mg/L     |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |
| Zn-D             | mg/L     |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |
| Zr-D             | mg/L     |          |          |           |           |           | <0.0005   |           |           |           |           |           |           | <0.0005   |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           |           | <0.0005   |           |
| Alk-Bicrb        | mg/L     |          |          |           |           |           | 130       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-Carb         | mg/L     |          |          |           |           |           | <0.5      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-OH           | mg/L     |          |          |           |           |           | <0.5      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-P            | mg/L     |          |          |           |           |           | <0.5      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-T            | mg/L     |          |          |           |           |           | 110       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Bromine          | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| C-TIC            | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| C-TOC            | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Chloride         | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Colour           | TCU      |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Cond-F           | µS/cm    | 391      | 391      | 395       | 393       | 396       | 397       | 395       | 399       | 399       | 399       | 402       | 402       | 402       | 401       | 405       | 401       | 390       | 396       | 390       | 392       | 395       | 434       | 430       | 420       | 428       | 434       | 430       | 424       | 414       |
| Cond-L           | µS/cm    | 395      | 396      | 399       | 398       | 400       | 383       | 400       | 404       | 404       | 406       | 404       | 408       | 410       | 405       | 408       | 402       | 396       | 400       | 403       | 398       | 406       | 427       | 428       | 420       | 378       | 423       | 416       | 418       | 408       |
| Discharge        | L/s      |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Fluoride         | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Hard-D           | mg/L     |          |          |           |           |           | 170       |           |           |           |           |           |           | 169       |           |           |           |           |           | 168       |           |           |           |           |           |           |           |           | 174       |           |
| Hard-T           | mg/L     |          |          |           |           |           | 171       |           |           |           |           |           |           | 188       |           |           |           |           |           | 177       |           |           |           |           |           |           |           |           | 183       |           |
| IB               | %        |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ammonia          | mg/L     |          |          |           |           |           | <0.005    |           |           |           |           |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005    |           |
| Ammonium         | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| N-NO2            | mg/L     |          |          |           |           |           | 0.019     |           |           |           |           |           |           | 0.014     |           |           |           |           |           | 0.012     |           |           |           |           |           |           |           |           | 0.014     |           |
| NO2+NO3          | mg/L     |          |          |           |           |           | 4.6       |           |           |           |           |           |           | 5.1       |           |           |           |           |           | 5.3       |           |           |           |           |           |           |           |           | 5         |           |
| N-NO3            | mg/L     |          |          |           |           |           | 4.6       |           |           |           |           |           |           | 5.1       |           |           |           |           |           | 5.3       |           |           |           |           |           |           |           |           | 4.9       |           |
| pH-F             | pH units | 8.24     | 8.2      | 8.14      | 8.2       | 8.39      | 8.19      | 8.22      | 8.12      | 8.25      | 8.02      | 8.45      | 8.21      | 8.24      | 7.93      | 8.08      | 8.28      | 8.09      | 8.12      | 8.24      | 8.13      | 8.11      | 8.33      | 8.02      | 7.82      | 7.79      | 7.65      | 7.7       | 7.8       | 8.03      |
| pH-L             | pH units | 8.1      | 8.1      | 8.1       | 8.1       | 7.9       | 8.1       | 8         | 8.1       | 7.9       | 8.1       | 7.6       | 8.1       | 8.1       | 8         | 8         | 8         | 8.1       | 8         | 8.1       | 8.1       | 8.1       | 8.1       | 8.1       | 8.2       | 8.1       | 8.1       | 8.1       | 8.1       | 8.1       |
| Radium - 226     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SO4-D            | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SO4-T            | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Sulphide         | mg/L     |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TDS              | mg/L     | 240      | 250      | 260       | 260       | 270       | 270       | 250       | 260       | 260       | 250       | 250       | 250       | 230       | 270       | 240       | 250       | 240       | 250       | 230       | 270       | 240       | 240       | 260       | 250       | 240       | 190       | 270       | 270       | 270       |
| Temp-F           | C        | 7.05     | 6.98     | 6.31      | 7.73      | 7.08      | 7.45      | 6.4       | 5.49      | 6.84      | 7.06      | 5.23      | 5.77      | 5.93      | 5.94      | 4.41      | 6.04      | 5.51      | 5.71      | 5.95      | 4.07      | 2.78      | 1.45      | 2.17      | 3.53      | 2.38      | 2.16      | 2.79      | 2.63      | 3.08      |
| Temp-obs-pH      | C        |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TSS              | mg/L     | 10       | 17       | 8         | 7         | 7         | 6         | 6         | 7         | 4         | 6         | 6         | <4        | <4        | <4        | <4        | <4        | 5         | 5         | 4         | 5         | 5         | <4        | <4        | 5         | <4        | 6         | 5         | <4        | 7         |
| Turb             | NTU      | 2.5      | 3.7      | 2.1       | 2         | 1.5       | 1.2       | 1.3       | 1.6       | 1.1       | 0.9       | 1.5       | 1.1       | 1.1       | 1.7       | 0.9       | 0.9       | 1.6       | 1.2       | 0.9       | 0.8       | 1.1       | 1.2       | 0.9       | 0.8       | 0.7       | 2.5       | 1.2       | 1.9       | 3.8       |
| Turb-F           | NTU      | 2.8      | 5.6      | 1.9       | 1.5       | 0.8       | 0.7       | 0.6       | 1         | 0.2       | 0.8       | 0.3       | 0         | 0.2       | 0         | 0         | 0         | 0.7       | 0         | 0         | 0.1       | 0         | 1.6       | 1.4       | 1.8       | 1.2       | 2.4       | 1.9       | 2         | 4         |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | 40093     | 40094     | 40095     | 40096      | 40097      | 40098      | 40099      | 40100      | 40101      | 40102      | 40103      | 40104      | 40105      | 40106      | 40107      | 40108      | 40109      | 40110      | A961124    | 40112      | 40113      | 40114      | 40115      | 40116      | 1274409   |
|------------------|------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Smpl Date        |      | 10/7/2009 | 10/8/2009 | 10/9/2009 | 10/10/2009 | 10/11/2009 | 10/12/2009 | 10/13/2009 | 10/14/2009 | 10/15/2009 | 10/16/2009 | 10/17/2009 | 10/18/2009 | 10/19/2009 | 10/20/2009 | 10/21/2009 | 10/22/2009 | 10/23/2009 | 10/24/2009 | 10/25/2009 | 10/26/2009 | 10/27/2009 | 10/28/2009 | 10/29/2009 | 10/30/2009 | 11/6/2009 |
| Station Name     |      | W2        | W2        | W2        | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2        |
| Sample Class     |      | P         | P         | P         | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P         |
| Ag-T             | mg/L |           |           |           |            | <0.00002   |            |            |            |            |            |            |            |            | <0.00002   |            |            |            |            | <0.00002   |            | <0.00002   |            |            |            | <0.00001  |
| Al-T             | mg/L |           |           |           |            | 0.144      |            |            |            |            |            |            |            |            | 0.056      |            |            |            |            | 0.108      |            | 0.056      |            |            |            | 0.03      |
| As-T             | mg/L |           |           |           |            | 0.0004     |            |            |            |            |            |            |            |            | 0.0003     |            |            |            |            | 0.0004     |            | 0.0003     |            |            |            | 0.0004    |
| Ba-T             | mg/L |           |           |           |            | 0.096      |            |            |            |            |            |            |            |            | 0.094      |            |            |            |            | 0.093      |            | 0.089      |            |            |            | 0.066     |
| Be-T             | mg/L |           |           |           |            | <0.0001    |            |            |            |            |            |            |            |            | <0.0001    |            |            |            |            | <0.0001    |            | <0.0001    |            |            |            | <0.00004  |
| Bi-T             | mg/L |           |           |           |            | <0.001     |            |            |            |            |            |            |            |            | <0.001     |            |            |            |            | <0.001     |            | <0.001     |            |            |            | <0.001    |
| B-T              | mg/L |           |           |           |            | <0.05      |            |            |            |            |            |            |            |            | <0.05      |            |            |            |            | <0.05      |            | <0.05      |            |            |            | 0.012     |
| Ca-T             | mg/L |           |           |           |            | 46.8       |            |            |            |            |            |            |            |            | 55         |            |            |            |            | 51         |            | 51.3       |            |            |            | 44.9      |
| Cd-T             | mg/L |           |           |           |            | 0.00005    |            |            |            |            |            |            |            |            | <0.00001   |            |            |            |            | 0.00003    |            | 0.00005    |            |            |            | <0.00001  |
| CN-T             | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Co-T             | mg/L |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | 0.00011   |
| Cr-T             | mg/L |           |           |           |            | <0.001     |            |            |            |            |            |            |            |            | <0.001     |            |            |            |            | <0.001     |            | <0.001     |            |            |            | <0.0004   |
| Cu-T             | mg/L |           |           |           |            | 0.0034     |            |            |            |            |            |            |            |            | 0.003      |            |            |            |            | 0.0039     |            | 0.0036     |            |            |            | 0.002     |
| Fe-T             | mg/L |           |           |           |            | 0.205      |            |            |            |            |            |            |            |            | 0.128      |            |            |            |            | 0.219      |            | 0.13       |            |            |            | 0.04      |
| Hg-T             | mg/L |           |           |           |            | 0.00005    |            |            |            |            |            |            |            |            | <0.00002   |            |            |            |            | <0.00002   |            | <0.00002   |            |            |            | <0.00001  |
| K-T              | mg/L |           |           |           |            | 2.41       |            |            |            |            |            |            |            |            | 2.44       |            |            |            |            | 2.26       |            | 2.13       |            |            |            | 1.6       |
| Li-T             | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.002     |
| Mg-T             | mg/L |           |           |           |            | 12.9       |            |            |            |            |            |            |            |            | 15.1       |            |            |            |            | 14.9       |            | 15.2       |            |            |            | 14.1      |
| Mn-T             | mg/L |           |           |           |            | 0.05       |            |            |            |            |            |            |            |            | 0.029      |            |            |            |            | 0.027      |            | 0.019      |            |            |            | 0.0124    |
| Mo-T             | mg/L |           |           |           |            | 0.01       |            |            |            |            |            |            |            |            | 0.008      |            |            |            |            | 0.007      |            | 0.007      |            |            |            | 0.0024    |
| Na-T             | mg/L |           |           |           |            | 13         |            |            |            |            |            |            |            |            | 13.4       |            |            |            |            | 13.3       |            | 13.5       |            |            |            | 11.2      |
| Ni-T             | mg/L |           |           |           |            | 0.001      |            |            |            |            |            |            |            |            | 0.001      |            |            |            |            | 0.001      |            | 0.001      |            |            |            | 0.002     |
| N-TKN            | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 0.28      |
| Pb-T             | mg/L |           |           |           |            | <0.0002    |            |            |            |            |            |            |            |            | <0.0002    |            |            |            |            | <0.0002    |            | <0.0002    |            |            |            | <0.0001   |
| P-PO4-T          | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 0.06      |
| P-T              | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.05     |
| P-TRP (Ortho)    | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            |           |
| Sb-T             | mg/L |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | <0.0002   |
| Se-T             | mg/L |           |           |           |            | 0.0013     |            |            |            |            |            |            |            |            | 0.0011     |            |            |            |            | 0.001      |            | 0.0009     |            |            |            | <0.0006   |
| Si-T             | mg/L |           |           |           |            | 4.66       |            |            |            |            |            |            |            |            | 5.41       |            |            |            |            | 5.96       |            | 5.5        |            |            |            | 5.87      |
| Sn-T             | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | <0.0001   |
| Sr-T             | mg/L |           |           |           |            | 0.587      |            |            |            |            |            |            |            |            | 0.62       |            |            |            |            | 0.572      |            | 0.541      |            |            |            | 0.476     |
| S-T              | mg/L |           |           |           |            | 21         |            |            |            |            |            |            |            |            | 17         |            |            |            |            | 15         |            | 15         |            |            |            | 8.7       |
| Te-T             | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.0001   |
| Th-T             | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.0004   |
| Ti-T             | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            |           |
| Tl-T             | mg/L |           |           |           |            | <0.00005   |            |            |            |            |            |            |            |            | <0.00005   |            |            |            |            | <0.00005   |            | <0.00005   |            |            |            | <0.00001  |
| U-T              | mg/L |           |           |           |            | 0.0006     |            |            |            |            |            |            |            |            | 0.001      |            |            |            |            | 0.0011     |            | 0.001      |            |            |            | 0.0013    |
| V-T              | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.0005    |
| Zn-T             | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.006     |
| Zr-T             | mg/L |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | 0.0002    |
| Ag-D             | mg/L |           |           |           |            | <0.00002   |            |            |            |            |            |            |            |            | <0.00002   |            |            |            |            | <0.00002   |            | <0.00002   |            |            |            | <0.00001  |
| Al-D             | mg/L |           |           |           |            | 0.039      |            |            |            |            |            |            |            |            | 0.018      |            |            |            |            | 0.014      |            | 0.014      |            |            |            | 0.009     |
| As-D             | mg/L |           |           |           |            | 0.0004     |            |            |            |            |            |            |            |            | 0.0003     |            |            |            |            | 0.0003     |            | 0.0004     |            |            |            | 0.0004    |
| Ba-D             | mg/L |           |           |           |            | 0.094      |            |            |            |            |            |            |            |            | 0.09       |            |            |            |            | 0.08       |            | 0.081      |            |            |            | 0.065     |
| B-D              | mg/L |           |           |           |            | <0.05      |            |            |            |            |            |            |            |            | <0.05      |            |            |            |            | <0.05      |            | <0.05      |            |            |            | 0.011     |
| Be-D             | mg/L |           |           |           |            | <0.0001    |            |            |            |            |            |            |            |            | <0.0001    |            |            |            |            | <0.0001    |            | <0.0001    |            |            |            | <0.00004  |
| Bi-D             | mg/L |           |           |           |            | <0.001     |            |            |            |            |            |            |            |            | <0.001     |            |            |            |            | <0.001     |            | <0.001     |            |            |            | <0.001    |
| Ca-D             | mg/L |           |           |           |            | 51.2       |            |            |            |            |            |            |            |            | 51.2       |            |            |            |            | 48.3       |            | 48         |            |            |            | 39.5      |
| Cd-D             | mg/L |           |           |           |            | 0.00001    |            |            |            |            |            |            |            |            | <0.00001   |            |            |            |            | <0.00001   |            | 0.00002    |            |            |            | 0.00002   |
| C-DOC            | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 8.2        |            |            |            |            |            |           |
| Co-D             | mg/L |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | 0.00011   |
| Cr-D             | mg/L |           |           |           |            | <0.001     |            |            |            |            |            |            |            |            | <0.001     |            |            |            |            | <0.001     |            | <0.001     |            |            |            | <0.0004   |
| Cu-D             | mg/L |           |           |           |            | 0.0014     |            |            |            |            |            |            |            |            | 0.0016     |            |            |            |            | 0.0016     |            | 0.0015     |            |            |            | 0.002     |
| Fe-D             | mg/L |           |           |           |            | 0.029      |            |            |            |            |            |            |            |            | 0.029      |            |            |            |            | 0.026      |            | 0.042      |            |            |            | 0.03      |
| Hg-D             | mg/L |           |           |           |            | <0.00002   |            |            |            |            |            |            |            |            | <0.00002   |            |            |            |            | <0.00002   |            | 0.00007    |            |            |            | 0.00008   |
| K-D              | mg/L |           |           |           |            | 2.62       |            |            |            |            |            |            |            |            | 2.34       |            |            |            |            | 2.11       |            | 2.01       |            |            |            | 1.5       |
| Li-D             | mg/L |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.002     |
| Mg-D             | mg/L |           |           |           |            | 14.1       |            |            |            |            |            |            |            |            | 13.9       |            |            |            |            | 13.4       |            | 13.1       |            |            |            | 12.2      |
| Mn-D             | mg/L |           |           |           |            | 0.032      |            |            |            |            |            |            |            |            | 0.013      |            |            |            |            | 0.009      |            | 0.01       |            |            |            | 0.0086    |
| Mo-D             | mg/L |           |           |           |            | 0.011      |            |            |            |            |            |            |            |            | 0.008      |            |            |            |            | 0.007      |            | 0.007      |            |            |            | 0.0022    |
| Na-D             | mg/L |           |           |           |            | 14.9       |            |            |            |            |            |            |            |            | 13.3       |            |            |            |            | 12.1       |            | 11.7       |            |            |            | 9.2       |
| Ni-D             | mg/L |           |           |           |            | <0.001     |            |            |            |            |            |            |            |            | <0.001     |            |            |            |            | <0.001     |            | <0.001     |            |            |            | 0.002     |
| O-DO             | mg/L | 119.5     | 117.2     | 118.5     | 96.1       | 95.3       |            | 117.2      | 133.2      | 132        | 132.8      | 137.1      | 140        | 133.7      | 124.6      | 116.5      | 99.6       | 100.5      | 93.3       | 98         | 95.9       | 92.9       | 94.6       | 115.5      | 113.2      |           |
| Pb-D             | mg/L |           |           |           |            | <0.0002    |            |            |            |            |            |            |            |            | <0.0002    |            |            |            |            | <0.0002    |            | <0.0002    |            |            |            | 0.0001    |
| P-D              | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.01     |
| P-TDP            | mg/L |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | 40093     | 40094     | 40095     | 40096      | 40097      | 40098      | 40099      | 40100      | 40101      | 40102      | 40103      | 40104      | 40105      | 40106      | 40107      | 40108      | 40109      | 40110      | A961124    | 40112      | 40113      | 40114      | 40115      | 40116      | 1274409   |
|------------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Smpl Date        |          | 10/7/2009 | 10/8/2009 | 10/9/2009 | 10/10/2009 | 10/11/2009 | 10/12/2009 | 10/13/2009 | 10/14/2009 | 10/15/2009 | 10/16/2009 | 10/17/2009 | 10/18/2009 | 10/19/2009 | 10/20/2009 | 10/21/2009 | 10/22/2009 | 10/23/2009 | 10/24/2009 | 10/25/2009 | 10/26/2009 | 10/27/2009 | 10/28/2009 | 10/29/2009 | 10/30/2009 | 11/6/2009 |
| Station Name     |          | W2        | W2        | W2        | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2         | W2        |
| Sample Class     |          | P         | P         | P         | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P         |
| Sb-D             | mg/L     |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | 0.0007    |
| S-D              | mg/L     |           |           |           |            | 20         |            |            |            |            |            |            |            |            | 17         |            |            |            |            | 15         |            | 14         |            |            |            | 8.3       |
| Se-D             | mg/L     |           |           |           |            | 0.0014     |            |            |            |            |            |            |            |            | 0.0013     |            |            |            |            | 0.0008     |            | 0.0009     |            |            |            | <0.0006   |
| Si-D             | mg/L     |           |           |           |            | 4.68       |            |            |            |            |            |            |            |            | 5.62       |            |            |            |            | 4.85       |            | 5.44       |            |            |            | 5.13      |
| Sn-D             | mg/L     |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | <0.0001   |
| Sr-D             | mg/L     |           |           |           |            | 0.606      |            |            |            |            |            |            |            |            | 0.623      |            |            |            |            | 0.537      |            | 0.529      |            |            |            | 0.448     |
| Te-D             | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.0001   |
| Th-D             | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.0004   |
| Ti-D             | mg/L     |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | <0.01     |
| Tl-D             | mg/L     |           |           |           |            | <0.00005   |            |            |            |            |            |            |            |            | <0.00005   |            |            |            |            | <0.00005   |            | <0.00005   |            |            |            | <0.00001  |
| U-D              | mg/L     |           |           |           |            | 0.0006     |            |            |            |            |            |            |            |            | 0.001      |            |            |            |            | 0.001      |            | 0.001      |            |            |            | 0.0012    |
| V-D              | mg/L     |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.0004    |
| Zn-D             | mg/L     |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            | 0.002     |
| Zr-D             | mg/L     |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |            | <0.0005    |            | <0.0005    |            |            |            | 0.0002    |
| Alk-Bicrb        | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | 160        |            |            |            |            | 160        |            | 160        |            |            |            | 160       |
| Alk-Carb         | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |            | <0.5       |            | <0.5       |            |            |            | <6        |
| Alk-OH           | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |            | <0.5       |            | <0.5       |            |            |            | <5        |
| Alk-P            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |            | <0.5       |            | <0.5       |            |            |            |           |
| Alk-T            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | 130        |            |            |            |            | 130        |            | 130        |            |            |            | 134       |
| Bromine          | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | 0.6        |            |            |            |            |            |            |            |            |            |            |           |
| C-TIC            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| C-TOC            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 7.6        |            |            |            |            |            |           |
| Chloride         | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 6.01      |
| Colour           | TCU      |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Cond-F           | µS/cm    | 430       | 426       | 428       | 433        | 439        | 444        | 446        | 424        | 475        | 475        | 471        | 459        | 453        | 431        | 413        | 408        | 404        | 403        | 406        | 400        | 402        | 401        | 410        | 412        |           |
| Cond-L           | µS/cm    | 422       | 419       | 423       | 427        | 429        | 431        | 447        | 453        | 458        | 457        | 456        | 449        | 446        | 422        | 401        | 396        | 398        | 393        | 395        | 396        | 395        | 388        | 389        | 395        | 313       |
| Discharge        | L/s      |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Fluoride         | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            | 0.32       |            |            |            |            |            |            |            |            |            |            |           |
| Hard-D           | mg/L     |           |           |           |            | 186        |            |            |            |            |            |            |            |            | 185        |            |            |            |            | 176        |            | 174        |            |            |            | 149       |
| Hard-T           | mg/L     |           |           |           |            | 170        |            |            |            |            |            |            |            |            | 199        |            |            |            |            | 189        |            | 190        |            |            |            |           |
| IB               | %        |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Ammonia          | mg/L     |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            |           |
| Ammonium         | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | <0.05     |
| N-NO2            | mg/L     |           |           |           |            | 0.013      |            |            |            |            |            |            |            |            | <0.005     |            |            |            |            | <0.005     |            | <0.005     |            |            |            |           |
| NO2+NO3          | mg/L     |           |           |           |            | 5.7        |            |            |            |            |            |            |            |            | 4.6        |            |            |            |            | 3.9        |            | 3.8        |            |            |            | 0.95      |
| N-NO3            | mg/L     |           |           |           |            | 5.7        |            |            |            |            |            |            |            |            | 4.6        |            |            |            |            | 3.9        |            | 3.8        |            |            |            |           |
| pH-F             | pH units | 8.1       | 8.03      | 8         | 8.05       | 8.11       | 8.16       | 8.13       | 8.43       | 8.4        | 7.7        | 8.2        | 8.3        | 8.3        | 8.25       | 8.21       | 8.25       | 8.13       | 8.09       | 8.11       | 8.16       | 8.05       | 8.12       | 7.79       | 7.81       |           |
| pH-L             | pH units | 8.1       | 8.1       | 8.1       | 8          | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.2        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 8.2        | 8.2        | 8.1        | 7.88      |
| Radium - 226     |          |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| SO4-D            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 25        |
| SO4-T            | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| Sulphide         | mg/L     |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| TDS              | mg/L     | 280       | 270       | 270       | 260        | 270        | 260        | 260        | 240        | 270        | 240        | 240        | 240        | 200        | 180        | 220        | 200        | 200        | 210        | 220        | 230        | 220        | 210        | 240        | 230        | 230       |
| Temp-F           | C        | 1.95      | 2.22      | 2.29      | 2.25       | 1.75       | 0.99       | -0.08      | -0.08      | -0.08      | -0.07      | 0          | 1.14       | 1.38       | 0.08       | 0.73       | 0.84       | 1.28       | 0.57       | 0.52       | 1.23       | 0.83       | 0.66       | 0.16       | -0.05      |           |
| Temp-obs-pH      | C        |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |           |
| TSS              | mg/L     | <4        | 5         | 5         | <4         | 4          | 6          | 9          | 9          | <4         | 9          | 12         | <4         | <4         | <4         | <4         | 47         | <4         | <4         | 4          | <4         | <4         | <4         | <4         | 4          | <2        |
| Turb             | NTU      | 1.9       | 1.4       | 1.8       | 2          | 1.9        | 2.5        | 2          | 1.3        | 1.1        | 2          | 4          | 1.7        | 1.9        | 0.5        | 0.7        | 9.1        | 0.8        | 1.1        | 2.5        | 0.9        | 0.8        | 0.5        | 1.2        | 0.7        | 0.4       |
| Turb-F           | NTU      | 2.4       | 2.6       | 2.1       | 2.7        | 2.3        | 2.2        | 2.3        | 2.3        | 1.5        | 3          | 5.2        | 2.1        | 2          | 1.8        | 1.3        | 1.3        | 0.9        | 1.3        | 1.9        | 1          | 2.4        | 1.2        | 1          | 1.1        |           |

Data omittec

Appendix Table A.1: Water quality data at station W2

| Sampling Session |      | averages  |           |           | number    |           |           | %>MDL     |           |           | Upper 95th Percentile |           |           | %>Background |           |           | %>guideline |           |           |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------|-----------|-----------|--------------|-----------|-----------|-------------|-----------|-----------|
| Smpl Date        |      | pre-      | operation | operation | pre-      | operation | operation | pre-      | operation | operation | pre-                  | operation | operation | pre-         | operation | operation | pre-        | operation | operation |
| Station Name     |      | operation | no        | discharge | operation | no        | discharge | operation | no        | discharge | operation             | no        | discharge | operation    | no        | discharge | operation   | no        | discharge |
| Sample Class     |      |           | discharge |           |           | discharge |           |           | discharge |           |                       | discharge |           |              | discharge |           |             | discharge |           |
| Ag-T             | mg/L | 0.00001   | 0.00004   | 0.00002   | 6         | 82        | 28        | 0         | 32        | 15        | 0.00001               | 0.0001    | 0.0001    | 0            | 4         | 4         | 0           | 4         | 4         |
| Al-T             | mg/L | 0.258     | 0.506     | 0.706     | 7         | 83        | 28        | 100       | 100       | 108       | 0.907                 | 2.562     | 3.730     | 14           | 20        | 25        | 14          | 21        | 27        |
| As-T             | mg/L | 0.0007    | 0.0007    | 0.0008    | 7         | 83        | 28        | 100       | 100       | 108       | 0.0010                | 0.0018    | 0.0022    | 14           | 22        | 25        | 0           | 0         | 4         |
| Ba-T             | mg/L | 0.056     | 0.065     | 0.103     | 7         | 83        | 28        | 100       | 100       | 100       | 0.059                 | 0.108     | 0.152     | 0            | 16        | 93        | -           | -         | -         |
| Be-T             | mg/L | 0.0004    | 0.0001    | 0.0001    | 7         | 83        | 28        | 0         | 5         | 12        | 0.0005                | 0.0003    | 0.0001    | 0            | 0         | 0         | -           | -         | -         |
| Bi-T             | mg/L | 0.0003    | 0.0003    | 0.0005    | 3         | 77        | 25        | 0         | 0         | 0         | 0.0003                | 0.0005    | 0.0005    | 0            | 0         | 0         | -           | -         | -         |
| B-T              | mg/L | 0.03      | 0.01      | 0.02      | 7         | 83        | 28        | 0         | 40        | 19        | 0.050                 | 0.009     | 0.025     | 0            | 1         | 0         | -           | -         | -         |
| Ca-T             | mg/L | 32        | 36        | 47        | 7         | 83        | 28        | 100       | 100       | 100       | 38.62                 | 61.64     | 58.03     | 0            | 48        | 89        | -           | -         | -         |
| Cd-T             | mg/L | 0.00002   | 0.00003   | 0.00006   | 7         | 82        | 28        | 0         | 26        | 96        | 0.00003               | 0.00006   | 0.00017   | 0            | 12        | 32        | 0           | 11        | 25        |
| CN-T             | mg/L | 0.006     | 0.013     |           | 5         | 24        | 0         | 60        | 71        |           | 0.011                 | 0.026     | 0.0005    | 0            | 17        |           | -           | -         | -         |
| Co-T             | mg/L | 0.0003    | 0.0004    | 0.0006    | 7         | 83        | 28        | 43        | 72        | 35        | 0.0007                | 0.0017    | 0.0025    | 14           | 22        | 29        | -           | -         | -         |
| Cr-T             | mg/L | 0.001     | 0.001     | 0.002     | 7         | 83        | 28        | 43        | 55        | 46        | 0.002                 | 0.005     | 0.006     | 14           | 18        | 25        | 29          | 29        | 35        |
| Cu-T             | mg/L | 0.003     | 0.006     | 0.022     | 7         | 83        | 28        | 100       | 100       | 100       | 0.005                 | 0.018     | 0.055     | 0            | 8         | 57        | 0           | 9         | 62        |
| Fe-T             | mg/L | 0.555     | 0.803     | 1.188     | 7         | 83        | 28        | 100       | 84        | 100       | 1.276                 | 3.675     | 5.400     | 14           | 20        | 29        | 14          | 21        | 31        |
| Hg-T             | mg/L | 0.00001   | 0.00003   | 0.00002   | 3         | 28        | 28        | 0         | 15        | 38        | 0.00001               | 0.00005   | 0.00005   | 0            | 0         | 4         | 0           | 0         | 0         |
| K-T              | mg/L | 1.00      | 2.08      | 3.18      | 6         | 83        | 28        | 0         | 91        | 100       | 1.00                  | 4.09      | 4.53      | 0            | 81        | 100       | -           | -         | -         |
| Li-T             | mg/L | 0.003     | 0.002     | 0.003     | 7         | 83        | 28        | 0         | 54        | 23        | 0.003                 | 0.003     | 0.005     | 0            | 8         | 4         | -           | -         | -         |
| Mg-T             | mg/L | 10.5      | 13.2      | 13.6      | 7         | 83        | 28        | 100       | 100       | 100       | 12.9                  | 28.8      | 17.1      | 0            | 24        | 32        | -           | -         | -         |
| Mn-T             | mg/L | 0.035     | 0.055     | 0.071     | 7         | 83        | 28        | 100       | 100       | 100       | 0.054                 | 0.188     | 0.192     | 0            | 18        | 25        | -           | -         | -         |
| Mo-T             | mg/L | 0.001     | 0.001     | 0.008     | 6         | 83        | 28        | 67        | 94        | 100       | 0.001                 | 0.002     | 0.011     | 0            | 6         | 96        | 0           | 0         | 0         |
| Na-T             | mg/L | 6.9       | 8.9       | 12.9      | 6         | 82        | 28        | 100       | 100       | 100       | 8.7                   | 17.8      | 15.3      | 0            | 45        | 100       | -           | -         | -         |
| Ni-T             | mg/L | 0.002     | 0.002     | 0.003     | 7         | 83        | 28        | 100       | 95        | 100       | 0.003                 | 0.005     | 0.009     | 14           | 22        | 18        | 0           | 0         | 0         |
| N-TKN            | mg/L | -         | 0.52      | 0.97      | 0         | 24        | 3         |           | 100       | 100       | -                     | 0.99      | 1.22      |              |           |           | -           | -         | -         |
| Pb-T             | mg/L | 0.0002    | 0.0003    | 0.0006    | 7         | 83        | 28        | 29        | 56        | 88        | 0.0005                | 0.0012    | 0.0016    | 14           | 23        | 46        | 0           | 0         | 4         |
| P-PO4-T          | mg/L | -         | 0.04      | 0.04      | 0         | 24        | 3         |           | 70        | 33        | -                     | 0.10      | 0.09      |              | 0         | 0         | -           | -         | -         |
| P-T              | mg/L | 0.15      | 0.12      | 0.07      | 3         | 59        | 5         | 0         | 24        | 100       | 0.15                  | 0.17      | 0.19      | 0            | 8         | 0         | -           | -         | -         |
| P-TRP (Ortho)    | mg/L | -         | 0.052     | 0.009     | 0         | 14        | 32        |           | 79        | 13        | -                     | 0.104     | 0.065     |              | 0         | 0         | -           | -         | -         |
| Sb-T             | mg/L | 0.0002    | 0.0001    | 0.0003    | 7         | 83        | 28        | 0         | 13        | 12        | 0.0003                | 0.0002    | 0.0007    | 0            | 1         | 11        | -           | -         | -         |
| Se-T             | mg/L | 0.0005    | 0.0004    | 0.0010    | 6         | 83        | 28        | 0         | 17        | 92        | 0.0005                | 0.0006    | 0.0015    | 0            | 6         | 82        | 0           | 0         | 69        |
| Si-T             | mg/L | 5.58      | 6.21      | 6.47      | 3         | 83        | 28        | 100       | 100       | 100       | 5.90                  | 10.80     | 11.90     | 0            | 24        | 11        | -           | -         | -         |
| Sn-T             | mg/L | 0.0002    | 0.0003    | 0.0021    | 6         | 83        | 28        | 0         | 10        | 0         | 0.0003                | 0.0010    | 0.0025    | 0            | 4         | 82        | -           | -         | -         |
| Sr-T             | mg/L | 0.30      | 0.32      | 0.50      | 3         | 83        | 28        | 100       | 100       | 100       | 0.33                  | 0.56      | 0.63      | 0            | 43        | 79        | -           | -         | -         |
| S-T              | mg/L | -         | 6         | 17        | 0         | 39        | 23        |           | 100       | 100       | -                     | 8         | 22        |              |           |           | -           | -         | -         |
| Te-T             | mg/L | -         | 0.00005   | 0.00005   | 0         | 13        | 5         |           | 0         | 0         | -                     | 0.00005   | 0.00005   |              |           |           | -           | -         | -         |
| Th-T             | mg/L | -         | 0.00013   | 0.00013   | 0         | 13        | 5         |           | 42        | 40        | -                     | 0.00025   | 0.00034   |              |           |           | -           | -         | -         |
| Ti-T             | mg/L | 0.0140    | 0.0195    | 0.0296    | 7         | 82        | 28        | 29        | 74        | 77        | 0.0447                | 0.0991    | 0.1341    | 14           | 18        | 29        | -           | -         | -         |
| Tl-T             | mg/L | 0.00005   | 0.00004   | 0.00002   | 3         | 82        | 27        | 0         | 5         | 4         | 0.00005               | 0.00005   | 0.00003   | 0            | 0         | 0         | 0           | 0         | 0         |
| U-T              | mg/L | 0.0009    | 0.0012    | 0.0010    | 7         | 83        | 28        | 100       | 100       | 100       | 0.0013                | 0.0023    | 0.0016    | 14           | 53        | 36        | -           | -         | -         |
| V-T              | mg/L | 0.008     | 0.002     | 0.003     | 6         | 83        | 28        | 17        | 82        | 27        | 0.015                 | 0.007     | 0.013     | 0            | 0         | 4         | -           | -         | -         |
| Zn-T             | mg/L | 0.002     | 0.006     | 0.007     | 7         | 83        | 28        | 29        | 95        | 58        | 0.005                 | 0.022     | 0.027     | 0            | 12        | 21        | 0           | 1         | 4         |
| Zr-T             | mg/L |           | 0.0005    | 0.0004    | 0         | 42        | 28        |           | 37        | 27        | -                     | 0.001     | 0.00165   |              |           |           | -           | -         | -         |
| Ag-D             | mg/L | 0.00001   | 0.00004   | 0.00001   | 6         | 46        | 25        | 0         | 4         | 0         | 0.00001               | 0.00005   | 0.00005   | 0            | 4         | 0         | -           | -         | -         |
| Al-D             | mg/L | 0.011     | 0.018     | 0.027     | 7         | 49        | 25        | 100       | 83        | 100       | 0.016                 | 0.064     | 0.054     | 0            | 4         | 4         | -           | -         | -         |
| As-D             | mg/L | 0.0005    | 0.0005    | 0.0005    | 6         | 49        | 25        | 83        | 100       | 100       | 0.0006                | 0.0010    | 0.0008    | 0            | 12        | 8         | -           | -         | -         |
| Ba-D             | mg/L | 0.05      | 0.06      | 0.08      | 7         | 49        | 25        | 100       | 100       | 100       | 0.06                  | 0.07      | 0.10      | 0            | 4         | 84        | -           | -         | -         |
| B-D              | mg/L | 0.01      | 0.01      | 0.02      | 3         | 49        | 25        | 0         | 69        | 9         | 0.01                  | 0.01      | 0.03      | 0            | 0         | 0         | -           | -         | -         |
| Be-D             | mg/L | 0.0003    | 0.0001    | 0.00005   | 3         | 49        | 25        | 0         | 0         | 0         | 0.00025               | 0.00025   | 0.00005   | 0            | 0         | 0         | -           | -         | -         |
| Bi-D             | mg/L | 0.0003    | 0.0003    | 0.0005    | 3         | 43        | 23        | 0         | 7         | 0         | 0.0003                | 0.0007    | 0.0005    | 0            | 14        | 100       | -           | -         | -         |
| Ca-D             | mg/L | 32.7      | 35.0      | 45.2      | 7         | 49        | 25        | 100       | 100       | 100       | 38.8                  | 48.2      | 51.2      | 0            | 37        | 84        | -           | -         | -         |
| Cd-D             | mg/L | 0.00002   | 0.00004   | 0.00001   | 6         | 49        | 25        | 0         | 21        | 74        | 0.00003               | 0.00006   | 0.00003   | 0            | 16        | 0         | -           | -         | -         |
| C-DOC            | mg/L | -         | 12.4      | 13.6      | 0         | 39        | 7         |           | 100       | 100       | -                     | 21.8      | 24.5      |              | 21        | 29        | -           | -         | -         |
| Co-D             | mg/L | 0.0001    | 0.0001    | 0.0003    | 6         | 49        | 25        | 0         | 50        | 9         | 0.0002                | 0.0002    | 0.0003    | 0            | 6         | 96        | -           | -         | -         |
| Cr-D             | mg/L | 0.000     | 0.001     | 0.001     | 6         | 49        | 25        | 0         | 60        | 9         | 0.001                 | 0.001     | 0.002     | 0            | 8         | 4         | -           | -         | -         |
| Cu-D             | mg/L | 0.0025    | 0.0031    | 0.0084    | 6         | 49        | 25        | 100       | 100       | 100       | 0.0032                | 0.0060    | 0.0212    | 0            | 4         | 44        | -           | -         | -         |
| Fe-D             | mg/L | 0.179     | 0.081     | 0.069     | 6         | 49        | 25        | 100       | 100       | 100       | 0.315                 | 0.229     | 0.234     | 0            | 0         | 0         | -           | -         | -         |
| Hg-D             | mg/L | 0.00001   | 0.00003   | 0.00002   | 3         | 24        | 25        | 0         | 9         | 30        | 0.00001               | 0.00005   | 0.00006   | 0            | 4         | 16        | -           | -         | -         |
| K-D              | mg/L | 1.00      | 1.65      | 2.87      | 6         | 49        | 25        | 0         | 96        | 100       | 1.00                  | 3.92      | 4.07      | 0            | 76        | 100       | -           | -         | -         |
| Li-D             | mg/L | 0.003     | 0.002     | 0.002     | 6         | 49        | 25        | 0         | 77        | 9         | 0.003                 | 0.003     | 0.003     | 0            | 4         | 0         | -           | -         | -         |
| Mg-D             | mg/L | 10.5      | 11.9      | 12.8      | 7         | 49        | 25        | 100       | 100       | 100       | 12.9                  | 19.3      | 14.3      | 0            | 10        | 0         | -           | -         | -         |
| Mn-D             | mg/L | 0.014     | 0.016     | 0.014     | 7         | 49        | 25        | 100       | 96        | 100       | 0.030                 | 0.044     | 0.071     | 0            | 0         | 8         | -           | -         | -         |
| Mo-D             | mg/L | 0.001     | 0.001     | 0.008     | 6         | 49        | 25        | 67        | 92        | 100       | 0.001                 | 0.002     | 0.011     | 0            | 12        | 100       | -           | -         | -         |
| Na-D             | mg/L | 7.0       | 8.3       | 12.6      | 6         | 49        | 25        | 100       | 100       | 100       | 8.7                   | 13.3      | 14.8      | 0            | 33        | 96        | -           | -         | -         |
| Ni-D             | mg/L | 0.001     | 0.001     | 0.001     | 6         | 49        | 25        | 100       | 83        | 43        | 0.002                 | 0.002     | 0.002     | 0            | 8         | 8         | -           | -         | -         |
| O-DO             | mg/L | -         | 93.6      | 109.9     | 0         | 1         | 104       |           | 100       | 100       | -                     | 93.6      | 134.7     |              |           |           | -           | -         | -         |
| Pb-D             | mg/L | 0.0001    | 0.0001    | 0.0001    | 6         | 49        | 25        | 0         | 27        | 13        | 0.0003                | 0.0003    | 0.0003    | 0            | 10        | 4         | -           | -         | -         |
| P-D              | mg/L | 0.15      | 0.07      | 0.02      | 3         | 20        | 2         | 0         | 42        | 100       | 0.15                  | 0.15      | 0.08      | 0            | 0         | 0         | -           | -         | -         |
| P-TDP            | mg/L | -         | 0.02      |           | 0         | 8         | 0         |           | 13        |           | -                     | 0.05      | 0.061     |              | 25        |           | -           | -         | -         |

Appendix Table A.1: Water quality data at station W2

| Sampling Session |          | averages      |                        |                     | number        |                        |                     | %>MDL         |                        |                     | Upper 95th Percentile |                        |                     | %>Background  |                        |                     | %>guideline   |                        |                     |
|------------------|----------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|-----------------------|------------------------|---------------------|---------------|------------------------|---------------------|---------------|------------------------|---------------------|
| Smpl Date        |          | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation         | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge |
| Station Name     |          |               |                        |                     |               |                        |                     |               |                        |                     |                       |                        |                     |               |                        |                     |               |                        |                     |
| Sample Class     |          |               |                        |                     |               |                        |                     |               |                        |                     |                       |                        |                     |               |                        |                     |               |                        |                     |
| Sb-D             | mg/L     | 0.0002        | 0.0004                 | 0.0003              | 6             | 49                     | 25                  | 0             | 35                     | 13                  | 0.0003                | 0.0012                 | 0.0007              | 0             | 20                     | 8                   | -             | -                      | -                   |
| S-D              | mg/L     | -             | 6                      | 15                  | 0             | 37                     | 23                  |               | 100                    | 100                 | -                     | 8                      | 18                  |               |                        |                     | -             | -                      | -                   |
| Se-D             | mg/L     | 0.0005        | 0.0002                 | 0.0011              | 6             | 49                     | 25                  | 0             | 8                      | 100                 | 0.0005                | 0.0005                 | 0.0015              | 0             | 0                      | 92                  | -             | -                      | -                   |
| Si-D             | mg/L     | 5.63          | 5.36                   | 4.92                | 3             | 49                     | 25                  | 100           | 100                    | 100                 | 6.11                  | 8.67                   | 6.14                | 0             | 6                      | 0                   | -             | -                      | -                   |
| Sn-D             | mg/L     | 0.000         | 0.001                  | 0.002               | 6             | 49                     | 25                  | 0             | 4                      | 0                   | 0.0003                | 0.0020                 | 0.0025              | 0             | 10                     | 92                  | -             | -                      | -                   |
| Sr-D             | mg/L     | 0.301         | 0.320                  | 0.488               | 3             | 49                     | 25                  | 100           | 100                    | 100                 | 0.338                 | 0.458                  | 0.598               | 0             | 8                      | 80                  | -             | -                      | -                   |
| Te-D             | mg/L     | -             | 0.00005                | 0.00005             | 0             | 13                     | 2                   |               | 0                      | 0                   | -                     | 0.00005                | 0.00005             |               |                        |                     | -             | -                      | -                   |
| Th-D             | mg/L     | -             | 0.0000625              | 0.00005             | 0             | 12                     | 2                   |               | 0                      | 0                   | -                     | 0.00005                | 0.00005             |               |                        |                     | -             | -                      | -                   |
| Ti-D             | mg/L     | 0.005         | 0.002                  | 0.003               | 7             | 49                     | 25                  | 0             | 75                     | 13                  | 0.005                 | 0.005                  | 0.003               | 0             | 0                      | 4                   | -             | -                      | -                   |
| Tl-D             | mg/L     | 0.00005       | 0.00002                | 0.00002             | 3             | 49                     | 25                  | 0             | 4                      | 0                   | 0.00005               | 0.00005                | 0.00003             | 0             | 0                      | 0                   | -             | -                      | -                   |
| U-D              | mg/L     | 0.001         | 0.001                  | 0.001               | 6             | 49                     | 25                  | 100           | 96                     | 100                 | 0.001                 | 0.002                  | 0.001               | 0             | 43                     | 16                  | -             | -                      | -                   |
| V-D              | mg/L     | 0.001         | 0.001                  | 0.002               | 3             | 49                     | 25                  | 0             | 90                     | 9                   | 0.001                 | 0.002                  | 0.003               | 0             | 0                      | 0                   | -             | -                      | -                   |
| Zn-D             | mg/L     | 0.002         | 0.003                  | 0.003               | 6             | 49                     | 25                  | 33            | 83                     | 9                   | 0.003                 | 0.008                  | 0.006               | 0             | 4                      | 0                   | -             | -                      | -                   |
| Zr-D             | mg/L     | -             | 0.0002                 | 0.0003              | 0             | 14                     | 24                  |               | 92                     | 14                  | -                     | 0.0003                 | 0.0004              |               |                        |                     | -             | -                      | -                   |
| Alk-Bicrb        | mg/L     | -             | 158                    | 154                 | 0             | 42                     | 27                  |               | 100                    | 100                 | -                     | 205.8                  | 190                 |               |                        |                     | -             | -                      | -                   |
| Alk-Carb         | mg/L     | 126           | 67                     | 1                   | 6             | 72                     | 27                  | 100           | 45                     | 0                   | 145                   | 245                    | 3                   |               |                        |                     | -             | -                      | -                   |
| Alk-OH           | mg/L     | -             | 2.4                    | 0.8                 | 0             | 42                     | 27                  |               | 0                      | 0                   | -                     | 2.5                    | 2.5                 |               |                        |                     | -             | -                      | -                   |
| Alk-P            | mg/L     | -             | 0.3                    | 0.3                 | 0             | 1                      | 21                  |               | 0                      | 0                   | -                     | 0.3                    | 0.3                 |               |                        |                     | -             | -                      | -                   |
| Alk-T            | mg/L     | 116           | 138                    | 127                 | 4             | 74                     | 27                  | 100           | 100                    | 100                 | 143                   | 245                    | 160                 | 0             | 41                     | 19                  | -             | -                      | -                   |
| Bromine          | mg/L     | -             | 0.0                    | 0.2                 | 0             | 39                     | 17                  |               | 0                      | 6                   | -                     | 0.0                    | 0.2                 |               |                        |                     | -             | -                      | -                   |
| C-TIC            | mg/L     | -             | 33.8                   |                     | 0             | 24                     | 0                   |               | 100                    |                     | -                     | 57.6                   | 39.1                |               |                        |                     | -             | -                      | -                   |
| C-TOC            | mg/L     | -             | 13.1                   | 16.5                | 0             | 31                     | 5                   |               | 100                    | 100                 | -                     | 28.3                   | 23.0                |               | 19                     | 60                  | -             | -                      | -                   |
| Chloride         | mg/L     | 1             | 1                      | 8                   | 7             | 65                     | 23                  | 71            | 94                     | 100                 | 1                     | 2                      | 17                  |               |                        |                     | -             | -                      | -                   |
| Colour           | TCU      | -             |                        | 79                  | 0             | 23                     | 6                   |               | 100                    | 100                 | -                     | -                      | -                   |               |                        |                     | -             | -                      | -                   |
| Cond-F           | µS/cm    | -             | 325                    | 396                 | 0             | 1                      | 118                 |               | 100                    | 100                 | -                     | 325                    | 445                 |               | 100                    | 98                  | -             | -                      | -                   |
| Cond-L           | µS/cm    | 243           | 283                    | 389                 | 7             | 81                     | 111                 | 100           | 100                    | 100                 | 300                   | 507                    | 447                 | 0             | 31                     | 95                  | -             | -                      | -                   |
| Discharge        | L/s      | -             |                        |                     | 0             | 0                      | 0                   |               |                        |                     | -                     | -                      | -                   |               |                        |                     | -             | -                      | -                   |
| Fluoride         | mg/L     | -             | 0.36                   | 0.34                | 0             | 39                     | 18                  |               | 100                    | 100                 | -                     | 0.73                   | 0.43                |               |                        |                     | -             | -                      | -                   |
| Hard-D           | mg/L     | -             | 135                    | 168                 | 0             | 39                     | 24                  |               | 100                    | 100                 | -                     | 167                    | 186                 |               |                        |                     | -             | -                      | -                   |
| Hard-T           | mg/L     | 122           | 144                    | 181                 | 6             | 5                      | 23                  | 100           | 100                    | 100                 | 149                   | 187                    | 222                 | 0             | 20                     | 83                  | -             | -                      | -                   |
| IB               | %        | -             | 121                    |                     | 0             | 1                      | 0                   |               | 100                    |                     | -                     | 121                    | -                   |               |                        |                     | -             | -                      | -                   |
| Ammonia          | mg/L     | 0.015         | 0.015                  | 0.040               | 7             | 56                     | 30                  | 29            | 54                     | 32                  | 0.028                 | 0.040                  | 0.107               | 0             | 5                      | 10                  | -             | -                      | -                   |
| Ammonium         | mg/L     | -             | 0.03                   |                     | 0             | 9                      | 0                   |               | 38                     |                     | -                     | 0.06                   | 0.025               |               |                        |                     | -             | -                      | -                   |
| N-NO2            | mg/L     | 0.0007        | 0.0063                 | 0.0246              | 7             | 58                     | 32                  | 29            | 29                     | 87                  | 0.0014                | 0.0255                 | 0.0470              | 0             | 0                      | 22                  | 0             | 0                      | 3                   |
| NO2+NO3          | mg/L     | -             | 0.2                    | 3.2                 | 0             | 26                     | 30                  |               | 84                     | 100                 | -                     | 0.7                    | 5.4                 |               |                        |                     | -             | -                      | -                   |
| N-NO3            | mg/L     | 0.1           | 0.1                    | 3.0                 | 7             | 73                     | 32                  | 100           | 62                     | 100                 | 0.1                   | 0.4                    | 5.4                 | 0             | 11                     | 81                  | 0             | 0                      | 53                  |
| pH-F             | pH units | -             | 8.38                   | 8.13                | 0             | 27                     | 118                 |               | 100                    | 100                 | -                     | 8.59                   | 8.43                |               | 96                     | 79                  | -             | -                      | -                   |
| pH-L             | pH units | 8.1           | 8.0                    | 8.1                 | 7             | 81                     | 111                 | 100           | 100                    | 100                 | 8.2                   | 8.4                    | 8.3                 | 14            | 22                     | 5                   | 0             | 0                      | 0                   |
| Radium - 226     |          | 0.0034        | 0.0025                 |                     | 5             | 1                      | 0                   | 20            | 0                      |                     | 0.0061                | 0.0025                 | -                   | 20            | 0                      |                     | -             | -                      | -                   |
| SO4-D            | mg/L     | 14            | 22                     | 34                  | 4             | 71                     | 23                  | 100           | 100                    | 100                 | 21                    | 49                     | 46                  |               |                        |                     | -             | -                      | -                   |
| SO4-T            | mg/L     | 15            | 28                     |                     | 6             | 31                     | 0                   | 100           | 100                    |                     | 21                    | 57                     | -                   | 0             | 48                     |                     | -             | -                      | -                   |
| Sulphide         | mg/L     | -             |                        |                     | 0             | 0                      | 0                   |               |                        |                     | -                     | -                      | -                   |               |                        |                     | -             | -                      | -                   |
| TDS              | mg/L     | 163           | 197                    | 238                 | 7             | 74                     | 111                 | 100           | 100                    | 100                 | 194                   | 339                    | 270                 | 0             | 45                     | 96                  | -             | -                      | -                   |
| Temp-F           | C        | -             | 7.17                   | 6.48                | 0             | 1                      | 118                 |               | 100                    | 100                 | -                     | 7.17                   | 11.87               |               | 100                    | 71                  | -             | -                      | -                   |
| Temp-obs-pH      | C        | -             |                        |                     | 0             | 0                      | 0                   |               |                        |                     | -                     | -                      | -                   |               |                        |                     | -             | -                      | -                   |
| TSS              | mg/L     | 17            | 23                     | 16                  | 7             | 80                     | 114                 | 71            | 54                     | 84                  | 61                    | 106                    | 54                  | 14            | 21                     | 11                  | -             | -                      | -                   |
| Turb             | NTU      | -             | 7.7                    | 7.3                 | 0             | 28                     | 110                 |               | 100                    | 100                 | -                     | 48                     | 20                  |               | 36                     | 75                  | -             | -                      | -                   |
| Turb-F           | NTU      | -             | 0.0                    | 3.5                 | 0             | 1                      | 118                 |               | 100                    | 100                 | -                     | 0                      | 11.1                |               |                        |                     | -             | -                      | -                   |

Data omittec

Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     |         |
|------------------|------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| Smpl Date        |      | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/29/2005 | 9/28/2005 | 10/15/2005 | 3/2/2006  | 4/4/2006  | 4/5/2006  | 4/6/2006  | 4/7/2006  | 4/8/2006  | 4/9/2006  | 4/10/2006 | 4/11/2006 | 4/12/2006 | 4/13/2006 | 4/14/2006 | 4/15/2006 | 4/16/2006 | 4/17/2006 | 4/18/2006 | 4/19/2006 | 4/20/2006 | 4/21/2006 | 4/22/2006 | 4/23/2006 | 4/24/2006 | 4/25/2006 | 4/26/2006 | 4/27/2006 | 4/28/2006 |         |
| Station Name     |      | W3        | W3        | W3        | W3        | W3        | W3         | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        |           |         |
| Sample Class     |      | P         | P         | P         | P         | P         | P          | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |           |         |
| Ag-T             | mg/L | <0.000020 | <0.000010 | <0.000030 | 0.000027  | 0.000029  | <0.000010  | <0.000010 | <0.000010 | <0.000020 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | <0.000010 | 0.000021  | <0.000010 | 0.00001   | 0.000016  | 0.00001 |
| Al-T             | mg/L | 0.152     | 0.0313    | 0.732     | 0.267     | 0.236     | 0.09       | 0.0059    | 0.034     | 0.3840    | 0.101     | 0.1560    | 0.323     | 0.3160    | 0.444     | 0.1990    | 0.173     | 0.280     | 0.0407    | 0.0423    | 0.0419    | 0.0653    | 0.1790    | 0.2040    | 0.2750    | 0.2170    | 0.2120    | 0.5360    | 0.8480    | 0.3940    | 0.3300    | 0.2690    | 0.2100    |         |
| As-T             | mg/L | <0.00050  | 0.00037   | 0.00081   | 0.00054   | 0.00055   | 0.00045    | 0.00019   | 0.00061   | 0.00103   | 0.00055   | 0.00048   | 0.0005    | 0.00047   | 0.00049   | 0.00039   | 0.00038   | 0.00043   | 0.00033   | 0.00031   | 0.00046   | 0.00055   | 0.00064   | 0.00039   | 0.00041   | 0.00037   | 0.00035   | 0.00040   | 0.00057   | 0.00048   | 0.00045   | 0.00042   | 0.00039   |         |
| Ba-T             | mg/L | 0.042     | 0.0518    | 0.0667    | 0.06      | 0.055     | 0.0489     | 0.0798    | 0.123     | 0.1550    | 0.084     | 0.0683    | 0.058     | 0.0551    | 0.055     | 0.0551    | 0.0579    | 0.0705    | 0.0639    | 0.0659    | 0.0954    | 0.1020    | 0.0936    | 0.0564    | 0.0563    | 0.0533    | 0.0531    | 0.0483    | 0.0491    | 0.0522    | 0.0393    | 0.0373    | 0.0368    |         |
| Be-T             | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   | <0.00050  | <0.0010   | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  |         |
| Bi-T             | mg/L |           | <0.00050  | <0.00050  |           |           | <0.00050   | <0.00050  | <0.00050  | <0.0010   | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  |         |
| B-T              | mg/L | <0.10     | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     | <0.010    | <0.010    | <0.020    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    |         |
| Ca-T             | mg/L | 20.9      | 39.1      | 37.3      | 30.8      | 28.7      | 29.4       | 63.2      | 75.6      | 102.0     | 60.3      | 51.8      | 41.9      | 40.3      | 38.8      | 39.9      | 41.9      | 47.8      | 47.6      | 49.1      | 70.5      | 80.0      | 66.8      | 43.3      | 41.2      | 38.9      | 37.7      | 29.2      | 24.0      | 20.1      | 20.0      | 21.0      | 19.4      |         |
| Cd-T             | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  | <0.000050 | <0.000050 | <0.00010  | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |         |
| CN-T             | mg/L |           | <0.0050   | <0.0050   | 0.0091    | 0.013     | 0.014      | 0.0087    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |
| Co-T             | mg/L | <0.00030  | <0.00010  | 0.00062   | <0.00030  | 0.0003    | 0.00023    | <0.00010  | 0.0002    | 0.00023   | 0.0001    | 0.00011   | 0.00023   | 0.0002    | 0.00023   | 0.00016   | 0.00015   | 0.00021   | <0.00010  | <0.00010  | 0.00015   | 0.00015   | 0.00027   | 0.00019   | 0.00016   | 0.00015   | 0.00015   | 0.00029   | 0.00035   | 0.00012   | 0.00022   | 0.00021   | 0.00019   |         |
| Cr-T             | mg/L | <0.0010   | 0.0005    | 0.002     | <0.0010   | <0.0010   | <0.00050   | <0.00050  | <0.0010   | <0.00050  | <0.0010   | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  | 0.00061   | 0.00102   | <0.00050  | <0.00050  | <0.00050  |           |         |
| Cu-T             | mg/L | 0.0078    | 0.00374   | 0.0149    | 0.0086    | 0.01      | 0.00855    | 0.00171   | 0.0032    | 0.00542   | 0.0053    | 0.00629   | 0.0067    | 0.01000   | 0.0084    | 0.00768   | 0.00919   | 0.00966   | 0.00626   | 0.00613   | 0.00670   | 0.00687   | 0.00904   | 0.00565   | 0.00878   | 0.00818   | 0.00780   | 0.01180   | 0.02790   | 0.02680   | 0.03210   | 0.02970   | 0.03150   |         |
| Fe-T             | mg/L | 0.32      | 0.081     | 1.32      | 0.698     | 0.794     | 0.497      | <0.030    | 0.279     | 0.357     | 0.133     | 0.129     | 0.354     | 0.325     | 0.430     | 0.271     | 0.178     | 0.291     | <0.030    | 0.030     | 0.034     | 0.071     | 0.185     | 0.247     | 0.279     | 0.201     | 0.220     | 0.590     | 0.913     | 0.370     | 0.366     | 0.285     | 0.261     |         |
| Hg-T             | mg/L | <0.000020 |           |           | <0.000020 | <0.000020 |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |
| K-T              | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       | <2.0      | 5.3       | 11.1      | 6.4       | 4.8       | 3.6       | 3.7       | 3.4       | 3.5       | 4.0       | 4.0       | 4.5       | 4.3       | 6.2       | 6.4       | 8.7       | 4.3       | 4.1       | 3.8       | 3.4       | 2.8       | 3.4       | 2.8       | 3.4       | 3.1       | 3.1       |         |
| Li-T             | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    | <0.0050   | 0.0071    | 0.02      | 0.008     | 0.006     | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   |           |         |
| Mg-T             | mg/L | 9.03      | 17.6      | 17.2      | 13.2      | 12        | 12.5       | 18.7      | 45.80     | 104.0     | 44.80     | 36.2      | 28.80     | 24.5      | 25.60     | 28.3      | 26.4      | 31.3      | 30.7      | 33.5      | 51.2      | 62.4      | 51.4      | 31.5      | 31.9      | 28.6      | 28.4      | 22.8      | 17.4      | 10.5      | 11.2      | 11.8      | 10.6      |         |
| Mn-T             | mg/L | 0.023     | 0.0084    | 0.0641    | 0.0806    | 0.12      | 0.124      | 0.00158   | 0.3090    | 0.03450   | 0.0216    | 0.02160   | 0.0286    | 0.02770   | 0.0298    | 0.02890   | 0.0347    | 0.0475    | 0.0237    | 0.0261    | 0.0362    | 0.0371    | 0.0509    | 0.0342    | 0.0296    | 0.0325    | 0.0342    | 0.0451    | 0.0465    | 0.0112    | 0.0506    | 0.04950   | 0.03960   |         |
| Mo-T             | mg/L | 0.0011    | 0.00163   | 0.0019    | 0.0014    | 0.0012    | 0.00126    | 0.00128   | 0.0033    | 0.00574   | 0.0045    | 0.00345   | 0.0027    | 0.00278   | 0.0026    | 0.00273   | 0.00365   | 0.00384   | 0.00400   | 0.00355   | 0.00481   | 0.00525   | 0.00470   | 0.00278   | 0.00268   | 0.00235   | 0.00239   | 0.00177   | 0.00187   | 0.00139   | 0.00109   | 0.00116   | 0.00089   |         |
| Na-T             | mg/L | 4.9       | 12.1      | 9.4       | 7.8       | 7.1       | 7          | 10.5      | 28.7      | 67.2      | 28.3      | 22.7      | 16.1      | 13.9      | 14.8      | 16.5      | 16.8      | 20.7      | 19.7      | 21.1      | 32.4      | 35.9      | 29.6      | 18.5      | 18.1      | 16.1      | 16.4      | 12.6      | 10.6      | 8.5       | 9.9       | 9.9       | 7.5       |         |
| Ni-T             | mg/L | 0.0017    | 0.00087   | 0.00257   | 0.0017    | 0.0018    | 0.00136    | <0.00050  | 0.0009    | <0.0010   | <0.00050  | <0.00050  | 0.0005    | <0.00050  | 0.0005    | <0.00050  | <0.00050  | <0.00075  | <0.00050  | <0.00050  | 0.00084   | 0.00070   | 0.00080   | <0.00050  | <0.00050  | <0.00050  | <0.00050  | 0.00067   | 0.00110   | 0.00087   | 0.00099   | 0.00096   | 0.00110   |         |
| N-TKN            | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |
| Pb-T             | mg/L | <0.00050  | 0.000292  | 0.000359  | <0.00050  | <0.00050  | <0.000050  | <0.000050 | <0.000050 | 0.000120  | <0.000050 | 0.000057  | 0.000212  | 0.000142  | 0.000168  | 0.000096  | 0.000103  | 0.000113  | <0.000050 | <0.000050 | 0.000059  | 0.000074  | 0.000051  | 0.000153  | 0.000142  | 0.000198  | 0.000074  | 0.000195  | 0.000289  | 0.000078  | 0.000086  | 0.000068  | 0.000091  |         |
| P-PO4-T          | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |
| P-T              | mg/L |           | <0.30     | <0.30     |           |           | <0.30      | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     |         |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |
| Sb-T             | mg/L | <0.00050  | <0.00010  | 0.0001    | <0.00050  | <0.00050  | <0.00010   | <0.00010  | <0.00010  | <0.00020  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  |         |
| Se-T             | mg/L | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.0010   | <0.0010   | 0.0021    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   |         |
| Si-T             | mg/L |           | 6.04      | 7.03      |           |           | 5.86       | 6.15      | 11.4      | 20.00     | 12.1      | 10.10     | 7.78      | 7.39      | 7.1       | 7.11      | 7.28      | 7.95      | 8.16      | 8.73      | 12.2      | 13.3      | 12.4      | 8.0       | 8.0       | 7.1       | 6.7       | 5.8       | 6.1       | 4.2       | 4.5       | 4.49      | 4.30      |         |
| Sn-T             | mg/L | <0.00050  | <0.00010  | 0.00011   | <0.00050  | <0.00050  | <0.00010   | <0.00010  | <0.00010  | <0.00020  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | 0.00023   | <0.00010  | 0.00019   | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  |         |
| Sr-T             | mg/L |           | 0.299     | 0.295     |           |           | 0.233</    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |         |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | F0001    | F0001    | F0001    | F0001    | F0001    | F0001    | F0001    | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     | F0001     |           |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SmpI Date        |          | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/29/2005 | 9/28/2005 | 10/15/2005 | 3/2/2006 | 4/4/2006 | 4/5/2006 | 4/6/2006 | 4/7/2006 | 4/8/2006 | 4/9/2006 | 4/10/2006 | 4/11/2006 | 4/12/2006 | 4/13/2006 | 4/14/2006 | 4/15/2006 | 4/16/2006 | 4/17/2006 | 4/18/2006 | 4/19/2006 | 4/20/2006 | 4/21/2006 | 4/22/2006 | 4/23/2006 | 4/24/2006 | 4/25/2006 | 4/26/2006 | 4/27/2006 | 4/28/2006 |
| Station Name     |          | W3        | W3        | W3        | W3        | W3        | W3         | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        |           |
| Sample Class     |          | P         | P         | P         | P         | P         | P          | P        | P        | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |           |
| Colour           | TCU      |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Cond-F           | µS/cm    |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Cond-L           | µS/cm    | 188       | 341       | 322       | 267       | 238       | 245        | 463      | 731      | 1270     | 661      | 539      | 434      | 391      | 400       | 424       | 479       | 551       | 533       | 575       | 822       | 872       | 756       | 473       | 462       | 426       | 427       | 341       | 271       | 212       | 211       | 215       | 186       |
| Discharge        | L/s      |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Fluoride         | mg/L     |           |           |           |           |           |            |          | 0.513    | 0.87     | 0.519    | 0.42     | 0.336    | 0.34     | 0.314     | 0.32      | 0.360     | 0.387     | 0.402     | 0.405     | 0.532     | 0.570     | 0.574     | 0.369     | 0.356     | 0.315     | 0.292     | 0.233     | 0.238     | 0.203     | 0.167     | 0.17      | 0.14      |
| Hard-D           | mg/L     |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Hard-T           | mg/L     | 93.9      |           | 166       | 135       | 129       | 134        | 236      |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| IB               | %        |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ammonia          | mg/L     | <0.020    | <0.020    | <0.020    | 0.042     | <0.020    | 0.023      | 0.07     | 0.018    | 0.016    | 0.0093   | 0.0073   | 0.01     | 0.0107   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | 0.0120    | 0.0300    | 0.0480    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.020    |           |           |           |
| Ammonium         | mg/L     |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| N-NO2            | mg/L     | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.0010  | 0.0019   | <0.0010  | 0.0016   | 0.0017   | 0.0017   | 0.001    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | 0.0014    | 0.0012    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   |           |
| NO2+NO3          | mg/L     |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| N-NO3            | mg/L     | 0.0121    | 0.0519    | 0.0284    | <0.0050   | 0.0132    | 0.0393     | 1.6500   | 0.1160   | <0.0050  | <0.0050  | 0.0125   | 0.0640   | <0.0050  | 0.0146    | 0.0225    | 0.0094    | 0.0061    | <0.0050   | 0.249     | 0.0992    | 0.0694    | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   |           |
| pH-F             | pH units |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| pH-L             | pH units | 7.99      | 8.22      | 8.06      | 8.24      | 7.99      | 8.08       | 7.31     | 8.04     | 8.50     | 8.40     | 8.36     | 7.70     | 8.50     | 8.45      | 8.5       | 8.5       | 8.5       | 8.6       | 8.6       | 8.55      | 8.6       | 8.6       | 8.5       | 8.45      | 8.5       | 8.55      | 8.45      | 8.6       | 8.4       | 8         | 7.9       |           |
| Radium - 226     |          |           | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    |          |          |          |          |          | <0.0050  |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SO4-D            | mg/L     | 2.4       | 45.5      |           | 25.5      | 23.9      |            | 50.4     |          |          |          |          | 58.1     | 53.1     | 56.2      | 63.1      | 74.9      | 84.2      | 78.9      | 81.5      | 124       | 136       | 120       | 65.6      | 60.3      | 55        | 58.6      | 42.7      | 35.3      | 26.4      | 29.9      | 28.5      | 23.9      |
| SO4-T            | mg/L     | 19.7      | 45.5      | 29.6      | 25.5      | 23.9      | 24.7       | 50.4     | 103.0    | 234.0    | 101.0    | 74.3     | 58.1     | 53.1     | 56.2      | 63.1      | 74.9      | 84.2      | 78.9      | 81.5      | 124       | 136       | 120       | 66        | 60        | 55        | 59        | 43        | 35        | 26        | 30        | 28.5      | 23.9      |
| Sulphide         | mg/L     |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TDS              | mg/L     | 141       | 224       | 198       | 182       | 174       | 176        | 279      | 487      | 940      | 442      | 354      | 288      | 252      | 256       | 276       | 305       | 361       | 316       | 363       | 554       | 585       | 504       | 294       | 285       | 266       | 266       | 210       | 182       | 165       | 174       | 168       | 174       |
| Temp-F           | C        |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Temp-obs-pH      | C        |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TSS              | mg/L     | 8.5       | <3.0      | 25.7      | 7.5       | 8         | <3.0       | <3.0     | <3.0     | 18.6     | 3.6      | 5.6      | 6.4      | 6.4      | 8.9       | 5.4       | 6.9       | 4.4       | <3.0      | <3.0      | 3.4       | <3.0      | 3.7       | 4.2       | 4.2       | <3.0      | 7.7       | 12.7      | 11.7      | 16.1      | 6.6       | 6.6       | <3.0      |
| Turb             | NTU      |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Turb-F           | NTU      |           |           |           |           |           |            |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |

Data omitted from calculation of summary statistics (if whole day removed, due to a large number of parameters that were considered outliers for that day)

Data omitted from calculation of summary statistics as a result of a abnormally high method detection limit (MDL)

Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | F0001     | F0001     | F0001     | F0001     | F0001     | F0001    | F0001     | F0001     | X5825     | X5825     | X6214     | X6214     | X6214     | X6722     | X6722     | X6722     | X7055    | 875460   | 870006    | 875467    | 874757    | 877405   | 880706    | 883363    | 885912    | 889218   | 910505    | 898580    | 1202879   | 905086   | 908518    | 927184    | 916843    |           |         |
|------------------|------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|---------|
| Smpl Date        |      | 4/29/2006 | 4/30/2006 | 5/1/2006  | 5/2/2006  | 5/3/2006  | 5/4/2006 | 5/5/2006  | 5/6/2006  | 5/8/2006  | 5/10/2006 | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/26/2006 | 5/29/2006 | 6/2/2006 | 6/7/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 7/20/2006 | 7/26/2006 | 8/2/2006 | 8/10/2006 | 8/25/2006 | 8/30/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 | 9/29/2006 | 10/4/2006 |         |
| Station Name     |      | W3        | W3        | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        |           |         |
| Sample Class     |      | P         | P         | P         | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         |           |         |
| Ag-T             | mg/L | 0.000012  | 0.00001   | <0.000010 | 0.000013  | 0.000022  |          | 0.00002   | 0.00003   | 0.000017  | 0.000028  | 0.000023  | 0.000012  | <0.00001  | <0.00001  | 0.000013  | 0.000017  | 0.000019 | <0.00001 | <0.0001   | 0.0002    | <0.0001   | <0.0005  | <0.0001   | <0.0001   | <0.0001   | 0.0002   | <0.0001   | <0.0002   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0002   | <0.0002 |
| Al-T             | mg/L | 0.2130    | 0.2090    | 0.2250    | 0.2090    | 1.0200    |          | 1.0700    | 2.1300    | 0.7740    | 0.316     | 1.66      | 0.357     | 0.0881    | 0.281     | 0.125     | 0.195     | 0.847    | 0.17     | 0.032     | 0.067     | 0.065     | 0.16     | 0.014     | 0.594     | 0.183     | 0.138    | 0.306     | 0.19      | 0.064     | 0.05     | 0.16      | 0.138     | 0.03      | 0.081     |         |
| As-T             | mg/L | 0.00040   | 0.00037   | 0.00037   | 0.00036   | 0.00076   |          | 0.00065   | 0.00101   | 0.00057   | 0.00045   | 0.00118   | 0.00056   | 0.00045   | 0.00056   | 0.00051   | 0.00055   | 0.00079  | 0.00054  | 0.0004    | 0.0004    | 0.0004    | <0.001   | 0.0003    | 0.0006    | 0.0004    | 0.0006   | 0.0005    | 0.0004    | 0.0003    | 0.0004   | 0.0004    | 0.0005    | 0.0004    | <0.0004   |         |
| Ba-T             | mg/L | 0.0443    | 0.0412    | 0.0417    | 0.0368    | 0.0495    |          | 0.0397    | 0.0605    | 0.0400    | 0.034     | 0.065     | 0.0393    | 0.034     | 0.0431    | 0.0415    | 0.036     | 0.0503   | 0.0404   | 0.058     | 0.068     | 0.059     | 0.074    | 0.067     | 0.08      | 0.082     | 0.086    | 0.087     | 0.086     | 0.075     | 0.076    | 0.079     | 0.078     | 0.079     | 0.075     |         |
| Be-T             | mg/L | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  |          | <0.00050  | <0.00050  | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0001   | <0.0001   | <0.0001   | <0.0005  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0002   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002   |         |
| Bi-T             | mg/L | <0.00050  | <0.00050  | <0.00050  | <0.00050  | <0.00050  |          | <0.00050  | <0.00050  | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.002    | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.001    | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.001    | <0.001    |         |
| B-T              | mg/L | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    |          | <0.010    | <0.010    | <0.010    | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01    | <0.01    | <0.01     | 0.007     | 0.006     | 0.007    | 0.01      | <0.007    | 0.077     | 0.005    | 0.007     | 0.007     | 0.006     | 0.006    | 0.007     | 0.007     | 0.007     | 0.008     |         |
| Ca-T             | mg/L | 24.0      | 22.4      | 23.0      | 17.5      | 16.4      |          | 10.5      | 11.4      | 11.1      | 12.2      | 14        | 14.9      | 17.1      | 19.5      | 21.7      | 16.7      | 18.8     | 19.6     | 36.5      | 45.2      | 38.1      | 45.2     | 46.7      | 47.3      | 50.4      | 48.4     | 54.7      | 48.3      | 47.1      | 49.2     | 49.8      | 51.2      | 51.1      | 46.2      |         |
| Cd-T             | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000050 | <0.000050 |          | <0.000050 | <0.000050 | <0.000050 | 0.000134  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005 | <0.00001  | <0.00001  | <0.00001  | <0.00005 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00002  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00002  | <0.00002  |         |
| CN-T             | mg/L |           |           |           |           |           |          |           |           |           |           | 0.0235    |           |           | 0.0181    |           |           | 0.0214   | 0.0215   | <0.001    | <0.001    | <0.001    | 0.001    | <0.001    | <0.001    | 0.001     | 0.001    | 0.001     | 0.12      | 0.001     | <0.001   | 0.001     | 0.001     | <0.001    |           |         |
| Co-T             | mg/L | 0.00018   | 0.00017   | 0.00018   | 0.00019   | 0.00064   |          | 0.00071   | 0.00136   | 0.00057   | 0.00041   | 0.0013    | 0.00043   | <0.0001   | 0.00035   | 0.00019   | 0.00018   | 0.00068  | 0.00017  | <0.0001   | <0.0001   | <0.0001   | <0.0005  | <0.0001   | 0.0003    | 0.0002    | 0.0001   | 0.0006    | <0.0002   | 0.0001    | 0.0001   | 0.0001    | 0.0001    | <0.0002   | <0.0002   |         |
| Cr-T             | mg/L | <0.00050  | <0.00050  | <0.00050  | <0.00050  | 0.00156   |          | 0.00162   | 0.00238   | 0.001     | 0.00074   | 0.00318   | 0.00067   | <0.0005   | 0.00061   | 0.00056   | 0.00071   | 0.00183  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.002   | <0.0005   | 0.0006    | <0.0005   | <0.0005  | <0.0005   | <0.001    | 0.0008    | 0.0007   | 0.0005    | 0.0005    | <0.001    | <0.001    |         |
| Cu-T             | mg/L | 0.03320   | 0.03010   | 0.03040   | 0.03040   | 0.03670   |          | 0.03480   | 0.10100   | 0.04150   | 0.0213    | 0.013     | 0.0224    | 0.0147    | 0.0144    | 0.0117    | 0.022     | 0.0204   | 0.0279   | 0.009     | 0.005     | 0.012     | 0.008    | 0.004     | 0.01      | 0.005     | 0.004    | 0.014     | 0.004     | 0.005     | 0.004    | 0.005     | 0.004     | 0.004     | 0.004     |         |
| Fe-T             | mg/L | 0.256     | 0.251     | 0.259     | 0.327     | 1.460     |          | 1.530     | 3.200     | 1.200     | 0.504     | 2.44      | 0.82      | 0.261     | 0.629     | 0.299     | 0.385     | 1.38     | 0.342    | 0.1       | <0.1      | 0.2       | 0.1      | <0.1      | 0.7       | 0.3       | 0.3      | 0.4       | 0.3       | 0.1       | 0.1      | 0.3       | 0.2       | <0.2      | <0.2      |         |
| Hg-T             | mg/L |           |           |           |           |           |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |
| K-T              | mg/L | 3.2       | 3         | 2.9       | 2.6       | 2.8       |          | 2.1       | 2.4       | 2.1       | 2         | <2        | <2        | <2        | <2        | <2        | <2        | <2       | <2       | 1.3       | 1.4       | 1.3       | 1.3      | 1.4       | 1.6       | 1.7       | 1.6      | 1.8       | 1.7       | 1.4       | 1.5      | 1.5       | 1.7       | 1.6       | 1.4       |         |
| Li-T             | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   |          | <0.0050   | <0.0050   | <0.0050   | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005   | <0.005   | 0.002     | 0.002     | 0.002     | <0.005   | 0.002     | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | <0.002    |           |         |
| Mg-T             | mg/L | 13.1      | 11.7      | 11.7      | 8.1       | 7.8       |          | 4.3       | 4.8       | 4.0       | 4.32      | 4.26      | 5.82      | 6.8       | 8.8       | 9.4       | 6.42      | 7.65     | 7.53     | 14.8      | 17.3      | 15.1      | 17.1     | 16.8      | 20.7      | 20.1      | 18.8     | 20.4      | 19        | 17.8      | 18.5     | 18.8      | 21.3      | 20.4      | 18        |         |
| Mn-T             | mg/L | 0.03600   | 0.03570   | 0.03110   | 0.0302    | 0.0711    |          | 0.0925    | 0.1380    | 0.0599    | 0.0708    | 0.135     | 0.0965    | 0.0107    | 0.0543    | 0.0187    | 0.0172    | 0.0641   | 0.0201   | 0.011     | 0.008     | 0.01      | 0.012    | 0.008     | 0.043     | 0.021     | 0.057    | 0.104     | 0.046     | 0.032     | 0.036    | 0.038     | 0.029     | 0.03      | 0.047     |         |
| Mo-T             | mg/L | 0.00118   | 0.00113   | 0.00100   | 0.00080   | 0.00085   |          | 0.00047   | 0.00056   | 0.00041   | 0.000454  | 0.000581  | 0.000681  | 0.000956  | 0.000992  | 0.000868  | 0.000815  | 0.000915 | 0.000802 | 0.002     | 0.002     | 0.002     | <0.005   | 0.001     | 0.002     | 0.002     | 0.002    | 0.002     | <0.002    | 0.002     | 0.002    | 0.002     | 0.002     | <0.002    | <0.002    |         |
| Na-T             | mg/L | 7.7       | 5.4       | 5.3       | 3.4       | 3.3       |          | <2.0      | <2.0      | <2.0      | <2        | 2.1       | 3.4       | 3.5       | 5.4       | 5.7       | 4.3       | 4.7      | 4.6      | 9.6       | 11        | 10.2      | 11.6     | 11.1      | 12.6      | 11.6      | 13.5     | 13.2      | 13        | 11.4      | 11.9     | 12.2      | 12.1      | 13        | 12        |         |
| Ni-T             | mg/L | 0.00117   | 0.00110   | 0.00106   | 0.00119   | 0.00212   |          | 0.00223   | 0.00304   | 0.00212   | 0.00183   | 0.0046    | 0.00221   | 0.00187   | 0.00221   | 0.00209   | 0.00238   | 0.00354  | 0.00212  | 0.0014    | 0.0011    | 0.0009    | 0.003    | 0.001     | 0.0019    | 0.0009    | 0.0011   | 0.0014    | 0.002     | 0.0014    | 0.0015   | 0.0014    | 0.0015    | 0.002     | 0.0025    |         |
| N-TKN            | mg/L |           |           |           |           |           |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |
| Pb-T             | mg/L | 0.000060  | 0.000078  | 0.000062  | 0.000117  | 0.000461  |          | 0.000461  | 0.000760  | 0.000285  | 0.000183  | 0.00116   | 0.000183  | <0.00005  | 0.000193  | 0.000084  | 0.000131  | 0.000386 | 0.000087 | <0.0001   | <0.0001   | <0.0001   | <0.0005  | <0.0001   | 0.0002    | 0.0001    | <0.0001  | 0.0002    | <0.0002   | <0.0001   | 0.0001   | 0.0001    | 0.0001    | <0.0002   | <0.0002   |         |
| P-PO4-T          | mg/L |           |           |           |           |           |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |
| P-T              | mg/L | <0.30     | <0.30     | <0.30     | <0.30     | <0.30     |          | <0.30     | <0.30     | <0.30     | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3     | <0.3     |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |
| Sb-T             | mg/L | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  |          | 0.00016   | 0.00011   | <0.00010  | <0.0001   | 0.00016   | <0.0001   | <0.0001   | <0.0001   | 0.00012   | 0.00039   | 0.00014  | <0.0001  | <0.0002   | <0.0002   | <0.0002   | <0.001   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0004   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0004   | <0.0004   |         |
| Se-T             | mg/L | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   |          | <0.0010   | <0.0010   | <0.0010   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | 0.0002    | <0.0002   | <0.0002   | <0.001   | <0.0002   | <0.0002   | <0.0002   | 0.0003   | 0.0003    | <0.0004   | 0.0002    | 0.0004   | <0.0002   | 0.0004    | <0.0004   | 0.0006    |         |
| Si-T             | mg/L | 4.89      | 4.73      | 4.82      | 4.0       | 5.2       |          | 4.2       | 6.2       | 3.7       | 3.18      | 6.01      | 3.56      | 3.33      | 4.08      | 4.07      | 3.96      | 5.05     | 4.46     | 5         | 5.61      | 5.47      | 5.6      | 5.87      | 6.22      | 7.04      | 6.38     | 6.65      | 6.38      | 6.58      | 6.3      | 7.18      | 6.78      | 5.96      | 5.76      |         |
| Sn-T             | mg/L | <0.00010  | <0.00010  | <0.00010  | <0.00010  | <0.00010  |          | <0.00010  | <0.00010  | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.00011   | <0.0001  | <0.0001  | <0.001    | <0.001    | <0.001    | <0.005   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.002    | <0.001    | <0.001   | <0.001    | <0.001    | <0.002    | <0.002    |         |
| Sr-T             | mg/L | 0.174     | 0.165     | 0.162     | 0.124     | 0.119     |          | 0.068     | 0.074     | 0.064     |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |         |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | F0001     | F0001     | F0001    | F0001    | F0001    | F0001    | F0001    | F0001    | F0001    | X5825     | X5825     | X6214     | X6214     | X6214     | X6722     | X6722     | X6722    | X7055    | 875460    | 870006    | 875467    | 874757   | 877405    | 880706    | 883363    | 885912   | 889218    | 910505    | 898580    | 1202879  | 905086    | 908518    | 927184    | 916843    |
|------------------|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| SmpI Date        |          | 4/29/2006 | 4/30/2006 | 5/1/2006 | 5/2/2006 | 5/3/2006 | 5/4/2006 | 5/5/2006 | 5/6/2006 | 5/8/2006 | 5/10/2006 | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/26/2006 | 5/29/2006 | 6/2/2006 | 6/7/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 7/20/2006 | 7/26/2006 | 8/2/2006 | 8/10/2006 | 8/25/2006 | 8/30/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 | 9/29/2006 | 10/4/2006 |
| Station Name     |          | W3        | W3        | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        |
| Sample Class     |          | P         | P         | P        | P        | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         | P         |
| Colour           | TCU      |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Cond-F           | µS/cm    |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Cond-L           | µS/cm    | 220       | 199       | 199      | 155      | 143      |          | 77       | 76       | 69       | 82.2      | 93        | 105       | 125       | 161       | 166       | 120       | 136      | 143      | 323       | 382       | 334       | 319      | 372       | 378       | 405       | 422      | 430       | 413       | 406       | 416      | 407       | 423       | 434       | 413       |
| Discharge        | L/s      |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Fluoride         | mg/L     | 0.15      | 0.15      | 0.16     | 0.122    | 0.126    |          | 0.064    | 0.069    | 0.063    | 0.078     | 0.158     | 0.105     | 0.136     | 0.149     | 0.143     | 0.122     | 0.127    | 0.126    |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Hard-D           | mg/L     |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          | 169       | 190       | 163       | 179      | 183       | 208       | 209       | 163      | 202       | 204       | 192       | 210      | 215       | 216       | 210       | 203       |
| Hard-T           | mg/L     |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| IB               | %        |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Ammonia          | mg/L     |           |           |          |          |          |          |          |          | <0.020   |           | 0.049     |           |           | 0.012     |           |           | 0.022    | 0.043    | 0.013     | 0.007     | <0.002    |          | 0.006     | 0.006     | 0.007     | 0.016    | 0.013     | 0.02      | 0.004     | 0.003    | 0.006     | 0.004     | 0.006     | 0.073     |
| Ammonium         | mg/L     |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           | 0.003    |           |           |           |           |
| N-NO2            | mg/L     | <0.0010   | <0.0010   | <0.0010  | <0.0010  | <0.0010  |          | <0.0010  | <0.0010  | <0.0010  | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | 0.0015    | <0.001    | <0.001   | 0.0011   |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| NO2+NO3          | mg/L     |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| N-NO3            | mg/L     | <0.0050   | <0.0050   | <0.0050  | <0.0050  | <0.0050  |          | <0.0050  | <0.0050  | <0.0050  | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | 0.013     | 0.0075    | <0.005   | 0.0179   | 0.12      | <0.03     | 0.025     | 0.086    | 0.11      | <0.03     | 0.04      | 0.12     | 0.12      | <0.03     | <0.03     | <0.03    | 0.008     | <0.03     | <0.03     | <0.03     |
| pH-F             | pH units | 8.5       | 8.4       | 8.3      | 8.2      | 8.2      | 8.2      |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| pH-L             | pH units | 7.94      | 7.93      | 7.94     | 7.87     | 7.80     |          | 7.53     | 7.52     | 7.43     | 7.51      | 7.6       | 7.59      | 7.75      | 7.89      | 7.71      | 7.64      | 7.42     | 7.59     | 7.95      | 7.83      | 7.88      | 7.93     | 7.7       | 7.92      | 7.93      | 8        | 7.82      | 7.94      | 7.86      | 7.92     | 7.96      | 8.02      | 7.74      | 7.93      |
| Radium - 226     |          |           |           | <0.0050  |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| SO4-D            | mg/L     | 29.3      | 25.4      | 24.7     |          |          |          |          |          |          | 5.48      | 6.85      | 7.66      | 10.3      | 15.4      | 19        | 11.9      | 12.2     | 14.3     | 34        | 47        |           | 38       | 39        | 42        | 45        | 40       | 45        | 43        | 39        | 38       | 42.9      | 42        | 43        | 43        |
| SO4-T            | mg/L     | 29.3      | 25.4      | 24.7     | 18       | 15       |          | 6        | 6        | 4        |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Sulphide         | mg/L     |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| TDS              | mg/L     | 177       | 159       | 170      | 137      | 126      |          | 100      | 102      | 122      | 118       | 116       | 131       | 126       | 133       | 139       | 120       | 129      | 134      | 196       | 266       | 212       | 249      |           |           |           |          |           | 282       | 294       |          |           |           | 160       |           |
| Temp-F           | C        |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Temp-obs-pH      | C        |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| TSS              | mg/L     | 4.1       | 3.1       | 4.6      | 4.9      | 30.9     |          | 40.4     | 82.9     | 18.4     | 13.8      | 46.8      | 7.1       | 6.1       | 17.8      | 5.9       | 13.4      | 26.4     | 7.1      | <2        | 4         | 4         | 14       | <2        | 16        | <2        | 18       | 6         | 4         | <2        | <2       | 4         | 2         | <2        | <2        |
| Turb             | NTU      |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |
| Turb-F           | NTU      |           |           |          |          |          |          |          |          |          |           |           |           |           |           |           |           |          |          |           |           |           |          |           |           |           |          |           |           |           |          |           |           |           |           |

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Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | 934140     | 925266     | 953902     | 947454    | 947471    | 947474     | 1202881    | 951335     | 957043    | 949065     | 952101     | 953346     | 955017   | 963365    | 989744    | 995754    | 998104   | 1001239   | 1004203   | 1006208   | 1008503   | 1009477  | 1012944   | 1015480   | 1018416   | 1019002   | 1020545  | 1020545  | 1023074   | 1203450   | 1028730   | 1029284   | 1031323  | 1034628  |
|------------------|------|------------|------------|------------|-----------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|
| Smpl Date        |      | 10/12/2006 | 10/18/2006 | 10/28/2006 | 11/1/2006 | 11/9/2006 | 11/16/2006 | 11/23/2006 | 11/30/2006 | 12/6/2006 | 12/13/2006 | 12/20/2006 | 12/28/2006 | 1/4/2007 | 1/10/2007 | 4/17/2007 | 4/27/2007 | 5/4/2007 | 5/11/2007 | 5/19/2007 | 5/25/2007 | 5/30/2007 | 6/5/2007 | 6/13/2007 | 6/20/2007 | 6/27/2007 | 6/28/2007 | 7/4/2007 | 7/5/2007 | 7/11/2007 | 7/18/2007 | 7/25/2007 | 7/26/2007 | 8/1/2007 | 8/9/2007 |
| Station Name     |      | W3         | W3         | W3         | W3        | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3        | W3       |          |
| Sample Class     |      | P          | P          | P          | P         | P         | P          | P          | P          | P         | P          | P          | P          | P        | M         | P         | P         | P        | M         | P         | P         | P         | P        | P         | P         | M         | P         | P        | P        | P         | P         | P         | M         | P        | P        |
| Ag-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | <0.002    | <0.0001   | <0.0001    | <0.0002    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002  | <0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |
| Al-T             | mg/L | 0.047      | 0.006      | 0.114      | 0.96      | 0.031     | 0.008      | 0.064      | 0.505      | 0.213     | 0.516      | 0.13       | 0.49       | 0.562    | 0.226     | 1.46      | 0.212     | 0.31     | 0.17      | 0.485     | 1.14      | 0.708     | 0.62     | 0.36      | 0.579     | 0.12      | 0.295     | 0.346    | 0.258    | 0.136     | 0.184     | 0.041     | 0.051     | 0.119    | 0.218    |
| As-T             | mg/L | 0.0002     | 0.0003     | 0.0004     | 0.009     | 0.0003    | 0.0002     | <0.0004    | 0.0006     | 0.0004    | 0.0003     | 0.0006     | 0.0004     | 0.0004   | <0.0002   | 0.0012    | 0.0005    | 0.0008   | 0.0009    | 0.0007    | 0.0005    | 0.0006    | 0.0007   | 0.0004    | 0.0006    | 0.0005    | 0.0007    | 0.0005   | 0.0005   | 0.0006    | 0.0005    | 0.0005    | 0.0004    | 0.0006   | 0.0005   |
| Ba-T             | mg/L | 0.078      | 0.084      | 0.082      | 1.9       | 0.075     | 0.052      | 0.074      | 0.069      | 0.061     | 0.064      | 0.062      | 0.071      | 0.08     | 0.067     | 0.104     | 0.071     | 0.064    | 0.064     | 0.079     | 0.084     | 0.085     | 0.08     | 0.075     | 0.076     | 0.071     | 0.078     | 0.082    | 0.076    | 0.082     | 0.08      | 0.078     | 0.079     | 0.081    | 0.082    |
| Be-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | <0.002    | <0.0001   | <0.0001    | <0.0002    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0002   | <0.0002  | <0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |
| Bi-T             | mg/L | <0.0005    | <0.0005    | <0.0005    | <0.01     | <0.0005   | <0.0005    | <0.001     | <0.0005    | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005  | <0.0005   | <0.0005   | <0.001    | <0.001   | <0.001    | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  |
| B-T              | mg/L | 0.007      | 0.006      | 0.018      | 0.48      | 0.018     | 0.007      | 0.02       | 0.022      | 0.017     | 0.02       | 0.017      | 0.019      | 0.017    | 0.015     | 0.016     | 0.009     | 0.058    | 0.075     | 0.01      | 0.017     | 0.013     | 0.014    | 0.016     | 0.016     | 0.015     | 0.015     | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  |
| Ca-T             | mg/L | 52         | 54.3       | 50.4       | 49.8      | 53        | 64.4       | 52.1       | 51.5       | 50.9      | 50.2       | 47.9       | 51.6       | 52.9     | 50.5      | 60.6      | 45.1      | 38.9     | 43.9      | 48.4      | 44.8      | 45.7      | 46       | 45.6      | 49.1      | 47.5      | 47.8      | 46.4     | 47.4     | 49.4      | 51.5      | 49.7      | 50.5      | 51.3     | 50.6     |
| Cd-T             | mg/L | <0.00001   | <0.00001   | <0.00001   | <0.00025  | <0.00001  | <0.00001   | <0.00002   | <0.00001   | <0.00001  | <0.00001   | <0.00001   | 0.00001    | <0.00001 | 0.00001   | 0.00003   | 0.00003   | 0.00003  | <0.00002  | 0.00002   | 0.00002   | 0.00002   | 0.00002  | 0.00002   | 0.00002   | 0.00002   | 0.00002   | <0.00001 | 0.00001  | 0.00001   | <0.00001  | 0.00002   | 0.00002   | 0.00002  | 0.00002  |
| CN-T             | mg/L | <0.001     | <0.001     | <0.001     | <0.001    | 0.001     | 0.14       | 0.002      | 0.006      | 0.002     |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Co-T             | mg/L | <0.0001    | <0.0001    | 0.0002     | 0.004     | 0.0002    | 0.0005     | <0.0002    | 0.0012     | 0.0002    | 0.0002     | <0.0001    | 0.0002     | 0.0003   | <0.0001   | 0.0009    | 0.0003    | 0.0004   | 0.0004    | 0.0006    | 0.0009    | 0.0007    | 0.0006   | 0.0004    | 0.0006    | 0.0004    | 0.0006    | 0.0005   | 0.0004   | 0.0004    | 0.0003    | 0.0002    | 0.0003    | 0.0004   | 0.0009   |
| Cr-T             | mg/L | <0.0005    | <0.0005    | <0.0005    | <0.01     | <0.0005   | <0.0005    | <0.001     | 0.002      | 0.0007    | 0.0011     | <0.0005    | 0.0005     | 0.0008   | 0.0006    | 0.0016    | 0.001     | 0.001    | <0.001    | 0.00021   | 0.00014   | 0.00006   | 0.00006  | 0.0001    | 0.0012    | <0.0005   | 0.0011    | 0.0005   | <0.0005  | 0.0005    | 0.0006    | <0.0005   | <0.0005   | <0.0005  | 0.0006   |
| Cu-T             | mg/L | 0.005      | 0.003      | 0.002      | 0.05      | 0.002     | 0.001      | 0.004      | 0.005      | 0.002     | 0.003      | 0.002      | 0.002      | 0.002    | 0.002     | 0.016     | 0.01      | 0.02     | 0.02      | 0.02      | 0.02      | 0.014     | 0.014    | 0.018     | 0.015     | 0.014     | 0.014     | 0.014    | 0.015    | 0.013     | 0.013     | 0.011     | 0.012     | 0.013    | 0.007    |
| Fe-T             | mg/L | <0.1       | <0.1       | 0.2        | 0.1       | 0.1       | 0.3        | <0.2       | 0.7        | 0.3       | 0.6        | 0.2        | 0.6        | 0.3      | 1.8       | 0.2       | 0.4       | 0.2      | 0.7       | 1.4       | 0.8       | 0.7       | 0.4      | 0.6       | 0.2       | 0.4       | 0.3       | 0.2      | 0.3      | 0.2       | <0.1      | 0.1       | 0.2       | 0.3      |          |
| Hg-T             | mg/L |            |            | <0.00005   | <0.00005  | <0.00005  | <0.00005   | <0.00005   | <0.00005   | <0.0001   | 0.0001     | <0.0001    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |
| K-T              | mg/L | 1.4        | 1.4        | 1.9        | 1.8       | 1.9       | 2          | 2          | 2.1        | 2.2       | 2          | 2          | 2.4        | 2.2      | 2         | 3         | 2.4       | 2.4      | 2.1       | 2         | 2.1       | 1.9       | 2        | 1.9       | 2         | 2         | 2.1       | 2        | 2        | 2         | 2         | 2.3       | 2.2       | 1.9      | 1.9      |
| Li-T             | mg/L | 0.002      | 0.002      | 0.004      | 0.09      | 0.004     | 0.002      | 0.004      | 0.004      | 0.004     | 0.004      | 0.003      | 0.004      | 0.004    | 0.004     | 0.002     | <0.002    | <0.002   | <0.002    | <0.002    | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    |          |
| Mg-T             | mg/L | 20.8       | 20.8       | 24.8       | 24        | 26.9      | 29.2       | 26.7       | 27.7       | 26.8      | 27.4       | 25.3       | 27.4       | 28       | 27.4      | 23.6      | 12        | 11       | 13        | 15        | 13        | 13.2      | 12.8     | 13.4      | 13.3      | 13.6      | 13.5      | 13.7     | 13.9     | 14.3      | 15.4      | 14.8      | 14.8      | 16.1     | 15.5     |
| Mn-T             | mg/L | 0.047      | 0.073      | 0.297      | 0.308     | 0.399     | 2.26       | 0.14       | 0.021      | 0.018     | 0.023      | 0.012      | 0.027      | 0.024    | 0.013     | 0.692     | 0.054     | 0.057    | 0.062     | 0.11      | 0.088     | 0.06      | 0.062    | 0.038     | 0.048     | 0.03      | 0.045     | 0.042    | 0.04     | 0.036     | 0.037     | 0.047     | 0.047     | 0.067    | 0.05     |
| Mo-T             | mg/L | 0.002      | 0.002      | 0.002      | 0.06      | 0.002     | 0.002      | 0.002      | 0.002      | 0.002     | 0.002      | 0.002      | 0.002      | 0.002    | 0.002     | 0.002     | 0.002     | 0.002    | 0.003     | 0.002     | 0.002     | 0.002     | 0.003    | 0.002     | 0.003     | 0.003     | 0.003     | 0.003    | 0.003    | 0.003     | 0.003     | 0.003     | 0.003     | 0.003    |          |
| Na-T             | mg/L | 11.6       | 11.1       | 15.8       | 14.9      | 14.2      | 14         | 15         | 14.8       | 15.5      | 15.1       | 14.1       | 15.2       | 15.5     | 14.6      | 14.1      | 8.9       | 7.7      | 7.8       | 8.3       | 8.9       | 9.4       | 9.1      | 9.4       | 9         | 9.4       | 9.4       | 9.6      | 9.5      | 9.9       | 10.7      | 10.6      | 10.5      | 10.4     | 11       |
| Ni-T             | mg/L | 0.0012     | 0.0013     | <0.0005    | 0.03      | 0.0011    | 0.0014     | 0.0023     | 0.0016     | 0.0015    | 0.0014     | 0.0007     | <0.0005    | 0.0012   | 0.0007    | 0.0023    | 0.002     | 0.0022   | <0.001    | 0.0023    | 0.001     | 0.0016    | 0.0016   | 0.0008    | 0.0022    | 0.0014    | 0.0017    | 0.0018   | 0.0015   | 0.0011    | 0.0009    | <0.0005   | 0.0009    | 0.0018   | 0.0013   |
| N-TKN            | mg/L |            | 0.15       |            | 0.16      |           | 0.34       |            | 0.09       |           | 0.13       |            | 0.1        | 0.16     | <0.06     | 0.95      | 1.2       | 1.21     | 0.75      | 1.24      | 0.7       | 1.55      | 1.47     | 1.17      | 0.43      |           | 0.63      |          | 0.68     | 0.88      | 0.8       | 0.72      |           | 0.38     | 0.16     |
| Pb-T             | mg/L | <0.0001    | <0.0001    | <0.0001    | 0.003     | 0.0001    | <0.0001    | 0.0007     | 0.0031     | 0.0003    | 0.0003     | <0.0001    | 0.0002     | 0.0002   | 0.0003    | 0.0004    | <0.0002   | <0.0002  | <0.0002   | 0.0003    | 0.0004    | 0.0002    | 0.0003   | 0.0002    | 0.0002    | 0.0002    | <0.0001   | 0.0001   | 0.0001   | <0.0001   | 0.0001    | <0.0001   | <0.0001   | 0.0007   | 0.0001   |
| P-PO4-T          | mg/L |            | 0.04       |            | 0.04      |           | 0.09       |            | 0.08       | <0.01     | <0.01      | <0.01      | 0.014      | 0.015    | 0.06      | 0.05      | 0.03      | 0.05     | 0.04      | 0.05      | 0.02      | 0.04      | 0.05     | 0.05      | 0.04      |           | 0.04      |          | 0.03     | 0.03      | 0.08      | 0.03      |           | 0.05     | 0.05     |
| P-T              | mg/L |            | 0.06       |            | <0.05     |           | 0.06       |            | <0.05      | <0.02     | 0.03       | <0.02      | 0.02       | 0.02     | <0.05     | 0.09      | 0.14      | 0.09     | 0.06      | 0.07      | 0.06      | <0.05     | <0.05    | <0.05     |           |           | <0.05     |          | <0.05    | <0.05     |           |           | <0.05     | <0.05    |          |
| P-TRP (Ortho)    | mg/L |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           | 0.05      |           |           |          |          |
| Sb-T             | mg/L | <0.0002    | <0.0002    | <0.0002    | 0.005     | 0.0002    | <0.0002    | <0.0004    | 0.0004     | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002  | <0.0002   | <0.0002   | <0.0004   | <0.0004  | <0.0004   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  |          |
| Se-T             | mg/L | <0.0002    | <0.0002    | 0.0002     | 0.008     | 0.0004    | <0.0002    | 0.0005     | 0.0007     | 0.0003    | 0.0006     | 0.0003     | 0.0006     | 0.0006   | <0.0002   | <0.0002   | 0.0007    | 0.001    | <0.0004   | <0.0004   | 0.0003    | <0.0002   | <0.0002  | 0.0003    | 0.0003    | 0.0003    | <0.0002   | <0.0002  | <0.0002  | 0.0008    | 0.0003    | <0.0002   | 0.0006    | <0.0002  | 0.0003   |
| Si-T             | mg/L | 6.36       | 6.56       | 6.34       | 6.23      | 6.72      | 7.4        | 6.45       | 7.58       | 7.12      | 6.2        | 5.92       | 7.82       | 8.18     | 6.75      | 10.1      | 5.46      | 5.74     | 5.17      | 6.4       | 7.16      | 6.76      | 6.26     | 6.08      | 6.64      | 5.52      | 5.95      | 6.03     | 5.83     | 5.47      | 5.32      | 5.28      | 5.6       | 5.84     | 6.65     |
| Sn-T             | mg/L | <0.001     | <0.001     | <0.001     | <0.02     | <0.001    | <0.001     | <0.002     | <0.001     | <0.001    | <0.001     | <0.001     | <0.001     | <0.001   | <0.001    | <0.002    | <0.002    | <0.002   | <0.002    | <0.0      |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 934140     | 925266     | 953902     | 947454    | 947471    | 947474     | 1202881    | 951335     | 957043    | 949065     | 952101     | 953346     | 955017   | 963365    | 989744    | 995754    | 998104   | 1001239   | 1004203   | 1006208   | 1008503   | 1009477  | 1012944   | 1015480   | 1018416   | 1019002   | 1020545  | 1020545  | 1023074   | 1203450   | 1028730   | 1029284   | 1031323  | 1034628  |
|------------------|----------|------------|------------|------------|-----------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------|
| SmpI Date        |          | 10/12/2006 | 10/18/2006 | 10/28/2006 | 11/1/2006 | 11/9/2006 | 11/16/2006 | 11/23/2006 | 11/30/2006 | 12/6/2006 | 12/13/2006 | 12/20/2006 | 12/28/2006 | 1/4/2007 | 1/10/2007 | 4/17/2007 | 4/27/2007 | 5/4/2007 | 5/11/2007 | 5/19/2007 | 5/25/2007 | 5/30/2007 | 6/5/2007 | 6/13/2007 | 6/20/2007 | 6/27/2007 | 6/28/2007 | 7/4/2007 | 7/5/2007 | 7/11/2007 | 7/18/2007 | 7/25/2007 | 7/26/2007 | 8/1/2007 | 8/9/2007 |
| Station Name     |          | W3         | W3         | W3         | W3        | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3        | W3       | W3       |
| Sample Class     |          | P          | P          | P          | P         | P         | P          | P          | P          | P         | P          | P          | P          | P        | M         | P         | P         | P        | M         | P         | P         | P         | P        | M         | P         | P         | M         | P        | P        | P         | P         | M         | P         | P        |          |
| Colour           | TCU      |            | 17         | 10         | 5         | 12        | 15         |            |            | <5        | <5         | 10         | 10         | 10       | 8         | 50        | >60       | >60      | 50        | 120       | >60       | 55        | 130      | 30        | 57        |           | 40        |          | 52       | 42        | 50        | 40        |           | 46       | 34       |
| Cond-F           | µS/cm    |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Cond-L           | µS/cm    | 430        | 335        | 456        | 445       | 469       | 518        | 480        | 480        | 478       | 469        | 485        | 460        | 463      | 482       | 461       | 313       | 264      | 317       | 352       | 314       | 341       | 330      | 316       | 346       |           | 328       |          | 339      | 369       | 383       | 387       |           | 366      | 395      |
| Discharge        | L/s      |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Fluoride         | mg/L     |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Hard-D           | mg/L     | 210        | 216        | 224        | 226       | 234       | 267        | 244        | 230        |           | 229        | 223        | 236        | 233      |           | 246       | 167       | 142      | 167       | 173       | 167       |           |          | 174       | 178       |           | 184       |          | 175      | 180       | 193       | 199       |           | 188      | 199      |
| Hard-T           | mg/L     |            |            |            |           |           |            |            |            | 238       |            |            |            |          | 239       |           |           |          |           |           |           | 168       | 168      |           |           |           |           | 172      |          |           |           |           |           |          |          |
| IB               | %        |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Ammonia          | mg/L     | 0.006      | <0.05      | 0.029      | <0.05     | 0.071     | 0.1        | 0.032      | <0.05      | 0.017     | <0.002     | 0.002      | <0.002     | <0.05    | <0.05     |           | <0.05     | 0.07     | <0.05     | <0.05     | <0.05     | 0.06      | <0.05    | <0.05     | <0.05     |           | <0.05     |          |          | <0.05     | <0.05     | <0.05     |           | <0.05    | <0.05    |
| Ammonium         | mg/L     |            |            |            |           |           |            |            |            |           |            |            |            |          | <0.05     |           |           |          |           |           |           |           |          |           |           |           |           |          |          | <0.05     |           |           |           |          |          |
| N-NO2            | mg/L     |            | <0.005     | <0.03      | <0.03     | <0.03     | <0.03      | <0.1       | <0.005     | <0.03     | <0.1       | <0.1       | <0.1       | <0.03    | <0.03     | <0.05     | <0.05     | 0.16     | 0.19      | 0.06      | <0.05     | <0.05     | 0.08     | <0.05     | <0.05     |           | 0.08      |          | <0.05    | <0.05     | <0.05     | <0.05     |           | <0.05    | <0.05    |
| NO2+NO3          | mg/L     |            | 0.05       |            | 0.27      |           | 0.05       |            |            |           | 0.46       |            | 0.5        | 0.58     | 0.8       | 0.15      | 1.6       | 2.97     | 4.2       | 3.81      | 4.59      | 4.27      | 5.06     | 4.18      | 4.31      |           | 4.05      |          | 3        | 2.81      | 2.98      | 2.42      |           | 2.09     | 1.82     |
| N-NO3            | mg/L     | <0.03      | 0.05       | 0.25       | 0.23      | 0.23      | 0.03       | 0.31       | 0.39       | 0.37      | 0.46       | 0.5        | 0.5        | 0.56     | 0.59      | 0.2       | 1.6       | 2.9      | 4         | 4.5       | 4.6       | 4.8       | 5.2      | 4.8       | 4.4       |           | 3.5       |          | 3        | 3         | 2.9       | 2.4       |           | 2        | 1.5      |
| pH-F             | pH units |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| pH-L             | pH units | 7.61       | 8.19       | 7.44       | 7.1       | 7.49      | 7.22       | 8.29       | 7.45       | 8.15      | 8.28       | 7.46       | 7.5        | 7.63     | 8.36      | 7.91      | 7.92      | 7.97     | 7.91      | 7.8       | 7.91      | 7.89      | 7.88     | 7.91      | 7.75      |           | 7.86      |          | 7.86     | 7.9       | 7.8       | 7.78      |           | 8.08     | 7.85     |
| Radium - 226     |          |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| SO4-D            | mg/L     | 42         |            | 42         | 42        | 42        | 40         | 46         | 44         | 41        | 42         | 42         | 43         | 43       | 42        | 48        | 31        | 22.1     | 25.9      | 27.4      | 25        | 25        | 26       | 26        | 26        |           | 27        |          | 27       | 28        | 29        | 30        |           | 31       | 32       |
| SO4-T            | mg/L     |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Sulphide         | mg/L     |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| TDS              | mg/L     | 280        | 247        | 130        | 290       | 304       | 324        | 320        | 296        | 240       | 320        | 308        | 308        | 298      | 288       | 332       | 274       | 252      | 280       | 250       | 236       | 260       | 238      | 232       | 244       |           | 256       |          | 258      | 248       | 284       | 270       |           | 304      | 262      |
| Temp-F           | C        |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| Temp-obs-pH      | C        |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |
| TSS              | mg/L     | <2         | <1         | 14         | <2        | <2        | <2         | <2         | 12         | 5         | 33         | 3          | 14         | 18       | 4         | 24        | 2         | 6        | <2        | 10        | 34        | 13        | 9        | 6         | 6         |           | 7         |          | 6        | <2        | <2        | 4         |           | <2       | 10       |
| Turb             | NTU      |            | 0.4        | 2.9        | 6.6       | 0.6       | 0.9        | 0.6        | 3.2        | 1.5       | 4.4        | 1.2        | 25         | 2.2      | 1.2       | 27        | 1.4       | 3.9      | 1.7       | 8.1       | 5         | 9.3       | 14       | 4.8       | 2.4       |           | 7.6       |          | 4.2      | 2         | 4         | 1         |           | 0.8      | <0.1     |
| Turb-F           | NTU      |            |            |            |           |           |            |            |            |           |            |            |            |          |           |           |           |          |           |           |           |           |          |           |           |           |           |          |          |           |           |           |           |          |          |

Data omitte

Data omitte

**Appendix Table A.2: Water quality data at station W3**

| Sampling Session |      | 1036694   | 1040337   | 1042534   | 1045842  | 1048063   | 1050334   | 1053227   | 1057213   | 1061125    | 1065056    | 1067248    | 1070279    | 1073915   | 1075156    | 1077993    | 1079274    | 1081330   | 1083276    | 1084216    | 1088205    | 1085419  | 1086857  | 1088370   | 1089526   | 1090896   | 1092589  | 1094163   | 1095134   | 1097074   | 1098035  | 1100515   | 1102013   | 1103811   | 1105954  |        |
|------------------|------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|--------|
| Smp# Date        |      | 8/15/2007 | 8/24/2007 | 8/29/2007 | 9/6/2007 | 9/11/2007 | 9/17/2007 | 9/25/2007 | 10/3/2007 | 10/10/2007 | 10/17/2007 | 10/22/2007 | 10/30/2007 | 11/8/2007 | 11/13/2007 | 11/20/2007 | 11/27/2007 | 12/6/2007 | 12/11/2007 | 12/18/2007 | 12/26/2007 | 1/3/2008 | 1/9/2008 | 1/15/2008 | 1/22/2008 | 1/30/2008 | 2/7/2008 | 2/13/2008 | 2/20/2008 | 2/27/2008 | 3/3/2008 | 3/14/2008 | 3/19/2008 | 3/26/2008 | 4/3/2008 |        |
| Station Name     |      | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        |          |        |
| Sample Class     |      | P         | P         | P         | P        | P         | P         | P         | M         | P          | P          | P          | P          | P         | P          | P          | P          | P         | P          | P          | P          | P        | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         |          |        |
| Ag-T             | mg/L | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |          |        |
| Al-T             | mg/L | 0.18      | 0.036     | 0.12      | 0.578    | 0.148     | 0.395     | 0.036     | 0.137     | 0.124      | 0.035      | 0.045      | 0.025      | 0.045     | 0.153      | 0.257      | 0.032      | 0.084     | 0.174      | 0.046      | 0.106      | 0.121    | 0.092    | 0.136     | 0.094     | 0.451     | 0.389    | 0.068     | 0.04      | 0.105     | 0.157    | 0.118     | <0.1      | 0.09      | 0.985    |        |
| As-T             | mg/L | 0.0004    | 0.0005    | 0.0006    | 0.0006   | 0.0006    | 0.0006    | 0.0003    | 0.0004    | 0.0004     | 0.0003     | 0.0002     | <0.0002    | <0.0002   | 0.0004     | 0.0005     | 0.0006     | <0.0002   | <0.0002    | 0.0005     | 0.0002     | 0.0006   | 0.0002   | 0.0002    | 0.0005    | 0.0005    | 0.0007   | 0.0003    | 0.0005    | 0.0003    | 0.0005   | 0.0002    | 0.001     | 0.0004    | 0.0003   |        |
| Ba-T             | mg/L | 0.088     | 0.076     | 0.084     | 0.102    | 0.091     | 0.092     | 0.082     | 0.091     | 0.095      | 0.091      | 0.092      | 0.091      | 0.085     | 0.085      | 0.097      | 0.088      | 0.093     | 0.094      | 0.091      | 0.09       | 0.097    | 0.099    | 0.095     | 0.096     | 0.103     | 0.11     | 0.099     | 0.096     | 0.101     | 0.099    | 0.095     | 0.096     | 0.099     | 0.112    |        |
| Be-T             | mg/L | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.00020  | <0.0001   | <0.0001  |        |
| Bi-T             | mg/L | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   |          |        |
| B-T              | mg/L | 0.016     | 0.016     | 0.013     | 0.024    | 0.026     | 0.021     | 0.015     | 0.015     | 0.022      | 0.017      | 0.017      | 0.016      | 0.018     | 0.016      | 0.024      | 0.017      | 0.016     | 0.019      | 0.018      | 0.017      | 0.018    | 0.017    | 0.029     | 0.016     | 0.018     | 0.019    | 0.018     | 0.02      | 0.023     | 0.018    | 0.021     | <0.02     | 0.02      | 0.018    |        |
| Ca-T             | mg/L | 54.2      | 53.1      | 51.1      | 59.3     | 58.7      | 55.1      | 52.2      | 51.4      | 57.8       | 57.7       | 56.5       | 55.8       | 55.8      | 57.6       | 61.4       | 57.4       | 61.1      | 58         | 57.7       | 58.3       | 62.1     | 64.7     | 62.5      | 66        | 65        | 63.3     | 70.2      | 64.2      | 66.6      | 67.8     | 66.4      | 69        | 70.6      | 68.3     |        |
| Cd-T             | mg/L | 0.00001   | 0.00002   | 0.00002   | 0.00001  | 0.00001   | 0.00001   | 0.00002   | 0.00002   | <0.00001   | 0.00001    | 0.00001    | 0.00002    | 0.00002   | 0.00002    | 0.00002    | 0.00002    | 0.00002   | <0.00001   | <0.00001   | <0.00001   | 0.00002  | 0.00001  | <0.00001  | 0.00002   | 0.00002   | 0.00001  | 0.00001   | 0.00001   | 0.00001   | <0.00001 | 0.00001   | <0.0004   | 0.00001   | 0.00002  |        |
| CN-T             | mg/L |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |        |
| Co-T             | mg/L | 0.0003    | 0.0002    | 0.0002    | 0.0007   | 0.0003    | 0.0005    | 0.0002    | 0.0002    | 0.0003     | 0.0002     | 0.0001     | 0.0001     | 0.0002    | 0.0002     | 0.0002     | 0.0001     | 0.0002    | 0.0002     | 0.0005     | 0.0002     | 0.0002   | 0.0002   | 0.0003    | 0.0002    | 0.0005    | 0.0004   | 0.0003    | 0.0002    | 0.0004    | 0.0003   | 0.0002    | <0.0001   | 0.0002    | 0.0006   |        |
| Cr-T             | mg/L | <0.0005   | <0.0005   | 0.0006    | 0.0011   | 0.001     | 0.0008    | 0.0006    | 0.0008    | 0.0013     | <0.0005    | <0.0005    | <0.0005    | <0.0005   | 0.0005     | 0.0008     | 0.0005     | <0.0005   | 0.0006     | 0.0007     | 0.0005     | 0.0005   | <0.0005  | 0.0006    | 0.0007    | 0.0008    | 0.0007   | 0.0009    | 0.0006    | <0.0005   | 0.0009   | 0.0014    | <0.002    | 0.0016    | 0.0012   |        |
| Cu-T             | mg/L | 0.009     | 0.005     | 0.007     | 0.012    | 0.01      | 0.011     | 0.005     | 0.006     | 0.008      | 0.009      | 0.004      | 0.004      | 0.004     | 0.005      | 0.011      | 0.004      | 0.004     | 0.004      | 0.004      | 0.004      | 0.004    | 0.004    | 0.004     | 0.004     | 0.006     | 0.006    | 0.004     | 0.004     | 0.006     | 0.004    | 0.004     | <0.005    | 0.005     | 0.014    |        |
| Fe-T             | mg/L | 0.2       | <0.1      | 0.2       | 0.7      | 0.2       | 0.5       | <0.1      | 0.2       | 0.2        | <0.1       | <0.1       | <0.1       | 0.2       | 0.3        | 0.2        | 0.1        | 0.2       | 0.2        | 0.1        | 0.2        | 0.2      | 0.2      | 0.2       | 0.6       | 0.5       | 0.2      | 0.1       | 0.2       | 0.2       | 0.2      | 0.2       | 0.2       | 1.2       |          |        |
| Hg-T             | mg/L | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0002    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |          |        |
| K-T              | mg/L | 2.1       | 1.8       | 2         | 2.4      | 2.4       | 2.5       | 1.9       | 1.9       | 2.3        | 2          | 1.9        | 1.8        | 2         | 2          | 2.6        | 1.9        | 2         | 2.2        | 2          | 1.9        | 2        | 2        | 2.1       | 2         | 2.1       | 2.4      | 2.3       | 2.1       | 2.2       | 2.1      | 2.2       | 2.2       | 1.9       | 2.3      |        |
| Li-T             | mg/L | 0.002     | 0.002     | 0.002     | 0.003    | 0.002     | 0.002     | 0.002     | 0.004     | 0.002      | 0.002      | 0.002      | 0.002      | 0.002     | 0.002      | 0.003      | 0.002      | 0.002     | 0.003      | 0.002      | 0.003      | 0.003    | 0.002    | 0.002     | 0.002     | 0.003     | 0.003    | 0.003     | 0.002     | 0.002     | 0.002    | 0.002     | 0.003     | <0.005    | 0.002    | 0.003  |
| Mg-T             | mg/L | 15.9      | 16        | 16.2      | 17       | 16.7      | 16.8      | 16.6      | 16.7      | 17.6       | 18.2       | 17.8       | 17.7       | 19.3      | 19.8       | 19.6       | 19.9       | 21.9      | 21.1       | 21.4       | 20.5       | 21.9     | 22.9     | 22.5      | 23        | 22.5      | 24.8     | 24.9      | 23.3      | 23.8      | 24       | 23.2      | 24.1      | 24.2      | 24.4     |        |
| Mn-T             | mg/L | 0.053     | 0.066     | 0.071     | 0.143    | 0.097     | 0.108     | 0.073     | 0.064     | 0.064      | 0.064      | 0.062      | 0.074      | 0.088     | 0.079      | 0.079      | 0.079      | 0.079     | 0.055      | 0.079      | 0.079      | 0.11     | 0.123    | 0.136     | 0.151     | 0.213     | 0.185    | 0.117     | 0.104     | 0.122     | 0.123    | 0.108     | 0.111     | 0.108     | 0.157    |        |
| Mo-T             | mg/L | 0.003     | 0.002     | 0.002     | 0.004    | 0.003     | 0.004     | 0.002     | 0.002     | 0.003      | 0.002      | 0.002      | 0.002      | 0.002     | 0.002      | 0.005      | 0.002      | 0.002     | 0.002      | 0.002      | 0.002      | 0.002    | 0.003    | 0.002     | 0.002     | 0.003     | 0.003    | 0.002     | 0.002     | 0.003     | 0.002    | 0.002     | 0.0017    | 0.003     | 0.002    |        |
| Na-T             | mg/L | 11.2      | 10.6      | 11.4      | 12.1     | 12.5      | 13        | 11.8      | 11.6      | 13.6       | 12.4       | 12.6       | 12.7       | 13.7      | 13.5       | 14.8       | 13.6       | 14.6      | 14.9       | 14.5       | 14.2       | 14.7     | 15.3     | 15.6      | 15.5      | 15.2      | 16.7     | 16.3      | 16        | 17.2      | 16.3     | 16.1      | 16.6      | 16.4      | 15.8     |        |
| Ni-T             | mg/L | 0.0012    | 0.0006    | 0.0011    | 0.0021   | 0.0021    | 0.0015    | 0.0011    | 0.0011    | 0.0008     | 0.0011     | <0.0005    | 0.0007     | 0.0013    | 0.0015     | <0.0005    | 0.001      | 0.0008    | 0.0009     | <0.0005    | 0.0011     | 0.0009   | 0.0013   | 0.0012    | 0.0012    | 0.0017    | 0.0016   | 0.0014    | 0.0012    | 0.0014    | 0.0026   | 0.0023    | <0.005    | 0.0012    | 0.0018   |        |
| N-TKN            | mg/L | 0.32      | 0.36      | 0.37      | 0.24     | <0.06     | 0.31      | 0.37      | 0.13      | 0.06       | <0.06      | 0.74       | <0.06      | 0.15      | 0.25       | 0.08       | 0.26       | 0.26      | 0.49       | 0.15       | 0.08       | 0.19     | 0.31     | 0.07      | 0.12      | 0.21      | 0.58     | 0.46      | 0.06      | 0.2       | <0.06    | 0.2       | <0.06     | <0.06     | <0.06    |        |
| Pb-T             | mg/L | 0.0001    | 0.0003    | <0.0001   | 0.0002   | <0.0001   | 0.0002    | <0.0001   | <0.0001   | 0.0002     | <0.0001    | <0.0001    | <0.0001    | <0.0001   | 0.0002     | 0.0003     | 0.0001     | <0.0001   | 0.0006     | <0.0001    | 0.0002     | 0.0003   | <0.0001  | 0.0002    | <0.0001   | 0.0002    | 0.0001   | <0.0001   | <0.0001   | 0.0001    | <0.0001  | <0.0001   | 0.0001    | <0.0001   | 0.0002   | 0.0002 |
| P-PO4-T          | mg/L | 0.04      | 0.04      | 0.06      | 0.07     | 0.04      | 0.04      | 0.04      | 0.04      | 0.03       | <0.05      | 0.06       | <0.02      | <0.01     | 0.07       | <0.05      | 0.07       | 0.07      | 0.07       | 0.07       | 0.06       | 0.07     | 0.07     | 0.06      | 0.08      | 0.08      | 0.08     | 0.07      | 0.02      | 0.06      | 0.04     | 0.04      | 0.05      | 0.04      | <0.05    |        |
| P-T              | mg/L | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | 0.06      | <0.03      |            | 0.12       |            | <0.02     | <0.05      | <0.05      | <0.05      | <0.05     | 0.07       | <0.05      | <0.05      | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    |        |
| P-TRP (Ortho)    | mg/L |           |           |           |          |           |           |           | 0.03      |            | <0.01      |            |            |           | 0.05       |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           | 0.05      |          |        |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   |          |        |
| Se-T             | mg/L | 0.0002    | <0.0002   | 0.0003    | 0.0006   | 0.0004    | 0.0005    | 0.0004    | 0.0003    | 0.0008     | 0.0005     | <0.0002    | <0.0002    | <0.0002   | 0.0005     | 0.0004     | 0.001      | 0.0007    | 0.0003     | <0.0002    | <0.0002    | 0.0002   | 0.0005   | 0.0005    | 0.0003    | 0.0004    | 0.0005   | 0.0004    | 0.0006    | 0.0002    | 0.0006   | 0.0004    | 0.005     | 0.0006    | 0.0004   |        |
| Si-T             | mg/L | 6.24      | 5.77      | 5.63      | 6.94     | 6.25      | 6.53      | 5.48      | 5.73      | 5.86       | 5.65       | 5.65       | 5.65       | 5.34      | 6.05       | 6.06       | 5.62       | 6.12      | 5.95       | 5.69       | 5.65       | 5.83     | 5.94     | 5.93      | 5.19      | 6.41      | 6.11     | 6.08      | 5.94      | 5.87      | 5.68     | 3         | 5.66      | 7.72      |          |        |
| Sn-T             | mg/L | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001     | <0.001     | <0.001    | <0.001     | <0.001     | <0         |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |        |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 1036694   | 1040337   | 1042534   | 1045842  | 1048063   | 1050334   | 1053227   | 1057213   | 1061125    | 1065056    | 1067248    | 1070279    | 1073915   | 1075156    | 1077993    | 1079274    | 1081330   | 1083276    | 1084216    | 1088205    | 1085419  | 1086857  | 1088370   | 1089526   | 1090896   | 1092589  | 1094163   | 1095134   | 1097074   | 1098035  | 1100515   | 1102013   | 1103811   | 1105954  |
|------------------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|
| SmpI Date        |          | 8/15/2007 | 8/24/2007 | 8/29/2007 | 9/6/2007 | 9/11/2007 | 9/17/2007 | 9/25/2007 | 10/3/2007 | 10/10/2007 | 10/17/2007 | 10/22/2007 | 10/30/2007 | 11/8/2007 | 11/13/2007 | 11/20/2007 | 11/27/2007 | 12/6/2007 | 12/11/2007 | 12/18/2007 | 12/26/2007 | 1/3/2008 | 1/9/2008 | 1/15/2008 | 1/22/2008 | 1/30/2008 | 2/7/2008 | 2/13/2008 | 2/20/2008 | 2/27/2008 | 3/3/2008 | 3/14/2008 | 3/19/2008 | 3/26/2008 | 4/3/2008 |
| Station Name     |          | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3       |
| Sample Class     |          | P         | P         | P         | P        | P         | P         | P         | M         | P          | P          | P          | P          | P         | P          | P          | P          | P         | P          | P          | P          | P        | P        | P         | P         | P         | P        | P         | P         | P         | P        | P         | P         | P         | P        |
| Colour           | TCU      | 37        | 27        | 31        | 34       | 34        | 29        | 25        | 24        | 20         | 15         | 20         | 21         | 16        | 26         | 20         | 16         | 14        | 10         | 10         | 13         | 12       | 14       | 16        | 16        | 15        | 11       | 17        | 18        | 13        | 17       | 12        | 10        | 13        | 12       |
| Cond-F           | µS/cm    |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Cond-L           | µS/cm    | 385       | 406       | 394       | 398      | 395       | 447       | 443       | 410       | 453        | 442        | 465        | 464        | 469       | 472        | 490        | 455        | 495       | 498        | 419        | 462        | 472      | 485      | 509       | 515       | 538       | 519      | 571       | 557       | 506       | 507      | 508       | 564       | 514       | 554      |
| Discharge        | L/s      |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Fluoride         | mg/L     |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Hard-D           | mg/L     | 202       |           | 206       |          | 217       | 208       | 211       | 218       | 228        | 224        | 233        | 221        | 221       | 232        | 239        | 235        | 251       |            | 241        |            | 255      | 257      | 258       | 266       | 266       |          | 288       |           |           |          |           |           |           | 271      |
| Hard-T           | mg/L     |           | 198       |           | 218      |           |           |           |           |            |            |            |            |           |            |            |            |           | 232        |            | 230        |          |          |           |           |           |          | 288       | 256       |           |          |           | 272       | 276       |          |
| IB               | %        |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Ammonia          | mg/L     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05     |            | <0.05      | <0.05      | <0.05      | <0.05     | 0.06       | <0.05      | <0.05      | <0.05     | <0.05      | <0.05      | <0.05      | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | 0.08      | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    |
| Ammonium         | mg/L     |           |           |           |          |           |           |           |           | <0.05      |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| N-NO2            | mg/L     | <0.05     | <0.05     | <0.05     | <0.05    | <0.02     | <0.02     | <0.02     | <0.02     | <0.02      | <0.02      | <0.02      | 4.04       | <0.02     | <0.02      | <0.02      | <0.02      | <0.02     | <0.02      | <0.02      | <0.02      | <0.02    | <0.02    | <0.02     | <0.02     | <0.02     | <0.02    | <0.02     | <0.02     | <0.02     | <0.02    | <0.02     | <0.02     | <0.02     |          |
| NO2+NO3          | mg/L     | 1.96      | 1.55      | 1.6       | 2.81     | 2.94      | 3.38      | 2.42      | 2.9       | 4.5        | 3.76       | 3.47       | 4.25       | 2.92      | 2.37       | 2.17       | 1.93       | 1.73      | 1.58       | 1.5        | 1.4        | 1.3      | 1.19     | 1.18      | 1.08      | 0.99      | 0.93     | 0.83      | 0.74      | 0.91      | 1.02     | 0.72      | 0.86      | 1.04      | 0.92     |
| N-NO3            | mg/L     | 1.8       | 1.5       | 1.6       | 2.8      | 3.17      | 3.41      | 2.27      | 2.82      | 3.5        | 3.75       | 4.08       | <0.02      | 3.08      | 2.55       | 2.61       | 2.23       | 1.8       | 1.58       | 1.5        | 1.39       | 1.34     | 1.16     | 1.1       | 1.02      | 0.88      | 0.86     | 0.77      | 0.78      | 0.76      | 0.72     | 0.69      | 0.7       | 0.68      | 0.69     |
| pH-F             | pH units |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| pH-L             | pH units | 8.03      | 8.03      | 8.08      | 8.08     | 8.05      | 8.07      | 8.05      | 8.13      | 8.06       | 8.06       | 8.09       | 7.93       | 7.76      | 8.19       | 7.94       | 8.02       | 7.91      | 7.86       | 8.06       | 7.82       | 7.97     | 7.87     | 7.78      | 7.83      | 7.89      | 7.84     | 7.96      | 7.85      | 7.87      | 7.84     | 8.03      | 8.1       | 8.02      | 8.08     |
| Radium - 226     |          |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| SO4-D            | mg/L     | 32        | 34        | 34        | 36       | 35.2      | 36.5      | 37.5      | 36        | 38         |            | 39.7       | 39.1       | 40.6      | 41.2       |            | 40.9       | 41.1      | 39.9       | 39.3       | 38.4       | 40.2     | 40.2     | 40.1      | 39.8      | 39.8      | 42.6     | 42.3      | 42.4      | 43.4      | 42       | 42.6      | 44.2      | 44.8      | 49.3     |
| SO4-T            | mg/L     |           |           |           |          |           |           |           |           |            | 38.6       |            |            |           |            | 41.6       |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Sulphide         | mg/L     |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| TDS              | mg/L     | 318       | 288       | 304       | 300      | 310       | 318       | 302       | 276       | 290        | 300        | 290        | 288        | 304       | 320        | 328        | 316        | 316       | 322        | 352        | 330        | 322      | 338      | 336       | 348       | 346       | 364      | 360       | 350       | 358       | 360      | 356       | 352       | 350       | 362      |
| Temp-F           | C        |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| Temp-obs-pH      | C        |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |
| TSS              | mg/L     | 6         | <2        | <2        | 5        | 4         | 26        | <2        | <2        | 3          | <2         | <2         | <2         | <2        | <2         | 4          | <2         | <2        | 4          | 2          | <5         | <2       | <2       | 2         | <2        | 10        | 8        | <2        | <2        | 8         | 4        | <2        | <2        | <2        | 3        |
| Turb             | NTU      | 2.4       | 0.5       | 1         | 3.5      | 0.5       | 0.9       | 0.1       | 2         | 1.9        | 0.7        | 0.7        | 0.7        | 1.2       | 0.2        | 0.3        | 0.4        | 0.4       | 0.5        | 0.5        | 0.5        | 0.9      | 0.5      | 1         | 0.4       | 1.3       | 0.6      | 0.4       | 0.2       | 1         | 0.6      | 0.8       | 0.5       | 0.4       | 5.9      |
| Turb-F           | NTU      |           |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |          |           |           |           |          |

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Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | 1108275   | 1110212   | 1112510   | 1115047  | 1116116  | 1117314  | 1118493  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125108  | 1125778  | 1127472   | 1129098   | 1131174   | 1132803  | 1133503  | 1135381   | 1137485   | 1139590   | 1140635  | 1141650   | 1143971   | 1145121   | 1145121   | 1145121   | 1146370   | 1146370   | 1146370   | 1146370   |
|------------------|------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |      | 4/10/2008 | 4/17/2008 | 4/22/2008 | 5/1/2008 | 5/4/2008 | 5/5/2008 | 5/8/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/3/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 | 7/3/2008 | 7/8/2008 | 7/15/2008 | 7/22/2008 | 7/30/2008 | 8/6/2008 | 8/12/2008 | 8/21/2008 | 8/25/2008 | 8/26/2008 | 8/26/2008 | 8/27/2008 | 8/28/2008 | 8/29/2008 | 8/30/2008 |
| Station Name     |      | W3        | W3        | W3        | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        |
| Sample Class     |      | P         | P         | P         | P        | P        | P        | P        | M         | P         | M         | P         | M         | P         | P         | M         | P        | P        | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | M         | P         | M         | M         | P         | M         | M         | M         |
| Ag-T             | mg/L | <0.00001  | <0.00001  | <0.0001   | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.00005 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | 0.00004  | <0.00001 | 0.00001   | <0.00001  | <0.00001  | <0.00001 | 0.00022   | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  |
| Al-T             | mg/L | 0.107     | 0.08      | 0.11      | 0.3      | 0.24     | 0.22     | 0.14     | 0.24      | 0.24      | 0.07      | 0.04      | 0.19      | 0.05      | 0.02      | <0.01     | 0.01     | 0.02     | 0.02      | 0.03      | 0.01      | <0.01    | 0.017    | 0.017     | 0.026     | 0.02      | 0.015    | 0.01      | 0.04      | 4.69      | 1.64      | 1.1       | 2.14      | 1.46      | 1.79      | 1.65      |
| As-T             | mg/L | 0.0004    | 0.0004    | 0.0004    | 0.0024   | 0.0003   | 0.0004   | <0.0002  | 0.0009    | 0.0009    | 0.0007    | <0.0002   | 0.0008    | <0.0002   | <0.0002   | <0.0002   | 0.0006   | <0.0002  | <0.0002   | 0.0009    | <0.0002   | 0.0011   | 0.0009   | 0.0003    | 0.0004    | 0.0004    | 0.0005   | 0.0004    | 0.0026    | 0.0016    | 0.0013    | 0.0014    | 0.001     | 0.0012    | 0.001     |           |
| Ba-T             | mg/L | 0.107     | 0.096     | 0.102     | 0.053    | 0.082    | 0.074    | 0.084    | 0.083     | 0.083     | 0.094     | 0.086     | 0.087     | 0.089     | 0.076     | 0.083     | 0.089    | 0.09     | 0.091     | 0.084     | 0.086     | 0.094    | 0.089    | 0.089     | 0.094     | 0.093     | 0.1      | 0.084     | 0.092     | 0.168     | 0.113     | 0.101     | 0.121     | 0.098     | 0.109     | 0.104     |
| Be-T             | mg/L | <0.0001   | <0.0001   | <0.00004  | <0.00004 | <0.00004 | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004  | 0.00005   | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.0001   | <0.0001   | <0.00004  | <0.0001  | <0.00004  | 0.00017   | 0.00006   | 0.00007   | 0.00009   | 0.00005   | 0.0001    | 0.00006   |           |
| Bi-T             | mg/L | <0.0005   | <0.0005   |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          | <0.0005   | <0.0005   |           | <0.0005  |           |           |           |           |           |           |           |           |           |
| B-T              | mg/L | 0.02      | 0.017     | 0.015     | 0.016    | 0.008    | <0.005   | 0.011    | 0.015     | 0.015     | 0.019     | 0.013     | 0.014     | 0.013     | 0.016     | 0.015     | 0.017    | 0.016    | 0.016     | 0.017     | 0.018     | 0.021    | 0.014    | 0.019     | 0.014     | 0.014     | 0.019    | 0.018     | 0.016     | 0.026     | 0.022     | 0.022     | 0.024     | 0.021     | 0.024     | 0.02      |
| Ca-T             | mg/L | 66.9      | 70.9      | 63.4      | 17.9     | 40.8     | 41.4     | 47.3     | 59.6      | 59.6      | 64.7      | 62.5      | 58.5      | 66.8      | 55.6      | 61.2      | 68.8     | 73.1     | 79.8      | 67.1      | 70        | 68.1     | 73.2     | 64.5      | 63.8      | 70.5      | 67.4     | 72.2      | 71.2      | 53.5      | 48.8      | 49.8      | 60.8      | 53.3      | 50.9      | 50.7      |
| Cd-T             | mg/L | <0.00001  | <0.00001  | <0.00007  | <0.00007 | <0.00007 | <0.00007 | <0.00007 | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007 | <0.00007 | <0.00008  | <0.00008  | <0.00008  | 0.00002  | <0.00008 | 0.00002   | 0.00002   | <0.00001  | <0.00008 | <0.00008  | 0.0001    | 0.00005   | 0.00004   | 0.00006   | 0.00009   | 0.0001    | 0.00008   |           |
| CN-T             | mg/L |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |
| Co-T             | mg/L | 0.0002    | 0.0001    | 0.00023   | 0.00026  | 0.00025  | 0.00023  | 0.00023  | 0.00031   | 0.00031   | 0.00021   | 0.0002    | 0.00029   | 0.00022   | 0.00019   | 0.00016   | 0.00023  | 0.00019  | 0.00018   | 0.00018   | 0.00019   | 0.0001   | 0.0002   | 0.0002    | 0.0002    | 0.00019   | 0.0001   | 0.00017   | 0.00018   | 0.00339   | 0.00145   | 0.00112   | 0.0015    | 0.00132   | 0.00179   | 0.00146   |
| Cr-T             | mg/L | 0.0012    | <0.0005   | 0.001     | 0.0013   | <0.0005  | <0.0005  | <0.0005  | 0.0005    | 0.0005    | 0.0028    | 0.0015    | 0.0011    | 0.0012    | 0.0017    | 0.0032    | 0.0018   | 0.0013   | 0.001     | 0.0033    | <0.0005   | 0.0013   | 0.0008   | <0.0005   | 0.0005    | 0.0006    | 0.0006   | 0.0023    | <0.0021   | 0.0084    | 0.0038    | 0.0027    | 0.0032    | 0.0021    | 0.0043    | 0.0029    |
| Cu-T             | mg/L | 0.004     | 0.004     | 0.004     | 0.007    | 0.006    | 0.008    | 0.006    | 0.009     | 0.009     | 0.006     | 0.004     | 0.007     | 0.006     | 0.004     | 0.003     | 0.004    | 0.004    | 0.003     | 0.004     | 0.004     | 0.004    | 0.004    | 0.004     | 0.005     | 0.004     | 0.004    | 0.003     | 0.003     | 0.072     | 0.048     | 0.046     | 0.078     | 0.14      | 0.119     | 0.121     |
| Fe-T             | mg/L | 0.2       | 0.2       | 0.2       | 0.42     | 0.38     | 0.35     | 0.25     | 0.43      | 0.43      | 0.23      | 0.13      | 0.36      | 0.16      | 0.09      | 0.07      | 0.11     | 0.12     | 0.11      | 0.11      | 0.09      | 0.06     | 0.11     | 0.08      | 0.09      | 0.16      | 0.12     | 0.11      | 0.12      | 6.61      | 2.54      | 1.89      | 4.53      | 3.35      | 4.67      | 3.84      |
| Hg-T             | mg/L | <0.0001   | <0.0001   | <0.00001  | 0.00002  | <0.00001 | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | 0.0001   | <0.0001   | <0.00001  | <0.0001   | <0.00001 | <0.00001  | 0.00002   | 0.00001   | <0.00001  | 0.00001   | 0.00001   | <0.00001  | 0.00001   |           |
| K-T              | mg/L | 2.1       | 2.1       | 1.98      | 1.42     | 1.69     | 1.63     | 1.64     | 1.98      | 1.98      | 2.06      | 1.92      | 1.82      | 2.15      | 1.72      | 1.85      | 2.1      | 2.2      | 2.4       | 2.08      | 2.08      | 2        | 2.13     | 1.9       | 1.8       | 2.1       | 1.9      | 2.13      | 2.14      | 5.26      | 6.28      | 6.58      | 7.01      | 8.04      | 9.61      | 8.57      |
| Li-T             | mg/L | 0.003     | 0.002     | 0.002     | <0.001   | 0.002    | 0.001    | 0.001    | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002     | 0.003     | 0.002    | 0.003    | 0.002     | 0.002     | 0.002     | 0.003    | 0.002     | 0.002     | 0.006     | 0.003     | 0.003     | 0.004     | 0.003     | 0.004     | 0.003     |
| Mg-T             | mg/L | 23.9      | 25        | 22.1      | 6.41     | 18.1     | 14.2     | 16       | 20.8      | 20.8      | 23.2      | 20.9      | 19.9      | 23.1      | 19.9      | 21.4      | 24.5     | 25.8     | 27.8      | 23.7      | 24.8      | 24.7     | 26       | 23.4      | 22.8      | 24.9      | 24.5     | 26        | 25.8      | 15.2      | 13.4      | 13.8      | 16.5      | 13.4      | 13.7      | 14        |
| Mn-T             | mg/L | 0.122     | 0.12      | 0.11      | 0.0308   | 0.0569   | 0.0818   | 0.0897   | 0.132     | 0.132     | 0.131     | 0.106     | 0.0977    | 0.0982    | 0.0845    | 0.0882    | 0.112    | 0.11     | 0.117     | 0.0911    | 0.0883    | 0.078    | 0.0932   | 0.082     | 0.09      | 0.115     | 0.11     | 0.102     | 0.0966    | 0.618     | 0.391     | 0.42      | 0.525     | 0.461     | 0.518     | 0.541     |
| Mo-T             | mg/L | 0.003     | 0.002     | 0.00216   | 0.00057  | 0.00165  | 0.00132  | 0.00157  | 0.00198   | 0.00198   | 0.00202   | 0.00209   | 0.00209   | 0.00223   | 0.00202   | 0.0022    | 0.00225  | 0.00243  | 0.00248   | 0.0023    | 0.00235   | 0.003    | 0.00239  | 0.003     | 0.002     | 0.0026    | 0.002    | 0.00252   | 0.00262   | 0.00585   | 0.00645   | 0.00658   | 0.00682   | 0.00667   | 0.00595   | 0.00618   |
| Na-T             | mg/L | 16.4      | 16.6      | 14.7      | 4.2      | 11.5     | 9.7      | 11.1     | 14.7      | 14.7      | 16.1      | 15        | 15        | 16.1      | 14.2      | 15.2      | 17.3     | 18.6     | 19.2      | 16.9      | 17.6      | 16.6     | 16.5     | 16.3      | 17.9      | 16.6      | 18.1     | 18.1      | 15.8      | 16.2      | 16.2      | 16.2      | 18.1      | 17.9      | 17.4      | 17.6      |
| Ni-T             | mg/L | 0.0006    | <0.0005   | 0.003     | 0.005    | 0.004    | 0.004    | 0.004    | 0.005     | 0.005     | 0.003     | 0.002     | 0.004     | 0.002     | <0.001    | <0.001    | 0.001    | <0.001   | <0.001    | 0.001     | <0.0005   | 0.001    | 0.0028   | 0.0008    | 0.002     | 0.0014    | 0.001    | 0.002     | 0.024     | 0.011     | 0.008     | 0.012     | 0.008     | 0.012     | 0.01      |           |
| N-TKN            | mg/L | <0.06     | 0.5       | 0.34      | 1.97     | 0.77     | 0.8      | 0.77     |           |           | 0.5       |           |           | <0.06     | 0.41      | 0.44      | 0.32     | 0.47     | 0.33      | 0.39      | 0.36      | 0.31     | 0.39     | 0.42      | 0.29      | 0.32      | 0.33     | 0.34      | 0.37      |           |           | 1.15      | 1.57      |           |           |           |
| Pb-T             | mg/L | <0.0001   | <0.0001   | <0.0001   | 0.001    | 0.0002   | 0.0003   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0001    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | 0.0004   | <0.0001  | <0.0001   | <0.0001   | 0.0001    | <0.0001  | <0.0001   | <0.0001   | 0.0022    | 0.001     | 0.0006    | 0.0008    | 0.0006    | 0.0009    | 0.0008    |
| P-PO4-T          | mg/L | <0.05     | <0.05     | <0.05     | 0.08     | <0.05    | <0.05    | <0.05    |           |           | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | 0.05     | 0.04     | 0.07      | <0.05     | <0.05     | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | 0.09      | <0.05     |           |           | 0.09      | 0.06      |           |           |           |
| P-T              | mg/L |           |           | 0.02      | 0.07     | 0.04     | 0.04     | 0.03     | 0.04      | 0.04      | 0.03      | 0.01      | 0.03      | 0.03      | 0.01      | 0.01      | 0.02     | <0.05    | <0.05     | <0.05     | 0.03      |          | 0.01     |           |           | 0.01      |          | 0.04      | 0.04      | 0.25      | 0.15      | 0.08      | 0.12      | 0.09      | 0.12      | 0.11      |
| P-TRP (Ortho)    | mg/L | 0.03      | 0.07      | 0.08      | 0.06     | 0.09     | 0.07     |          |           |           | 0.08      |           |           | 0.07      | 0.07      | 0.08      | 0.05     |          |           |           | 0.06      | 0.06     | 0.05     | 0.06      | 0.06      | 0.06      | 0.06     | 0.06      | 0.06      | 0.06      |           |           | 0.05      | 0.05      |           |           |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   |           |
| Se-T             | mg/L | 0.0004    | 0.0002    | <0.0006   | 0.0012   | <0.0006  | <0.0006  | <0.0006  | 0.0009    | 0.0009    | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006  | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006  | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006   | 0.0008    | <0.0006   | 0.0007    | <0.0006   | 0.0006    | <0.0006   |           |
| Si-T             | mg/L | 5.2       | 5.66      | 3.06      | 2.07     | 3.01     | 2.66     | 2.75     | 3.37      | 3.37      | 3.41      | 2.99      | 3.02      | 2.78      | 2.56      | 2.55      | 2.93     | 3.04     | 5.67      | 4.81      |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 1108275   | 1110212   | 1112510   | 1115047  | 1116116  | 1117314  | 1118493  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125108  | 1125778  | 1127472   | 1129098   | 1131174   | 1132803  | 1133503  | 1135381   | 1137485   | 1139590   | 1140635  | 1141650   | 1143971   | 1145121   | 1145121   | 1145121   | 1146370   | 1146370   | 1146370   | 1146370   |     |
|------------------|----------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|
| SmpI Date        |          | 4/10/2008 | 4/17/2008 | 4/22/2008 | 5/1/2008 | 5/4/2008 | 5/5/2008 | 5/8/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/3/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 | 7/3/2008 | 7/8/2008 | 7/15/2008 | 7/22/2008 | 7/30/2008 | 8/6/2008 | 8/12/2008 | 8/21/2008 | 8/25/2008 | 8/26/2008 | 8/26/2008 | 8/27/2008 | 8/28/2008 | 8/29/2008 | 8/30/2008 |     |
| Station Name     |          | W3        | W3        | W3        | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        |     |
| Sample Class     |          | P         | P         | P         | P        | P        | M        | P        | M         | P         | M         | P         | M         | P         | P         | M         | P        | P        | P         | P         | P         | P        | P        | P         | P         | P         | P        | P         | P         | M         | P         | M         | P         | M         | M         | M         |     |
| Colour           | TCU      | 13        | 13        | 14        | 380      | 140      | 150      | 160      | 110       | 110       | 90        | 57        | 49        | 51        | 35        | 24        | 23       | 22       | 22        | 22        | 23        | 10       | 21       | 22        | 24        | 22        |          | 25        | 21        |           |           |           |           | 60        | 70        | 80        | 100 |
| Cond-F           | µS/cm    | 517       |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Cond-L           | µS/cm    |           | 575       | 523       | 173      | 394      | 364      | 422      | 466       | 466       | 499       | 544       | 504       | 523       | 474       | 528       | 552      | 516      | 504       | 533       | 522       | 530      | 528      | 536       | 496       | 532       |          | 527       | 517       |           |           |           | 403       | 393       | 376       | 380       |     |
| Discharge        | L/s      |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Fluoride         | mg/L     |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Hard-D           | mg/L     | 270       | 280       | 261       |          |          |          | 191      | 236       |           | 232       | 257       | 238       | 246       | 247       | 260       |          |          |           |           |           | 273      |          |           | 259       |           | 269      |           |           |           |           |           |           |           |           |           |     |
| Hard-T           | mg/L     |           |           |           |          |          |          | 184      |           |           |           |           |           |           |           |           | 272      | 288      |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| IB               | %        |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Ammonia          | mg/L     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    | <0.05    | <0.05    |           |           | <0.05     | 0.006     | 0.009     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     |           |           |           | 0.17      | 0.3       |           |           |           |     |
| Ammonium         | mg/L     |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| N-NO2            | mg/L     | <0.02     | <0.02     | <0.02     | <0.02    | <0.02    | <0.02    | <0.02    | <0.02     | <0.02     | <0.02     | <0.02     | <0.02     | <0.02     | <0.01     | <0.01     | <0.01    | <0.01    | <0.01     | <0.01     | <0.01     | <0.01    | <0.01    | <0.01     | <0.01     | <0.01     | <0.01    | <0.01     |           |           |           | 0.07      | 0.05      | 0.04      | 0.06      |           |     |
| NO2+NO3          | mg/L     | 0.85      | 0.51      | 0.43      | 0.09     | 0.46     | 0.2      | 0.26     |           |           | 0.24      |           |           | 0.63      | 0.21      | 0.21      | 0.21     | 0.22     | 0.18      | 0.18      | 0.16      | 0.15     | 0.14     | 0.13      | 0.18      | 0.14      | 0.13     |           | 0.12      | 0.11      |           |           | 0.46      | 0.24      |           |           |     |
| N-NO3            | mg/L     | 0.61      | 0.53      | 0.47      | 0.1      | 0.52     | 0.19     | 0.23     | 0.23      | 0.23      | 0.28      | 0.26      | 0.24      | 0.26      | 0.2       | 0.22      | 0.21     | 0.2      | 0.19      | 0.21      | 0.14      | 0.15     | 0.13     | 0.12      | 0.14      | 0.13      |          | 0.16      | 0.11      |           |           | 0.47      | 0.24      | 0.16      | 0.27      |           |     |
| pH-F             | pH units |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| pH-L             | pH units | 8.07      | 8.02      | 8.05      | 7.67     | 7.75     | 7.86     | 7.86     | 7.92      | 7.92      | 8.07      | 8.02      | 8.04      | 7.84      | 8.01      | 8.22      | 8        | 8.2      | 8.03      | 7.98      | 8.14      | 8.08     | 8.15     | 8.01      | 7.96      | 7.89      |          | 8.09      | 8.15      |           |           |           | 8.09      | 7.99      | 8.03      | 7.95      |     |
| Radium - 226     |          |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| SO4-D            | mg/L     | 50.6      | 50.7      | 49.8      | 11.7     | 34.5     | 27.9     | 31.7     | 35        | 35        | 40.3      | 41        | 37.8      | 41.3      | 36.3      | 39.2      | 40.8     | 40.4     | 41.2      | 37.9      | 38.2      | 37.7     | 36.9     | 35.9      | 32.8      | 3.29      |          | 30.5      | 29.3      |           |           |           | 36.6      | 34.8      | 33.8      | 33.1      |     |
| SO4-T            | mg/L     |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Sulphide         | mg/L     |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| TDS              | mg/L     | 370       | 372       | 378       | 264      | 304      | 302      | 304      | 338       | 338       | 338       | 340       | 324       | 364       | 336       | 352       | 328      | 368      | 338       | 332       | 422       | 282      | 368      | 340       | 310       | 330       |          | 330       | 384       |           |           |           | 292       | 290       | 288       | 284       |     |
| Temp-F           | C        |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| Temp-obs-pH      | C        |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |
| TSS              | mg/L     | <2        | 6         | 2         | 15       | <5       | 9        | 3        | <2        | <2        | <2        | <3        | 7         | <2        | <2        | <2        | <2       | <2       | <2        | <2        | <2        | <2       | <3       | <2        | <5        |           | <3       | <2        |           |           |           | 70        | 40        | 98        | 58        |           |     |
| Turb             | NTU      | 0.8       | 0.9       | 2.6       | 2.8      | 1.6      | 2.5      | 1.3      | 2.4       | 2.4       | 0.8       | 0.7       | 3         | 1         | 0.8       | 0.5       | 0.6      | 0.4      | 0.4       | 0.5       | 0.5       | 0.5      | 0.5      | 0.6       | 0.6       | 0.6       |          | 0.7       | 1.4       |           |           |           | 2.9       | 8.8       | 8.2       | 13        |     |
| Turb-F           | NTU      |           |           |           |          |          |          |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |           |           |           |          |           |           |           |           |           |           |           |           |           |     |

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**Appendix Table A.2: Water quality data at station W3**

| Sampling Session |      | 1147580   | 1147580  | 1148362  | 1148362  | 1148362  | 1148362  | 1148362   | 1149927   | 1151901   | 1153291   | 1154783   | 1156631   | 1160286    | 1163994    | 1171319    | 1171319   | 1173519    | 1178109    | 1178181    | 1183214   | 1183214    | 1183214    | 1184491    | 1188818  | 1188818  | 1188818   | 1188818   | 1191569   | 1191569  | 1191569   | 1197949   | 1199519   | 1203957   | 1214867   | 1216270 |        |
|------------------|------|-----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|---------|--------|
| Smpl Date        |      | 9/12/2008 | 9/3/2008 | 9/4/2008 | 9/5/2008 | 9/6/2008 | 9/7/2008 | 9/10/2008 | 9/17/2008 | 9/22/2008 | 9/24/2008 | 9/30/2008 | 10/8/2008 | 10/17/2008 | 10/24/2008 | 10/28/2008 | 11/4/2008 | 11/12/2008 | 11/18/2008 | 11/26/2008 | 12/5/2008 | 12/10/2008 | 12/18/2008 | 12/24/2008 | 1/2/2009 | 1/9/2009 | 1/15/2009 | 1/20/2009 | 1/28/2009 | 2/2/2009 | 2/15/2009 | 3/14/2009 | 3/20/2009 | 4/21/2009 | 4/30/2009 |         |        |
| Station Name     |      | W3        | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3        |         |        |
| Sample Class     |      | P         | M        | M        | M        | M        | M        | P         | P         | P         | M         | P         | P         | P          | P          | P          | P         | P          | P          | P          | P         | P          | P          | P          | P        | P        | P         | P         | P         | P        | P         | P         | P         | P         | P         |         |        |
| Ag-T             | mg/L | <0.00001  | <0.00001 | <0.00001 | <0.00001 | <0.00001 | <0.00001 | 0.00014   | 0.00019   | 0.00008   | 0.00016   | 0.00003   | 0.00008   | <0.00001   | <0.00001   |            |           | 0.00002    | 0.00002    | 0.00005    | <0.00001  | <0.00001   | <0.00001   | <0.00001   | 0.00007  | 0.00005  | 0.00008   | 0.00012   | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | 0.00008   |         |        |
| Al-T             | mg/L | 0.523     | 0.382    | 0.462    | 0.717    | 0.254    | 0.709    | 1.04      | 0.771     | 0.921     | 2.2       | 0.3       | 0.095     | 0.025      | 0.012      |            |           | 0.01       | 0.018      | 0.069      | 0.014     | <0.005     | 0.015      | 0.013      | 0.016    | 0.066    | 0.026     | 0.096     | 0.075     | 0.018    | 0.02      | 0.011     | 0.039     | 0.07      | 0.138     | 1.66    |        |
| As-T             | mg/L | 0.0006    | 0.0006   | 0.0009   | 0.0006   | 0.0008   | 0.0009   | 0.0012    | 0.0007    | 0.001     | 0.0013    | 0.0006    | 0.0005    | 0.0004     | 0.0004     |            |           | 0.0005     | 0.0004     | 0.0005     | 0.0003    | 0.0004     | 0.0004     | 0.0003     | 0.0004   | 0.0003   | 0.0004    | 0.0005    | 0.0003    | 0.0002   | <0.0002   | <0.0002   | 0.0003    | 0.0007    | 0.0004    | 0.0007  |        |
| Ba-T             | mg/L | 0.084     | 0.082    | 0.081    | 0.083    | 0.074    | 0.09     | 0.099     | 0.088     | 0.105     | 0.117     | 0.104     | 0.082     | 0.08       | 0.088      |            |           | 0.084      | 0.085      | 0.093      | 0.032     | 0.089      | 0.09       | 0.098      | 0.095    | 0.087    | 0.092     | 0.098     | 0.093     | 0.087    | 0.081     | 0.096     | 0.097     | 0.08      | 0.076     |         |        |
| Be-T             | mg/L | <0.00004  | <0.00004 | <0.00004 | 0.00006  | 0.00006  | 0.00008  | <0.00004  | <0.00004  | 0.00004   | 0.0001    | <0.0001   | <0.00004  | <0.00004   | <0.00004   |            |           | <0.0001    | <0.0001    | <0.0001    | <0.00004  | <0.00004   | <0.00004   | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.00004  | 0.00012   |           |         |        |
| Bi-T             | mg/L |           |          |          |          |          |          | <0.0001   | <0.0001   | <0.0001   | <0.0005   | <0.0005   | <0.0001   | <0.0001    | <0.0001    |            |           | <0.0005    | <0.0005    | <0.0001    | <0.0001   | <0.0001    | <0.0005    | <0.0005    | <0.0005  | <0.0005  | <0.0005   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   |         |        |
| B-T              | mg/L | 0.019     | 0.02     | 0.02     | 0.02     | 0.018    | 0.021    | 0.022     | 0.019     | 0.026     | 0.032     | 0.022     | 0.016     | 0.018      | 0.015      |            |           | 0.024      | 0.019      | 0.02       | <0.005    | 0.011      | 0.012      | 0.02       | 0.016    | 0.017    | 0.02      | 0.022     | 0.02      | 0.017    | 0.015     | 0.016     | 0.016     | 0.021     | 0.01      | 0.01    |        |
| Ca-T             | mg/L | 51.2      | 53.2     | 47       | 45.7     | 45.6     | 45.1     | 48.9      | 48.9      | 50.3      | 53        | 57.8      | 61.9      | 59.1       | 75.5       |            |           | 64         | 67.4       | 69         | 24.7      | 69.7       | 69.7       | 69.6       | 66.4     | 63.8     | 68.3      | 71.1      |           | 69.3     |           | 80.4      | 62.8      | 26        |           |         |        |
| Cd-T             | mg/L | 0.00003   | 0.00003  | 0.00006  | 0.00004  | 0.00003  | 0.00005  | 0.00007   | 0.00009   | 0.00009   | 0.00012   | 0.00005   | 0.00002   | 0.00001    | <0.00001   |            |           | 0.00001    | 0.00001    | 0.00001    | 0.00001   | <0.00001   | 0.00001    | <0.00001   | 0.00001  | 0.00001  | 0.00001   | 0.00001   | 0.00001   | 0.00002  | <0.00001  | <0.00001  | 0.00001   | 0.00003   | 0.00006   | 0.00014 |        |
| CN-T             | mg/L |           |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |         |        |
| Co-T             | mg/L | 0.00074   | 0.00062  | 0.00083  | 0.00089  | 0.00059  | 0.00112  | 0.0011    | 0.00107   | 0.00136   | 0.0017    | 0.0006    | 0.00036   | 0.00025    | 0.00023    |            |           | 0.0002     | 0.0002     | 0.0002     | 0.00008   | 0.0002     | 0.00021    | 0.0001     | 0.0003   | 0.0002   | 0.0003    | 0.0003    | 0.00022   | 0.00012  | 0.00011   | 0.0001    | 0.00013   | 0.00017   | 0.00012   | 0.00109 |        |
| Cr-T             | mg/L | 0.0019    | 0.0018   | 0.0016   | 0.0024   | 0.0016   | 0.0021   | 0.0024    | 0.0024    | 0.0022    | 0.0022    | 0.0008    | 0.00008   | 0.0008     | <0.0004    |            |           | <0.0005    | 0.0008     | <0.0005    | <0.0004   | 0.0004     | <0.0004    | <0.0005    | <0.0005  | <0.0005  | <0.0005   | <0.0005   | 0.0005    | 0.001    | 0.0008    | 0.0011    | 0.0007    | 0.0004    | 0.0008    | 0.0005  | 0.0027 |
| Fu-T             | mg/L | 0.059     | 0.063    | 0.097    | 0.098    | 0.061    | 0.115    | 0.144     | 0.149     | 0.166     | 0.259     | 0.056     | 0.009     | 0.007      | 0.008      |            |           | 0.005      | 0.006      | 0.018      | 0.004     | 0.004      | 0.004      | 0.005      | 0.005    | 0.006    | 0.013     | 0.029     | 0.008     | 0.006    | 0.005     | 0.003     | 0.01      | 0.027     | 0.013     | 0.052   |        |
| Ce-T             | mg/L | 1.56      | 0.94     | 0.99     | 1.43     | 0.69     | 1.78     | 1.92      | 1.89      | 1.84      | 3.49      | 0.69      | 0.23      | 0.18       | 0.2        |            |           | 0.15       | 0.14       | 0.29       | 0.11      | 0.18       | 0.23       | 0.14       | 0.17     | 0.18     | 0.1       | 0.18      |           | 0.09     |           | 0.19      | 0.17      | 3.22      |           |         |        |
| Hg-T             | mg/L | 0.00001   | 0.00001  | 0.00001  | 0.00001  | 0.00001  | 0.00001  | 0.00001   | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001   | 0.00001    |            |           | <0.0001    | <0.0001    | <0.0001    | <0.00001  | <0.00001   | <0.00001   | <0.00001   | <0.00001 | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | 0.00002   |         |        |
| K-T              | mg/L | 7.18      | 6.9      | 7        | 7.07     | 6.19     | 7.82     | 8.4       | 8.34      | 7.47      | 7.9       | 4.1       | 2.4       | 2          | 2.7        |            |           | 2.1        | 2.1        | 2.2        | 0.7       | 2.2        | 2.1        | 2.2        | 2.1      | 2.3      | 3.1       | 3.8       |           | 2.5      |           | 3.9       | 2.5       | 3.2       |           |         |        |
| Li-T             | mg/L | 0.002     | 0.002    | 0.002    | 0.003    | 0.002    | 0.002    | 0.003     | 0.002     | 0.003     | 0.004     | 0.003     | 0.002     | 0.002      | 0.002      |            |           | 0.003      | 0.003      | 0.003      | <0.001    | 0.002      | 0.002      | 0.003      | 0.003    | 0.003    | 0.003     | 0.002     | 0.004     | 0.003    | 0.003     | 0.003     | 0.002     | 0.002     | 0.002     | 0.002   |        |
| Mg-T             | mg/L | 13.9      | 14.4     | 13.2     | 12.7     | 12.8     | 13.1     | 13.3      | 14        | 15.1      | 15.1      | 18.7      | 22.9      | 21.7       | 27.1       |            |           | 23.1       | 24.3       | 25.6       | 9.68      | 27.5       | 26.6       | 27.5       | 25.3     | 27.9     | 27.8      | 23.8      |           | 28.6     |           | 27.8      | 22.7      | 8.97      |           |         |        |
| Mn-T             | mg/L | 0.528     | 0.442    | 0.454    | 0.406    | 0.374    | 0.553    | 0.616     | 0.629     | 0.844     | 0.79      | 0.503     | 0.306     | 0.237      | 0.21       |            |           | 0.19       | 0.185      | 0.234      | 0.0745    | 0.227      | 0.24       | 0.165      | 0.221    | 0.132    | 0.114     | 0.154     | 0.129     | 0.112    | 0.102     | 0.0965    | 0.0354    | 0.0498    | 0.0158    | 0.348   |        |
| Mo-T             | mg/L | 0.00694   | 0.00699  | 0.00621  | 0.00578  | 0.00588  | 0.00555  | 0.00591   | 0.00536   | 0.00627   | 0.013     | 0.006     | 0.00289   | 0.00259    | 0.00292    |            |           | 0.003      | 0.003      | 0.003      | 0.00092   | 0.00232    | 0.00242    | 0.003      | 0.002    | 0.002    | 0.003     | 0.005     | 0.00241   | 0.00232  | 0.002     | 0.00195   | 0.00465   | 0.00488   | 0.00222   | 0.00163 |        |
| Na-T             | mg/L | 16.5      | 15.8     | 16.1     | 15.2     | 14.6     | 16.6     | 17.5      | 17.3      | 16        | 18.3      | 16.8      |           | 15         | 20         |            |           | 16.9       | 16.4       | 17.4       | 6.04      | 16.6       | 16.8       | 18.4       | 16.7     | 18.2     | 19.9      | 19.3      |           | 18.6     |           | 22        | 14.8      | 8.27      |           |         |        |
| Ni-T             | mg/L | 0.005     | <0.001   | <0.001   | 0.001    | <0.001   | 0.001    | 0.004     | 0.004     | 0.003     | 0.0056    | 0.0027    | 0.002     | 0.002      | 0.002      |            |           | 0.0015     | 0.0014     | 0.0017     | <0.001    | 0.001      | 0.002      | 0.0008     | 0.0011   | 0.0011   | 0.0019    | 0.0026    | 0.001     | 0.001    | 0.001     | <0.001    | 0.002     | 0.002     | 0.001     | 0.004   |        |
| N-TKN            | mg/L |           | 1.38     |          |          |          | 1.65     | 1.89      | 1.78      |           | 0.75      | 0.64      | 0.48      | 0.54       |            |            | 0.49      | 0.54       | 0.4        | 0.27       | 0.39      | 0.39       | 0.38       | 0.2        | 0.29     | 0.31     | 0.37      | 0.58      | 0.36      | 0.32     | 0.24      | 0.46      | 1.22      | 0.41      | 1.08      |         |        |
| Pb-T             | mg/L | 0.0003    | 0.0003   | 0.0003   | 0.0008   | 0.0003   | 0.0006   | 0.0006    | 0.0006    | 0.0005    | 0.0009    | 0.0002    | 0.0004    | 0.001      | <0.0001    |            |           | <0.0001    | <0.0001    | <0.0001    | 0.0003    | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001  | <0.0001   | 0.0004    | 0.0001    | 0.0002   | <0.0001   | <0.0001   | 0.0002    | 0.0004    | 0.0002    | 0.0008  |        |
| P-PO4-T          | mg/L | <0.05     | 0.06     |          |          |          | 0.06     | 0.06      | 0.06      | 0.3       |           | <0.05     | <0.05     | <0.05      | <0.05      |            |           | <0.05      | <0.05      | <0.05      | <0.05     | <0.05      | <0.05      | <0.05      | <0.05    | <0.05    | <0.05     | 0.06      | 0.05      | 0.05     | 0.04      | 0.04      | 0.04      | 0.03      | 0.04      |         |        |
| P-T              | mg/L | 0.06      | 0.05     | 0.04     | 0.05     | 0.02     | 0.06     | 0.07      | 0.07      | 0.05      | 0.07      | <0.05     | <0.01     | 0.015      | <0.01      |            |           |            | 0.01       | 0.019      | <0.01     |            |            | <0.05      | <0.05    | <0.05    | <0.05     | 0.07      | 0.08      | 0.06     | <0.04     | <0.05     | 0.05      | <0.05     | 0.12      |         |        |
| P-TRP (Ortho)    | mg/L |           | 0.09     |          |          |          | 0.06     | 0.08      | 0.08      | 0.06      | 0.06      | 0.06      | 0.06      | 0.09       |            |            | 0.07      | 0.11       | 0.11       | 0.04       | 0.05      | 0.05       | 0.03       |            |          |          |           |           |           |          |           |           |           |           |           |         |        |
| Sb-T             | mg/L | <0.0002   | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    |            |           | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   |         |        |
| Se-T             | mg/L | <0.0006   | <0.0006  | <0.0006  | <0.0006  | <0.0006  | <0.0006  | <0.0006   | <0.0006   | 0.0008    | 0.0031    | 0.0012    | 0.0008    | <0.0006    | <0.0006    |            |           | <0.0002    | <0.0002    | <0.0002    | 0.0006    | <0.0006    | 0.0002     | <0.0002    | 0.0003   | 0.001    | 0.0012    | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   |         |        |
| Si-T             | mg/L | 6.13      | 6.01     | 5.66     | 6.13     | 5.09     | 6.08     | 6.85      | 6.61      | 9         | 11.3      | 6.82      | 6.14      | 5.58       | 6.99       |            |           | 5.94       | 6.22       | 7.25       | 1.94      | 6.06       | 5.96       | 6.32       | 5.57     | 5.58     | 5.8       | 5.53      |           | 5.93     |           | 6.602     | 5.32      | 5.62      |           |         |        |
| Sn-T             | mg/L | <0.0001   | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001   | 0.0003    | 0.0003    | 0.0003    | <0.001    | <0.001    | 0.0028     | 0.001      | <0.0001    |           | <0.001     | <0.001     | <0.0001    | 0.0001    | 0.0003     | <0.001     | <0.001     | <0.001   | <0.001   | <0.001    | <0.001    | <0.0001   | <0.0001  | <0.0001   | <0.0001   | 0.0002    | 0.0001    | <0.0001   | <0.0001 |        |
| Sr-T</           |      |           |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |         |        |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 1147580  | 1147580  | 1148362  | 1148362  | 1148362  | 1148362  | 1149927   | 1151901   | 1153291   | 1154783   | 1156631   | 1160286   | 1163994    | 1171319    | 1171319    | 1173519   | 1178109    | 1178181    | 1183214    | 1183214   | 1183214    | 1184491    | 1188818    | 1188818  | 1188818  | 1188818   | 1191569   | 1191569   | 1191569  | 1197949   | 1199519   | 1203957   | 1214867   | 1216270   |
|------------------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| SmpI Date        |          | 9/1/2008 | 9/3/2008 | 9/4/2008 | 9/5/2008 | 9/6/2008 | 9/7/2008 | 9/10/2008 | 9/17/2008 | 9/22/2008 | 9/24/2008 | 9/30/2008 | 10/8/2008 | 10/17/2008 | 10/24/2008 | 10/28/2008 | 11/4/2008 | 11/12/2008 | 11/18/2008 | 11/26/2008 | 12/5/2008 | 12/10/2008 | 12/18/2008 | 12/24/2008 | 1/2/2009 | 1/9/2009 | 1/15/2009 | 1/20/2009 | 1/28/2009 | 2/2/2009 | 2/15/2009 | 3/14/2009 | 3/20/2009 | 4/21/2009 | 4/30/2009 |
| Station Name     |          | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3        | W3         | W3         | W3         | W3       | W3       | W3        | W3        | W3        | W3       | W3        | W3        | W3        | W3        | W3        |
| Sample Class     |          | P        | M        | M        | M        | M        | M        | P         | P         | P         | M         | P         | P         | P          | P          | P          | P         | P          | P          | P          | P         | P          | P          | P          | P        | P        | P         | P         | P         | P        | P         | P         | P         | P         | P         |
| Colour           | TCU      | 100      | 90       | 110      | 130      | 120      | 140      | 100       | 110       | 100       | 100       | 48        | 36        | 31         | 27         |            | 18        | 24         | 18         | 6          | 14        | 14         | 16         | 18         | 15       | 20       | 25        | 19        | 18        | 18       | 16        | 17        | 15        | 32        | 180       |
| Cond-F           | µS/cm    |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Cond-L           | µS/cm    | 383      | 374      | 397      | 391      | 400      | 386      | 388       | 424       | 416       | 445       | 467       | 445       | 494        | 514        |            | 522       | 542        | 556        | 303        | 565       | 547        | 562        | 570        | 560      | 577      | 565       | 596       | 593       | 546      | 576       | 572       | 591       | 483       | 188       |
| Discharge        | L/s      |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Fluoride         | mg/L     |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Hard-D           | mg/L     |          |          |          |          |          |          |           |           |           |           | 219       |           |            | 276        | 304        | 255       | 260        |            |            |           |            | 288        | 162        | 277      | 278      | 264       | 330       | 330       | 307      | 261       | 252       | 276       | 246       | 95        |
| Hard-T           | mg/L     |          |          |          |          |          |          |           |           |           | 194       |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| IB               | %        |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Ammonia          | mg/L     | 0.23     | 0.22     |          |          |          |          | 0.38      | 0.36      | 0.37      |           | 0.3       | 0.13      | <0.05      | <0.05      |            | <0.05     | <0.05      | <0.05      | <0.05      | <0.05     | <0.05      | <0.05      |            |          |          |           |           |           |          |           |           |           |           |           |
| Ammonium         | mg/L     |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            | <0.05    | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     |
| N-NO2            | mg/L     | 0.07     | 0.06     | 0.06     | 0.07     | 0.07     | 0.07     | <0.01     | <0.01     | <0.01     | 0.12      | 0.08      | <0.01     | <0.01      |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| NO2+NO3          | mg/L     |          | 0.3      |          |          |          |          | 0.1       | 0.07      | 0.06      |           | 0.92      | 0.12      | 0.12       | 0.19       |            | 0.12      | 0.15       | 0.15       | 0.08       | 0.16      | 0.21       | 0.22       | 0.14       | 0.16     | 0.64     | 1.15      | 0.25      | 0.25      | 0.17     | 0.27      | 0.3       | 0.36      | 0.14      | 0.4       |
| N-NO3            | mg/L     | 0.34     | 0.28     | 0.17     | 0.19     | 0.28     | 0.17     | 0.08      | 0.07      | 0.04      | 1.96      | 0.91      | 0.12      | 0.11       |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| pH-F             | pH units |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| pH-L             | pH units | 8.04     | 8.07     | 7.97     | 8        | 8.02     | 7.95     | 7.89      | 7.94      | 7.99      | 7.96      | 7.78      | 7.98      | 7.86       | 7.94       |            | 7.7       | 8.01       | 7.82       | 8.12       | 7.71      | 7.66       | 7.7        | 7.88       | 7.71     | 7.81     | 7.85      | 7.99      | 7.9       | 7.96     | 7.64      | 7.75      | 7.77      | 7.81      | 7.44      |
| Radium - 226     |          |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| SO4-D            | mg/L     | 34.7     | 34.6     | 34.4     | 35       | 34.2     | 35.9     | 32        | 31.8      | 29.7      | 49.6      | 42.3      | 35.8      | 36.5       | 39         |            | 40        | 43.1       | 46.2       | 27.5       | 51.8      | 49.7       | 59.2       | 61.3       | 57.6     | 71.8     | 77.5      | 75.8      | 74.8      | 67.8     | 68.5      | 82.9      | 83.6      | 58.9      | 24        |
| SO4-T            | mg/L     |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Sulphide         | mg/L     | 0.02     | 0.022    |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| TDS              | mg/L     | 270      | 300      | 128      | 306      | 304      | 300      | 330       | 376       | 338       | 376       | 362       | 296       | 334        | 356        |            | 384       | 388        | 414        | 238        | 392       | 386        | 362        | 422        | 390      | 448      | 420       | 398       | 392       | 330      | 396       | 398       | 388       | 314       | 170       |
| Temp-F           | C        |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| Temp-obs-pH      | C        |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |
| TSS              | mg/L     | 18       | 8        | 10       | 30       | 8        | 27       | 25        | 23        | 24        | 32        | 7         | <2        | <5         | 4          |            | <2        | <2         | 7          | 44         | <2        | 4          | 2          | 30         | 4        | 6        | 3         | 4         | 4         | <2       | 4         | 2         | <2        | 58        |           |
| Turb             | NTU      | 7.9      | 6.9      | 10       | 11       | 8        | 16       | 18        | 28        | 18        | 36        | 5.8       | 0.2       | <0.1       | 0.4        |            | 1.9       | 18         | 3          | <0.1       | <0.1      | <0.1       | 1.5        | <0.1       | <0.1     | <0.1     | <0.1      | <0.1      | <0.1      | 0.2      | 0.8       | 0.8       | 2.8       | 9.2       |           |
| Turb-F           | NTU      |          |          |          |          |          |          |           |           |           |           |           |           |            |            |            |           |            |            |            |           |            |            |            |          |          |           |           |           |          |           |           |           |           |           |

Data omitte

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**Appendix Table A.2: Water quality data at station W3**

| Sampling Session |  | 1216919 | 1219588 | 1219588 | 1219588 | 1221849 | 1224045 | 1227387 | 1233572 | 1227791 | 1231771 | A933193 | 39991 | 39992 | 39993 | 39994 | A934681 | 39995 | 39996 | 39997 | A934681 | A934681 | A934681 | 40001 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | 7/16/2009 | 7/17/2009 | 7/18/2009 | 7/19/2009 | 7/20/2009 | 7/21/2009 | 7/22/2009 | 7/22/2009 | 7/23/2009 | 7/24/2009 | 7/24/2009 | 7/25/2009 | 7/25/2009 | 7/26/2009 | 7/26/2009 | 7/27/2009 | 7/28/2009 | 7/29/2009 | 7/30/2009 | 7/31/2009 | 8/1/2009 | 8/1/2009 | 8/2/2009 | 8/2/2009 | 8/3/2009 | 8/3/2009 | 8/4/2009 | 8/5/2009 | 8/8/2009 | 8/9/2009 | 8/11/2009 | 8/12/2009 | 8/14/2009 | 8/15/2009 | 8/16/2009 |  |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--|
| Smpl Date        |      | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        |  |
| Station Name     |      | P         | P         | P         | P         | P         | P         | M         | P         | M         | P         | M         | M         | M         | M         | P         | P         | P         | P         | P         | P         | M        | M        | P        | M        | P        | M        | P        | P        | P        | M        | P         | P         | P         | P         | P         |  |
| Sample Class     |      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |  |
| Ag-T             | mg/L | <0.00002  | <0.00002  | <0.00002  |           |           | <0.00002  |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           |           | <0.00002 |          |          |          |          |          |          |          | <0.00002 |          | <0.00001  | <0.00002  |           | <0.00002  |           |  |
| Al-T             | mg/L | 0.191     | 0.288     | 0.181     |           |           | 0.78      |           |           |           |           |           | 0.771     |           |           |           |           |           |           |           |           | 0.231    |          |          |          |          |          |          |          | 0.05     |          | 0.026     | 0.039     |           | 0.194     |           |  |
| As-T             | mg/L | 0.0004    | 0.0005    | 0.0005    |           |           | 0.001     |           |           |           |           |           | 0.0009    |           |           |           |           |           |           |           |           | 0.0004   |          |          |          |          |          |          |          | 0.0004   |          | 0.0006    | 0.0003    |           | 0.0005    |           |  |
| Ba-T             | mg/L | 0.093     | 0.095     | 0.088     |           |           | 0.136     |           |           |           |           |           | 0.129     |           |           |           |           |           |           |           |           | 0.103    |          |          |          |          |          |          |          | 0.092    |          | 0.076     | 0.088     |           | 0.12      |           |  |
| Be-T             | mg/L | <0.0001   | <0.0001   | <0.0001   |           |           | <0.0001   |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           |           | <0.0001  |          |          |          |          |          |          |          | <0.0001  |          | <0.00004  | <0.0001   |           | <0.0001   |           |  |
| Bi-T             | mg/L | <0.001    | <0.001    | <0.001    |           |           | <0.001    |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |          | <0.001   |          | <0.001    | <0.001    |           | <0.001    |           |  |
| B-T              | mg/L | <0.05     | <0.05     | <0.05     |           |           | <0.05     |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           |           | <0.05    |          |          |          |          |          |          |          | <0.05    |          | 0.025     | <0.05     |           | <0.05     |           |  |
| Ca-T             | mg/L | 53.1      | 55.6      | 49.4      |           |           | 41.6      |           |           |           |           |           | 52.2      |           |           |           |           |           |           |           |           | 51.5     |          |          |          |          |          |          |          | 62.9     |          | 59.6      | 61.7      |           | 45.2      |           |  |
| Cd-T             | mg/L | 0.0001    | 0.00006   | 0.00003   |           |           | 0.00009   |           |           |           |           |           | 0.00003   |           |           |           |           |           |           |           |           | 0.00005  |          |          |          |          |          |          |          | 0.00021  |          | 0.00001   | 0.00002   |           | 0.00004   |           |  |
| CN-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |  |
| Co-T             | mg/L | <0.0005   | <0.0005   | <0.0005   |           |           | <0.0005   |           |           |           |           |           | 0.0006    |           |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |          | <0.0005  |          | 0.00019   | <0.0005   |           | <0.0005   |           |  |
| Cr-T             | mg/L | <0.001    | <0.001    | <0.001    |           |           | 0.002     |           |           |           |           |           | 0.001     |           |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |          | <0.001   |          | 0.0008    | <0.001    |           | <0.001    |           |  |
| Cu-T             | mg/L | 0.0899    | 0.103     | 0.031     |           |           | 0.0431    |           |           |           |           |           | 0.0652    |           |           |           |           |           |           |           |           | 0.0478   |          |          |          |          |          |          |          | 0.0113   |          | 0.006     | 0.0092    |           | 0.0164    |           |  |
| Fe-T             | mg/L | 0.397     | 0.573     | 0.354     |           |           | 0.965     |           |           |           |           |           | 1.03      |           |           |           |           |           |           |           |           | 0.347    |          |          |          |          |          |          |          | 0.121    |          | 0.067     | 0.098     |           | 0.178     |           |  |
| Hg-T             | mg/L | <0.00002  | 0.00007   | 0.00007   |           |           | <0.00002  |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           |           | <0.00002 |          |          |          |          |          |          |          | <0.00002 |          |           | <0.00002  |           | <0.00002  |           |  |
| K-T              | mg/L | 6.09      | 6.38      | 4.23      |           |           | 3.37      |           |           |           |           |           | 5.15      |           |           |           |           |           |           |           |           | 5.42     |          |          |          |          |          |          |          | 3.11     |          | 2.8       | 2.91      |           | 3.78      |           |  |
| Li-T             | mg/L | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |          | <0.005   |          | 0.002     | <0.005    |           | <0.005    |           |  |
| Mg-T             | mg/L | 15.2      | 16.2      | 15        |           |           | 10.3      |           |           |           |           |           | 13.7      |           |           |           |           |           |           |           |           | 15.1     |          |          |          |          |          |          |          | 20.5     |          | 19.8      | 19.9      |           | 11.5      |           |  |
| Mn-T             | mg/L | 0.362     | 0.42      | 0.028     |           |           | 0.12      |           |           |           |           |           | 0.311     |           |           |           |           |           |           |           |           | 0.434    |          |          |          |          |          |          |          | 0.192    |          | 0.16      | 0.153     |           | 0.226     |           |  |
| Mo-T             | mg/L | 0.012     | 0.012     | 0.008     |           |           | 0.015     |           |           |           |           |           | 0.015     |           |           |           |           |           |           |           |           | 0.013    |          |          |          |          |          |          |          | 0.006    |          | 0.0048    | 0.005     |           | 0.014     |           |  |
| Na-T             | mg/L | 16.3      | 17.2      | 14.2      |           |           | 10.5      |           |           |           |           |           | 15.1      |           |           |           |           |           |           |           |           | 16.6     |          |          |          |          |          |          |          | 17.3     |          | 16.9      | 16.6      |           | 14.4      |           |  |
| Ni-T             | mg/L | 0.002     | 0.002     | 0.002     |           |           | 0.002     |           |           |           |           |           | 0.002     |           |           |           |           |           |           |           |           | 0.002    |          |          |          |          |          |          |          | 0.002    |          | 0.002     | 0.002     |           | 0.001     |           |  |
| N-TKN            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           | 0.26      |           |           |           |  |
| Pb-T             | mg/L | 0.0004    | 0.0007    | <0.0002   |           |           | 0.0017    |           |           |           |           |           | 0.0011    |           |           |           |           |           |           |           |           | 0.0016   |          |          |          |          |          |          |          | 0.0005   |          | 0.0003    | 0.0008    |           | 0.0005    |           |  |
| P-PO4-T          | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           | 0.02      |           |           |           |  |
| P-T              | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           | 0.016     |           |           |           |  |
| P-TRP (Ortho)    | mg/L | <0.005    | <0.005    | <0.005    |           |           | 0.005     |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |          | <0.005   |          | <0.05     | <0.005    |           | <0.005    |           |  |
| Sb-T             | mg/L | <0.0005   | <0.0005   | <0.0005   |           |           | 0.0009    |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |          | <0.0005  |          | <0.0002   | <0.0005   |           | 0.0006    |           |  |
| Se-T             | mg/L | 0.0019    | 0.002     | 0.0012    |           |           | 0.002     |           |           |           |           |           | 0.0023    |           |           |           |           |           |           |           |           | 0.0019   |          |          |          |          |          |          |          | 0.0004   |          | <0.0006   | 0.0004    |           | 0.0018    |           |  |
| Si-T             | mg/L | 5.38      | 6.1       | 5.82      |           |           | 5.77      |           |           |           |           |           | 6.96      |           |           |           |           |           |           |           |           | 4.91     |          |          |          |          |          |          |          | 6.75     |          | 5.98      | 6.3       |           | 3.7       |           |  |
| Sn-T             | mg/L | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |          | <0.005   |          | <0.0001   | <0.005    |           | <0.005    |           |  |
| Sr-T             | mg/L | 0.604     | 0.616     | 0.51      |           |           | 0.637     |           |           |           |           |           | 0.62      |           |           |           |           |           |           |           |           | 0.605    |          |          |          |          |          |          |          | 0.557    |          | 0.538     | 0.549     |           | 0.626     |           |  |
| S-T              | mg/L | 22        | 22        | 21        |           |           | 20        |           |           |           |           |           | 14        |           |           |           |           |           |           |           |           | 25       |          |          |          |          |          |          |          | 20       |          | 16.4      | 19        |           | 22        |           |  |
| Te-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           | <0.0001   |           |           |           |  |
| Th-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           | <0.0004   |           |           |           |  |
| Ti-T             | mg/L | 0.009     | 0.011     | 0.011     |           |           | 0.058     |           |           |           |           |           | 0.044     |           |           |           |           |           |           |           |           | 0.009    |          |          |          |          |          |          |          | <0.005   |          | 0.0013    | <0.005    |           | 0.01      |           |  |
| TI-T             | mg/L | <0.00005  | <0.00005  | <0.00005  |           |           | <0.00005  |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           |           | <0.00005 |          |          |          |          |          |          |          | <0.00005 |          | <0.00001  | <0.00005  |           | <0.00005  |           |  |
| U-T              | mg/L | 0.0014    | 0.0015    | 0.0015    |           |           | 0.0014    |           |           |           |           |           | 0.0015    |           |           |           |           |           |           |           |           | 0.0012   |          |          |          |          |          |          |          | 0.0024   |          | 0.002     | 0.0025    |           | 0.0006    |           |  |
| V-T              | mg/L | <0.005    | <0.005    | <0.005    |           |           | <0.005    |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           |           | <0.005   |          |          |          |          |          |          |          | <0.005   |          | 0.0006    | <0.005    |           | <0.005    |           |  |
| Zn-T             | mg/L | 0.006     | 0.007     | <0.005    |           |           | 0.009     |           |           |           |           |           | 0.009     |           |           |           |           |           |           |           |           | 0.005    |          |          |          |          |          |          |          | 0.007    |          | 0.002     | 0.007     |           | <0.005    |           |  |
| Zr-T             | mg/L | <0.0005   | <0.0005   | <0.0005   |           |           | 0.002     |           |           |           |           |           | 0.001     |           |           |           |           |           |           |           |           | <0.0005  |          |          |          |          |          |          |          | <0.0005  |          | 0.0001    | <0.0005   |           | <0.0005   |           |  |
| Ag-D             | mg/L | <0.00002  | <0.00002  | <0.00002  |           |           | <0.00002  |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           |           | <0.00002 |          |          |          |          |          |          |          |          |          | <0.00001  | <0.00002  |           | <0.00002  |           |  |
| Al-D             | mg/L | 0.03      | 0.03      | 0.021     |           |           | 0.042     |           |           |           |           |           | 0.03      |           |           |           |           |           |           |           |           | 0.076    |          |          |          |          |          |          |          |          | 0.013    | 0.012     |           |           | 0.06      |           |  |
| As-D             | mg/L | 0.0004    | 0.0005    | 0.0005    |           |           | 0.0008    |           |           |           |           |           | 0.0007    |           |           |           |           |           |           |           |           | 0.0005   |          |          |          |          |          |          |          |          |          |           | 0.0004    | 0.0004    |           | 0.0005    |  |
| Ba-D             | mg/L | 0.077     | 0.08      | 0.079     |           |           | 0.108     |           |           |           |           |           | 0.108     |           |           |           |           |           |           |           |           | 0.099    |          |          |          |          |          |          |          |          |          | 0.075     | 0.078     |           | 0.11      |           |  |
| B-D              | mg/L | <0.05     | <0.05     | <0.05     |           |           | <0.05     |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           |           | <0.05    |          |          |          |          |          |          |          |          | 0.015    | <0.05     |           | <0.05     |           |           |  |
| Be-D             | mg/L | <0.0001   | <0.0001   | <0.0001   |           |           | <0.0001   |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           |           | <0.0001  |          |          |          |          |          |          |          |          | <0.00004 | <0.0001   |           | <0.0001   |           |           |  |
| Bi-D             | mg/L | <0.001    | <0.001    | <0.001    |           |           | <0.001    |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           |           | <0.001   |          |          |          |          |          |          |          | <0.001   |          | <0.001    | <0.001    |           | <0.001    |           |  |
| Ca-D             | mg/L | 50        | 49.9      | 47.9      |           |           | 38.7      |           |           |           |           |           | 43.2      |           |           |           |           |           |           |           |           | 58.4     |          |          |          |          |          |          |          |          |          | 54        | 59        |           | 47        |           |  |
| Cd-D             | mg/L | 0.00006   | 0.00005   | <0.00001  |           |           | 0.00002   |           |           |           |           |           | 0.00004   |           |           |           |           |           |           |           |           | 0.00004  |          |          |          |          |          |          |          |          |          |           | 0.00002   | 0.00001   |           | 0.00001   |  |
| C-DOC            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |  |
| Co-D             | mg/L | <0.0005   | <0.0005   | <0.0005   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |  |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 7/16/2009 | 7/17/2009 | 7/18/2009 | 7/19/2009 | 7/20/2009 | 7/21/2009 | 7/22/2009 | 7/22/2009 | 7/23/2009 | 7/24/2009 | 7/24/2009 | 7/25/2009 | 7/25/2009 | 7/26/2009 | 7/26/2009 | 7/27/2009 | 7/28/2009 | 7/29/2009 | 7/30/2009 | 7/31/2009 | 8/1/2009 | 8/1/2009 | 8/2/2009 | 8/2/2009 | 8/3/2009 | 8/3/2009 | 8/4/2009 | 8/5/2009 | 8/8/2009 | 8/9/2009 | 8/11/2009 | 8/12/2009 | 8/14/2009 | 8/15/2009 | 8/16/2009 |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| SmpI Date        |          | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        |
| Station Name     |          | P         | P         | P         | P         | P         | P         | M         | P         | M         | P         | M         | P         | M         | P         | P         | P         | P         | P         | P         | P         | M        | P        | M        | P        | M        | P        | P        | P        | P        | M        | P         | P         | P         | P         | P         |
| Sample Class     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| Colour           | TCU      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 46        |           |           |           |           |          |          |          |          |          |          |          |          |          | 24       |           |           |           |           |           |
| Cond-F           | µS/cm    | 432       | 433       | 333       | 427       | 481       | 343       | 338       |           | 340       | 384       |           | 391       |           | 393       | 337       | 337       | 471       | 409       |           |           |          | 448      |          | 443      |          | 442      | 434      | 437      |          | 487      |           |           | 414       | 414       | 413       |
| Cond-L           | µS/cm    | 428       | 426       | 403       |           |           |           | 336       | 335       |           |           | 381       |           | 387       | 331       | 388       | 331       | 330       | 460       | 364       | 454       | 434      |          | 426      |          | 435      |          | 426      | 432      | 473      |          | 475       | 472       | 407       | 408       | 408       |
| Discharge        | L/s      | 130       | 130       | 65        | 10        | 40        | 45        | 76.5      |           | 78        | 104       |           | 130       |           | 130       | 115       | 44        | 10        | 55        | 55        |           | 98       |          | 98       |          | 98       | 98       | 64       |          | 10       |          | 112.5     | 125       | 126.5     |           |           |
| Fluoride         | mg/L     | 0.49      | 0.5       | 0.46      |           |           |           |           |           |           |           |           |           | 0.39      |           |           |           |           |           |           |           | 0.44     |          |          |          |          |          |          |          |          |          | 0.42      |           | 0.29      |           |           |
| Hard-D           | mg/L     | 182       | 183       | 177       |           |           | 137       |           |           |           |           |           |           | 155       |           |           | 140       |           |           |           |           | 208      |          |          |          |          |          |          |          |          | 208      | 222       |           | 169       |           |           |
| Hard-T           | mg/L     | 195       | 205       | 185       |           |           | 146       |           |           |           |           |           |           | 187       |           |           |           |           |           |           |           | 191      |          |          |          |          |          |          |          | 241      | 236      |           | 160       |           |           |           |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| Ammonia          | mg/L     | 0.12      | 0.112     | <0.005    |           |           | 0.62      |           |           |           |           |           |           | 0.471     |           |           |           |           |           |           |           | 0.187    |          |          |          |          |          |          |          | 0.015    |          | 0.013     |           | 0.309     |           |           |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          | <0.05    |           |           |           |           |           |
| N-NO2            | mg/L     | 0.086     | 0.084     | 0.024     |           |           | 0.11      |           |           |           |           |           |           | 0.107     |           |           |           |           |           |           |           | 0.103    |          |          |          |          |          |          |          | 0.006    |          | 0.005     |           | 0.154     |           |           |
| NO2+NO3          | mg/L     | 3.3       | 2.6       | 1.93      |           |           | 5.4       |           |           |           |           |           |           | 4.6       |           |           |           |           |           |           |           | 2.3      |          |          |          |          |          |          |          | 0.7      |          | 0.75      |           | 5.3       |           |           |
| N-NO3            | mg/L     | 3.2       | 2.6       | 1.91      |           |           | 5.3       |           |           |           |           |           |           | 4.5       |           |           |           |           |           |           |           | 2.2      |          |          |          |          |          |          |          | 0.69     |          | 0.74      |           | 5.1       |           |           |
| pH-F             | pH units | 8.49      | 8.26      | 8.29      | 8.38      | 8.29      | 8.5       | 8.96      |           | 8.58      | 8.4       |           | 8.47      |           | 8.28      | 8.21      | 7.83      | 7.93      | 7.8       |           |           | 7.98     |          | 8.1      |          | 7.98     | 8.06     | 8.16     |          | 7.88     |          |           | 8         | 7.87      | 7.83      |           |
| pH-L             | pH units | 8.2       | 8.2       | 8.2       |           |           |           | 8         | 8         |           | 8.1       |           | 8         | 8         | 8.1       | 7.8       | 7.85      | 8.2       | 7.9       | 8.1       | 8.2       |          | 8.1      |          | 8        | 7.98     | 8.06     | 8.2      | 8.2      | 8.2      |          | 8.02      | 8.1       | 8.1       | 8         | 8.1       |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| SO4-D            | mg/L     | 53        | 53        | 47        |           |           |           |           |           |           |           |           | 50        |           |           |           | 45        |           |           |           | 47        |          |          |          |          |          |          |          |          |          |          | 49.8      | 45        |           | 48        |           |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| TDS              | mg/L     | 260       | 260       | 250       |           |           |           | 200       | 200       |           | 240       |           | 250       | 220       | 240       | 190       | 222       | 290       | 230       | 260       | 270       |          | 240      |          | 240      |          | 260      | 240      | 290      |          | 326      | 300       | 270       | 230       | 250       |           |
| Temp-F           | C        | 9.22      | 10.88     | 12.58     | 6.25      | 6.8       | 12.85     | 12.33     |           | 12.69     | 12.93     |           | 12.22     |           | 12.97     | 12.79     | 11.4      | 8.49      | 8.83      |           |           | 15.02    |          | 12.72    |          | 12.06    | 12.35    | 11.59    |          | 5.65     |          |           | 12.55     | 12.61     | 12.51     |           |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |          |           |           |           |           |           |
| TSS              | mg/L     | 13        | <4        | 8         |           |           |           | 20        | 23        |           | 19        |           | 15        | 41        | 16        | 31        | 50        | 7         | 22        | <4        | <4        |          | <4       |          | <4       |          | <4       | 4        | <4       |          | <2       | <4        | 6         | <4        | <4        |           |
| Turb             | NTU      | 4.7       | 9.3       | 4.9       |           |           |           | 22        | 24.3      |           | 19.4      |           | 21.6      | 62.6      | 18.3      | 52.9      | 39        | 0.7       | 15.6      | 1.2       | 3.5       |          | 3.3      |          | 3.8      | 1.9      | 2.3      | 0.6      |          | 0.2      | 0.6      | 2.2       | 3.4       | 2.1       |           |           |
| Turb-F           | NTU      | 5.6       | 5.9       | 41.4      | 1.5       | 0         | 28.4      | 33.6      |           | 34        | 22.9      |           | 20        |           | 21.3      | 51.8      | 69        | 1         | 36.4      |           |           | 3.3      |          | 2.4      |          | 1.4      | 1.4      | 0.6      |          | 0        |          | 3.4       | 1.5       | 1.7       |           |           |

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Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 8/17/2009 | 8/18/2009 | 8/19/2009 | 8/20/2009 | 8/21/2009 | 8/22/2009 | 8/23/2009 | 8/24/2009 | 8/25/2009 | 8/26/2009 | 8/27/2009 | 8/28/2009 | 8/29/2009 | 8/30/2009 | 8/31/2009 | 9/1/2009 | 9/2/2009 | 9/3/2009 | 9/4/2009 | 9/5/2009 | 9/6/2009 | 9/7/2009 | 9/8/2009 | 9/9/2009 | 9/10/2009 | 9/11/2009 | 9/12/2009 | 9/13/2009 | 9/14/2009 | 9/15/2009 | 9/16/2009 | 9/17/2009 | 9/18/2009 | 9/19/2009 | 9/20/2009 |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SmpI Date        |          | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3       | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        |
| Station Name     |          | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P        | P        | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         |
| Sample Class     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| Colour           | TCU      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| Cond-F           | µS/cm    | 413       | 430       | 397       | 411       | 411       | 414       | 419       | 412       | 414       | 417       | 420       | 425       | 427       | 430       | 431       | 434      | 436      | 438      | 439      | 439      | 438      | 438      | 439      | 442      | 443       | 445       | 449       | 451       | 452       | 455       | 456       | 456       | 456       | 456       | 458       |
| Cond-L           | µS/cm    | 408       | 422       | 406       | 409       | 407       | 411       | 414       | 417       | 416       | 417       | 420       | 427       | 429       | 431       | 436       | 437      | 439      | 444      | 441      | 442      | 442      | 440      | 448      | 444      | 446       | 448       | 446       | 432       | 455       | 450       | 451       | 457       | 461       | 461       | 462       |
| Discharge        | L/s      | 84        | 128       | 128       | 128       | 126.5     | 128       | 128       | 128       | 128       | 128       | 128       | 128       | 128       | 128       | 128       | 130      | 129      | 125      | 124.5    | 125      | 125      | 122.5    | 120      | 120      | 120       | 120       | 117.5     | 114       | 114       | 115       | 115       | 115       | 115       | 115       | 115       |
| Fluoride         | mg/L     |           |           | 0.25      | 0.26      | 0.26      | 0.26      | 0.26      | 0.25      |           |           |           |           |           | 0.21      |           |          |          |          |          |          | 0.23     |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| Hard-D           | mg/L     |           |           | 170       |           |           | 169       |           |           |           |           |           |           |           | 177       |           |          |          |          |          |          | 168      |          |          |          |           |           | 187       |           |           |           |           |           |           |           | 184       |
| Hard-T           | mg/L     |           |           | 164       |           |           | 173       |           |           |           |           |           |           |           | 199       |           |          |          |          |          |          | 182      |          |          |          |           |           | 183       |           |           |           |           |           |           |           | 202       |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| Ammonia          | mg/L     |           |           | 0.235     | 0.27      | 0.246     | 0.264     | 0.273     | 0.257     |           |           |           |           |           | 0.266     |           |          |          |          |          |          | 0.265    |          |          |          |           |           |           | 0.216     |           |           |           |           |           |           | 0.118     |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| N-NO2            | mg/L     |           |           | 0.194     | 0.176     | 0.185     | 0.191     | <0.005    | 0.219     |           |           |           |           |           | 0.29      |           |          |          |          |          |          | 0.321    |          |          |          |           |           |           | 0.347     |           |           |           |           |           |           | 0.253     |
| NO2+NO3          | mg/L     |           |           | 5.6       | 5.4       | 5.6       | 5.8       | 0.19      | 5.7       |           |           |           |           |           | 7         |           |          |          |          |          |          | 6.5      |          |          |          |           |           |           | 7.3       |           |           |           |           |           |           | 7.2       |
| N-NO3            | mg/L     |           |           | 5.5       | 5.2       | 5.4       | 5.6       | 0.19      | 5.4       |           |           |           |           |           | 6.7       |           |          |          |          |          |          | 6.2      |          |          |          |           |           |           | 7         |           |           |           |           |           |           | 6.9       |
| pH-F             | pH units | 7.93      | 7.85      | 7.96      | 8.09      | 8.03      | 7.98      | 7.98      | 7.96      | 7.88      | 7.96      | 7.92      | 7.86      | 7.86      | 7.89      | 7.86      | 7.85     | 7.89     | 7.88     | 8.06     | 7.96     | 7.97     | 7.99     | 8.09     | 8.15     | 8.1       | 8.14      | 8.33      | 8.16      | 8.2       | 8.03      | 8.24      | 8.05      | 8.27      | 8.16      | 8.28      |
| pH-L             | pH units | 8.1       | 8.2       | 8         | 8.1       | 8.1       | 8         | 8.1       | 8.2       | 7.7       | 7.8       | 8         | 8         | 7.9       | 8         | 8         | 8        | 8        | 8        | 8        | 8        | 7.9      | 8        | 7.9      | 8        | 8         | 8         | 8         | 8         | 8         | 7.6       | 7.6       | 7.9       | 8         | 8         | 8         |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| SO4-D            | mg/L     |           |           | 42        | 43        | 44        | 45        | 45        | 45        |           |           |           |           |           | 51        |           |          |          |          |          |          | 53       |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| TDS              | mg/L     | 250       | 260       | 260       | 260       | 260       | 250       | 250       | 240       | 280       | 270       | 270       | 280       | 290       | 280       | 280       | 280      | 280      | 270      | 280      | 280      | 290      | 280      | 290      | 270      | 280       | 270       | 280       | 300       | 290       | 250       | 290       | 270       | 300       | 260       | 260       |
| Temp-F           | C        | 12.3      | 10.66     | 12.34     | 11.69     | 11.79     | 11.9      | 11.74     | 11.68     | 11.35     | 11.8      | 11.4      | 11.45     | 11.31     | 11.4      | 11.11     | 11.51    | 11.17    | 10.86    | 10.62    | 10.9     | 10.73    | 10.84    | 10.85    | 10.35    | 9.97      | 9.95      | 9.89      | 9.54      | 9.63      | 9.42      | 9.42      | 9.31      | 9.13      | 9.13      | 8.84      |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |
| TSS              | mg/L     | <4        | <4        | 5         | <4        | 5         | 7         | 7         | 6         | 6         | 5         | 4         | 6         | 5         | 6         | 5         | <4       | <4       | <4       | <4       | <4       | 4        | <4       | 4        | <4       | <4        | 4         | <4        | 5         | <4        | <4        | <4        | <4        | <4        | <4        | <4        |
| Turb             | NTU      | 2.3       | 1.6       | 3.7       | 5.4       | 6.4       | 6.2       | 6.1       | 6.1       | 5.9       | 5         | 4.5       | 6.9       | 4.2       | 6.5       | 4.3       | 3.5      | 3.2      | 2.5      | 2.7      | 2.4      | 2.9      | 3.3      | 3.1      | 3.2      | 2.4       | 2.3       | 2.1       | 2.4       | 1.3       | 1.4       | 1.5       | 2.3       | 1.3       | 1.6       | 1.7       |
| Turb-F           | NTU      | 2         | 0.3       | 2.4       | 3.2       | 6         | 6.3       | 6.9       | 4.1       | 4         | 3.4       | 4         | 5         | 4.6       | 4.5       | 2.8       | 4.1      | 7.6      | 2.3      | 1.2      | 2.4      | 2.1      | 5.4      | 4.6      | 2.4      | 1.9       | 2.2       | 0.2       | 0.5       | 0         | 0         | 0         | 0.9       | 0         | 0         | 0.2       |

Data omitte

Data omitte

Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | 9/21/2009 | 9/22/2009 | 9/23/2009 | 9/24/2009 | 9/25/2009 | 9/26/2009 | 9/27/2009 | 9/28/2009 | 9/29/2009 | 9/30/2009 | 10/1/2009 | 10/2/2009 | 10/3/2009 | 10/4/2009 | 10/5/2009 | 10/6/2009 | 10/7/2009 | 10/8/2009 | 10/9/2009 | 10/10/2009 | 10/11/2009 | 10/12/2009 | 10/13/2009 | 10/14/2009 | 10/15/2009 | 10/16/2009 | 10/17/2009 | 10/18/2009 | 10/19/2009 | 10/20/2009 | 10/21/2009 | 10/22/2009 | 10/23/2009 |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Smpl Date        |      | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         |
| Station Name     |      | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          |            |
| Sample Class     |      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Ag-T             | mg/L |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |           |           | 0.00004   |           |            |            | <0.00002   |            |            |            |            |            |            |            | <0.00002   |            |            |            |
| Al-T             | mg/L |           |           |           |           |           | 0.243     |           |           |           |           |           |           |           | 0.258     |           |           |           | 0.628     |           |            |            | 0.275      |            |            |            |            |            |            |            |            | 0.119      |            |            |
| As-T             | mg/L |           |           |           |           |           | 0.0004    |           |           |           |           |           |           |           | 0.0004    |           |           |           | 0.0012    |           |            |            | 0.0004     |            |            |            |            |            |            |            |            | 0.0003     |            |            |
| Ba-T             | mg/L |           |           |           |           |           | 0.131     |           |           |           |           |           |           |           | 0.145     |           |           |           | 0.136     |           |            |            | 0.145      |            |            |            |            |            |            |            |            | 0.138      |            |            |
| Be-T             | mg/L |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001   |           |           |           | <0.00004  |           |            |            | <0.0001    |            |            |            |            |            |            |            | <0.0001    |            |            |            |
| Bi-T             | mg/L |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |           |           | <0.001    |           |            |            | <0.001     |            |            |            |            |            |            |            | <0.001     |            |            |            |
| B-T              | mg/L |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           | <0.05     |           |           |           | 0.109     |           |            |            | <0.05      |            |            |            |            |            |            |            | <0.05      |            |            |            |
| Ca-T             | mg/L |           |           |           |           |           | 53.7      |           |           |           |           |           |           |           | 56.3      |           |           |           | 70.8      |           |            |            | 58.6       |            |            |            |            |            |            |            | 63.8       |            |            |            |
| Cd-T             | mg/L |           |           |           |           |           | 0.00009   |           |           |           |           |           |           |           | 0.00006   |           |           |           | 0.00083   |           |            |            | 0.00003    |            |            |            |            |            |            |            | 0.00004    |            |            |            |
| CN-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Co-T             | mg/L |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |           |           | 0.00045   |           |            |            | <0.0005    |            |            |            |            |            |            |            | <0.0005    |            |            |            |
| Cr-T             | mg/L |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |           |           | 0.001     |           |            |            | <0.001     |            |            |            |            |            |            |            | <0.001     |            |            |            |
| Cu-T             | mg/L |           |           |           |           |           | 0.0061    |           |           |           |           |           |           |           | 0.0071    |           |           |           | 0.14      |           |            |            | 0.0056     |            |            |            |            |            |            |            | 0.0091     |            |            |            |
| Fe-T             | mg/L |           |           |           |           |           | 0.057     |           |           |           |           |           |           |           | 0.08      |           |           |           | 0.57      |           |            |            | 0.214      |            |            |            |            |            |            |            | 0.098      |            |            |            |
| Hg-T             | mg/L |           |           |           |           |           | 0.00002   |           |           |           |           |           |           |           | 0.00003   |           |           |           | <0.00001  |           |            |            | 0.00004    |            |            |            |            |            |            |            | <0.00002   |            |            |            |
| K-T              | mg/L |           |           |           |           |           | 3.14      |           |           |           |           |           |           |           | 3.42      |           |           |           | 58        |           |            |            | 3.58       |            |            |            |            |            |            |            | 3.71       |            |            |            |
| Li-T             | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | 0.019     |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Mg-T             | mg/L |           |           |           |           |           | 13.6      |           |           |           |           |           |           |           | 13.7      |           |           |           | 18.8      |           |            |            | 14.5       |            |            |            |            |            |            |            | 15.4       |            |            |            |
| Mn-T             | mg/L |           |           |           |           |           | 0.283     |           |           |           |           |           |           |           | 0.295     |           |           |           | 0.146     |           |            |            | 0.325      |            |            |            |            |            |            |            | 0.314      |            |            |            |
| Mo-T             | mg/L |           |           |           |           |           | 0.016     |           |           |           |           |           |           |           | 0.018     |           |           |           | 0.102     |           |            |            | 0.018      |            |            |            |            |            |            |            | 0.018      |            |            |            |
| Na-T             | mg/L |           |           |           |           |           | 17.8      |           |           |           |           |           |           |           | 17.1      |           |           |           | 103       |           |            |            | 17.7       |            |            |            |            |            |            |            | 17.8       |            |            |            |
| Ni-T             | mg/L |           |           |           |           |           | 0.003     |           |           |           |           |           |           |           | 0.001     |           |           |           | 0.002     |           |            |            | 0.001      |            |            |            |            |            |            |            | <0.001     |            |            |            |
| N-TKN            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           | 3.97      |           |           |           | 3.97      |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Pb-T             | mg/L |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0005    |           |           |           | 0.0013    |           |            |            | <0.0002    |            |            |            |            |            |            |            | <0.0002    |            |            |            |
| P-PO4-T          | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 0.04      |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| P-T              | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <0.05     |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           |           |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Sb-T             | mg/L |           |           |           |           |           | 0.0007    |           |           |           |           |           |           |           | 0.0008    |           |           |           | 0.0004    |           |            |            | 0.0007     |            |            |            |            |            |            |            | 0.0007     |            |            |            |
| Se-T             | mg/L |           |           |           |           |           | 0.002     |           |           |           |           |           |           |           | 0.0021    |           |           |           | 0.0324    |           |            |            | 0.0024     |            |            |            |            |            |            |            | 0.0021     |            |            |            |
| Si-T             | mg/L |           |           |           |           |           | 3.64      |           |           |           |           |           |           |           | 3.69      |           |           |           | 4.1       |           |            |            | 4.2        |            |            |            |            |            |            |            | 4.04       |            |            |            |
| Sn-T             | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | <0.0001   |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Sr-T             | mg/L |           |           |           |           |           | 0.702     |           |           |           |           |           |           |           | 0.799     |           |           |           | 2.04      |           |            |            | 0.863      |            |            |            |            |            |            |            | 0.903      |            |            |            |
| S-T              | mg/L |           |           |           |           |           | 25        |           |           |           |           |           |           |           | 29        |           |           |           | 81        |           |            |            | 24         |            |            |            |            |            |            |            | 28         |            |            |            |
| Te-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <0.0001   |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Th-T             | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <0.0004   |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Ti-T             | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | 0.0153    |           |            |            | 0.006      |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Tl-T             | mg/L |           |           |           |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005  |           |           |           | <0.00001  |           |            |            | <0.00005   |            |            |            |            |            |            |            | <0.00005   |            |            |            |
| U-T              | mg/L |           |           |           |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0005    |           |           |           | <0.0004   |           |            |            | 0.0005     |            |            |            |            |            |            |            | 0.0007     |            |            |            |
| V-T              | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | 0.0014    |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Zn-T             | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | 0.008     |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Zr-T             | mg/L |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |           |           | <0.0001   |           |            |            | <0.0005    |            |            |            |            |            |            |            | <0.0005    |            |            |            |
| Ag-D             | mg/L |           |           |           |           |           | <0.00002  |           |           |           |           |           |           |           | <0.00002  |           |           |           | <0.00001  |           |            |            | <0.00002   |            |            |            |            |            |            |            | <0.00002   |            |            |            |
| Al-D             | mg/L |           |           |           |           |           | 0.054     |           |           |           |           |           |           |           | 0.063     |           |           |           | 0.02      |           |            |            | 0.062      |            |            |            |            |            |            |            | 0.032      |            |            |            |
| As-D             | mg/L |           |           |           |           |           | 0.0003    |           |           |           |           |           |           |           | 0.0004    |           |           |           | 0.0011    |           |            |            | 0.0003     |            |            |            |            |            |            |            | 0.0003     |            |            |            |
| Ba-D             | mg/L |           |           |           |           |           | 0.134     |           |           |           |           |           |           |           | 0.131     |           |           |           | 0.12      |           |            |            | 0.128      |            |            |            |            |            |            |            | 0.13       |            |            |            |
| B-D              | mg/L |           |           |           |           |           | <0.05     |           |           |           |           |           |           |           | <0.05     |           |           |           | 0.091     |           |            |            | <0.05      |            |            |            |            |            |            |            | <0.05      |            |            |            |
| Be-D             | mg/L |           |           |           |           |           | <0.0001   |           |           |           |           |           |           |           | <0.0001   |           |           |           | <0.00004  |           |            |            | <0.0001    |            |            |            |            |            |            |            | <0.0001    |            |            |            |
| Bi-D             | mg/L |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |           |           | <0.001    |           |            |            | <0.001     |            |            |            |            |            |            |            | <0.001     |            |            |            |
| Ca-D             | mg/L |           |           |           |           |           | 52.3      |           |           |           |           |           |           |           | 52.8      |           |           |           | 63.5      |           |            |            | 57         |            |            |            |            |            |            |            | 61.4       |            |            |            |
| Cd-D             | mg/L |           |           |           |           |           | 0.00002   |           |           |           |           |           |           |           | 0.00003   |           |           |           | 0.00021   |           |            |            | 0.00002    |            |            |            |            |            |            |            | 0.00002    |            |            |            |
| C-DOC            | mg/L |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Co-D             | mg/L |           |           |           |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |           |           | 0.00029   |           |            |            | <0.0005    |            |            |            |            |            |            |            | <0.0005    |            |            |            |
| Cr-D             | mg/L |           |           |           |           |           | <0.001    |           |           |           |           |           |           |           | <0.001    |           |           |           | <0.0004   |           |            |            | <0.001     |            |            |            |            |            |            |            | <0.001     |            |            |            |
| Cu-D             | mg/L |           |           |           |           |           | 0.0014    |           |           |           |           |           |           |           | 0.0013    |           |           |           | 0.014     |           |            |            | 0.0014     |            |            |            |            |            |            |            | 0.0026     |            |            |            |
| Fe-D             | mg/L |           |           |           |           |           | 0.006     |           |           |           |           |           |           |           | 0.006     |           |           |           | <0.01     |           |            |            | 0.01       |            |            |            |            |            |            |            | 0.008      |            |            |            |
| Hg-D             | mg/L |           |           |           |           |           | 0.00004   |           |           |           |           |           |           |           | 0.0001    |           |           |           | <0.00001  |           |            |            | <0.0002    |            |            |            |            |            |            |            | 0.00008    |            |            |            |
| K-D              | mg/L |           |           |           |           |           | 3.33      |           |           |           |           |           |           |           | 3.32      |           |           |           | 50        |           |            |            | 3.48       |            |            |            |            |            |            |            | 3.65       |            |            |            |
| Li-D             | mg/L |           |           |           |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |           |           | 0.016     |           |            |            | <0.005     |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Mg-D             | mg/L |           |           |           |           |           | 13.3      |           |           |           |           |           |           |           | 13.5      |           |           |           | 17        |           |            |            | 14.4       |            |            |            |            |            |            |            | 15.2       |            |            |            |
| Mn-D             | mg/L |           |           |           |           |           | 0.284     |           |           |           |           |           |           |           | 0.276     |           |           |           | 0.13      |           |            |            | 0.301      |            |            |            |            |            |            |            | 0.296      |            |            |            |
| Mo-D             | mg/L |           |           |           |           |           | 0.017     |           |           |           |           |           |           |           | 0.018     |           |           |           | 0.103     |           |            |            | 0.018      |            |            |            |            |            |            |            | 0.017      |            |            |            |
| Na-D             | mg/L |           |           |           |           |           | 17.3      |           |           |           |           |           |           |           | 17        |           |           |           | 94.4      |           |            |            | 18.3       |            |            |            |            |            |            |            | 18.6       |            |            |            |
| Ni-D             | mg/L |           |           |           |           |           | 0.001     |           |           |           |           |           |           |           | 0.001     |           |           |           | 0.002     |           |            |            | 0.001      |            |            |            |            |            |            |            | <0.001     |            |            |            |
| O-DO             | mg/L | 103.9</   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | 9/21/2009 | 9/22/2009 | 9/23/2009 | 9/24/2009 | 9/25/2009 | 9/26/2009 | 9/27/2009 | 9/28/2009 | 9/29/2009 | 9/30/2009 | 10/1/2009 | 10/2/2009 | 10/3/2009 | 10/4/2009 | 10/5/2009 | 10/6/2009 | 10/7/2009 | 10/8/2009 | 10/9/2009 | 10/10/2009 | 10/11/2009 | 10/12/2009 | 10/13/2009 | 10/14/2009 | 10/15/2009 | 10/16/2009 | 10/17/2009 | 10/18/2009 | 10/19/2009 | 10/20/2009 | 10/21/2009 | 10/22/2009 | 10/23/2009 |  |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Smp1 Date        |          | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3        | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3         |  |
| Station Name     |          | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          |  |
| Sample Class     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| Colour           | TCU      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| Cond-F           | µS/cm    | 458       | 460       | 457       | 459       | 462       | 460       | 462       | 463       | 479       | 480       | 491       | 491       | 483       | 489       | 487       | 490       | 488       | 464       | 477       | 502        | 505        | 502        | 507        | 512        | 517        | 517        | 521        | 503        | 523        | 498        | 498        | 504        | 516        |  |
| Cond-L           | µS/cm    | 460       | 461       | 462       | 457       | 463       | 467       | 469       | 470       | 461       | 479       | 486       | 483       | 480       | 480       | 484       | 482       | 471       | 491       | 493       | 495        | 489        | 495        | 496        | 499        | 503        | 504        | 507        | 509        | 509        | 512        | 500        | 502        | 505        |  |
| Discharge        | L/s      | 115       | 115       | 105       | 113.5     | 113       | 113       | 113       | 114       | 114       | 114       | 79.5      | 72.5      | 112       | 112       | 113.5     | 113.5     | 113       | 114       | 112.5     | 113.5      | 115        | 113        | 114        | 112        | 112        | 110        | 92.5       | 75         | 60         | 40         | 35         | 35         | 35         |  |
| Fluoride         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            | 0.33       |            |            |  |
| Hard-D           | mg/L     |           |           |           |           |           | 186       |           |           |           |           |           |           |           | 187       |           |           |           | 228       |           |            | 201        |            |            |            |            |            |            |            |            | 216        |            |            |            |  |
| Hard-T           | mg/L     |           |           |           |           |           | 190       |           |           |           |           |           |           |           | 197       |           |           |           |           |           |            | 206        |            |            |            |            |            |            |            |            | 223        |            |            |            |  |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| Ammonia          | mg/L     |           |           |           |           |           | 0.105     |           |           |           |           |           |           |           | 0.123     |           |           |           |           |           |            | 0.174      |            |            |            |            |            |            |            |            | 0.224      |            |            |            |  |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 0.51      |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| N-NO2            | mg/L     |           |           |           |           |           | 0.162     |           |           |           |           |           |           |           | 0.1       |           |           |           |           |           |            | 0.099      |            |            |            |            |            |            |            |            | 0.092      |            |            |            |  |
| NO2+NO3          | mg/L     |           |           |           |           |           | 8.3       |           |           |           |           |           |           |           | 8.3       |           |           |           | 19.2      |           |            | 8.7        |            |            |            |            |            |            |            |            | 8.9        |            |            |            |  |
| N-NO3            | mg/L     |           |           |           |           |           | 8.1       |           |           |           |           |           |           |           | 8.2       |           |           |           |           |           |            | 8.6        |            |            |            |            |            |            |            |            | 8.8        |            |            |            |  |
| pH-F             | pH units | 8.25      | 8.46      | 8.18      | 8.07      | 8.09      | 8.17      | 8.02      | 8.06      | 8.18      | 8.04      | 7.96      | 7.88      | 7.78      | 7.9       | 7.8       | 7.93      | 7.79      | 7.97      | 7.85      | 7.81       | 7.99       | 8.11       | 8.03       | 8.07       | 8.13       | 7.8        | 7.97       | 8.05       | 8.04       | 8.01       | 7.92       | 7.98       | 7.99       |  |
| pH-L             | pH units | 7.8       | 8         | 7.9       | 7.8       | 8         | 8         | 8         | 8.1       | 8.1       | 8.1       | 8.1       | 8         | 8         | 8         | 8         | 8.1       | 8.1       | 8         | 8         | 8          | 7.7        | 8          | 8          | 8          | 8          | 8.1        | 8          | 8          | 8          | 8.1        | 8          | 8          | 8          |  |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| SO4-D            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 252       |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| TDS              | mg/L     | 280       | 270       | 250       | 270       | 270       | 290       | 320       | 270       | 280       | 300       | 330       | 320       | 270       | 300       | 300       | 320       | 310       | 310       | 310       | 330        | 310        | 300        | 280        | 270        | 250        | 270        | 260        | 270        | 270        | 280        | 280        | 290        | 290        |  |
| Temp-F           | C        | 8.97      | 8.75      | 8.62      | 8.21      | 8.73      | 8.08      | 7.66      | 7.14      | 6.63      | 6.3       | 5.19      | 5.05      | 5.69      | 5.23      | 4.9       | 5.22      | 4.66      | 4.25      | 4.36      | 3.88       | 3.68       | 3.64       | 3.25       | 2.67       | 2.69       | 2.97       | 2.57       | 2.92       | 2.79       | 2.31       | 2.57       | 2.59       | 2.81       |  |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |
| TSS              | mg/L     | <4        | 5         | 5         | 4         | <4        | <4        | 4         | 4         | 4         | 5         | 7         | <4        | <4        | <4        | <4        | <4        | <4        | <4        | <4        | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         |            |  |
| Turb             | NTU      | 1.2       | 3         | 2.5       | 2.7       | 2.9       | 1.7       | 1.2       | 1.2       | 1.8       | 1.7       | 3.5       | 1.3       | 2.6       | 1.6       | 2.4       | 1.4       | 1.5       | 1.4       | 1.2       | 1          | 0.8        | 1.6        | 2.3        | 1.5        | 1.7        | 1.7        | 2.2        | 2.3        | 2          | 0.6        | 1.7        | 1.6        | 1.2        |  |
| Turb-F           | NTU      | 0         | 0.7       | 2.6       | 1.3       | 0.7       | 0         | 0.8       | 0.3       | 3.4       | 4         | 3.1       | 1.8       | 2.6       | 1.2       | 1.5       | 2.2       | 2.1       | 1.3       | 1.9       | 1.4        | 2.1        | 1.5        | 1.9        | 3          | 1.9        | 2.6        | 2.9        | 2.9        | 3          | 3          | 2.6        | 3.5        | 2.2        |  |

Data omitte

Data omitte

Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | 10/24/2009 | 10/25/2009 | 10/26/2009 | 10/27/2009 | 10/28/2009 | 10/29/2009 | 10/30/2009 | 11/5/2009 | 11/9/2009 | 11/16/2009 | 11/25/2009 | 12/2/2009 | 12/4/2009 | 12/9/2009 | 12/15/2009 | averages  |           |           | number    |           |           | %>MDL     |           |           | Upper 95th Percentile |           |           | Percentage >background |           |           |           |   |
|------------------|------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------|-----------|-----------|------------------------|-----------|-----------|-----------|---|
| Smpl Date        |      | W3         | W3         | W3         | W3         | W3         | W3         | W3         | W3        | W3        | W3         | W3         | W3        | W3        | W3        | W3         | pre-      | operation | operation | pre-      | operation | operation | pre-      | operation | operation | pre-                  | operation | operation | pre-                   | operation | operation | pre-      |   |
| Station Name     |      | P          | M          | P          | P          | P          | P          | P          | P         | P         | P          | P          | P         | M         | P         | P          | operation | no        | discharge | operation | no        | discharge | operation | no        | discharge | operation             | no        | discharge | operation              | no        | discharge | operation |   |
| Sample Class     |      |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            |           |           |           |           |           |           |           |           |           |                       |           |           |                        |           |           |           |   |
| Ag-T             | mg/L |            | <0.00002   |            | <0.00002   |            |            |            | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | 0.00001   | <0.00001  | <0.00001   | 0.00001   | 0.00004   | 0.00002   | 7         | 191       | 41        | 29        | 19        | 15        | 0.00003               | 0.00010   | 0.00014   | 0                      | 3         | 7         | 0         |   |
| Al-T             | mg/L |            | 0.093      |            | 0.101      |            |            |            | 0.058     | 0.082     | 0.044      | 0.083      | 0.032     | 0.103     | 0.018     | 0.032      | 0.216     | 0.221     | 0.609     | 7         | 196       | 41        | 100       | 98        | 98        | 0.593                 | 0.847     | 1.790     | 14                     | 7         | 37        | 14        |   |
| As-T             | mg/L |            | 0.0004     |            | 0.0003     |            |            |            | 0.0004    | 0.0005    | 0.0006     | 0.0004     | 0.0004    | 0.0004    | 0.0003    | <0.0002    | 0.0005    | 0.0005    | 0.0007    | 7         | 196       | 41        | 86        | 90        | 98        | 0.001                 | 0.001     | 0.001     | 14                     | 6         | 34        | 0         |   |
| Ba-T             | mg/L |            | 0.14       |            | 0.135      |            |            |            | 0.094     | 0.089     | 0.091      | 0.095      | 0.094     | 0.094     | 0.096     | 0.104      | 0.058     | 0.079     | 0.111     | 7         | 196       | 41        | 100       | 98        | 98        | 0.076                 | 0.102     | 0.146     | 14                     | 63        | 98        | -         |   |
| Be-T             | mg/L |            | <0.0001    |            | <0.0001    |            |            |            | <0.00004  | <0.00004  | <0.00004   | <0.00004   | <0.00004  | 0.0001    | <0.00004  | <0.00004   | 0.00036   | 0.00009   | 0.00005   | 7         | 195       | 41        | 0         | 2         | 27        | 0.00050               | 0.00025   | 0.00009   | 0                      | 0         | 0         | -         |   |
| Bi-T             | mg/L |            | <0.001     |            | <0.001     |            |            |            | <0.001    | <0.001    | <0.001     | <0.001     | <0.001    | 0.0005    | <0.001    | <0.001     | 0.0003    | 0.0003    | 0.0004    | 4         | 173       | 29        | 0         | 1         | 0         | 0.0003                | 0.0005    | 0.0005    | 0                      | 1         | 0         | -         |   |
| B-T              | mg/L |            | <0.05      |            | <0.05      |            |            |            | 0.025     | 0.019     | 0.021      | 0.018      | 0.015     | 0.018     | 0.03      | 0.019      | 0.02      | 0.01      | 0.03      | 7         | 196       | 41        | 0         | 76        | 44        | 0.05                  | 0.03      | 0.03      | 0                      | 2         | 2         | -         |   |
| Ca-T             | mg/L |            | 65.5       |            | 64.3       |            |            |            | 62.1      | 60.1      | 62.7       | 61.5       | 58.3      | 60.6      | 57.9      | 61.1       | 35.6      | 51.9      | 53.1      | 7         | 192       | 41        | 100       | 100       | 98        | 56.0                  | 71.1      | 64.3      | 14                     | 82        | 100       | -         |   |
| Cd-T             | mg/L |            | 0.00003    |            | 0.00002    |            |            |            | 0.00002   | 0.00002   | 0.00002    | 0.00003    | <0.00001  | 0.00002   | <0.00001  | 0.0137     | 0.00002   | 0.00010   | 0.00008   | 7         | 195       | 41        | 0         | 44        | 98        | 0.00003               | 0.00004   | 0.00012   | 0                      | 4         | 59        | 0         |   |
| CN-T             | mg/L |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | 0.0083    | 0.0132    |           | 6         | 30        | 0         | 67        | 63        |           | 0.0138                | 0.0766    |           | 0                      | 10        |           | -         |   |
| Co-T             | mg/L |            | <0.0005    |            | <0.0005    |            |            |            | 0.00026   | 0.00027   | 0.00025    | 0.00032    | 0.00029   | 0.0003    | 0.00029   | 0.00027    | 0.0002    | 0.0003    | 0.0006    | 7         | 196       | 41        | 43        | 90        | 46        | 0.0005                | 0.0007    | 0.0015    | 14                     | 6         | 37        | -         |   |
| Cr-T             | mg/L |            | <0.001     |            | <0.001     |            |            |            | <0.0004   | <0.0004   | 0.0009     | <0.0004    | <0.0004   | 0.0005    | <0.0004   | 0.0007     | 0.0006    | 0.0007    | 0.0013    | 7         | 196       | 41        | 29        | 55        | 49        | 0.0016                | 0.0020    | 0.0032    | 0                      | 5         | 29        | 14        |   |
| Cu-T             | mg/L |            | 0.0094     |            | 0.0102     |            |            |            | 0.003     | 0.004     | 0.004      | 0.003      | 0.003     | 0.008     | 0.003     | 0.002      | 0.008     | 0.011     | 0.064     | 7         | 196       | 41        | 100       | 99        | 98        | 0.013                 | 0.030     | 0.149     | 14                     | 24        | 76        | 14        |   |
| Fe-T             | mg/L |            | 0.09       |            | 0.11       |            |            |            | 0.115     | 0.172     | 0.126      | 0.145      | 0.166     | 0.27      | 0.098     | 0.148      | 0.532     | 0.341     | 1.099     | 7         | 192       | 41        | 86        | 92        | 98        | 1.162                 | 1.079     | 3.840     | 14                     | 5         | 32        | 14        |   |
| Hg-T             | mg/L |            | <0.00002   |            | 0.00002    |            |            |            | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  |           | <0.00001  | <0.00001   | 0.00001   | 0.00003   | 0.00002   | 3         | 129       | 41        | 0         | 5         | 51        | 0.00001               | 0.00005   | 0.00005   | 0                      | 2         | 5         | 0         |   |
| K-T              | mg/L |            | 3.85       |            | 3.76       |            |            |            | 2.4       | 2         | 2.2        | 2.1        | 2.1       | 2         | 2.2       | 2.3        | 1.0       | 2.4       | 6.8       | 7         | 192       | 41        | 0         | 96        | 98        | 1.0                   | 4.4       | 8.6       | 0                      | 95        | 100       | -         |   |
| Li-T             | mg/L |            | <0.005     |            | <0.005     |            |            |            | 0.002     | 0.002     | 0.002      | 0.002      | 0.002     | 0.002     | 0.003     | 0.002      | 0.003     | 0.003     | 0.003     | 7         | 196       | 41        | 0         | 80        | 44        | 0.003                 | 0.006     | 0.004     | 0                      | 27        | 29        | -         |   |
| Mg-T             | mg/L |            | 17.2       |            | 17.1       |            |            |            | 22.7      | 21.1      | 22.8       | 22.7       | 22.4      | 21.8      | 22.4      | 23.5       | 14.3      | 21.0      | 14.6      | 7         | 192       | 41        | 100       | 100       | 98        | 18.4                  | 31.4      | 18.7      | 43                     | 79        | 49        | -         |   |
| Mn-T             | mg/L |            | 0.336      |            | 0.317      |            |            |            | 0.342     | 0.333     | 0.34       | 0.358      | 0.373     | 0.394     | 0.383     | 0.366      | 0.060     | 0.113     | 0.369     | 7         | 196       | 41        | 100       | 100       | 98        | 0.123                 | 0.341     | 0.629     | 29                     | 42        | 93        | -         |   |
| Mo-T             | mg/L |            | 0.018      |            | 0.017      |            |            |            | 0.0038    | 0.0034    | 0.0033     | 0.0032     | 0.0031    | 0.003     | 0.0032    | 0.0028     | 0.0014    | 0.0025    | 0.0130    | 7         | 196       | 41        | 100       | 98        | 98        | 0.0018                | 0.0050    | 0.0180    | 0                      | 50        | 100       | 0         |   |
| Na-T             | mg/L |            | 20.1       |            | 19.8       |            |            |            | 16.7      | 18.5      | 17.9       | 17.4       | 16.7      | 16.6      | 16.6      | 16         | 8.4       | 14.0      | 18.8      | 7         | 191       | 41        | 100       | 98        | 98        | 11.6                  | 20.9      | 20.1      | 43                     | 86        | 100       | -         |   |
| Ni-T             | mg/L |            | 0.001      |            | 0.001      |            |            |            | 0.003     | 0.003     | 0.002      | 0.002      | 0.002     | 0.0013    | 0.002     | 0.002      | 0.0015    | 0.0015    | 0.0031    | 7         | 196       | 41        | 86        | 85        | 88        | 0.0023                | 0.0032    | 0.0110    | 0                      | 6         | 24        | 0         |   |
| N-TKN            | mg/L |            |            |            |            |            |            |            | 0.3       | 0.17      | 0.42       | 0.08       | 0.26      |           | <0.06     | 0.13       | -         | 0.42      | 1.77      | 0         | 121       | 8         | -         | 90        | 100       | -                     | 1.2       | 3.242     |                        | 0         |           | 0         | - |
| Pb-T             | mg/L |            | <0.0002    |            | <0.0002    |            |            |            | 0.0001    | 0.0001    | <0.0001    | 0.0001     | 0.0001    | 0.0001    | <0.0001   | 0.0007     | 0.0002    | 0.0002    | 0.0006    | 7         | 194       | 41        | 29        | 58        | 78        | 0.0003                | 0.0005    | 0.0013    | 0                      | 6         | 63        | 0         |   |
| P-PO4-T          | mg/L |            |            |            |            |            |            |            | 0.05      | 0.04      | 0.08       | 0.04       | 0.06      |           | 0.05      | 0.05       | -         | 0.04      | 0.09      | 0         | 123       | 8         | -         | 69        | 88        | -                     | 0.08      | 0.23      |                        | 0         | 13        | -         |   |
| P-T              | mg/L |            |            |            |            |            |            |            | <0.05     | <0.05     | 0.07       | 0.08       | 0.05      |           | <0.05     | 0.06       | 0.15      | 0.07      | 0.07      | 4         | 154       | 18        | 0         | 31        | 89        | 0.15                  | 0.15      | 0.12      | 0                      | 0         | 0         | -         |   |
| P-TRP (Ortho)    | mg/L |            | <0.005     |            | <0.005     |            |            |            |           |           |            |            |           |           |           |            | -         | 0.057     | 0.015     | 0         | 40        | 37        | -         | 85        | 22        | -                     | 0.091     | 0.080     |                        | 0         | 0         | -         |   |
| Sb-T             | mg/L |            | 0.0007     |            | 0.0006     |            |            |            | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002   | 0.0002    | <0.0002   | 0.0002     | 0.0001    | 0.0001    | 0.0004    | 7         | 196       | 41        | 14        | 5         | 37        | 0.0003                | 0.0002    | 0.0008    | 0                      | 3         | 39        | -         |   |
| Se-T             | mg/L |            | 0.002      |            | 0.0023     |            |            |            | <0.0006   | <0.0006   | <0.0006    | <0.0006    | <0.0006   | 0.0002    | <0.0006   | <0.0006    | 0.0005    | 0.0004    | 0.0021    | 7         | 194       | 41        | 0         | 38        | 68        | 0.0005                | 0.0008    | 0.0024    | 0                      | 14        | 71        | 0         |   |
| Si-T             | mg/L |            | 4.08       |            | 4.17       |            |            |            | 5.51      | 5.71      | 5.58       | 5.5        | 5.41      | 4.29      | 5.22      | 5.15       | 6.27      | 5.87      | 5.81      | 4         | 192       | 41        | 100       | 100       | 98        | 6.90                  | 8.17      | 9.00      | 0                      | 11        | 17        | -         |   |
| Sn-T             | mg/L |            | <0.005     |            | <0.005     |            |            |            | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | 0.001     | <0.0001   | <0.0001    | 0.0001    | 0.0015    | 0.0004    | 7         | 196       | 41        | 14        | 6         | 7         | 0.0003                | 0.0010    | 0.0025    | 0                      | 3         | 56        | -         |   |
| Sr-T             | mg/L |            | 0.903      |            | 0.862      |            |            |            | 0.644     | 0.591     | 0.61       | 0.623      | 0.611     | 0.619     | 0.707     | 0.654      | 0.296     | 0.480     | 0.623     | 4         | 196       | 41        | 100       | 100       | 98        | 0.347                 | 0.715     | 0.903     | 0                      | 73        | 95        | -         |   |
| S-T              | mg/L |            | 24         |            | 26         |            |            |            | 19.2      | 20        | 19.3       | 19.4       | 23.5      | 19.6      | 20.5      | 19.9       | -         | 14.7      | 24.5      | 0         | 121       | 25        | -         | 99        | 96        | -                     | 20.0      | 29.0      |                        |           |           | -         |   |
| Te-T             | mg/L |            |            |            |            |            |            |            | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   |           | <0.0001   | <0.0001    | -         | 0.0001    | 0.0001    | 0         | 52        | 15        | -         | 10        | 0         | -                     | 0.0002    | 0.00005   |                        |           |           | -         |   |
| Th-T             | mg/L |            |            |            |            |            |            |            | <0.0004   | <0.0004   | <0.0004    | <0.0004    | <0.0004   |           | <0.0004   | <0.0004    | -         | 0.0001    | 0.0002    | 0         | 52        | 15        | -         | 17        | 40        | -                     | 0.0002    | 0.0004    |                        |           |           | -         |   |
| Ti-T             | mg/L |            | <0.005     |            | <0.005     |            |            |            |           |           |            |            |           | 0.0005    |           |            | 0.0107    | 0.0101    | 0.0221    | 7         | 189       | 41        | 14        | 88        | 71        | 0.0330                | 0.0363    | 0.0586    | 14                     | 12        | 37        | -         |   |
| Tl-T             | mg/L |            | <0.00005   |            | <0.00005   |            |            |            | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | 0.00005   | <0.00001  | <0.00001   | 0.0001    | 0.00003   | 0.00002   | 7         | 196       | 41        | 0         | 4         | 20        | 0.00010               | 0.00005   | 0.00003   | 0                      | 0         | 0         | 0         |   |
| U-T              | mg/L |            | 0.0008     |            | 0.0008     |            |            |            | 0.0019    | 0.0016    | 0.0019     | 0.002      | 0.0021    | 0.0019    | 0.0022    | 0.0022     | 0.0009    | 0.0024    | 0.0012    | 7         | 196       | 41        | 100       | 99        | 95        | 0.0022                | 0.0051    | 0.0024    | 14                     | 76        | 46        | -         |   |
| V-T              | mg/L |            | <0.005     |            | <0.005     |            |            |            | 0.0006    | 0.0006    | 0.0005     | 0.0006     | 0.0006    | 0.0008    | 0.0005    | 0.0005     | 0.0012    | 0.0012    | 0.0036    | 4         | 196       | 41        | 25        | 89        | 44        | 0.0028                | 0.0030    | 0.0075    | 0                      | 0         | 0         | -         |   |
| Zn-T             | mg/L |            | <0.005     |            | 0.006      |            |            |            | 0.004     | 0.007     | 0.003      | 0.008      | 0.008     | 0.004     | 0.003     | 0.005      | 0.002     | 0.006     | 0.009     | 7         | 196       | 41        | 14        | 95        | 73        | 0.003                 | 0.015     | 0.016     | 0                      | 10        | 37        | 0         |   |
| Zr-T             | mg/L |            | <0.0005    |            | <0.0005    |            |            |            | 0.0003    | 0.0003    | 0.0001     | 0.0003     | 0.0004    | 0.001     | 0.0001    | 0.0009     | -         | 0.0005    | 0.0004    | 0         | 154       | 41        | -         | 33        | 44        | -                     | 0.0010    | 0.0010    |                        |           |           | -         |   |
| Ag-D             | mg/L |            | <0.00002   |            | <0.00002   |            |            |            | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | 0.00001   | <0.00001  | <0.00001   | 0.00001   | 0.00003   | 0.00001   | 7         | 140       | 31        | 0         | 2         | 0         | 0.00001               | 0.00005   | 0.00001   | 0                      | 1         | 0         | -         |   |
| Al-D             | mg/L |            | 0.029      |            | 0.021      |            |            |            | 0.017     | 0.005     | 0.015</    |            |           |           |           |            |           |           |           |           |           |           |           |           |           |                       |           |           |                        |           |           |           |   |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |              | 10/24/2009 | 10/25/2009 | 10/26/2009 | 10/27/2009 | 10/28/2009 | 10/29/2009 | 10/30/2009 | 11/5/2009 | 11/9/2009 | 11/16/2009 | 11/25/2009 | 12/2/2009 | 12/4/2009 | 12/9/2009 | 12/15/2009 | averages          |                              |                        | number            |                              |                        | %>MDL             |                              |                        | Upper 95th Percentile |                              |                        | Percentage >background |                              |                        |                   |   |
|------------------|--------------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|------------|-----------|-----------|-----------|------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-----------------------|------------------------------|------------------------|------------------------|------------------------------|------------------------|-------------------|---|
| SmpI Date        | Station Name | W3<br>P    | W3<br>M    | W3<br>P    | W3<br>P    | W3<br>P    | W3<br>P    | W3<br>P    | W3<br>P   | W3<br>P   | W3<br>P    | W3<br>P    | W3<br>P   | W3<br>M   | W3<br>P   | W3<br>P    | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation     | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation      | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation |   |
| Sample Class     |              |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            |                   |                              |                        |                   |                              |                        |                   |                              |                        |                       |                              |                        |                        |                              |                        |                   |   |
| Colour           | TCU          |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | -                 | -                            | 94                     | 0                 | 118                          | 16                     | -                 | 97                           | 100                    | -                     | -                            | 133                    |                        |                              |                        |                   |   |
| Cond-F           | µS/cm        | 520        | 503        | 515        | 524        | 522        | 527        | 525        |           |           |            |            |           |           |           |            | -                 | 502                          | 446                    | 0                 | 2                            | 116                    | -                 | 100                          | 100                    | -                     | -                            | 516                    | 520                    |                              | 100                    | 99                | - |
| Cond-L           | µS/cm        | 481        | 508        | 509        | 512        | 503        | 507        | 507        | 463       | 512       | 512        | 487        | 504       | 526       | 539       | 535        | 295               | 435                          | 442                    | 7                 | 191                          | 120                    | 100               | 99                           | 99                     | 426                   | 577                          | 507                    | 43                     | 83                           | 100                    | -                 |   |
| Discharge        | L/s          | 35         | 35         | 35         | 35         | 35         | 35         | 35         |           |           |            |            |           |           |           |            | -                 | 10                           | 102                    | 0                 | 1                            | 118                    | -                 | 100                          | 100                    | -                     | 10                           | 130                    |                        |                              |                        | -                 |   |
| Fluoride         | mg/L         |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | -                 | 0.27                         | 0.35                   | 0                 | 43                           | 18                     | -                 | 95                           | 100                    | -                     | 0.57                         | 0.49                   |                        |                              |                        | -                 |   |
| Hard-D           | mg/L         |            | 218        |            | 212        |            |            |            | 224       | 243       | 230        | 240        | 240       | 235       | 259       | 192        | -                 | 226                          | 189                    | 0                 | 114                          | 26                     | -                 | 99                           | 96                     | -                     | 283                          | 227                    |                        |                              |                        | -                 |   |
| Hard-T           | mg/L         |            | 234        |            | 231        |            |            |            |           |           |            |            |           |           |           |            | 149               | 229                          | 196                    | 6                 | 17                           | 24                     | 100               | 88                           | 96                     | 219                   | 278                          | 234                    | 33                     | 100                          | 92                     | -                 |   |
| IB               | %            |            |            |            |            |            |            |            |           |           |            |            |           | 95        |           |            | -                 | 108                          |                        | 0                 | 2                            | 0                      | -                 | 100                          | -                      | -                     | 120                          |                        |                        |                              | -                      |                   |   |
| Ammonia          | mg/L         |            | 0.206      |            | 0.211      |            |            |            |           |           |            |            |           |           |           |            | 0.025             | 0.023                        | 0.223                  | 7                 | 140                          | 35                     | 43                | 29                           | 94                     | 0.062                 | 0.060                        | 0.407                  | 29                     | 8                            | 91                     | -                 |   |
| Ammonium         | mg/L         |            |            |            |            |            |            |            | 0.05      | <0.05     | <0.05      | <0.05      | 0.06      |           | <0.05     | <0.05      | -                 | 0.03                         | 0.51                   | 0                 | 33                           | 1                      | -                 | 6                            | 100                    | -                     | 0.05                         | 0.51                   |                        |                              |                        | -                 |   |
| N-NO2            | mg/L         |            | 0.08       |            | 0.08       |            |            |            |           |           |            |            |           | 0.005     |           |            | 0.001             | 0.014                        | 0.106                  | 7                 | 139                          | 42                     | 0                 | 12                           | 86                     | 0.001                 | 0.050                        | 0.288                  | 0                      | 7                            | 83                     | 0                 |   |
| NO2+NO3          | mg/L         |            | 8.5        |            | 8.6        |            |            |            | 1.87      | 1.57      | 1.38       | 1.15       | 1.12      | 1.13      | 1.33      | 1.07       | -                 | 1.25                         | 4.64                   | 0                 | 123                          | 35                     | -                 | 99                           | 97                     | -                     | 4.20                         | 8.76                   |                        |                              |                        | -                 |   |
| N-NO3            | mg/L         |            | 8.5        |            | 8.5        |            |            |            |           |           |            |            |           | 1.13      |           |            | 0.26              | 0.83                         | 3.41                   | 7                 | 157                          | 42                     | 86                | 75                           | 98                     | 1.2                   | 3.8                          | 8.5                    | 14                     | 52                           | 81                     | 0                 |   |
| pH-F             | pH units     | 8.05       | 8.12       | 7.82       | 7.7        | 7.9        | 8.09       | 8.01       |           |           |            |            |           |           |           |            | -                 | 8.39                         | 8.07                   | 0                 | 30                           | 116                    | -                 | 93                           | 100                    | -                     | 8.60                         | 8.46                   |                        | 90                           | 73                     | -                 |   |
| pH-L             | pH units     | 8          | 8          | 8.1        | 8.1        | 8.1        | 8.1        | 8.1        | 7.67      | 7.79      | 7.68       | 7.79       | 7.83      | 7.9       | 8.27      | 7.7        | 7.98              | 7.93                         | 8.02                   | 7                 | 192                          | 120                    | 100               | 99                           | 99                     | 8.23                  | 8.32                         | 8.20                   | 14                     | 11                           | 1                      | 0                 |   |
| Radium - 226     |              |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | 0.0025            | 0.0025                       |                        | 5                 | 5                            | 0                      | 0                 |                              | 0.0025                 | 0.0025                |                              |                        |                        | 0                            | 0                      | -                 |   |
| SO4-D            | mg/L         |            |            |            |            |            |            |            | 55.7      | 59.6      | 50.7       | 56         | 56.5      | 58.9      | 60.7      | 59         | 29.5              | 43.0                         | 48.6                   | 5                 | 175                          | 34                     | 100               | 99                           | 100                    | 49.4                  | 76.3                         | 53.7                   | 0                      |                              |                        | -                 |   |
| SO4-T            | mg/L         |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | 31.3              | 59.4                         |                        | 7                 | 35                           | 0                      | 100               | 94                           |                        | 48.9                  | 127.6                        |                        | 43                     | 74                           |                        | -                 |   |
| Sulphide         | mg/L         |            |            |            |            |            |            |            |           |           |            |            |           |           |           |            | -                 | -                            | 0.021                  | 0                 | 0                            | 2                      | -                 | -                            | 100                    | -                     | -                            | 0.022                  |                        |                              | -                      |                   |   |
| TDS              | mg/L         | 270        | 260        | 290        | 310        | 300        | 310        | 290        | 340       | 132       | 358        | 340        | 336       | 291       | 356       | 298        | 196               | 300                          | 277                    | 7                 | 183                          | 120                    | 100               | 99                           | 99                     | 263                   | 419                          | 330                    | 29                     | 85                           | 98                     | -                 |   |
| Temp-F           | C            | 2.11       |            | 2.68       | 2.26       | 2.32       | 2          | 2.1        |           |           |            |            |           |           |           |            | -                 | 5.65                         | 9.01                   | 0                 | 1                            | 115                    | -                 | 100                          | 101                    | -                     | 5.65                         | 13.362                 |                        | 100                          | 82                     | -                 |   |
| Temp-obs-pH      | C            |            |            |            |            |            |            |            |           |           |            |            | 22.7      |           |           |            | -                 | 22.7                         |                        | 0                 | 1                            | 0                      | -                 | 100                          |                        | -                     | 22.7                         |                        |                        |                              | -                      |                   |   |
| TSS              | mg/L         | <4         | <4         | <4         | <4         | <4         | <4         | 5          | <2        | <2        | <3         | 4          | <2        |           | <5        | <3         | 8                 | 7                            | 9                      | 7                 | 192                          | 124                    | 57                | 57                           | 49                     | 21                    | 30                           | 32                     | 14                     | 7                            | 9                      | -                 |   |
| Turb             | NTU          | 1.8        | 1.9        | 1.8        | 1.7        | 1.3        | 1.5        | 1.5        | 0.7       | 0.2       | 0.3        | 0.5        | 0.3       |           | 0.8       | 0.2        | -                 | 2.2                          | 6.1                    | 0                 | 132                          | 120                    | -                 | 90                           | 99                     | -                     | 8.6                          | 22.1                   |                        | 37                           | 90                     | -                 |   |
| Turb-F           | NTU          | 2.4        |            | 2.2        | 3.1        | 2.4        | 2          | 1.9        |           |           |            |            |           |           |           |            | -                 | 0                            | 5.7                    | 0                 | 1                            | 115                    | -                 | 100                          | 100                    | -                     | 0                            | 29.96                  |                        |                              |                        | -                 |   |

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Appendix Table A.2: Water quality data at station W3

| Sampling Session |      | %>guideline |           |
|------------------|------|-------------|-----------|
| Smpl Date        |      | operation   |           |
| Station Name     |      | no          | operation |
| Sample Class     |      | discharge   | discharge |
| Ag-T             | mg/L | 3           | 7         |
| Al-T             | mg/L | 7           | 37        |
| As-T             | mg/L | 0           | 0         |
| Ba-T             | mg/L | -           | -         |
| Be-T             | mg/L | -           | -         |
| Bi-T             | mg/L | -           | -         |
| B-T              | mg/L | -           | -         |
| Ca-T             | mg/L | -           | -         |
| Cd-T             | mg/L | 3           | 34        |
| CN-T             | mg/L | -           | -         |
| Co-T             | mg/L | -           | -         |
| Cr-T             | mg/L | 20          | 41        |
| Cu-T             | mg/L | 24          | 76        |
| Fe-T             | mg/L | 5           | 32        |
| Hg-T             | mg/L | 0           | 0         |
| K-T              | mg/L | -           | -         |
| Li-T             | mg/L | -           | -         |
| Mg-T             | mg/L | -           | -         |
| Mn-T             | mg/L | -           | -         |
| Mo-T             | mg/L | 0           | 2         |
| Na-T             | mg/L | -           | -         |
| Ni-T             | mg/L | 0           | 0         |
| N-TKN            | mg/L | -           | -         |
| Pb-T             | mg/L | 0           | 0         |
| P-PO4-T          | mg/L | -           | -         |
| P-T              | mg/L | -           | -         |
| P-TRP (Ortho)    | mg/L | -           | -         |
| Sb-T             | mg/L | -           | -         |
| Se-T             | mg/L | 2           | 59        |
| Si-T             | mg/L | -           | -         |
| Sn-T             | mg/L | -           | -         |
| Sr-T             | mg/L | -           | -         |
| S-T              | mg/L | -           | -         |
| Te-T             | mg/L | -           | -         |
| Th-T             | mg/L | -           | -         |
| Ti-T             | mg/L | -           | -         |
| Tl-T             | mg/L | 0           | 0         |
| U-T              | mg/L | -           | -         |
| V-T              | mg/L | -           | -         |
| Zn-T             | mg/L | 2           | 2         |
| Zr-T             | mg/L | -           | -         |
| Ag-D             | mg/L | -           | -         |
| Al-D             | mg/L | -           | -         |
| As-D             | mg/L | -           | -         |
| Ba-D             | mg/L | -           | -         |
| B-D              | mg/L | -           | -         |
| Be-D             | mg/L | -           | -         |
| Bi-D             | mg/L | -           | -         |
| Ca-D             | mg/L | -           | -         |
| Cd-D             | mg/L | -           | -         |
| C-DOC            | mg/L | -           | -         |
| Co-D             | mg/L | -           | -         |
| Cr-D             | mg/L | -           | -         |
| Cu-D             | mg/L | -           | -         |
| Fe-D             | mg/L | -           | -         |
| Hg-D             | mg/L | -           | -         |
| K-D              | mg/L | -           | -         |
| Li-D             | mg/L | -           | -         |
| Mg-D             | mg/L | -           | -         |
| Mn-D             | mg/L | -           | -         |
| Mo-D             | mg/L | -           | -         |
| Na-D             | mg/L | -           | -         |
| Ni-D             | mg/L | -           | -         |
| O-DO             | mg/L | -           | -         |
| Pb-D             | mg/L | -           | -         |
| P-D              | mg/L | -           | -         |
| P-TDP            | mg/L | -           | -         |
| Sb-D             | mg/L | -           | -         |
| S-D              | mg/L | -           | -         |
| Se-D             | mg/L | -           | -         |
| Si-D             | mg/L | -           | -         |
| Sn-D             | mg/L | -           | -         |
| Sr-D             | mg/L | -           | -         |
| Te-D             | mg/L | -           | -         |
| Th-D             | mg/L | -           | -         |
| Ti-D             | mg/L | -           | -         |
| Tl-D             | mg/L | -           | -         |
| U-D              | mg/L | -           | -         |
| V-D              | mg/L | -           | -         |
| Zn-D             | mg/L | -           | -         |
| Zr-D             | mg/L | -           | -         |
| Alk-Bicrb        | mg/L | -           | -         |
| Alk-Carb         | mg/L | -           | -         |
| Alk-OH           | mg/L | -           | -         |
| Alk-P            | mg/L | -           | -         |
| Alk-T            | mg/L | -           | -         |
| Bromine          | mg/L | -           | -         |
| C-TIC            | mg/L | -           | -         |
| C-TOC            | mg/L | -           | -         |
| Chloride         | mg/L | -           | -         |

Appendix Table A.2: Water quality data at station W3

| Sampling Session |          | %>guideline |           |
|------------------|----------|-------------|-----------|
| Smpl Date        |          | operation   | operation |
| Station Name     |          | no          | discharge |
| Sample Class     |          | discharge   |           |
| Colour           | TCU      | -           | -         |
| Cond-F           | µS/cm    | -           | -         |
| Cond-L           | µS/cm    | -           | -         |
| Discharge        | L/s      | -           | -         |
| Fluoride         | mg/L     | -           | -         |
| Hard-D           | mg/L     | -           | -         |
| Hard-T           | mg/L     | -           | -         |
| IB               | %        | -           | -         |
| Ammonia          | mg/L     | -           | -         |
| Ammonium         | mg/L     | -           | -         |
| N-NO2            | mg/L     | 4           | 69        |
| NO2+NO3          | mg/L     | -           | -         |
| N-NO3            | mg/L     | 10          | 50        |
| pH-F             | pH units | -           | -         |
| pH-L             | pH units | 0           | 0         |
| Radium - 226     |          | -           | -         |
| SO4-D            | mg/L     | -           | -         |
| SO4-T            | mg/L     | -           | -         |
| Sulphide         | mg/L     | -           | -         |
| TDS              | mg/L     | -           | -         |
| Temp-F           | C        | -           | -         |
| Temp-obs-pH      | C        | -           | -         |
| TSS              | mg/L     | -           | -         |
| Turb             | NTU      | -           | -         |
| Turb-F           | NTU      | -           | -         |

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Appendix Table A.3: Water quality data at station W6

| Sampling Session |      | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | X6722    | 910505    | 1202879  | 1015480   | 1050334   | 1129098   | 1151901   | 1210568   | 1216270   | 1239016   | 1241968  | 1247177   | 1245933   | 1260561   | pre-      | averages  | operation | pre-      | number    | pre-      | %>MDL     | operation |     |
|------------------|------|-----------|-----------|-----------|-----------|-----------|------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----|
| Smpl Date        |      | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/30/2005 | 9/28/2005 | 10/15/2005 | 6/2/2006 | 8/25/2006 | 9/6/2006 | 6/20/2007 | 9/18/2007 | 6/17/2008 | 9/18/2008 | 4/14/2009 | 4/30/2009 | 7/28/2009 | 8/6/2009 | 8/18/2009 | 8/25/2009 | 10/7/2009 | pre-      | operation | operation | pre-      | operation | operation | pre-      | operation |     |
| Station Name     |      | W6        | W6        | W6        | W6        | W6        | W6         | W6       | W6        | W6       | W6        | W6        | W6        | W6        | W6        | W6        | W6        | W6       | W6        | W6        | W6        | operation | no        | discharge | operation | no        | discharge | operation | no        |     |
| Sample Class     |      | P         | P         | P         | P         | P         | P          | P        | P         | P        | P         | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         | discharge | discharge | discharge | discharge | discharge | discharge | discharge | discharge |     |
| Ag-T             | mg/L | <0.000020 | <0.000010 | <0.000020 | <0.000020 | <0.000020 | <0.000010  | 0.000021 | <0.0002   | <0.0001  | <0.0001   | <0.0001   | <0.00001  | 0.00008   | 0.00021   | <0.00001  |           | <0.00001 |           |           | <0.00001  | 0.00001   | 0.00005   | 0.00003   | 6         | 6         | 3         | 0         | 17        | 33  |
| Al-T             | mg/L | 0.229     | 0.598     | 0.0321    | 0.0181    | 0.0321    | 0.0251     | 1.95     | 0.024     | 0.035    | 0.042     | 0.023     | 0.14      | 0.022     | 1.3       | 5.31      |           | 0.07     |           |           | 0.171     | 0.18      | 0.37      | 0.09      | 6         | 6         | 3         | 100       | 100       | 100 |
| As-T             | mg/L | 0.00052   | 0.00045   | 0.00063   | <0.00050  | <0.00050  | 0.00043    | 0.00131  | 0.0006    | 0.0005   | 0.0004    | 0.0004    | 0.0004    | <0.0002   | 0.0006    | 0.0023    |           | 0.0008   |           |           | 0.0002    | 0.0004    | 0.0006    | 0.0004    | 6         | 6         | 3         | 67        | 100       | 67  |
| Ba-T             | mg/L | 0.038     | 0.0462    | 0.0683    | 0.053     | 0.048     | 0.0424     | 0.0679   | 0.056     | 0.052    | 0.042     | 0.046     | 0.042     | 0.039     | 0.08      | 0.111     |           | 0.09     |           |           | 0.132     | 0.05      | 0.05      | 0.09      | 6         | 6         | 3         | 100       | 100       | 100 |
| Be-T             | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   | <0.0005  | <0.0002   | <0.0001  | <0.0001   | <0.0001   | <0.00004  | <0.00004  | 0.00006   | 0.00014   |           | <0.00004 |           |           | <0.00004  | 0.00038   | 0.00009   | 0.00002   | 6         | 6         | 3         | 0         | 0         | 0   |
| Bi-T             | mg/L |           | <0.00050  | <0.00050  |           |           | <0.00050   | <0.0005  | <0.001    | <0.0005  | <0.0005   | <0.0005   | <0.0001   | <0.0001   | <0.0001   | <0.0001   |           | <0.001   |           |           | <0.001    | 0.0003    | 0.0003    | 0.0004    | 3         | 5         | 3         | 0         | 0         | 0   |
| B-T              | mg/L | <0.10     | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     | <0.01    | 0.004     | 0.003    | 0.004     | 0.002     | <0.005    | <0.005    | 0.017     | 0.006     |           | 0.018    |           |           | <0.039    | 0.028     | 0.003     | 0.020     | 6         | 6         | 3         | 0         | 67        | 67  |
| Ca-T             | mg/L | 17.4      | 24.7      | 41.1      | 28.6      | 28.2      | 25.1       | 18.9     | 31.5      | 29       | 23.2      | 25.8      | 23.8      | 24.6      | 36        | 18.6      |           | 49.7     |           |           | 58        | 27.5      | 25.4      | 44.1      | 6         | 6         | 3         | 100       | 100       | 100 |
| Cd-T             | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  | <0.00005 | <0.00002  | <0.00001 | <0.00001  | <0.00001  | <0.00008  | <0.00001  | 0.00024   | 0.00008   |           | 0.00003  |           |           | <0.00001  | 0.00002   | 0.00002   | 0.00001   | 6         | 6         | 3         | 0         | 0         | 33  |
| CN-T             | mg/L |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           | -         | -         | -         | -         | 0         | 0         | 0         | -         | -         | -   |
| Co-T             | mg/L | <0.00030  | 0.00017   | 0.00049   | <0.00030  | <0.00030  | 0.00011    | 0.00127  | <0.0002   | 0.0001   | 0.0001    | 0.0001    | 0.00018   | 0.00008   | 0.00079   | 0.00275   |           | 0.00015  |           |           | 0.00025   | 0.00020   | 0.00031   | 0.00016   | 6         | 6         | 3         | 50        | 83        | 100 |
| Cr-T             | mg/L | <0.0010   | 0.00057   | 0.00145   | <0.0010   | <0.0010   | <0.00050   | 0.00384  | <0.001    | 0.0005   | <0.0005   | <0.0005   | 0.0011    | 0.001     | 0.0029    | 0.0096    |           | 0.0008   |           |           | 0.001     | 0.0006    | 0.0011    | 0.0009    | 6         | 6         | 3         | 33        | 50        | 100 |
| Cu-T             | mg/L | 0.0021    | 0.00148   | 0.0118    | 0.0012    | 0.0012    | 0.00107    | 0.00531  | <0.002    | 0.001    | 0.002     | 0.001     | 0.001     | 0.001     | 0.454     | 0.068     |           | 0.011    |           |           | 0.004     | 0.003     | 0.002     | 0.005     | 6         | 6         | 3         | 100       | 83        | 100 |
| Fe-T             | mg/L | 0.363     | 0.266     | 1.08      | 0.088     | 0.148     | 0.116      | 2.74     | <0.2      |          | 0.1       | <0.1      | 0.35      | 0.09      | 2.19      | 8         |           | 0.055    |           |           | 0.059     | 0.344     | 0.573     | 0.068     | 6         | 6         | 3         | 100       | 67        | 100 |
| Hg-T             | mg/L | <0.000020 |           |           | <0.000020 | <0.000020 |            |          |           |          | <0.0001   | <0.0001   | <0.01     | <0.00001  | 0.00002   | 0.00002   |           |          |           |           | <0.00001  | 0.000010  | 0.000050  | 0.000005  | 3         | 3         | 2         | 0         | 0         | 0   |
| K-T              | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       | <2       | <0.8      | 0.5      | 0.4       | 0.4       | 0.46      | 0.4       | 9.2       | 2.6       |           | 3.4      |           |           | 3.2       | 1.0       | 0.5       | 2.3       | 6         | 6         | 3         | 0         | 67        | 100 |
| Li-T             | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    | <0.005   | <0.002    | 0.001    | <0.001    | 0.001     | <0.001    | <0.001    | 0.005     | 0.004     |           | 0.002    |           |           | 0.002     | 0.003     | 0.001     | 0.002     | 6         | 6         | 3         | 0         | 33        | 67  |
| Mg-T             | mg/L | 4.88      | 6.65      | 15.4      | 7.97      | 8.02      | 7.18       | 5.63     | 7.8       | 7.3      | 5.6       | 6.9       | 6.44      | 6.61      | 50        | 7.92      |           | 16.7     |           |           | 15.4      | 8.4       | 6.6       | 12.9      | 6         | 6         | 3         | 100       | 100       | 100 |
| Mn-T             | mg/L | 0.0169    | 0.0113    | 0.0536    | 0.0224    | 0.0267    | 0.0188     | 0.0835   | 0.04      | 0.042    | 0.011     | 0.023     | 0.0215    | 0.0098    | 0.083     | 0.167     |           | 0.0874   |           |           | 0.28      | 0.0250    | 0.0368    | 0.0486    | 6         | 6         | 2         | 100       | 100       | 100 |
| Mo-T             | mg/L | <0.0010   | 0.000448  | 0.00133   | <0.0010   | <0.0010   | 0.000392   | 0.000411 | <0.002    | <0.001   | <0.001    | <0.001    | 0.00045   | 0.00031   | 0.00334   | 0.00043   |           | 0.0088   |           |           | 0.016     | 0.0006    | 0.0006    | 0.0046    | 6         | 6         | 2         | 50        | 33        | 100 |
| Na-T             | mg/L | 2.7       | 4.6       | 8.4       | 4.5       | 4.2       | 4          | 3.4      | 4.8       | 4.6      | 4.3       | 5         | 4.8       | 4.1       | 33.3      | 3.38      |           | 15.8     |           |           | 19.4      | 4.7       | 4.5       | 13.1      | 6         | 6         | 3         | 100       | 100       | 100 |
| Ni-T             | mg/L | 0.0021    | 0.00135   | 0.00204   | 0.0011    | 0.0013    | 0.00131    | 0.00535  | 0.001     | 0.0015   | 0.0017    | 0.0012    | 0.001     | 0.001     | 0.001     | 0.009     |           | 0.001    |           |           | 0.002     | 0.002     | 0.002     | 0.001     | 6         | 6         | 3         | 100       | 100       | 100 |
| N-TKN            | mg/L |           |           |           |           |           |            |          |           |          | 0.6       | 0.3       | 0.44      | 0.47      | 5.73      | 1.22      |           | 0.5      |           |           | 0.54      | -         | 0.4       | 0.5       | 0         | 3         | 3         | -         | 100       | 100 |
| Pb-T             | mg/L | <0.00050  | 0.000134  | 0.00035   | <0.00050  | <0.00050  | <0.000050  | 0.000851 | <0.0002   | 0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0011    | 0.0024    |           | 0.0006   |           |           | 0.0007    | 0.0002    | 0.0002    | 0.0005    | 6         | 6         | 3         | 33        | 33        | 67  |
| P-PO4-T          | mg/L |           |           |           |           |           |            |          |           |          | 0.14      | 0.04      | 0.07      | <0.05     | 0.06      | 0.05      |           | 0.02     |           |           | 0.05      | -         | 0.08      | 0.03      | 0         | 3         | 3         | -         | 100       | 67  |
| P-T              | mg/L |           | <0.30     | <0.30     |           |           | <0.30      | <0.3     |           |          | 0.18      | <0.05     | 0.11      | 0.02      | 0.34      | 0.25      |           | 0.015    |           |           | <0.05     | 0.150     | 0.116     | 0.020     | 3         | 4         | 3         | 0         | 50        | 67  |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           |            |          |           |          |           |           | 0.1       |           |           |           |           | <0.05    |           |           |           | -         | -         | 0.06      | 0         | 0         | 2         | -         | -         | 50  |
| Sb-T             | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   | 0.00017  | <0.0004   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | 0.0003    | <0.0002   |           | 0.0003   |           |           | 0.0006    | 0.0002    | 0.0001    | 0.0003    | 6         | 6         | 3         | 0         | 17        | 67  |
| Se-T             | mg/L | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.001   | 0.0004    | 0.0003   | 0.0002    | 0.0002    | <0.0006   | <0.0006   | 0.0017    | <0.0006   |           | 0.0007   |           |           | 0.0018    | 0.0005    | 0.0003    | 0.0009    | 6         | 6         | 3         | 0         | 33        | 67  |
| Si-T             | mg/L |           | 7.27      | 6.69      |           |           | 6.54       | 7.95     | 7.39      | 7.42     | 6.4       | 7.2       | 5.34      | 6.22      | 6.62      | 11.5      |           | 4.68     |           |           | 3.6       | 6.83      | 6.95      | 4.83      | 3         | 6         | 3         | 100       | 100       | 100 |
| Sn-T             | mg/L | <0.00050  | <0.00010  | 0.00013   | <0.00050  | <0.00050  | <0.00010   | 0.0001   | <0.002    | <0.001   | <0.001    | <0.001    | <0.001    | <0.0001   | <0.0001   | <0.0001   |           | <0.0001  |           |           | <0.0001   | 0.0002    | 0.0004    | 0.0001    | 6         | 6         | 3         | 17        | 17        | 0   |
| Sr-T             | mg/L |           | 0.1       | 0.286     |           |           | 0.112      | 0.0816   | 0.14      | 0.135    | 0.104     | 0.125     | 0.103     | 0.104     | 0.524     | 0.142     |           | 0.566    |           |           | 0.842     | 0.166     | 0.115     | 0.504     | 3         | 6         | 3         | 100       | 100       | 100 |
| S-T              | mg/L |           |           |           |           |           |            |          | 0.9       | 1        | 0.9       | 1         |           |           | 42.4      | 2.7       |           | 15       |           |           | 22.4      | -         | 1.0       | 18.7      | 0         | 4         | 2         | -         | 100       | 100 |
| Te-T             | mg/L |           |           |           |           |           |            |          |           |          |           |           | <0.0001   | <0.0001   | 0.0001    | <0.0001   |           | <0.0001  |           |           | <0.0001   | -         | 0.00005   | 0.00005   | 0         | 1         | 3         | -         | 0         | 0   |
| Th-T             | mg/L |           |           |           |           |           |            |          |           |          |           |           |           | <0.0001   | <0.0001   | 0.0001    | <0.0001   |          |           |           | <0.0004   | -         | 0.00005   | 0.00015   | 0         | 1         | 3         | -         | 0         | 0   |
| Ti-T             | mg/L | <0.010    | <0.010    | 0.033     | <0.010    | <0.010    | <0.010     | 0.077    | <0.0010   | 0.0014   | <0.0005   | 0.0015    | 0.0059    | 0.0015    | 0.064     | 0.222     |           | 0.0019   |           |           | 0.0022    | 0.0097    | 0.0144    | 0.0019    | 6         | 6         | 3         | 17        | 67        | 100 |
| Tl-T             | mg/L | <0.00020  | <0.00010  | <0.00010  | <0.00020  | <0.00020  | <0.00010   | <0.0001  | <0.0001   | <0.00005 | <0.00005  | <0.00005  | <0.00001  | <0.00001  | <0.00001  | 0.00003   |           | <0.00001 |           |           | <0.00001  | 0.00008   | 0.00003   | 0.00001   | 6         | 6         | 3         | 0         | 0         | 0   |
| U-T              | mg/L | <0.00020  | 0.000151  | 0.00106   | <0.00020  | <0.00020  | 0.000129   | 0.000215 | <0.001    | <0.0005  | <0.0005   | <0.0005   | <0.0004   | <0.0004   | 0.0041    | 0.0004    |           | 0.0015   |           |           | 0.0005    | 0.0003    | 0.0003    | 0.0007    | 6         | 6         | 3         | 50        | 17        | 67  |
| V-T              | mg/L | <0.030    | 0.0012    | 0.0027    | <0.030    | <0.030    | <0.0010    | 0.0066   | 0.0008    | 0.0008   | 0.0011    | 0.0007    | 0.00094   | 0.00065   | 0.00381   | 0.0142    |           | 0.0007   |           |           | 0.0006    | 0.0082    | 0.0018    | 0.0007    | 6         | 6         | 3         | 33        | 100       | 100 |
| Zn-T             | mg/L | <0.0050   | <0.0030   | <0.0060   | <0.0050   | <0.0050   | <0.0010    | 0.0085   | 0.005     | <0.001   | 0.004     | 0.008     | 0.007     | 0.004     | 0.276     | 0.023     |           | 0.006    |           |           | 0.005     | 0.002     | 0.006     | 0.005     | 6         | 6         | 3         | 0         | 83        | 100 |
| Zr-T             | mg/L |           |           |           |           |           |            |          | <0.002    | <0.001   | <0.001    | <0.001    | 0.0004    | 0.0003    | 0.0038    | 0.0013    |           | 0.0001   |           |           | <0.0001   | -         | 0.0006    | 0.0002    | 0         | 5         | 3         | -         | 20        | 67  |
| Ag-D             | mg/L | <0.000020 | <0.000010 | <0.000010 | <0.000020 | <0.000020 | <0.000010  | <0.00001 |           | <0.0001  |           | <0.0001   |           | <0.00001  | <0.00001  |           |           |          |           |           |           |           |           |           |           |           |           |           |           |     |

Appendix Table A.3: Water quality data at station W6

| Sampling Session |              | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | X6722    | 910505    | 1202879  | 1015480   | 1050334   | 1129098   | 1151901   | 1210568   | 1216270   | 1239016   | 1241968  | 1247177   | 1245933   | 1260561   | pre-<br>operation | averages                     | operation<br>discharge | pre-<br>operation | number                       | operation<br>discharge | pre-<br>operation | %>MDL                        | operation<br>discharge |
|------------------|--------------|-----------|-----------|-----------|-----------|-----------|------------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|-------------------|------------------------------|------------------------|
| Smpl Date        | Station Name | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/30/2005 | 9/28/2005 | 10/15/2005 | 6/2/2006 | 8/25/2006 | 9/6/2006 | 6/20/2007 | 9/18/2007 | 6/17/2008 | 9/18/2008 | 4/14/2009 | 4/30/2009 | 7/28/2009 | 8/6/2009 | 8/18/2009 | 8/25/2009 | 10/7/2009 |                   | operation<br>no<br>discharge |                        |                   | operation<br>no<br>discharge |                        |                   | operation<br>no<br>discharge |                        |
| Sample Class     |              | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P    | W6<br>P  | W6<br>P   | W6<br>P  | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P   | W6<br>P  | W6<br>P   | W6<br>P   | W6<br>P   | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | operation<br>no<br>discharge | operation<br>discharge |
| Bromine          | mg/L         |           |           |           |           |           |            | <0.05    |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | 0.03                         | -                      | 0                 | 1                            | 0                      | -                 | 0                            | -                      |
| C-TiC            | mg/L         |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| C-TOC            | mg/L         |           |           |           |           |           |            |          |           |          |           |           | 17.3      |           |           |           |           |          |           | 9.2       | 6.4       | -                 | -                            | 11.0                   | 0                 | 0                            | 3                      | -                 | -                            | 100                    |
| Chloride         | mg/L         | <0.50     | 0.73      | <0.50     | <0.50     | 0.5       | 0.52       | <0.5     |           |          | 0.4       | 0.59      | 0.29      | 0.41      | 6.32      | 0.76      | 6.17      | 9.84     |           |           | 33.3      | 0.42              | 0.38                         | 12.43                  | 6                 | 4                            | 4                      | 50                | 75                           | 100                    |
| Colour           | TCU          |           |           |           |           |           |            |          |           |          | 49        | 33        | 360       | 70        | 31        | 180       | 41        | <5       |           |           |           | -                 | 147                          | 38                     | 0                 | 3                            | 3                      | -                 | 100                          | 67                     |
| Cond-F           | µS/cm        |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| Cond-L           | µS/cm        | 127       | 174       | 319       | 200       | 192       | 180        | 112      | 223       | 212      | 151       | 194       | 175       | 174       | 624       | 104       | 338       | 413      |           |           | 475       | 199               | 178                          | 350                    | 6                 | 6                            | 4                      | 100               | 100                          | 100                    |
| Discharge        | L/s          |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| Fluoride         | mg/L         |           |           |           |           |           |            | 0.176    |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | 0.176                        | -                      | 0                 | 1                            | 0                      | -                 | 100                          | -                      |
| Hard-D           | mg/L         |           |           |           |           |           |            |          | 120       | 110      |           |           |           |           | 248       | 56        | 148       | 177      | 173       |           | 195       | -                 | 115                          | 173                    | 0                 | 2                            | 4                      | -                 | 100                          | 100                    |
| Hard-T           | mg/L         | 65.4      |           | 171       | 106       | 106       | 98.3       |          |           |          | 81        | 93        | 86        |           |           |           |           |          |           |           |           | 109               | 87                           | -                      | 5                 | 3                            | 0                      | 100               | 100                          | -                      |
| IB               | %            |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| Ammonia          | mg/L         | <0.020    | <0.020    | <0.020    | <0.020    | <0.020    | <0.020     | 0.021    |           |          | <0.05     | <0.05     | <0.05     | <0.05     |           | <0.05     |           | 0.06     |           |           | 0.1       | 0.010             | 0.024                        | 0.025                  | 6                 | 4                            | 1                      | 0                 | 25                           | 0                      |
| Ammonium         | mg/L         |           |           |           |           |           |            |          |           |          |           |           |           |           | 0.12      |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 2                      | -                 | -                            | 100                    |
| N-NO2            | mg/L         | 0.0016    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.001   |           |          | <0.05     | <0.02     | 0.07      | <0.01     |           |           |           |          |           |           |           | 0.001             | 0.03                         | 0.01                   | 6                 | 4                            | 1                      | 17                | 25                           | 0                      |
| NO2+NO3          | mg/L         |           |           |           |           |           |            |          |           |          | <0.1      | <0.1      | 0.01      | <0.01     | 0.59      | 0.04      |           | 2.93     |           |           | 8.18      | -                 | 0.04                         | 3.71                   | 0                 | 3                            | 3                      | -                 | 33                           | 67                     |
| N-NO3            | mg/L         | 0.0316    | 0.0086    | 0.0223    | <0.0050   | <0.0050   | 0.0061     | 0.0241   | <0.03     | <0.03    | 0.1       | <0.02     | 0.01      | <0.01     |           |           |           |          |           |           |           | 0.0123            | 0.0290                       | 0.0050                 | 6                 | 6                            | 1                      | 67                | 50                           | 0                      |
| pH-F             | pH units     |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| pH-L             | pH units     | 7.91      | 7.41      | 8.01      | 8.17      | 7.95      | 7.92       | 7.64     | 8.01      | 7.86     | 7.77      | 7.95      | 7.82      | 7.8       | 7.92      | 7.34      | 7.86      | 8.05     |           |           | 7.83      | 7.90              | 7.84                         | 7.89                   | 6                 | 6                            | 4                      | 100               | 100                          | 100                    |
| Radium - 226     |              |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| SO4-D            | mg/L         | 11.8      | <1        |           | 2.62      | 4.04      |            | 1.88     | 2.4       | 2.3      | 2.1       | 2.51      | 1.64      | 3.29      | 6.28      | 7.44      | 42.9      | 48.4     |           |           | 63.3      | 4.7               | 2.1                          | 39.5                   | 4                 | 6                            | 4                      | 75                | 100                          | 100                    |
| SO4-T            | mg/L         | 2.4       | <1.0      | 29.2      | 2.62      | 4.04      | 4.69       |          |           |          |           |           |           |           |           |           |           |          |           |           |           | 7.2               | -                            | -                      | 6                 | 0                            | 0                      | 83                | -                            | -                      |
| Sulphide         | mg/L         |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| TDS              | mg/L         | 103       | 123       | 198       | 147       | 133       | 128        | 96       | 160       |          | 130       | 172       | 120       | 150       | 464       | 112       | 228       | 296      |           |           | 352       | 139               | 136                          | 257                    | 6                 | 5                            | 4                      | 100               | 100                          | 100                    |
| Temp-F           | C            |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| Temp-obs-pH      | C            |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |
| TSS              | mg/L         | 13.5      | 11.5      | 22.2      | <3.0      | 3.5       | <3.0       | 115      |           | 4        | 16        | 8         | 17        | 4         | 138       | 190       | 38        | <2       |           |           | <3        | 9                 | 32                           | 11                     | 6                 | 5                            | 4                      | 67                | 100                          | 50                     |
| Turb             | NTU          |           |           |           |           |           |            |          |           |          | 0.6       | 0.2       | 0.9       | <0.1      | 24        | 39        | 27        | 0.3      |           |           | 0.6       | -                 | 0.57                         | 6.99                   | 0                 | 3                            | 4                      | -                 | 100                          | 75                     |
| Turb-F           | NTU          |           |           |           |           |           |            |          |           |          |           |           |           |           |           |           |           |          |           |           |           | -                 | -                            | -                      | 0                 | 0                            | 0                      | -                 | -                            | -                      |

Data omitted from calculation of summary statistics (if whole day removed, due to a large number of parameters that were considered outliers for that day)

Appendix Table A.3: Water quality data at station W6

| Sampling Session |              | Upper 95th Percentile |                        |                     | %>guideline   |                        |                     |
|------------------|--------------|-----------------------|------------------------|---------------------|---------------|------------------------|---------------------|
| Smpl Date        | Station Name | pre-operation         | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge |
| Sample Class     |              |                       |                        |                     |               |                        |                     |
| Ag-T             | mg/L         | 0.00001               | 0.00009                | 0.00007             | 0             | 0                      | 0                   |
| Al-T             | mg/L         | 0.51                  | 1.41                   | 0.16                | 0             | 17                     | 0                   |
| As-T             | mg/L         | 0.0006                | 0.0012                 | 0.0007              | 0             | 0                      | 0                   |
| Ba-T             | mg/L         | 0.06                  | 0.08                   | 0.13                | -             | -                      | -                   |
| Be-T             | mg/L         | 0.00050               | 0.00021                | 0.00002             | -             | -                      | -                   |
| Bi-T             | mg/L         | 0.0003                | 0.0005                 | 0.0005              | -             | -                      | -                   |
| B-T              | mg/L         | 0.050                 | 0.014                  | 0.037               | -             | -                      | -                   |
| Ca-T             | mg/L         | 38.0                  | 44.2                   | 57.2                | -             | -                      | -                   |
| Cd-T             | mg/L         | 0.00003               | 0.00004                | 0.00003             | 0             | 17                     | 0                   |
| CN-T             | mg/L         | -                     | -                      | -                   | -             | -                      | -                   |
| Co-T             | mg/L         | 0.00041               | 0.00094                | 0.00024             | -             | -                      | -                   |
| Cr-T             | mg/L         | 0.0012                | 0.0030                 | 0.0010              | 0             | 17                     | 0                   |
| Cu-T             | mg/L         | 0.009                 | 0.009                  | 0.010               | 0             | 0                      | 0                   |
| Fe-T             | mg/L         | 0.901                 | 2.023                  | 0.087               | 0             | 17                     | 0                   |
| Hg-T             | mg/L         | 0.000010              | 0.004505               | 0.000005            | 0             | 0                      | 0                   |
| K-T              | mg/L         | 1.0                   | 2.7                    | 3.4                 | -             | -                      | -                   |
| Li-T             | mg/L         | 0.003                 | 0.002                  | 0.002               | -             | -                      | -                   |
| Mg-T             | mg/L         | 13.6                  | 14.0                   | 16.6                | -             | -                      | -                   |
| Mn-T             | mg/L         | 0.0469                | 0.0862                 | 0.0835              | -             | -                      | -                   |
| Mo-T             | mg/L         | 0.0011                | 0.0065                 | 0.0084              | 0             | 0                      | 0                   |
| Na-T             | mg/L         | 7.5                   | 12.6                   | 19.0                | -             | -                      | -                   |
| Ni-T             | mg/L         | 0.002                 | 0.004                  | 0.002               | 0             | 0                      | 0                   |
| N-TKN            | mg/L         | -                     | 0.6                    | 0.5                 | -             | -                      | -                   |
| Pb-T             | mg/L         | 0.0003                | 0.0008                 | 0.0007              | 0             | 0                      | 0                   |
| P-PO4-T          | mg/L         | -                     | 0.13                   | 0.05                | -             | -                      | -                   |
| P-T              | mg/L         | 0.150                 | 0.174                  | 0.025               | -             | -                      | -                   |
| P-TRP (Ortho)    | mg/L         | -                     | 0.03                   | 0.10                | -             | -                      | -                   |
| Sb-T             | mg/L         | 0.0003                | 0.0003                 | 0.0006              | -             | -                      | -                   |
| Se-T             | mg/L         | 0.0005                | 0.0006                 | 0.0017              | 0             | 0                      | 33                  |
| Si-T             | mg/L         | 7.21                  | 7.79                   | 6.07                | -             | -                      | -                   |
| Sn-T             | mg/L         | 0.0003                | 0.0009                 | 0.0001              | -             | -                      | -                   |
| Sr-T             | mg/L         | 0.269                 | 0.438                  | 0.814               | -             | -                      | -                   |
| S-T              | mg/L         | -                     | 12.2                   | 22.0                | -             | -                      | -                   |
| Te-T             | mg/L         | -                     | 0.00005                | 0.00005             | -             | -                      | -                   |
| Th-T             | mg/L         | -                     | 0.00019                | 0.00020             | -             | -                      | -                   |
| Ti-T             | mg/L         | 0.0260                | 0.0557                 | 0.0022              | -             | -                      | -                   |
| Tl-T             | mg/L         | 0.00010               | 0.00005                | 0.00001             | 0             | 0                      | 0                   |
| U-T              | mg/L         | 0.0008                | 0.0012                 | 0.0014              | -             | -                      | -                   |
| V-T              | mg/L         | 0.0150                | 0.0050                 | 0.0007              | -             | -                      | -                   |
| Zn-T             | mg/L         | 0.003                 | 0.008                  | 0.006               | 0             | 0                      | 0                   |
| Zr-T             | mg/L         | -                     | 0.0009                 | 0.0003              | -             | -                      | -                   |
| Ag-D             | mg/L         | 0.00001               | 0.000005               | 0.000005            | -             | -                      | -                   |
| Al-D             | mg/L         | 0.06                  | 0.02                   | 0.03                | -             | -                      | -                   |
| As-D             | mg/L         | 0.0004                | 0.0005                 | 0.0004              | -             | -                      | -                   |
| Ba-D             | mg/L         | 0.063                 | 0.050                  | 0.098               | -             | -                      | -                   |
| B-D              | mg/L         | 0.050                 | 0.005                  | 0.022               | -             | -                      | -                   |
| Be-D             | mg/L         | 0.00050               | 0.00024                | 0.00002             | -             | -                      | -                   |
| Bi-D             | mg/L         | 0.0003                | 0.0003                 | 0.0005              | -             | -                      | -                   |
| Ca-D             | mg/L         | 42.4                  | 31.5                   | 45.0                | -             | -                      | -                   |
| Cd-D             | mg/L         | 0.00003               | 0.00002                | 0.00001             | -             | -                      | -                   |
| C-DOC            | mg/L         | -                     | -                      | 16.7                | -             | -                      | -                   |
| Co-D             | mg/L         | 0.00015               | 0.00010                | 0.00022             | -             | -                      | -                   |
| Cr-D             | mg/L         | 0.001                 | 0.001                  | 0.001               | -             | -                      | -                   |
| Cu-D             | mg/L         | 0.002                 | 0.002                  | 0.004               | -             | -                      | -                   |
| Fe-D             | mg/L         | 0.10                  | 0.11                   | 0.09                | -             | -                      | -                   |
| Hg-D             | mg/L         | 0.00001               | -                      | 0.000005            | -             | -                      | -                   |
| K-D              | mg/L         | 1.0                   | 1.0                    | 3.3                 | -             | -                      | -                   |
| Li-D             | mg/L         | 0.003                 | 0.002                  | 0.002               | -             | -                      | -                   |
| Mg-D             | mg/L         | 12.0                  | 8.6                    | 13.8                | -             | -                      | -                   |
| Mn-D             | mg/L         | 0.0237                | 0.0440                 | 0.0773              | -             | -                      | -                   |
| Mo-D             | mg/L         | 0.0007                | 0.0005                 | 0.0093              | -             | -                      | -                   |
| Na-D             | mg/L         | 6.7                   | 4.7                    | 14.4                | -             | -                      | -                   |
| Ni-D             | mg/L         | 0.001                 | 0.002                  | 0.002               | -             | -                      | -                   |
| O-DO             | mg/L         | -                     | -                      | -                   | -             | -                      | -                   |
| Pb-D             | mg/L         | 0.0003                | 0.0000                 | 0.0005              | -             | -                      | -                   |
| P-D              | mg/L         | 0.150                 | 0.150                  | 0.020               | -             | -                      | -                   |
| P-TDP            | mg/L         | -                     | 0.01                   | -                   | -             | -                      | -                   |
| Sb-D             | mg/L         | 0.0003                | 0.0001                 | 0.0013              | -             | -                      | -                   |
| S-D              | mg/L         | -                     | 0.9                    | 16.6                | -             | -                      | -                   |
| Se-D             | mg/L         | 0.0005                | 0.0005                 | 0.0012              | -             | -                      | -                   |
| Si-D             | mg/L         | 7.16                  | 7.41                   | 6.18                | -             | -                      | -                   |
| Sn-D             | mg/L         | 0.0003                | 0.0005                 | 0.0001              | -             | -                      | -                   |
| Sr-D             | mg/L         | 0.257                 | 0.133                  | 0.560               | -             | -                      | -                   |
| Te-D             | mg/L         | -                     | -                      | 0.00005             | -             | -                      | -                   |
| Th-D             | mg/L         | -                     | -                      | 0.0002              | -             | -                      | -                   |
| Ti-D             | mg/L         | 0.0050                | 0.0048                 | 0.0010              | -             | -                      | -                   |
| Tl-D             | mg/L         | 0.00010               | 0.00005                | 0.00001             | -             | -                      | -                   |
| U-D              | mg/L         | 0.0011                | 0.0002                 | 0.0008              | -             | -                      | -                   |
| V-D              | mg/L         | 0.0150                | 0.0015                 | 0.0007              | -             | -                      | -                   |
| Zn-D             | mg/L         | 0.016                 | 0.003                  | 0.003               | -             | -                      | -                   |
| Zr-D             | mg/L         | -                     | -                      | 0.0002              | -             | -                      | -                   |
| Alk-Bicrb        | mg/L         | -                     | 179                    | 177                 | -             | -                      | -                   |
| Alk-Carb         | mg/L         | 138                   | 3                      | 3                   | -             | -                      | -                   |
| Alk-OH           | mg/L         | -                     | 3                      | 3                   | -             | -                      | -                   |
| Alk-P            | mg/L         | -                     | -                      | -                   | -             | -                      | -                   |
| Alk-T            | mg/L         | 108                   | 145                    | 146                 | -             | -                      | -                   |

Appendix Table A.3: Water quality data at station W6

| Sampling Session |              | Upper 95th Percentile |                        |                     | %>guideline   |                        |                     |
|------------------|--------------|-----------------------|------------------------|---------------------|---------------|------------------------|---------------------|
| Smpl Date        | Station Name | pre-operation         | operation no discharge | operation discharge | pre-operation | operation no discharge | operation discharge |
| Sample Class     |              |                       |                        |                     |               |                        |                     |
| Bromine          | mg/L         | -                     | 0.03                   | -                   | -             | -                      | -                   |
| C-TIC            | mg/L         | -                     | -                      | -                   | -             | -                      | -                   |
| C-TOC            | mg/L         | -                     | -                      | 16.5                | -             | -                      | -                   |
| Chloride         | mg/L         | 0.68                  | 7.99                   | 29.78               | -             | -                      | -                   |
| Colour           | TCU          | -                     | 313                    | 67                  | -             | -                      | -                   |
| Cond-F           | µS/cm        | -                     | -                      | -                   | -             | -                      | -                   |
| Cond-L           | µS/cm        | 289                   | 356                    | 466                 | -             | -                      | -                   |
| Discharge        | L/s          | -                     | -                      | -                   | -             | -                      | -                   |
| Fluoride         | mg/L         | -                     | 0.176                  | -                   | -             | -                      | -                   |
| Hard-D           | mg/L         | -                     | 171                    | 192                 | -             | -                      | -                   |
| Hard-T           | mg/L         | 158                   | 92                     | -                   | -             | -                      | -                   |
| IB               | %            | -                     | -                      | -                   | -             | -                      | -                   |
| Ammonia          | mg/L         | 0.01                  | 0.025                  | 0.025               | -             | -                      | -                   |
| Ammonium         | mg/L         | -                     | 0.06                   | 0.10                | -             | -                      | -                   |
| N-NO2            | mg/L         | 0.001                 | 0.063                  | 0.005               | 0             | 25                     | 0                   |
| NO2+NO3          | mg/L         | -                     | 2.50                   | 7.66                | -             | -                      | -                   |
| N-NO3            | mg/L         | 0.0293                | 0.0810                 | 0.0050              | 0             | 0                      | 0                   |
| pH-F             | pH units     | -                     | -                      | -                   | -             | -                      | -                   |
| pH-L             | pH units     | 8.13                  | 8.04                   | 8.02                | 0             | 0                      | 0                   |
| Radium - 226     | -            | -                     | -                      | -                   | -             | -                      | -                   |
| SO4-D            | mg/L         | 10.6                  | 34.6                   | 61.1                | -             | -                      | -                   |
| SO4-T            | mg/L         | 23                    | -                      | -                   | -             | -                      | -                   |
| Sulphide         | mg/L         | -                     | -                      | -                   | -             | -                      | -                   |
| TDS              | mg/L         | 185                   | 265                    | 344                 | -             | -                      | -                   |
| Temp-F           | C            | -                     | -                      | -                   | -             | -                      | -                   |
| Temp-obs-pH      | C            | -                     | -                      | -                   | -             | -                      | -                   |
| TSS              | mg/L         | 20                    | 91                     | 33                  | -             | -                      | -                   |
| Turb             | NTU          | -                     | 0.855                  | 23.04               | -             | -                      | -                   |
| Turb-F           | NTU          | -                     | -                      | -                   | -             | -                      | -                   |

Data omitte



Appendix Table A.4: Water quality data at station W7

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | F0001<br>5/27/2005<br>W7<br>P | F0001<br>6/30/2005<br>W7<br>P | F0001<br>7/29/2005<br>W7<br>P | F0001<br>8/30/2005<br>W7<br>P | F0001<br>9/28/2005<br>W7<br>P | F0001<br>10/15/2005<br>W7<br>P | X6722<br>6/2/2006<br>W7<br>P | X7055<br>6/8/2006<br>W7<br>P | 875460<br>6/15/2006<br>W7<br>P | 870006<br>6/23/2006<br>W7<br>P | 875467<br>6/28/2006<br>W7<br>P | 874757<br>7/7/2006<br>W7<br>P | 877405<br>7/12/2006<br>W7<br>P | 880706<br>7/20/2006<br>W7<br>P | 883363<br>7/26/2006<br>W7<br>P | 885912<br>8/2/2006<br>W7<br>P | 889218<br>8/10/2006<br>W7<br>P | 910505<br>8/25/2006<br>W7<br>P | 898580<br>8/30/2006<br>W7<br>P | 1202879<br>9/6/2006<br>W7<br>P | 905086<br>9/13/2006<br>W7<br>P | 908518<br>9/20/2006<br>W7<br>P | 927184<br>9/28/2006<br>W7<br>P | 916843<br>10/4/2006<br>W7<br>P |
|---------------------------------------------------------------|----------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| U-D                                                           | mg/L     | 0.00036                       | 0.000759                      | 0.000994                      | 0.00055                       | 0.00038                       | 0.000515                       | 0.000216                     |                              | 0.0007                         | 0.001                          | 0.0009                         | 0.0005                        | 0.0007                         | 0.001                          | 0.001                          | 0.001                         | 0.001                          | 0.0011                         | 0.001                          | 0.001                          | 0.001                          | 0.001                          | 0.001                          | 0.001                          |
| V-D                                                           | mg/L     | <0.030                        | <0.0010                       | <0.0010                       | <0.030                        | <0.030                        | <0.0010                        | 0.0017                       |                              | 0.0011                         | 0.001                          | 0.0029                         | 0.0013                        | 0.0018                         | 0.0016                         | 0.0007                         | 0.0013                        | 0.0015                         | 0.0017                         | 0.0008                         | 0.0018                         | 0.0014                         | 0.0015                         | 0.0015                         | 0.0011                         |
| Zn-D                                                          | mg/L     | <0.0050                       | 0.0064                        | 0.002                         | <0.0050                       | <0.0050                       | <0.0010                        | <0.001                       |                              | <0.001                         | 0.002                          | 0.005                          | 0.001                         | <0.001                         | <0.001                         | <0.001                         | <0.001                        | 0.001                          | 0.003                          | 0.005                          | 0.002                          | 0.001                          | <0.001                         | 0.002                          | 0.001                          |
| Zr-D                                                          | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Alk-Bicrb                                                     | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              | 116                            | 159                            | 129                            | 146                           | 146                            | 149                            | 147                            | 152                           | 152                            | 160                            | 157                            | 157                            | 157                            | 154                            | 156                            | 149                            |
| Alk-Carb                                                      | mg/L     | 68.4                          | 117                           | 146                           | 113                           | 95.9                          | 107                            |                              |                              | <6                             | <6                             | <6                             | <6                            | <6                             | <6                             | <6                             | <6                            | <6                             | <6                             | <6                             | <6                             | <6                             | <6                             | <6                             | <6                             |
| Alk-OH                                                        | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              | <5                             | <5                             | <5                             | <5                            | <5                             | <5                             | <5                             | <5                            | <5                             | <5                             | <5                             | <5                             | <5                             | <5                             | <5                             | <5                             |
| Alk-P                                                         | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Alk-T                                                         | mg/L     | 36.7                          | 117                           |                               | 113                           | 95.9                          |                                | 49.4                         |                              | 95                             | 130                            | 106                            | 120                           | 120                            | 122                            | 121                            | 125                           | 125                            | 131                            | 129                            | 129                            | 128                            | 127                            | 128                            | 122                            |
| Bromine                                                       | mg/L     |                               |                               |                               |                               |                               |                                | <0.05                        |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| C-TIC                                                         | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| C-TOC                                                         | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Chloride                                                      | mg/L     | <0.50                         | 0.92                          | <0.50                         | <0.50                         | <0.50                         | <0.50                          | <0.5                         |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Colour                                                        | TCU      |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Cond-F                                                        | µS/cm    |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Cond-L                                                        | µS/cm    | 152                           | 233                           | 323                           | 211                           | 190                           | 194                            | 98.8                         |                              | 193                            | 246                            | 213                            | 205                           | 238                            | 233                            | 259                            | 256                           | 259                            | 261                            | 258                            | 258                            | 254                            | 263                            | 266                            | 258                            |
| Discharge                                                     | L/s      |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Fluoride                                                      | mg/L     |                               |                               |                               |                               |                               |                                | 0.155                        |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Hard-D                                                        | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              | 100                            | 122                            | 107                            | 110                           | 110                            | 130                            | 128                            | 128                           | 126                            | 129                            | 132                            | 130                            | 130                            | 132                            | 129                            | 126                            |
| Hard-T                                                        | mg/L     | 76.6                          |                               | 167                           | 109                           | 107                           | 106                            |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| IB                                                            | %        |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Ammonia                                                       | mg/L     | <0.020                        | <0.020                        | <0.020                        | 0.02                          | <0.020                        | 0.021                          | 0.062                        |                              | 0.027                          | 0.028                          | 0.01                           |                               | 0.014                          | 0.012                          | 0.016                          | 0.015                         | 0.014                          | 0.027                          | 0.012                          | 0.011                          | 0.011                          | 0.008                          | 0.011                          | 0.079                          |
| Ammonium                                                      | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                | 0.011                          |                                |                                |                                |                                |
| N-NO2                                                         | mg/L     | 0.0018                        | 0.0017                        | <0.0010                       | <0.0010                       | <0.0010                       | <0.0010                        | 0.0015                       |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| NO2+NO3                                                       | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| N-NO3                                                         | mg/L     | 0.0824                        | 0.172                         | 0.169                         | 0.0226                        | 0.0586                        | 0.102                          | 0.0449                       |                              | 0.18                           | 0.23                           | 0.112                          | 0.205                         | 0.18                           | 0.19                           | 0.18                           | 0.15                          | 0.16                           | 0.12                           | 0.11                           | 0.08                           | 0.094                          | 0.11                           | 0.08                           | 0.1                            |
| pH-F                                                          | pH units |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| pH-L                                                          | pH units | 7.95                          | 7.87                          | 7.18                          | 8.19                          | 8.02                          | 6.75                           | 7.61                         |                              | 7.86                           | 7.78                           | 7.9                            | 7.91                          | 7.77                           | 7.88                           | 7.87                           | 7.79                          | 7.8                            | 7.92                           | 7.79                           | 7.88                           | 7.84                           | 7.85                           | 7.26                           | 7.94                           |
| Radium - 226                                                  |          |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| SO4-D                                                         | mg/L     | <0.5                          | 10.2                          |                               | 6.02                          | 5.62                          |                                | 2.98                         |                              | 10.5                           | 15.1                           |                                | 10.8                          | 10.4                           | 10.5                           | 11.6                           | 10                            | 10                             | 11                             | 10.5                           | 10.3                           | 10                             | 11                             | 11                             | 10.9                           |
| SO4-T                                                         | mg/L     | 6.18                          | 10.2                          | 29.9                          | 6.02                          | 5.62                          | 7.47                           |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Sulphide                                                      | mg/L     |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| TDS                                                           | mg/L     | 116                           | 153                           | 197                           | 148                           | 142                           | 145                            | 104                          |                              | 114                            | 176                            | 120                            | 184                           |                                |                                |                                |                               |                                | 180                            | 200                            |                                |                                |                                | 182                            |                                |
| Temp-F                                                        | C        |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Temp-obs-pH                                                   | C        |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| TSS                                                           | mg/L     | 30.5                          | 14                            | 19.7                          | 3                             | 361                           | 7.5                            | 705                          |                              | 53                             | 328                            | 103                            | 3                             | <2                             | 2                              | 9                              | 4                             | <2                             |                                | <2                             | 4                              | 5                              | 3                              |                                | 2                              |
| Turb                                                          | NTU      |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |
| Turb-F                                                        | NTU      |                               |                               |                               |                               |                               |                                |                              |                              |                                |                                |                                |                               |                                |                                |                                |                               |                                |                                |                                |                                |                                |                                |                                |                                |

Data omitted from calculation of summary statistics (if whole day removed, due to a large number of parameters that were considered outliers for that day)

Data omitted from calculation of summary statistics as a result of a abnormally high method detection limit (MDL)

Appendix Table A.4: Water quality data at station W7

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 934140<br>10/12/2006<br>W7<br>P | 1009476<br>6/5/2007<br>W7<br>P | 1015480<br>6/20/2007<br>W7<br>P | 1203450<br>7/18/2007<br>W7<br>P | 1040246<br>8/24/2007<br>W7<br>P | 1050334<br>9/18/2007<br>W7<br>P | 1070279<br>10/30/2007<br>W7<br>P | 1112510<br>4/22/2008<br>W7<br>P | 1125108<br>6/3/2008<br>W7<br>P | 1129098<br>6/17/2008<br>W7<br>P | 1140635<br>8/6/2008<br>W7<br>P | 1151901<br>9/18/2008<br>W7<br>P | 1171319<br>10/28/2008<br>W7<br>P | 1216270<br>4/30/2009<br>W7<br>P | 1227387<br>6/8/2009<br>W7<br>P | 1239016<br>7/28/2009<br>W7<br>P | 1241968<br>8/6/2009<br>W7<br>P | 1245933<br>8/25/2009<br>W7<br>P | 1247177<br>8/31/2009<br>W7<br>P | 1260561<br>10/7/2009<br>W7<br>P | pre-<br>operation | averages<br>operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation |
|---------------------------------------------------------------|------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------|------------------------------------------|------------------------|-------------------|
| Ag-T                                                          | mg/L | <0.0001                         | <0.0001                        | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                         | <0.0001                        | <0.00001                        |                                | 0.00006                         |                                  | <0.00001                        | 0.00002                        |                                 | 0.00002                        |                                 |                                 | <0.00001                        | 0.00001           | 0.00005                                  | 0.00003                | 6                 |
| Al-T                                                          | mg/L | 0.264                           | 1.56                           | 0.172                           | 0.231                           | 0.205                           | 0.33                            | 0.121                            | <0.02                           | 0.4                            | 0.21                            |                                | 0.469                           |                                  | 0.138                           | 0.595                          |                                 | 0.071                          |                                 |                                 | 0.189                           | 0.486             | 0.316                                    | 0.243                  | 6                 |
| As-T                                                          | mg/L | 0.0004                          | 0.0008                         | 0.0004                          | 0.0005                          | 0.0003                          | 0.0005                          | 0.0004                           | 0.0005                          | 0.0007                         | 0.0006                          |                                | 0.0005                          |                                  | <0.0002                         | 0.0005                         |                                 | 0.0007                         |                                 |                                 | 0.0004                          | 0.0007            | 0.0005                                   | 0.0005                 | 6                 |
| Ba-T                                                          | mg/L | 0.076                           | 0.084                          | 0.066                           | 0.071                           | 0.075                           | 0.067                           | 0.076                            | 0.073                           | 0.061                          | 0.064                           |                                | 0.06                            |                                  | 0.012                           | 0.069                          |                                 | 0.081                          |                                 |                                 | 0.067                           | 0.070             | 0.068                                    | 0.069                  | 6                 |
| Be-T                                                          | mg/L | <0.0001                         | <0.0001                        | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          | <0.00004                        | <0.00004                       | <0.00004                        |                                | <0.00004                        |                                  | <0.00004                        | 0.00004                        |                                 | <0.00004                       |                                 |                                 | <0.00004                        | 0.00038           | 0.00006                                  | 0.00002                | 6                 |
| Bi-T                                                          | mg/L | <0.0005                         | <0.0005                        | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                          |                                 |                                |                                 |                                | <0.0001                         |                                  | <0.0001                         | <0.0001                        |                                 | <0.001                         |                                 |                                 | <0.001                          | 0.0003            | 0.0003                                   | 0.0004                 | 3                 |
| B-T                                                           | mg/L | 0.006                           | 0.009                          | 0.007                           | 0.006                           | 0.006                           | 0.005                           | 0.007                            | 0.006                           | <0.005                         | <0.005                          |                                | <0.005                          |                                  | <0.005                          | 0.005                          |                                 | <0.005                         |                                 |                                 | 0.008                           | 0.005             | 0.006                                    | 0.004                  | 3                 |
| Ca-T                                                          | mg/L | 33.5                            | 26.4                           | 30.2                            | 32.2                            | 31.2                            | 27                              | 33.5                             | 40.2                            | 24.4                           | 29.2                            |                                | 23                              |                                  | 5.54                            | 27                             |                                 | 35.1                           |                                 |                                 | 34.2                            | 28.75             | 29.69                                    | 30.77                  | 6                 |
| Cd-T                                                          | mg/L | <0.00001                        | 0.00003                        | <0.00001                        | 0.00002                         | <0.00001                        | <0.00001                        | 0.00004                          | <0.00007                        | <0.00007                       | <0.00008                        |                                | 0.00002                         |                                  | 0.00008                         | 0.00001                        |                                 | <0.00001                       |                                 |                                 | 0.00091                         | 0.00003           | 0.00002                                  | 0.00001                | 6                 |
| CN-T                                                          | mg/L |                                 |                                |                                 |                                 |                                 |                                 |                                  |                                 |                                |                                 |                                |                                 |                                  |                                 |                                |                                 |                                |                                 |                                 | -                               | -                 | -                                        |                        | 0                 |
| Co-T                                                          | mg/L | 0.0002                          | 0.0012                         | 0.0002                          | 0.0002                          | 0.0002                          | 0.0003                          | 0.0003                           | 0.00007                         | 0.0004                         | 0.00028                         |                                | 0.00046                         |                                  | 0.0001                          | 0.00052                        |                                 | 0.00013                        |                                 |                                 | 0.00022                         | 0.00064           | 0.00029                                  | 0.00027                | 6                 |
| Cr-T                                                          | mg/L | 0.0007                          | 0.0031                         | 0.0005                          | 0.0008                          | 0.0008                          | 0.0011                          | 0.0007                           | <0.0005                         | 0.0028                         | 0.0012                          |                                | 0.0022                          |                                  | 0.0012                          | 0.0014                         |                                 | 0.0009                         |                                 |                                 | 0.0014                          | 0.0014            | 0.0010                                   | 0.0015                 | 6                 |
| Cu-T                                                          | mg/L | 0.002                           | 0.003                          | 0.002                           | 0.002                           | 0.002                           | 0.003                           | 0.012                            | 0.004                           | 0.002                          | 0.001                           |                                | 0.003                           |                                  | 0.013                           | 0.003                          |                                 | 0.001                          |                                 |                                 | 0.006                           | 0.004             | 0.003                                    | 0.003                  | 6                 |
| Fe-T                                                          | mg/L | 0.5                             | 2                              | 0.2                             | 0.3                             | 0.2                             | 0.5                             | 0.3                              | 0.05                            | 0.78                           | 0.4                             |                                | 0.91                            |                                  | 0.19                            | 0.92                           |                                 | 0.126                          |                                 |                                 | 0.357                           | 1.03              | 0.48                                     | 0.46                   | 6                 |
| Hg-T                                                          | mg/L |                                 | <0.0001                        | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          | <0.00001                        | <0.00001                       | <0.01                           |                                | <0.00001                        |                                  | 0.00002                         | <0.00001                       |                                 |                                |                                 |                                 | <0.00001                        | 0.00001           | 0.00003                                  | 0.00001                | 3                 |
| K-T                                                           | mg/L | 1                               | 1.1                            | 1                               | 1                               | 1                               | 0.9                             | 1.6                              | 2.56                            | 0.94                           | 1.01                            |                                | 0.68                            |                                  | 1.5                             | 0.9                            |                                 | 1.1                            |                                 |                                 | 0.7                             | 1.0               | 1.1                                      | 0.8                    | 6                 |
| Li-T                                                          | mg/L | 0.001                           | 0.002                          | 0.001                           | 0.001                           | 0.001                           | 0.002                           | 0.001                            | 0.002                           | 0.001                          | <0.001                          |                                | <0.001                          |                                  | <0.001                          | 0.001                          |                                 | 0.001                          |                                 |                                 | 0.001                           | 0.003             | 0.001                                    | 0.001                  | 6                 |
| Mg-T                                                          | mg/L | 11.8                            | 10.2                           | 9.8                             | 11                              | 10.7                            | 9.5                             | 11.2                             | 19                              | 8.68                           | 10.1                            |                                | 7.62                            |                                  | 1.97                            | 9.53                           |                                 | 12.2                           |                                 |                                 | 11.9                            | 9.86              | 10.31                                    | 10.57                  | 6                 |
| Mn-T                                                          | mg/L | 0.063                           | 0.126                          | 0.044                           | 0.03                            | 0.033                           | 0.034                           | 0.054                            | 0.0257                          | 0.0693                         | 0.0833                          |                                | 0.0347                          |                                  | 0.0153                          | 0.0449                         |                                 | 0.0278                         |                                 |                                 | 0.0346                          | 0.0914            | 0.0481                                   | 0.0324                 | 6                 |
| Mo-T                                                          | mg/L | 0.001                           | 0.001                          | 0.002                           | 0.001                           | 0.001                           | 0.001                           | 0.002                            | 0.00165                         | 0.00131                        | 0.00148                         |                                | 0.00082                         |                                  | 0.00016                         | 0.00141                        |                                 | 0.0015                         |                                 |                                 | 0.0013                          | 0.00099           | 0.00108                                  | 0.00121                | 6                 |
| Na-T                                                          | mg/L | 6.6                             | 5.8                            | 7.2                             | 7.7                             | 7.9                             | 7.3                             | 8.1                              | 11.8                            | 6.6                            | 7.5                             |                                | 5.1                             |                                  | 1.29                            | 6.08                           |                                 | 7.17                           |                                 |                                 | 7.38                            | 5.72              | 6.74                                     | 6.55                   | 6                 |
| Ni-T                                                          | mg/L | 0.0015                          | 0.0033                         | 0.0016                          | <0.0005                         | 0.0014                          | 0.0015                          | 0.0008                           | <0.001                          | 0.002                          | 0.001                           |                                | 0.002                           |                                  | <0.001                          | 0.002                          |                                 | 0.001                          |                                 |                                 | 0.002                           | 0.003             | 0.002                                    | 0.002                  | 6                 |
| N-TKN                                                         | mg/L |                                 | 0.5                            | 0.3                             | 0.31                            | 0.3                             | 0.38                            | 0.51                             | 2.02                            | 0.38                           | 0.34                            | 0.32                           | 0.51                            |                                  | 0.76                            | 0.49                           |                                 | 0.24                           |                                 |                                 | 0.35                            | -                 | 0.55                                     | 0.37                   | 0                 |
| Pb-T                                                          | mg/L | 0.0002                          | 0.0006                         | 0.0001                          | 0.0004                          | 0.0001                          | 0.0002                          | 0.0023                           | <0.0001                         | 0.0002                         | 0.0001                          |                                | 0.0003                          |                                  | 0.0002                          | 0.0003                         |                                 | 0.0004                         |                                 |                                 | 0.0015                          | 0.0004            | 0.0003                                   | 0.0007                 | 6                 |
| P-PO4-T                                                       | mg/L |                                 | 0.15                           | 0.05                            | <0.05                           | 0.04                            | 0.07                            | <0.02                            | <0.05                           | <0.05                          | 0.06                            | 0.05                           | <0.05                           |                                  | 0.06                            | 0.03                           |                                 | 0.02                           |                                 |                                 | 0.07                            | -                 | 0.05                                     | 0.04                   | 0                 |
| P-T                                                           | mg/L |                                 | 0.14                           | <0.05                           |                                 | <0.05                           | <0.05                           |                                  | 0.02                            | 0.05                           | 0.06                            |                                | 0.04                            |                                  | 0.09                            | <0.05                          |                                 | 0.011                          |                                 |                                 | <0.05                           | 0.15              | 0.06                                     | 0.03                   | 3                 |
| P-TRP (Ortho)                                                 | mg/L |                                 |                                |                                 | 0.05                            |                                 |                                 | <0.01                            | 0.09                            | 0.04                           |                                 | 0.06                           | 0.09                            |                                  |                                 |                                |                                 | <0.05                          |                                 |                                 | -                               | 0.05              | 0.06                                     | 0.06                   | 0                 |
| Sb-T                                                          | mg/L | <0.0002                         | <0.0002                        | <0.0002                         | <0.0002                         | <0.0002                         | <0.0002                         | <0.0002                          | <0.0002                         | <0.0002                        | <0.0002                         |                                | <0.0002                         |                                  | <0.0002                         | <0.0002                        |                                 | <0.0002                        |                                 |                                 | <0.0002                         | 0.0002            | 0.0001                                   | 0.0001                 | 6                 |
| Se-T                                                          | mg/L | <0.0002                         | <0.0002                        | 0.0003                          | 0.0004                          | <0.0002                         | <0.0002                         | 0.0007                           | <0.0006                         | <0.0006                        | 0.0008                          |                                | 0.0008                          |                                  | <0.0006                         | <0.0006                        |                                 | <0.0006                        |                                 |                                 | <0.0006                         | 0.0005            | 0.0003                                   | 0.0005                 | 6                 |
| Si-T                                                          | mg/L | 6.51                            | 7.47                           | 5.45                            | 5.78                            | 5.8                             | 6.34                            | 5.94                             | 3.8                             | 2.66                           | 4.43                            |                                | 7.09                            |                                  | 1.67                            | 5.67                           |                                 | 5.7                            |                                 |                                 | 6.46                            | 6.11              | 5.62                                     | 6.42                   | 3                 |
| Sn-T                                                          | mg/L | <0.001                          | <0.001                         | <0.001                          | <0.001                          | <0.001                          | <0.001                          | <0.001                           | <0.004                          | <0.0001                        | <0.0001                         |                                | <0.0001                         |                                  | <0.0001                         | <0.0001                        |                                 | <0.0001                        |                                 |                                 | <0.0001                         | 0.0002            | 0.0005                                   | 0.0001                 | 6                 |
| Sr-T                                                          | mg/L | 0.35                            | 0.275                          | 0.304                           | 0.38                            | 0.34                            | 0.309                           | 0.395                            | 0.487                           | 0.234                          | 0.294                           |                                | 0.201                           |                                  | 0.036                           | 0.281                          |                                 | 0.38                           |                                 |                                 | 0.312                           | 0.269             | 0.309                                    | 0.298                  | 3                 |
| S-T                                                           | mg/L | 4                               | 3.4                            | 4.2                             | 4                               | 3.3                             | 2.8                             | 4.6                              |                                 |                                |                                 |                                |                                 |                                  | 0.5                             | 3.2                            |                                 | 4.3                            |                                 |                                 | 4                               | -                 | 3.5                                      | 4.2                    | 0                 |
| Te-T                                                          | mg/L |                                 |                                |                                 |                                 |                                 |                                 |                                  | <0.0001                         | <0.0001                        | <0.0001                         |                                | <0.0001                         |                                  | <0.0001                         | <0.0001                        |                                 | <0.0001                        |                                 |                                 | <0.0001                         | -                 | 0.00005                                  | 0.00005                | 0                 |
| Th-T                                                          | mg/L |                                 |                                |                                 |                                 |                                 |                                 |                                  | <0.0001                         | <0.0001                        | <0.0001                         |                                | <0.0001                         |                                  | <0.0001                         | <0.0001                        |                                 | <0.0004                        |                                 |                                 | <0.0004                         | -                 | 0.00005                                  | 0.00015                | 0                 |
| Ti-T                                                          | mg/L | 0.0124                          | 0.0776                         | 0.0055                          | 0.0096                          | <0.0005                         | 0.016                           | 0.0066                           | 0.0004                          | 0.0128                         | 0.0081                          |                                | 0.0194                          |                                  | 0.0046                          | 0.0256                         |                                 | 0.0034                         |                                 |                                 | 0.0068                          | 0.0207            | 0.0137                                   | 0.0099                 | 6                 |
| Tl-T                                                          | mg/L | <0.00005                        | <0.00005                       | <0.00005                        | <0.00005                        | <0.00005                        | <0.00005                        | <0.00005                         | <0.00001                        | <0.00001                       | <0.00001                        |                                | <0.00001                        |                                  | <0.00001                        | <0.00001                       |                                 | <0.00001                       |                                 |                                 | <0.00001                        | 0.00008           | 0.00003                                  | 0.00001                | 6                 |
| U-T                                                           | mg/L | 0.0011                          | 0.0014                         | 0.0014                          | 0.0012                          | 0.0012                          | 0.0008                          | 0.0009                           | 0.0021                          | 0.0011                         | 0.0014                          |                                | 0.0004                          |                                  | <0.0004                         | 0.001                          |                                 | 0.0014                         |                                 |                                 | 0.0009                          | 0.0007            | 0.0011                                   | 0.0009                 | 6                 |
| V-T                                                           | mg/L | 0.0014                          | 0.0054                         | 0.0016                          | 0.0014                          | 0.0013                          | 0.002                           | 0.0011                           | 0.00032                         | 0.00207                        | 0.0014                          |                                | 0.00224                         |                                  | 0.00037                         | 0.00265                        |                                 | 0.0009                         |                                 |                                 | 0.001                           | 0.00820           | 0.00174                                  | 0.00138                | 6                 |
| Zn-T                                                          | mg/L | 0.006                           | 0.009                          | 0.004                           | 0.005                           | 0.01                            | 0.008                           | 0.013                            | 0.004                           | 0.004                          | 0.007                           |                                | 0.008                           |                                  | 0.008                           | 0.002                          |                                 | 0.003                          |                                 |                                 | 0.008                           | 0.003             | 0.005                                    | 0.007                  | 6                 |
| Zr-T                                                          | mg/L | <0.001                          | 0.001                          | <0.001                          | <0.001                          | <0.001                          | <0.001                          | <0.001                           | <0.0001                         | 0.0004                         | 0.0004                          |                                | 0.0006                          |                                  | 0.0002                          | 0.0005                         |                                 | 0.0002                         |                                 |                                 | 0.0002                          | -                 | 0.0006                                   | 0.0003                 | 0                 |
| Ag-D                                                          | mg/L | <0.0001                         |                                | <0.0001                         | <0.0001                         |                                 | <0.0001                         |                                  | <0.0010                         |                                | <0.00001                        | 0.00006                        | <0.00001                        | <0.00001                         | <0.00001                        | <0.00001                       |                                 |                                | <0.00001                        |                                 | 0.00001                         | 0.00004           | 0.00001                                  | 0.00001                | 6                 |
| Al-D                                                          | mg/L | 0.007                           |                                | 0.014                           | 0.011                           |                                 | 0.007                           |                                  | <0.02                           | 0.014                          |                                 |                                | 0.014                           |                                  | 0.07                            | 0.053                          |                                 | 0.013                          |                                 |                                 | 0.01                            | 0.015             | 0.027                                    | 0.040                  | 6                 |
| As-D                                                          | mg/L | 0.0004                          |                                | 0.0004                          | 0.0005                          |                                 | 0.0004                          |                                  | <0.0002                         | <0.0002                        | 0.0004                          |                                | 0.0003                          |                                  | 0.0005                          | <0.0002                        |                                 | 0.0003                         |                                 |                                 | 0.0004                          | 0.0004            | 0.0004                                   | 0.0004                 | 6                 |
| Ba-D                                                          | mg/L | 0.067                           |                                | 0.06                            | 0.066                           |                                 | 0.059                           |                                  | 0.075                           | 0.056                          | 0.068                           |                                | 0.043                           |                                  | 0.061                           | 0.052                          |                                 | 0.056                          |                                 |                                 | 0.056                           | 0.064             | 0.050                                    |                        | 6                 |
| B-D                                                           | mg/L | 0.005                           |                                | 0.005                           | 0.005                           |                                 | 0.004                           |                                  | <0.005                          | 0.006                          | 0.004                           | <0.004                         | 0.006                           | <0.004                           | <0.004                          | <0.004                         |                                 | <0.004                         |                                 |                                 | 0.005                           | 0.004             | 0.002                                    | 3                      |                   |
| Be-D                                                          | mg/L | <0.0001                         |                                | <0.0001                         | <0.0001                         |                                 | <0.0001                         |                                  | <0.00004                        |                                | <0.00004                        | <0.0001                        | <0.00004                        | <0.00004                         | <0.00004                        | <0.00004                       |                                 |                                |                                 | <0.00004                        |                                 | 0.00038           | 0.00004                                  | 0.00002                | 6                 |
| Bi-D                                                          | mg/L | <0.0005                         |                                | <0.0005                         | <0.0005                         |                                 | <0.0005                         |                                  |                                 |                                |                                 | <0.0005                        |                                 |                                  | <0.0001                         | <0.0001                        |                                 | <0.001                         |                                 |                                 | 0.00025                         | 0.00027           | 0.00050                                  | 3                      |                   |
| Ca-D                                                          | mg/L | 34                              |                                | 29.6                            | 32                              |                                 | 26.9                            |                                  | 40.9                            |                                |                                 | 31.8                           | 20                              | 30.5                             | 5.23                            | 23.8                           |                                 |                                |                                 |                                 | 29.1                            | 28.9              | 30.1                                     | 24.6                   | 6                 |
| Cd-D                                                          | mg/L | <0.00001                        |                                | <0.00001                        | <0.00001                        |                                 | <0.00001                        |                                  | <0.00008                        |                                | <0.00008                        | <0.00001                       | <0.00001                        | <0.00001                         | 0.00008                         | <0.00001                       |                                 |                                |                                 | <0.00001                        |                                 | 0.00002           | 0.00002                                  | 0.00001                | 6                 |
| C-DOC                                                         | mg/L |                                 |                                | 8.2                             | 14.3                            |                                 | 11                              |                                  |                                 |                                |                                 | 9                              | 17.4                            | 11                               | 17.6                            | 9.2                            |                                 | 8.2                            |                                 | 6.9                             | -                               | 11.5              | 10.8                                     |                        | 0                 |
| Co-D                                                          | mg/L | <0.0001                         |                                | <0.0001                         | <0.0001                         |                                 | <0.0001                         |                                  | 0.00008                         |                                | 0.00014                         | 0.0001                         |                                 |                                  |                                 |                                |                                 |                                |                                 |                                 |                                 |                   |                                          |                        |                   |

Appendix Table A.4: Water quality data at station W7

| Sampling Session |              | 934140     | 1009476  | 1015480   | 1203450   | 1040246   | 1050334   | 1070279    | 1112510   | 1125108  | 1129098   | 1140635  | 1151901   | 1171319    | 1216270   | 1227387  | 1239016   | 1241968  | 1245933   | 1247177   | 1260561   | averages  | operation | operation |           |
|------------------|--------------|------------|----------|-----------|-----------|-----------|-----------|------------|-----------|----------|-----------|----------|-----------|------------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        | Station Name | 10/12/2006 | 6/5/2007 | 6/20/2007 | 7/18/2007 | 8/24/2007 | 9/18/2007 | 10/30/2007 | 4/22/2008 | 6/3/2008 | 6/17/2008 | 8/6/2008 | 9/18/2008 | 10/28/2008 | 4/30/2009 | 6/8/2009 | 7/28/2009 | 8/6/2009 | 8/25/2009 | 8/31/2009 | 10/7/2009 |           |           |           |           |
| Sample Class     |              | W7         | W7       | W7        | W7        | W7        | W7        | W7         | W7        | W7       | W7        | W7       | W7        | W7         | W7        | W7       | W7        | W7       | W7        | W7        | W7        | operation | discharge | discharge | operation |
| U-D              | mg/L         | 0.0011     |          | 0.0012    | 0.0012    |           | 0.0006    |            | 0.0021    |          | 0.0014    | 0.0011   | <0.0004   | 0.0007     | <0.0004   | 0.0008   |           |          |           | 0.0007    |           | 0.0006    | 0.0010    | 0.0005    | 6         |
| V-D              | mg/L         | 0.0009     |          | 0.0016    | 0.0024    |           | 0.0044    |            | 0.00059   |          | 0.00091   | 0.001    | 0.00094   | 0.00067    | 0.00024   | 0.0008   |           |          |           | 0.0007    |           | 0.0005    | 0.0014    | 0.0008    | 3         |
| Zn-D             | mg/L         | 0.002      |          | 0.004     | 0.006     |           | 0.002     |            | 0.001     |          | 0.002     | 0.006    | 0.003     | 0.001      | 0.009     | 0.002    |           |          |           | 0.001     |           | 0.003     | 0.002     | 0.002     | 6         |
| Zr-D             | mg/L         |            |          |           |           |           |           |            | <0.0001   |          | 0.0003    |          | 0.0004    | 0.0002     | 0.0002    | 0.0003   |           |          |           | 0.0002    |           | -         | 0.0002    | 0.0003    | 0         |
| Alk-Bicrb        | mg/L         | 158        | 144      | 142       | 156       | 170       | 151       | 157        | 218       | 100      | 140       |          | 100       |            | 20        | 100      | 160       | 190      |           |           | 140       | -         | 144       | 148       | 0         |
| Alk-Carb         | mg/L         | <6         | <6       | <6        | <6        | <6        | <6        | <6         | <6        | <6       | <6        |          | <6        |            | <6        | <6       | <6        | <6       |           |           | <6        | 108       | 3         | 3         | 6         |
| Alk-OH           | mg/L         | <5         | <5       | <5        | <5        | <5        | <5        | <5         | <5        | <5       | <5        |          | <5        |            | <5        | <5       | <5        | <5       |           |           | <5        | -         | 3         | 3         | 0         |
| Alk-P            | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| Alk-T            | mg/L         | 130        | 118      | 116       | 128       | 139       | 124       | 128        | 187       | 94       | 115       |          | 82        |            | 12        | 95       | 128       | 159      |           |           | 116       | 91        | 119       | 121       | 4         |
| Bromine          | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| C-TIC            | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| C-TOC            | mg/L         |            |          |           |           |           |           |            |           |          | 6.8       | 9.3      | 17.6      | 10.7       | 17.6      | 9.4      |           |          | 9.4       |           | 8.1       | -         | 10.8      | 11.7      | 0         |
| Chloride         | mg/L         |            | 0.7      | 0.6       | 0.6       | 0.3       | 0.46      | 0.96       | 0.8       | 0.38     | 0.42      |          | 0.57      |            | 0.38      | 4.1      | 0.82      | 0.39     |           |           | 0.61      | 0.36      | 0.88      | 0.60      | 6         |
| Colour           | TCU          |            | 40       | 30        | 38        | 30        | 39        | 33         | 26        | 50       | <50       |          | 90        |            | 120       | 41       | 10        | <5       |           |           |           | -         | 43        | 34        | 0         |
| Cond-F           | µS/cm        |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| Cond-L           | µS/cm        | 266        | 208      | 230       | 250       | 246       | 224       | 268        | 364       | 201      | 237       |          | 170       |            | 36        | 208      | 270       | 260      |           |           | 249       | 217       | 237       | 237       | 6         |
| Discharge        | L/s          |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| Fluoride         | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| Hard-D           | mg/L         | 132        |          | 110       | 128       |           | 110       |            | 186       |          |           | 123      |           | 123        | 20        | 93       | 137       | 121      |           | 110       | 123       | -         | 120       | 123       | 0         |
| Hard-T           | mg/L         |            | 108      |           | 126       | 122       |           | 130        |           | 97       |           |          |           |            |           |          |           |          |           |           | 113       | 117       | -         | -         | 5         |
| IB               | %            |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           | -         | -         | -         | -         | 0         |
| Ammonia          | mg/L         | 0.024      | <0.05    | <0.05     | <0.05     | <0.05     | <0.05     | <0.05      | <0.05     | <0.05    | <0.05     | <0.05    | <0.05     |            |           |          |           |          |           |           |           | 0.014     | 0.022     | 0.025     | 6         |
| Ammonium         | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            | <0.05     | <0.05    |           | <0.05    |           |           | <0.05     | -         | 0.02      | 0.03      | 0         |
| N-NO2            | mg/L         |            | <0.05    | <0.05     | <0.05     | <0.05     | <0.02     | 0.14       | 0.07      | 0.04     | 0.05      |          | <0.01     |            |           |          |           |          |           |           |           | 0.001     | 0.05      | 0.01      | 6         |
| NO2+NO3          | mg/L         |            | <0.1     | 0.18      | 0.22      | 0.14      | 0.06      | 0.2        | <0.01     | 0.03     | 0.14      | 0.14     | 0.04      |            | <0.01     | 0.15     |           | 0.18     |           |           | 0.12      | -         | 0.11      | 0.11      | 0         |
| N-NO3            | mg/L         | 0.12       | <0.1     | 0.3       | 0.3       | 0.2       | 0.05      | <0.02      | <0.02     | 0.03     | 0.14      |          | 0.03      |            |           |          |           |          |           |           |           | 0.10      | 0.13      | 0.03      | 6         |
| pH-F             | pH units     |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| pH-L             | pH units     | 7.39       | 7.98     | 7.84      | 7.72      | 8.04      | 8         | 7.74       | 8.4       | 8.01     | 7.95      |          | 7.89      |            | 6.84      | 7.9      | 8.07      | 8.35     |           |           | 7.87      | 7.66      | 7.82      | 8.05      | 6         |
| Radium - 226     |              |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| SO4-D            | mg/L         | 11.3       | 11       | 12.2      | 11.9      | 10.3      | 8.21      | 13         | 27.6      | 10.4     | 12.9      |          | 5.44      |            | 0.65      | 8.6      | 13        | 13       |           |           | 9.9       | 6         | 11        | 10        | 4         |
| SO4-T            | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | 10.90     | -         | -         | 6         |
| Sulphide         | mg/L         |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| TDS              | mg/L         | 164        | 162      | 164       | 170       | 198       | 182       | 176        | 264       | 134      | 156       |          | 170       |            | 52        | 156      | 184       | 202      |           |           | 180       | 150       | 164       | 184       | 6         |
| Temp-F           | C            |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| Temp-obs-pH      | C            |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |
| TSS              | mg/L         | 4          | 76       | 6         | 4         | 4         | 20        | 3          | <2        | <2       | 10        |          | 28        |            | <2        | 32       | 4         | 2        |           |           | 7         | 73        | 14        | 10        | 6         |
| Turb             | NTU          |            | 2.4      | 0.5       | 0.6       | <0.1      | 0.2       | 0.9        | 0.3       | 1.3      | 1         |          | 1.8       |            | 1.6       | 1.4      | 0.2       | 0.2      |           |           | 0.2       | -         | 0.9       | 0.6       | 0         |
| Turb-F           | NTU          |            |          |           |           |           |           |            |           |          |           |          |           |            |           |          |           |          |           |           |           | -         | -         | -         | 0         |

Data omitte

Data omitte

Appendix Table A.4: Water quality data at station W7

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | number<br>operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | %>MDL<br>operation<br>no<br>discharge | operation<br>discharge | Upper 95th Percentile |         |          | pre-<br>operation | %>guideline<br>operation<br>no<br>discharge | operation<br>discharge |
|---------------------------------------------------------------|------|----------------------------------------|------------------------|-------------------|---------------------------------------|------------------------|-----------------------|---------|----------|-------------------|---------------------------------------------|------------------------|
| Ag-T                                                          | mg/L | 28                                     | 3                      | 0                 | 7                                     | 67                     | 0.00001               | 0.00010 | 0.00006  | 0                 | 4                                           | 0                      |
| Al-T                                                          | mg/L | 28                                     | 3                      | 100               | 96                                    | 100                    | 1.364                 | 1.532   | 0.441    | 17                | 14                                          | 0                      |
| As-T                                                          | mg/L | 28                                     | 3                      | 100               | 89                                    | 100                    | 0.0013                | 0.0008  | 0.0007   | 0                 | 0                                           | 0                      |
| Ba-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 0.102                 | 0.083   | 0.080    | -                 | -                                           | -                      |
| Be-T                                                          | mg/L | 28                                     | 3                      | 0                 | 4                                     | 0                      | 0.00050               | 0.00010 | 0.00002  | -                 | -                                           | -                      |
| Bi-T                                                          | mg/L | 25                                     | 3                      | 0                 | 0                                     | 0                      | 0.0003                | 0.0005  | 0.0005   | -                 | -                                           | -                      |
| B-T                                                           | mg/L | 28                                     | 3                      | 0                 | 86                                    | 33                     | 0.005                 | 0.008   | 0.007    | -                 | -                                           | -                      |
| Ca-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 39.23                 | 34.36   | 35.01    | -                 | -                                           | -                      |
| Cd-T                                                          | mg/L | 28                                     | 2                      | 17                | 25                                    | 50                     | 0.00005               | 0.00004 | 0.00002  | 17                | 11                                          | 0                      |
| CN-T                                                          | mg/L | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -       | -        | -                 | -                                           | -                      |
| Co-T                                                          | mg/L | 28                                     | 3                      | 83                | 68                                    | 100                    | 0.00187               | 0.00107 | 0.00044  | -                 | -                                           | -                      |
| Cr-T                                                          | mg/L | 28                                     | 3                      | 83                | 57                                    | 100                    | 0.0032                | 0.0031  | 0.0021   | 17                | 14                                          | 33                     |
| Cu-T                                                          | mg/L | 28                                     | 3                      | 100               | 79                                    | 100                    | 0.009                 | 0.009   | 0.006    | 0                 | 0                                           | 0                      |
| Fe-T                                                          | mg/L | 28                                     | 3                      | 100               | 86                                    | 100                    | 2.79                  | 1.90    | 0.85     | 17                | 11                                          | 0                      |
| Hg-T                                                          | mg/L | 10                                     | 2                      | 0                 | 10                                    | 0                      | 0.00001               | 0.00005 | 0.00001  | 0                 | 0                                           | 0                      |
| K-T                                                           | mg/L | 28                                     | 3                      | 0                 | 96                                    | 100                    | 1.0                   | 1.6     | 1.1      | -                 | -                                           | -                      |
| Li-T                                                          | mg/L | 28                                     | 3                      | 0                 | 75                                    | 67                     | 0.003                 | 0.002   | 0.001    | -                 | -                                           | -                      |
| Mg-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 13.18                 | 11.77   | 12.17    | -                 | -                                           | -                      |
| Mn-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 0.2485                | 0.0851  | 0.0347   | -                 | -                                           | -                      |
| Mo-T                                                          | mg/L | 28                                     | 3                      | 83                | 86                                    | 100                    | 0.00121               | 0.00188 | 0.00148  | 0                 | 0                                           | 0                      |
| Na-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 7.48                  | 8.03    | 7.36     | -                 | -                                           | -                      |
| Ni-T                                                          | mg/L | 28                                     | 3                      | 100               | 89                                    | 100                    | 0.006                 | 0.004   | 0.002    | 0                 | 0                                           | 0                      |
| N-TKN                                                         | mg/L | 12                                     | 3                      | -                 | 100                                   | 100                    | -                     | 1.33    | 0.49     | -                 | -                                           | -                      |
| Pb-T                                                          | mg/L | 28                                     | 3                      | 67                | 61                                    | 100                    | 0.0009                | 0.0007  | 0.0014   | 0                 | 4                                           | 0                      |
| P-PO4-T                                                       | mg/L | 12                                     | 3                      | -                 | 67                                    | 67                     | -                     | 0.11    | 0.07     | -                 | -                                           | -                      |
| P-T                                                           | mg/L | 10                                     | 3                      | 0                 | 50                                    | 67                     | 0.15                  | 0.15    | 0.04     | -                 | -                                           | -                      |
| P-TRP (Ortho)                                                 | mg/L | 5                                      | 2                      | -                 | 80                                    | 50                     | -                     | 0.08    | 0.09     | -                 | -                                           | -                      |
| Sb-T                                                          | mg/L | 28                                     | 3                      | 0                 | 0                                     | 0                      | 0.0003                | 0.0002  | 0.0001   | -                 | -                                           | -                      |
| Se-T                                                          | mg/L | 28                                     | 3                      | 0                 | 46                                    | 33                     | 0.0005                | 0.0007  | 0.0008   | 0                 | 0                                           | 0                      |
| Si-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 6.36                  | 7.39    | 7.03     | -                 | -                                           | -                      |
| Sn-T                                                          | mg/L | 27                                     | 3                      | 0                 | 0                                     | 0                      | 0.0003                | 0.0010  | 0.0001   | -                 | -                                           | -                      |
| Sr-T                                                          | mg/L | 28                                     | 3                      | 100               | 100                                   | 100                    | 0.286                 | 0.390   | 0.373    | -                 | -                                           | -                      |
| S-T                                                           | mg/L | 24                                     | 2                      | -                 | 100                                   | 100                    | -                     | 4.2     | 4.3      | -                 | -                                           | -                      |
| Te-T                                                          | mg/L | 5                                      | 3                      | -                 | 0                                     | 0                      | -                     | 0.00005 | 0.00005  | -                 | -                                           | -                      |
| Th-T                                                          | mg/L | 5                                      | 3                      | -                 | 0                                     | 0                      | -                     | 0.00005 | 0.0002   | -                 | -                                           | -                      |
| Ti-T                                                          | mg/L | 28                                     | 3                      | 50                | 93                                    | 100                    | 0.0518                | 0.0744  | 0.0181   | -                 | -                                           | -                      |
| Tl-T                                                          | mg/L | 28                                     | 3                      | 0                 | 0                                     | 0                      | 0.00010               | 0.00005 | 0.00001  | 0                 | 0                                           | 0                      |
| U-T                                                           | mg/L | 28                                     | 3                      | 100               | 96                                    | 100                    | 0.0011                | 0.0014  | 0.0014   | -                 | -                                           | -                      |
| V-T                                                           | mg/L | 28                                     | 3                      | 33                | 100                                   | 100                    | 0.01500               | 0.00592 | 0.00212  | -                 | -                                           | -                      |
| Zn-T                                                          | mg/L | 28                                     | 3                      | 33                | 89                                    | 100                    | 0.008                 | 0.012   | 0.009    | 0                 | 0                                           | 0                      |
| Zr-T                                                          | mg/L | 27                                     | 3                      | -                 | 26                                    | 100                    | -                     | 0.001   | 0.001    | -                 | -                                           | -                      |
| Ag-D                                                          | mg/L | 24                                     | 2                      | 0                 | 4                                     | 0                      | 0.00001               | 0.00005 | 0.00001  | -                 | -                                           | -                      |
| Al-D                                                          | mg/L | 25                                     | 2                      | 100               | 88                                    | 100                    | 0.022                 | 0.046   | 0.067    | -                 | -                                           | -                      |
| As-D                                                          | mg/L | 25                                     | 2                      | 83                | 84                                    | 100                    | 0.0005                | 0.0006  | 0.0004   | -                 | -                                           | -                      |
| Ba-D                                                          | mg/L | 25                                     | 2                      | 100               | 100                                   | 100                    | 0.062                 | 0.075   | 0.055    | -                 | -                                           | -                      |
| B-D                                                           | mg/L | 25                                     | 2                      | 0                 | 84                                    | 0                      | 0.005                 | 0.006   | 0.002    | -                 | -                                           | -                      |
| Be-D                                                          | mg/L | 25                                     | 2                      | 0                 | 0                                     | 0                      | 0.00050               | 0.00005 | 0.00002  | -                 | -                                           | -                      |
| Bi-D                                                          | mg/L | 22                                     | 1                      | 0                 | 9                                     | 0                      | 0.00025               | 0.00068 | 0.00050  | -                 | -                                           | -                      |
| Ca-D                                                          | mg/L | 24                                     | 2                      | 100               | 100                                   | 100                    | 38.5                  | 33.9    | 28.6     | -                 | -                                           | -                      |
| Cd-D                                                          | mg/L | 25                                     | 2                      | 0                 | 12                                    | 0                      | 0.00003               | 0.00007 | 0.00001  | -                 | -                                           | -                      |
| C-DOC                                                         | mg/L | 7                                      | 3                      | -                 | 100                                   | 100                    | -                     | 16.6    | 16.5     | -                 | -                                           | -                      |
| Co-D                                                          | mg/L | 25                                     | 2                      | 17                | 40                                    | 100                    | 0.00015               | 0.00019 | 0.00024  | -                 | -                                           | -                      |
| Cr-D                                                          | mg/L | 25                                     | 2                      | 0                 | 76                                    | 100                    | 0.0005                | 0.0015  | 0.0016   | -                 | -                                           | -                      |
| Cu-D                                                          | mg/L | 25                                     | 2                      | 100               | 88                                    | 100                    | 0.003                 | 0.003   | 0.004    | -                 | -                                           | -                      |
| Fe-D                                                          | mg/L | 25                                     | 2                      | 100               | 96                                    | 100                    | 0.31                  | 0.11    | 0.20     | -                 | -                                           | -                      |
| Hg-D                                                          | mg/L | 8                                      | 2                      | 0                 | 13                                    | 0                      | 0.00001               | 0.00005 | 0.000005 | -                 | -                                           | -                      |
| K-D                                                           | mg/L | 24                                     | 2                      | 0                 | 96                                    | 100                    | 1.0                   | 1.5     | 0.9      | -                 | -                                           | -                      |
| Li-D                                                          | mg/L | 25                                     | 2                      | 0                 | 68                                    | 0                      | 0.003                 | 0.002   | 0.001    | -                 | -                                           | -                      |
| Mg-D                                                          | mg/L | 24                                     | 2                      | 100               | 100                                   | 100                    | 14.25                 | 11.70   | 9.74     | -                 | -                                           | -                      |
| Mn-D                                                          | mg/L | 25                                     | 2                      | 100               | 100                                   | 100                    | 0.0415                | 0.0440  | 0.0195   | -                 | -                                           | -                      |
| Mo-D                                                          | mg/L | 25                                     | 2                      | 67                | 88                                    | 100                    | 0.00126               | 0.00192 | 0.00108  | -                 | -                                           | -                      |
| Na-D                                                          | mg/L | 24                                     | 2                      | 100               | 100                                   | 100                    | 8.3                   | 7.7     | 6.7      | -                 | -                                           | -                      |
| Ni-D                                                          | mg/L | 25                                     | 2                      | 100               | 84                                    | 100                    | 0.002                 | 0.002   | 0.001    | -                 | -                                           | -                      |
| O-DO                                                          | mg/L | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -       | -        | -                 | -                                           | -                      |
| Pb-D                                                          | mg/L | 25                                     | 2                      | 0                 | 12                                    | 100                    | 0.0003                | 0.0002  | 0.0016   | -                 | -                                           | -                      |
| P-D                                                           | mg/L | 5                                      | 2                      | 0                 | 40                                    | 100                    | 0.15                  | 0.05    | 0.03     | -                 | -                                           | -                      |
| P-TDP                                                         | mg/L | 6                                      | 0                      | -                 | 0                                     | -                      | -                     | 0.01    | -        | -                 | -                                           | -                      |
| Sb-D                                                          | mg/L | 25                                     | 2                      | 0                 | 24                                    | 100                    | 0.0003                | 0.0013  | 0.0009   | -                 | -                                           | -                      |
| S-D                                                           | mg/L | 22                                     | 1                      | -                 | 100                                   | 100                    | -                     | 4.195   | 3        | -                 | -                                           | -                      |
| Se-D                                                          | mg/L | 25                                     | 2                      | 0                 | 20                                    | 0                      | 0.0005                | 0.0003  | 0.0003   | -                 | -                                           | -                      |
| Si-D                                                          | mg/L | 24                                     | 2                      | 100               | 100                                   | 100                    | 6.37                  | 6.58    | 6.03     | -                 | -                                           | -                      |
| Sn-D                                                          | mg/L | 24                                     | 2                      | 0                 | 0                                     | 0                      | 0.0003                | 0.0005  | 0.0001   | -                 | -                                           | -                      |
| Sr-D                                                          | mg/L | 25                                     | 2                      | 100               | 100                                   | 100                    | 0.283                 | 0.353   | 0.252    | -                 | -                                           | -                      |
| Te-D                                                          | mg/L | 5                                      | 2                      | -                 | 20                                    | 0                      | -                     | 0.00017 | 0.00005  | -                 | -                                           | -                      |
| Th-D                                                          | mg/L | 5                                      | 2                      | -                 | 0                                     | 0                      | -                     | 0.0001  | 0.0002   | -                 | -                                           | -                      |
| Ti-D                                                          | mg/L | 25                                     | 2                      | 0                 | 80                                    | 100                    | 0.0050                | 0.0015  | 0.0052   | -                 | -                                           | -                      |
| Tl-D                                                          | mg/L | 25                                     | 2                      | 0                 | 0                                     | 0                      | 0.00010               | 0.00003 | 0.00001  | -                 | -                                           | -                      |

Appendix Table A.4: Water quality data at station W7

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | number<br>operation<br>no<br>discharge | operation<br>discharge | pre-<br>operation | %>MDL<br>operation<br>no<br>discharge | operation<br>discharge | Upper 95th Percentile |        |         | pre-<br>operation | %>guideline<br>operation<br>no<br>discharge | operation<br>discharge |
|---------------------------------------------------------------|----------|----------------------------------------|------------------------|-------------------|---------------------------------------|------------------------|-----------------------|--------|---------|-------------------|---------------------------------------------|------------------------|
| U-D                                                           | mg/L     | 25                                     | 2                      | 100               | 96                                    | 50                     | 0.0009                | 0.0014 | 0.0007  | -                 | -                                           | -                      |
| V-D                                                           | mg/L     | 25                                     | 2                      | 0                 | 100                                   | 100                    | 0.0005                | 0.0028 | 0.0009  | -                 | -                                           | -                      |
| Zn-D                                                          | mg/L     | 25                                     | 2                      | 33                | 76                                    | 100                    | 0.005                 | 0.006  | 0.003   | -                 | -                                           | -                      |
| Zr-D                                                          | mg/L     | 5                                      | 2                      | -                 | 80                                    | 100                    | -                     | 0.0003 | 0.00039 | -                 | -                                           | -                      |
| Alk-Bicrb                                                     | mg/L     | 27                                     | 4                      | -                 | 100                                   | 100                    | -                     | 167    | 185.5   | -                 | -                                           | -                      |
| Alk-Carb                                                      | mg/L     | 27                                     | 4                      | 100               | 0                                     | 0                      | 139                   | 3      | 3       | -                 | -                                           | -                      |
| Alk-OH                                                        | mg/L     | 27                                     | 4                      | -                 | 0                                     | 0                      | -                     | 3      | 3       | -                 | -                                           | -                      |
| Alk-P                                                         | mg/L     | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Alk-T                                                         | mg/L     | 27                                     | 4                      | 100               | 100                                   | 100                    | 116                   | 137    | 154     | -                 | -                                           | -                      |
| Bromine                                                       | mg/L     | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| C-TIC                                                         | mg/L     | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| C-TOC                                                         | mg/L     | 5                                      | 3                      | -                 | 100                                   | 100                    | -                     | 16.2   | 16.8    | -                 | -                                           | -                      |
| Chloride                                                      | mg/L     | 11                                     | 4                      | 17                | 100                                   | 100                    | 0.75                  | 2.53   | 0.79    | -                 | -                                           | -                      |
| Colour                                                        | TCU      | 11                                     | 3                      | -                 | 91                                    | 67                     | -                     | 85     | 82      | -                 | -                                           | -                      |
| Cond-F                                                        | µS/cm    | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Cond-L                                                        | µS/cm    | 27                                     | 4                      | 100               | 100                                   | 100                    | 301                   | 267    | 269     | -                 | -                                           | -                      |
| Discharge                                                     | L/s      | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Fluoride                                                      | mg/L     | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Hard-D                                                        | mg/L     | 24                                     | 4                      | -                 | 100                                   | 100                    | -                     | 132    | 135     | -                 | -                                           | -                      |
| Hard-T                                                        | mg/L     | 5                                      | 0                      | 100               | 100                                   | -                      | 155                   | 129    | -       | -                 | -                                           | -                      |
| IB                                                            | %        | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Ammonia                                                       | mg/L     | 25                                     | 1                      | 33                | 60                                    | 0                      | 0.021                 | 0.027  | 0.025   | -                 | -                                           | -                      |
| Ammonium                                                      | mg/L     | 3                                      | 2                      | -                 | 33                                    | 0                      | -                     | 0.025  | 0.025   | -                 | -                                           | -                      |
| N-NO2                                                         | mg/L     | 9                                      | 1                      | 33                | 44                                    | 0                      | 0.002                 | 0.11   | 0.01    | 0                 | 22                                          | 0                      |
| NO2+NO3                                                       | mg/L     | 12                                     | 3                      | -                 | 75                                    | 100                    | -                     | 0.21   | 0.17    | -                 | -                                           | -                      |
| N-NO3                                                         | mg/L     | 25                                     | 1                      | 100               | 88                                    | 100                    | 0.17                  | 0.28   | 0.03    | 0                 | 0                                           | 0                      |
| pH-F                                                          | pH units | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| pH-L                                                          | pH units | 27                                     | 4                      | 100               | 100                                   | 100                    | 8.15                  | 8.03   | 8.31    | 0                 | 0                                           | 0                      |
| Radium - 226                                                  |          | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| SO4-D                                                         | mg/L     | 26                                     | 4                      | 75                | 100                                   | 100                    | 10                    | 13     | 13      | -                 | -                                           | -                      |
| SO4-T                                                         | mg/L     | 0                                      | 0                      | 100               | -                                     | -                      | 24.98                 | -      | -       | -                 | -                                           | -                      |
| Sulphide                                                      | mg/L     | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| TDS                                                           | mg/L     | 18                                     | 4                      | 100               | 100                                   | 100                    | 186                   | 210    | 199     | -                 | -                                           | -                      |
| Temp-F                                                        | C        | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| Temp-obs-pH                                                   | C        | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |
| TSS                                                           | mg/L     | 25                                     | 4                      | 100               | 76                                    | 100                    | 278                   | 71     | 25      | -                 | -                                           | -                      |
| Turb                                                          | NTU      | 11                                     | 4                      | -                 | 91                                    | 100                    | -                     | 2      | 1.6     | -                 | -                                           | -                      |
| Turb-F                                                        | NTU      | 0                                      | 0                      | -                 | -                                     | -                      | -                     | -      | -       | -                 | -                                           | -                      |

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Appendix Table A.5: Water quality data at station W1

| Smpl #        |      | W1_38499P | W1_38533M | W1_38561M | W1_38593M | W1_38623M | W1_38640M  |
|---------------|------|-----------|-----------|-----------|-----------|-----------|------------|
| Smpl Date     |      | 5/27/2005 | 6/30/2005 | 7/28/2005 | 8/29/2005 | 9/28/2005 | 10/15/2005 |
| Ag-T          | mg/L | 0.000036  | <0.000010 | <0.000010 | <0.000020 | <0.000020 | <0.000010  |
| Al-T          | mg/L | 0.613     | 0.0218    | 0.0174    | 0.0524    | 0.127     | 0.15       |
| As-T          | mg/L | 0.0009    | 0.00047   | 0.00045   | 0.00062   | 0.00068   | 0.00062    |
| Ba-T          | mg/L | 0.062     | 0.0545    | 0.0597    | 0.059     | 0.059     | 0.054      |
| Be-T          | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   |
| Bi-T          | mg/L |           | <0.00050  | <0.00050  |           |           | <0.00050   |
| B-T           | mg/L | <0.10     | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     |
| Ca-T          | mg/L | 25.9      | 36.7      | 38.5      | 35        | 35.5      | 34.2       |
| Cd-T          | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  |
| CN-T          | mg/L |           | 0.011     | 0.0054    | 0.0065    | 0.0118    | 0.125      |
| Co-T          | mg/L | 0.00058   | <0.00010  | <0.00010  | <0.00030  | <0.00030  | 0.00026    |
| Cr-T          | mg/L | 0.002     | <0.00050  | <0.00050  | <0.0010   | <0.0010   | 0.00068    |
| Cu-T          | mg/L | 0.0059    | 0.00204   | 0.00229   | 0.0026    | 0.0039    | 0.00458    |
| Fe-T          | mg/L | 1.05      | 0.088     | 0.079     | 0.387     | 0.691     | 0.526      |
| Hg-T          | mg/L | <0.000020 |           |           | <0.000020 | <0.000020 |            |
| K-T           | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       |
| Li-T          | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    |
| Mg-T          | mg/L | 8.65      | 12.3      | 12.7      | 11.5      | 11.3      | 10.9       |
| Mn-T          | mg/L | 0.0612    | 0.00663   | 0.0164    | 0.0258    | 0.0559    | 0.0483     |
| Mo-T          | mg/L | 0.0011    | 0.00107   | 0.00153   | 0.001     | <0.0010   | 0.000867   |
| Na-T          | mg/L | 4.9       | 8.6       | 8.5       | 6.8       | 6.3       | 5.9        |
| Ni-T          | mg/L | 0.0032    | 0.00101   | 0.00113   | 0.0016    | 0.0019    | 0.0024     |
| N-TKN         | mg/L |           |           |           |           |           |            |
| Pb-T          | mg/L | <0.00050  | <0.000050 | <0.000050 | <0.00050  | <0.00050  | 0.00012    |
| P-PO4-T       | mg/L |           |           |           |           |           |            |
| P-T           | mg/L |           | <0.30     | <0.30     |           |           | <0.30      |
| P-TRP (Ortho) | mg/L |           |           |           |           |           |            |
| Sb-T          | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   |
| Se-T          | mg/L | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    |
| Si-T          | mg/L |           | 5.43      | 5.21      |           |           | 5.99       |
| Sn-T          | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   |
| Sr-T          | mg/L |           | 0.293     | 0.333     |           |           | 0.269      |
| S-T           | mg/L |           |           |           |           |           |            |
| Te-T          | mg/L |           |           |           |           |           |            |
| Th-T          | mg/L |           |           |           |           |           |            |
| Ti-T          | mg/L | 0.022     | <0.010    | <0.010    | <0.010    | <0.010    | <0.010     |
| Tl-T          | mg/L | <0.00020  | <0.00010  | <0.00010  | <0.00020  | <0.00020  | <0.00010   |
| U-T           | mg/L | 0.0006    | 0.00113   | 0.00122   | 0.00077   | 0.00058   | 0.000786   |
| V-T           | mg/L | <0.030    | <0.0010   | <0.0010   | <0.030    | <0.030    | 0.0013     |
| Zn-T          | mg/L | 0.0096    | <0.0010   | <0.0010   | <0.0050   | <0.0050   | 0.001      |
| Zr-T          | mg/L |           |           |           |           |           |            |
| Ag-D          | mg/L | <0.000020 | <0.000010 | <0.000010 | <0.000020 | <0.000020 | <0.000010  |
| Al-D          | mg/L | 0.0176    | 0.0065    | 0.0072    | 0.0106    | 0.0143    | 0.0137     |
| As-D          | mg/L | 0.00051   | 0.00048   | 0.00048   | 0.0006    | 0.00058   | 0.00054    |
| Ba-D          | mg/L | 0.049     | 0.0554    | 0.0575    | 0.058     | 0.055     | 0.0492     |
| B-D           | mg/L | <0.10     | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     |
| Be-D          | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   |
| Bi-D          | mg/L |           | <0.00050  | <0.00050  |           |           | <0.00050   |
| Ca-D          | mg/L | 25        | 37.5      | 40.4      | 35.9      | 35.3      | 36.8       |
| Cd-D          | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  |
| C-DOC         | mg/L |           |           |           |           |           |            |
| Co-D          | mg/L | <0.00030  | <0.00010  | <0.00010  | <0.00030  | <0.00030  | <0.00010   |
| Cr-D          | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   |
| Cu-D          | mg/L | 0.0034    | 0.00204   | 0.00211   | 0.0024    | 0.0026    | 0.00279    |
| Fe-D          | mg/L | 0.172     | 0.046     | 0.056     | 0.25      | 0.331     | 0.266      |
| Hg-D          | mg/L | <0.000020 |           |           | <0.000020 | <0.000020 |            |
| K-D           | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       |
| Li-D          | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    |
| Mg-D          | mg/L | 8.46      | 12.6      | 13.6      | 11.7      | 11.2      | 11.7       |
| Mn-D          | mg/L | 0.00579   | 0.00391   | 0.0119    | 0.0157    | 0.0355    | 0.0228     |
| Mo-D          | mg/L | <0.0010   | 0.00106   | 0.00131   | 0.001     | <0.0010   | 0.000892   |
| Na-D          | mg/L | 4.9       | 8.8       | 9.2       | 6.9       | 6.2       | 6.4        |
| Ni-D          | mg/L | 0.0015    | 0.00096   | 0.0011    | 0.0014    | 0.0016    | 0.0014     |
| O-DO          | mg/L |           |           |           |           |           |            |
| Pb-D          | mg/L | <0.00050  | <0.000050 | 0.000073  | <0.00050  | <0.00050  | <0.000050  |
| P-D           | mg/L |           | <0.30     | <0.30     |           |           | <0.30      |
| P-TDP         | mg/L |           |           |           |           |           |            |
| Sb-D          | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   |

**Appendix Table A.5: Water quality data at station W1**

| Smpl #<br>Smpl Date |          | W1_38499P<br>5/27/2005 | W1_38533M<br>6/30/2005 | W1_38561M<br>7/28/2005 | W1_38593M<br>8/29/2005 | W1_38623M<br>9/28/2005 | W1_38640M<br>10/15/2005 |
|---------------------|----------|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|
| S-D                 | mg/L     |                        |                        |                        |                        |                        |                         |
| Se-D                | mg/L     | <0.0010                | <0.0010                | <0.0010                | <0.0010                | <0.0010                | <0.0010                 |
| Si-D                | mg/L     |                        | 5.53                   | 5.55                   |                        |                        | 6.25                    |
| Sn-D                | mg/L     | <0.00050               | <0.00010               | <0.00010               | <0.00050               | <0.00050               | <0.00010                |
| Sr-D                | mg/L     |                        | 0.3                    | 0.331                  |                        |                        | 0.257                   |
| Te-D                | mg/L     |                        |                        |                        |                        |                        |                         |
| Th-D                | mg/L     |                        |                        |                        |                        |                        |                         |
| Ti-D                | mg/L     | <0.010                 | <0.010                 | <0.010                 | <0.010                 | <0.010                 | <0.010                  |
| Tl-D                | mg/L     | <0.00020               | <0.00010               | <0.00010               | <0.00020               | <0.00020               | <0.00010                |
| U-D                 | mg/L     | 0.00049                | 0.00113                | 0.00133                | 0.00077                | 0.00055                | 0.000727                |
| V-D                 | mg/L     | <0.030                 | <0.0010                | <0.0010                | <0.030                 | <0.030                 | <0.0010                 |
| Zn-D                | mg/L     | <0.0050                | <0.0010                | 0.0025                 | <0.0050                | <0.0050                | 0.0014                  |
| Zr-D                | mg/L     |                        |                        |                        |                        |                        |                         |
| Alk-Bicrb           | mg/L     |                        |                        |                        |                        |                        |                         |
| Alk-Carb            | mg/L     | 89.2                   | 141                    | 151                    | 138                    | 117                    | 121                     |
| Alk-OH              | mg/L     |                        |                        |                        |                        |                        |                         |
| Alk-P               | mg/L     |                        |                        |                        |                        |                        |                         |
| Alk-T               | mg/L     | 78.7                   | 141                    |                        | 138                    | 117                    |                         |
| Bromine             | mg/L     |                        |                        |                        |                        |                        |                         |
| C-TIC               | mg/L     |                        |                        |                        |                        |                        |                         |
| C-TOC               | mg/L     |                        |                        |                        |                        |                        |                         |
| Chloride            | mg/L     | <0.50                  | 1.2                    | 0.64                   | 0.52                   | 0.73                   | 0.91                    |
| Colour              | TCU      |                        |                        |                        |                        |                        |                         |
| Cond-F              | µS/cm    |                        |                        |                        |                        |                        |                         |
| Cond-L              | µS/cm    | 195                    | 290                    | 312                    | 266                    | 244                    | 253                     |
| Discharge           | L/s      |                        |                        |                        |                        |                        |                         |
| Fluoride            | mg/L     |                        |                        |                        |                        |                        |                         |
| Hard-D              | mg/L     |                        |                        |                        |                        |                        |                         |
| Hard-T              | mg/L     | 97.3                   |                        | 157                    | 138                    | 134                    | 140                     |
| IB                  | %        |                        |                        |                        |                        |                        |                         |
| Ammonia             | mg/L     | 0.039                  | <0.020                 | <0.020                 | 0.041                  | 0.026                  | 0.02                    |
| Ammonium            | mg/L     |                        |                        |                        |                        |                        |                         |
| N-NO2               | mg/L     | 0.002                  | <0.0010                | <0.0010                | <0.0010                | <0.0010                | <0.0010                 |
| NO2+NO3             | mg/L     |                        |                        |                        |                        |                        |                         |
| N-NO3               | mg/L     | 0.0539                 | 0.0626                 | 0.0584                 | 0.0217                 | 0.0482                 | 0.132                   |
| pH-F                | pH units |                        |                        |                        |                        |                        |                         |
| pH-L                | pH units | 8.05                   | 8.17                   | 8.03                   | 8.28                   | 7.59                   | 8.13                    |
| Radium - 226        |          |                        | <0.0050                | <0.0050                | <0.0050                | <0.0050                | <0.0050                 |
| SO4-D               | mg/L     | 19.7                   | 22.4                   |                        | 12.4                   | 11.8                   |                         |
| SO4-T               | mg/L     | 12.8                   | 22.4                   | 19.1                   | 12.4                   | 11.8                   | 13.9                    |
| Sulphide            | mg/L     |                        |                        |                        |                        |                        |                         |
| TDS                 | mg/L     | 137                    | 189                    | 189                    | 186                    | 178                    | 181                     |
| Temp-F              | C        |                        |                        |                        |                        |                        |                         |
| Temp-obs-pH         | C        |                        |                        |                        |                        |                        |                         |
| TSS                 | mg/L     | 26.5                   | <3.0                   | <3.0                   | 4                      | 9.5                    | 14.5                    |
| Turb                | NTU      |                        |                        |                        |                        |                        |                         |
| Turb-F              | NTU      |                        |                        |                        |                        |                        |                         |

Appendix Table A.6: Water quality data at station W8

| Sampling Session |      | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | F0001     | X5825     | X6214     | X6214     | X6214     | X6722     | X6722    | X7055    | 875460    | 870006    | 875467    | 874757   | 877405    | 885912   | 889218    | 1202879  | 905086    | 908518    |
|------------------|------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|----------|-----------|----------|-----------|-----------|
| Smpl Date        |      | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/30/2005 | 9/28/2005 | 10/15/2005 | 5/8/2006  | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/29/2006 | 6/2/2006 | 6/8/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 8/2/2006 | 8/10/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 |
| Station Name     |      | W8        | W8        | W8        | W8        | W8        | W8         | W8        | W8        | W8        | W8        | W8        | W8        | W8       | W8       | W8        | W8        | W8        | W8       | W8        | W8       | W8        | W8       | W8        | W8        |
| Sample Class     |      | M         | M         | M         | M         | M         | M          | M         | M         | M         | M         | M         | M         | M        | M        | M         | M         | M         | M        | M         | M        | M         | M        | M         | M         |
| Ag-T             | mg/L | <0.000020 | <0.000010 | <0.000010 | <0.000020 | <0.000020 | <0.000010  | 0.000014  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | 0.0002    | <0.0001   | <0.0001  | <0.0001   | 0.0003   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Al-T             | mg/L | 0.0506    | 0.0807    | 0.033     | 0.0688    | 0.0509    | 0.116      | 0.176     | 0.137     | 0.0681    | 0.0744    | 0.0523    | 0.0798    | 0.116    | 0.0604   | 0.242     | 0.039     | 0.321     | 0.045    | 0.045     | 0.088    | 0.026     | 0.022    | 0.025     | 0.018     |
| As-T             | mg/L | <0.00050  | 0.00048   | 0.00047   | 0.00052   | <0.00050  | 0.00054    | 0.00034   | 0.00046   | 0.00037   | 0.00035   | 0.00038   | 0.0004    | 0.00045  | 0.00042  | 0.0004    | 0.0004    | 0.0006    | 0.0005   | 0.0004    | 0.0006   | 0.0004    | 0.0004   | 0.0004    | 0.0005    |
| Ba-T             | mg/L | 0.04      | 0.0503    | 0.0546    | 0.055     | 0.049     | 0.0504     | 0.0293    | 0.0395    | 0.0332    | 0.0339    | 0.0347    | 0.0342    | 0.0378   | 0.0366   | 0.066     | 0.05      | 0.072     | 0.054    | 0.072     | 0.061    | 0.061     | 0.063    | 0.066     | 0.064     |
| Be-T             | mg/L | <0.0010   | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Bi-T             | mg/L |           | <0.00050  | <0.00050  |           |           | <0.00050   | <0.00050  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005   |
| B-T              | mg/L | <0.10     | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     | <0.010    | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01    | <0.01    | 0.006     | <0.002    | 0.004     | <0.002   | 0.008     | 0.002    | <0.002    | 0.002    | <0.002    | <0.002    |
| Ca-T             | mg/L | 16.9      | 24.3      | 30.9      | 25.6      | 24.7      | 25.1       | 8.15      | 11.6      | 12.3      | 14.7      | 15.5      | 15.1      | 16.2     | 16.2     | 29.1      | 24.1      | 30.9      | 26.2     | 40.3      | 30.6     | 33.4      | 36.3     | 37.5      | 38.4      |
| Cd-T             | mg/L | <0.000050 | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  | <0.000050 | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001 | <0.00001  | <0.00001 | <0.00001  | <0.00001  |
| CN-T             | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Co-T             | mg/L | <0.00030  | 0.00021   | 0.00017   | <0.00030  | <0.00030  | 0.00037    | 0.00026   | 0.00038   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.00014  | <0.0001  | 0.0003    | 0.0001    | 0.0004    | <0.0001  | 0.0002    | <0.0001  | 0.0007    | 0.0001   | 0.0001    | 0.0001    |
| Cr-T             | mg/L | <0.0010   | 0.00073   | 0.00056   | <0.0010   | <0.0010   | <0.00050   | <0.00050  | 0.00053   | <0.0005   | <0.0005   | <0.0005   | 0.00052   | 0.00064  | <0.0005  | 0.0008    | 0.0007    | <0.0005   | 0.0006   | <0.0005   | 0.0008   | <0.0005   | 0.0006   | 0.0005    | 0.0006    |
| Cu-T             | mg/L | 0.0143    | 0.0103    | 0.00891   | 0.0094    | 0.0088    | 0.0104     | 0.0168    | 0.019     | 0.0185    | 0.0176    | 0.0168    | 0.0164    | 0.0175   | 0.0175   | 0.034     | 0.013     | 0.043     | 0.012    | 0.01      | 0.01     | 0.008     | 0.006    | 0.006     | 0.006     |
| Fe-T             | mg/L | 0.23      | 0.503     | 0.435     | 0.722     | 0.706     | 0.887      | 0.442     | 0.5       | 0.198     | 0.181     | 0.195     | 0.232     | 0.323    | 0.269    | 0.6       | 0.2       | 1.1       | 0.4      | 0.4       | 0.4      | 0.3       | 0.4      | 0.4       | 0.3       |
| Hg-T             | mg/L | <0.000020 |           |           | <0.000020 | <0.000020 |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| K-T              | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       | <2.0      | <2        | <2        | <2        | <2        | <2        | <2       | <2       | 1.2       | <0.4      | 1.2       | <0.4     | 1.4       | <0.4     | 0.4       | 0.6      | 0.7       | 0.6       |
| Li-T             | mg/L | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    | <0.0050   | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005   | <0.005   | 0.001     | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    |
| Mg-T             | mg/L | 5.03      | 7.57      | 9.43      | 8.04      | 7.45      | 7.41       | 2.23      | 3.22      | 3.59      | 4.22      | 4.2       | 4.44      | 4.81     | 4.57     | 8.3       | 6.8       | 8         | 7.3      | 10.7      | 9        | 9.8       | 11       | 11.4      | 12.8      |
| Mn-T             | mg/L | 0.00512   | 0.0445    | 0.0268    | 0.0447    | 0.0487    | 0.24       | 0.051     | 0.0952    | 0.0016    | 0.00117   | 0.00374   | 0.00652   | 0.0155   | 0.00631  | 0.135     | 0.018     | 0.154     | 0.018    | 0.204     | 0.026    | 0.093     | 0.033    | 0.042     | 0.05      |
| Mo-T             | mg/L | <0.0010   | 0.000512  | 0.000565  | <0.0010   | <0.0010   | 0.00171    | 0.000212  | 0.000367  | 0.000408  | 0.000471  | 0.000513  | 0.000496  | 0.000471 | 0.00054  | 0.003     | <0.001    | 0.002     | <0.001   | 0.003     | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    |
| Na-T             | mg/L | 2.6       | 4.5       | 3.9       | 3.8       | 3.7       | 4.5        | <2.0      | <2        | 2.3       | 2.3       | 2.2       | 3         | 3.2      | 2.8      | 5.5       | 4.3       | 5.3       | 4.7      | 7.4       | 5.1      | 5.3       | 5.8      | 6         | 5.6       |
| Ni-T             | mg/L | 0.0018    | 0.00172   | 0.00146   | 0.0018    | 0.0017    | 0.00109    | 0.00138   | 0.00193   | 0.00204   | 0.002     | 0.002     | 0.00196   | 0.00211  | 0.00194  | 0.0019    | 0.0021    | 0.0016    | 0.0023   | 0.001     | 0.0018   | 0.0017    | 0.0015   | 0.0015    | 0.0017    |
| N-TKN            | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Pb-T             | mg/L | <0.00050  | 0.000066  | 0.000059  | <0.00050  | <0.00050  | 0.000064   | 0.000099  | 0.000082  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005 | 0.0001    | <0.0001   | 0.0002    | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| P-PO4-T          | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| P-T              | mg/L |           | <0.30     | <0.30     |           |           | <0.30      | <0.30     | <0.3      | <0.3      | <0.3      | <0.3      | <0.3      | <0.3     | <0.3     |           |           |           |          |           |          |           |          |           |           |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Sb-T             | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002  | <0.0002   | <0.0002  | <0.0002   | <0.0002   |
| Se-T             | mg/L | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.0010   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | 0.0004   | <0.0002   | 0.0002   | <0.0002   | 0.0003    |
| Si-T             | mg/L |           | 5.21      | 5.04      |           |           | 6.29       | 2.41      | 3.05      | 3.14      | 3.56      | 3.65      | 3.86      | 4.04     | 4.28     | 5.7       | 5.07      | 6.25      | 5.48     | 6.99      | 5.99     | 5.7       | 5.72     | 6.27      | 5.92      |
| Sn-T             | mg/L | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    |
| Sr-T             | mg/L |           | 0.112     | 0.133     |           |           | 0.176      | 0.0348    | 0.0539    | 0.0537    | 0.0642    | 0.0674    | 0.065     | 0.0698   | 0.0704   | 0.249     | 0.123     | 0.201     | 0.129    | 0.328     | 0.156    | 0.164     | 0.176    | 0.192     | 0.185     |
| S-T              | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          | 9.1       | 2.6       | 10        | 2.8      | 13.9      | 2.5      | 2.5       | 2.7      | 2.5       | 2.6       |
| Te-T             | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Th-T             | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Ti-T             | mg/L | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010     | <0.010    | <0.01     | <0.01     | <0.01     | <0.01     | <0.01     | <0.01    | <0.01    | 0.0125    | 0.0017    | 0.0163    | 0.002    | 0.0026    | 0.0046   | 0.0012    | 0.001    | 0.0012    | 0.001     |
| Tl-T             | mg/L | <0.00020  | <0.00010  | <0.00010  | <0.00020  | <0.00020  | <0.00010   | <0.00010  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005 | <0.00005  | <0.00005 | <0.00005  | <0.00005  |
| U-T              | mg/L | <0.00020  | 0.000063  | 0.000083  | <0.00020  | <0.00020  | 0.0001     | 0.000033  | 0.000049  | 0.000039  | 0.000036  | 0.000037  | 0.000032  | 0.000043 | 0.000037 | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005   |
| V-T              | mg/L | <0.030    | <0.0010   | <0.0010   | <0.030    | <0.030    | <0.0010    | <0.0010   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | 0.0018    | 0.0007    | 0.0019    | 0.0006   | 0.0005    | 0.0009   | 0.0008    | 0.0006   | 0.0006    | 0.0006    |
| Zn-T             | mg/L | <0.0050   | <0.0020   | 0.0011    | <0.0050   | <0.0050   | 0.0011     | 0.0047    | 0.0027    | 0.0019    | <0.001    | <0.001    | <0.001    | 0.0014   | 0.002    | 0.002     | <0.001    | 0.002     | <0.001   | 0.002     | 0.002    | 0.001     | 0.003    | <0.001    | 0.001     |
| Zr-T             | mg/L |           |           |           |           |           |            |           |           |           |           |           |           |          |          | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    |
| Ag-D             | mg/L | <0.000020 | <0.000010 | <0.000010 | <0.000020 | <0.000020 | 0.000031   | <0.000010 | <0.00001  |           |           |           |           | <0.00001 |          | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001   |
| Al-D             | mg/L | 0.0427    | 0.0193    | 0.0201    | 0.0259    | 0.0305    | 0.0258     | 0.0919    | 0.0709    |           |           |           |           | 0.0642   |          | 0.023     | 0.024     | 0.15      | 0.017    | 0.006     | 0.015    | 0.022     | 0.012    | 0.015     | 0.015     |
| As-D             | mg/L | <0.00050  | 0.00043   | 0.00045   | <0.00050  | <0.00050  | 0.0005     | 0.00025   | 0.00037   |           |           |           |           | 0.0004   |          | 0.0004    | 0.0004    | 0.0006    | 0.0006   | 0.0004    | 0.0004   | 0.0004    | 0.0005   | 0.0004    | 0.0004    |
| Ba-D             | mg/L | 0.039     | 0.0466    | 0.0538    | 0.054     | 0.049     | 0.0479     | 0.0253    | 0.0349    |           |           |           |           | 0.0364   |          | 0.064     | 0.05      | 0.071     | 0.054    | 0.07      |          |           |          |           |           |

Appendix Table A.6: Water quality data at station W8

| Sampling Session |          | F0001     | F0001     | F0001     | F0001     | F0001     | F0001      | F0001    | X5825     | X6214     | X6214     | X6214     | X6722     | X6722    | X7055    | 875460    | 870006    | 875467    | 874757   | 877405    | 885912   | 889218    | 1202879  | 905086    | 908518    |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|------------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|----------|-----------|----------|-----------|-----------|
| Smpl Date        |          | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/30/2005 | 9/28/2005 | 10/15/2005 | 5/8/2006 | 5/14/2006 | 5/17/2006 | 5/20/2006 | 5/23/2006 | 5/29/2006 | 6/2/2006 | 6/8/2006 | 6/15/2006 | 6/23/2006 | 6/28/2006 | 7/7/2006 | 7/12/2006 | 8/2/2006 | 8/10/2006 | 9/6/2006 | 9/13/2006 | 9/20/2006 |
| Station Name     |          | W8        | W8        | W8        | W8        | W8        | W8         | W8       | W8        | W8        | W8        | W8        | W8        | W8       | W8       | W8        | W8        | W8        | W8       | W8        | W8       | W8        | W8       | W8        | W8        |
| Sample Class     |          | M         | M         | M         | M         | M         | M          | M        | M         | M         | M         | M         | M         | M        | M        | M         | M         | M         | M        | M         | M        | M         | M        | M         | M         |
| S-D              | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          | 10.4      | 2.8       | 10.9      | 3        | 14.6      | 2.7      | 2.5       | 2.8      | 2.6       | 2.6       |
| Se-D             | mg/L     | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.0010  | <0.001    |           |           |           |           | <0.001   |          | 0.0002    | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002  | <0.0002   | <0.0002  | <0.0002   | <0.0002   |
| Si-D             | mg/L     |           | 5.25      | 4.95      |           |           | 6.54       | 2.33     | 3.04      |           |           |           |           | 4.04     |          | 6.11      | 5.3       | 6.92      | 6.44     | 6.35      | 5.96     | 5.75      | 6.02     | 5.69      | 5.97      |
| Sn-D             | mg/L     | <0.00050  | <0.00010  | <0.00010  | <0.00050  | <0.00050  | <0.00010   | <0.00010 | <0.0001   |           |           |           |           | <0.0001  |          | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    |
| Sr-D             | mg/L     |           | 0.113     | 0.132     |           |           | 0.171      | 0.0326   | 0.0513    |           |           |           |           | 0.07     |          | 0.221     | 0.121     | 0.223     | 0.127    | 0.334     | 0.108    | 0.15      | 0.191    | 0.177     | 0.174     |
| Te-D             | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Th-D             | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Ti-D             | mg/L     | <0.010    | <0.010    | <0.010    | <0.010    | <0.010    | <0.010     | <0.010   | <0.01     |           |           |           |           | <0.01    |          | 0.0021    | 0.0009    | 0.0067    | 0.0012   | 0.0012    | 0.0007   | 0.0011    | 0.0008   | 0.0008    | <0.0005   |
| Tl-D             | mg/L     | <0.00020  | <0.00010  | <0.00010  | <0.00020  | <0.00020  | <0.00010   | <0.00010 | <0.0001   |           |           |           |           | <0.0001  |          | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005 | <0.00005  | <0.00005 | <0.00005  | <0.00005  |
| U-D              | mg/L     | <0.00020  | 0.000059  | 0.000074  | <0.00020  | <0.00020  | 0.000093   | 0.000022 | 0.000043  |           |           |           |           | 0.00004  |          | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005   |
| V-D              | mg/L     | <0.030    | <0.0010   | <0.0010   | <0.030    | <0.030    | <0.0010    | <0.0010  | <0.001    |           |           |           |           | <0.001   |          | 0.0008    | 0.0006    | 0.0014    | 0.001    | 0.0015    | 0.001    | 0.0015    | 0.0017   | 0.0014    | 0.0017    |
| Zn-D             | mg/L     | <0.0050   | 0.0012    | 0.0019    | <0.0050   | <0.0050   | <0.0010    | 0.0042   | 0.0019    |           |           |           |           | 0.0017   |          | <0.001    | <0.001    | 0.002     | 0.003    | <0.001    | <0.001   | 0.001     | 0.001    | <0.001    | 0.001     |
| Zr-D             | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Alk-Bicrb        | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          | 109       | 103       | 112       | 106      | 138       | 132      | 144       | 186      | 177       | 174       |
| Alk-Carb         | mg/L     | 49.1      | 89        | 104       | 99.2      | 74.7      | 87.1       | 16.3     |           |           |           |           |           |          |          | <6        | <6        | <6        | <6       | <6        | <6       | <6        | <6       | <6        | <6        |
| Alk-OH           | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          | <5        | <5        | <5        | <5       | <5        | <5       | <5        | <5       | <5        | <5        |
| Alk-P            | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Alk-T            | mg/L     | 174       | 89        |           | 99.2      | 74.7      |            |          | 27.6      | 32.3      | 39        | 42.1      | 41.6      | 48       | 46.4     | 89        | 84        | 92        | 87       | 114       | 108      | 118       | 152      | 145       | 142       |
| Bromine          | mg/L     |           |           |           |           |           |            | <0.050   | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    |           |           |           |          |           |          |           |          |           |           |
| C-TIC            | mg/L     |           |           |           |           |           |            | 0.7      |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| C-TOC            | mg/L     |           |           |           |           |           |            | 35.5     |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Chloride         | mg/L     | <0.50     | 0.86      | <0.50     | <0.50     | <0.50     | <0.50      | <0.50    | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5     | <0.5     |           |           |           |          |           |          |           |          |           |           |
| Colour           | TCU      |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Cond-F           | µS/cm    |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Cond-L           | µS/cm    | 113       | 176       | 203       | 179       | 165       | 190        | 47.8     | 67.4      | 71.5      | 88.8      | 94.4      | 91.7      | 100      | 105      | 229       | 176       | 236       | 177      | 284       | 219      | 237       | 278      | 282       | 281       |
| Discharge        | L/s      |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Fluoride         | mg/L     |           |           |           |           |           |            | 0.049    | 0.133     | 0.088     | 0.096     | 0.098     | 0.098     | 0.098    | 0.091    |           |           |           |          |           |          |           |          |           |           |
| Hard-D           | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          | 120       | 93        | 113       | 83       | 134       | 120      | 120       | 146      | 154       | 154       |
| Hard-T           | mg/L     | 62.3      |           | 116       | 99.8      | 95        | 99.4       |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| IB               | %        |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Ammonia          | mg/L     | <0.020    | 0.041     | <0.020    | 0.023     | <0.020    | 0.026      | <0.020   | 0.037     |           |           |           |           | 0.034    | 0.042    | 0.02      | 0.026     | 0.003     |          | 0.025     | 0.009    | 0.009     | 0.004    | 0.005     | 0.006     |
| Ammonium         | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           | 0.004    |           |           |
| N-NO2            | mg/L     | <0.0010   | <0.0010   | <0.0010   | 0.0011    | <0.0010   | <0.0010    | <0.0010  | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   |           |           |           |          |           |          |           |          |           |           |
| NO2+NO3          | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| N-NO3            | mg/L     | 0.0225    | <0.0050   | <0.0050   | <0.0050   | <0.0050   | 0.0374     | <0.0050  | <0.005    | <0.005    | <0.005    | <0.005    | <0.005    | <0.005   | <0.005   | <0.03     | <0.03     | <0.002    | <0.002   | 0.06      | <0.03    | <0.03     | <0.03    | 0.003     | <0.03     |
| pH-F             | pH units |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| pH-L             | pH units | 7.78      | 7.83      | 7.45      | 8.12      | 7.96      | 7.06       | 7.34     | 7.45      | 7.51      | 7.65      | 7.69      | 7.6       | 7.58     | 7.97     | 7.82      | 7.4       | 7.84      | 7.69     | 7.6       | 7.56     | 7.58      | 7.83     | 7.71      | 7.7       |
| Radium - 226     |          |           |           |           |           |           |            | <0.0050  |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| SO4-D            | mg/L     | 166       | <1        |           | 5.1       | 7.72      |            |          | 1.92      | 2.14      | 4.22      | 4.97      | 4.88      | 5.35     | 5.07     | 32        | 7.9       |           | 7.6      | 39        | 6.5      | 4         | 7.4      | 8         | 7         |
| SO4-T            | mg/L     | 7.62      | <1.0      | 7.08      | 5.1       | 7.72      | 24.8       | 0.84     |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Sulphide         | mg/L     |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| TDS              | mg/L     | 111       | 144       | 141       | 147       | 135       | 140        | 116      | 107       | 105       | 116       | 113       | 104       | 110      | 127      | 150       | 154       | 138       | 224      |           |          |           |          |           |           |
| Temp-F           | C        |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Temp-obs-pH      | C        |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| TSS              | mg/L     | <3.0      | <3.0      | 24.7      | <3.0      | <3.0      | 5.5        | 9.4      | 12.8      | <3        | 70.6      | <3        | <3        | 5.4      | <3       | 8         | <2        | 18        | <2       | <2        | 4        | <2        | <2       | <2        | <2        |
| Turb             | NTU      |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |
| Turb-F           | NTU      |           |           |           |           |           |            |          |           |           |           |           |           |          |          |           |           |           |          |           |          |           |          |           |           |

Appendix Table A.6: Water quality data at station W8

| Sampling Session |      | 916843    | 953346     | 1115474  | 1118493  | 1124049   | 1219588   | 1224045   | 1227387  | 1233572  | 1227791   | 1233572   | 1235620   | 1240206   | 1241968  | 1242427   | 1247177   | 1247177   | 1249284  | 1251597   | 1253867   | 1260561   | 1262295    | 1265042    |      |
|------------------|------|-----------|------------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|------|
| Smpl Date        |      | 10/4/2006 | 12/28/2006 | 5/3/2008 | 5/7/2008 | 5/27/2008 | 5/10/2009 | 5/28/2009 | 6/4/2009 | 6/7/2009 | 6/10/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/5/2009 | 8/11/2009 | 8/19/2009 | 8/31/2009 | 9/7/2009 | 9/18/2009 | 9/23/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 |      |
| Station Name     |      | W8        | W8         | W8       | W8       | W8        | W8        | W8        | W8       | W8       | W8        | W8        | W8        | W8        | W8       | W8        | W8        | W8        | W8       | W8        | W8        | W8        | W8         | W8         |      |
| Sample Class     |      | M         | M          | M        | M        | M         | M         | M         | M        | M        | M         | M         | M         | M         | M        | M         | M         | M         | M        | M         | M         | M         | M          | M          |      |
| Aq-T             | mg/L | <0.0002   |            | 0.0009   | 0.0001   | <0.0001   | 0.00003   | <0.00001  | <0.00001 | 0.00018  | <0.00001  | 0.00066   | 0.00036   | 0.00027   | 0.00007  | 0.00002   | <0.00001  | <0.00001  | <0.00001 | <0.00001  | 0.00001   | 0.00002   | 0.00005    | <0.00001   |      |
| Al-T             | mg/L | 0.02      |            | 3.41     | 1.77     | 0.48      | 0.116     | 0.438     | 0.112    | 0.615    | 0.118     | 0.445     | 0.145     | 0.709     | 0.187    | 0.062     | 0.12      | 0.22      | 0.072    | 0.086     | 0.224     | 0.413     | 0.625      | 0.068      |      |
| As-T             | mg/L | 0.0004    |            | <0.0002  | 0.0003   | 0.0006    | 0.0004    | 0.0004    | 0.0004   | 0.0006   | 0.0005    | 0.0006    | 0.0003    | 0.0008    | 0.0009   | 0.0007    | 0.0005    | 0.0008    | 0.001    | 0.0012    | 0.0007    | 0.0005    | 0.0009     | 0.0005     |      |
| Ba-T             | mg/L | 0.066     |            | 0.284    | 0.165    | 0.108     | 0.12      | 0.137     | 0.095    | 0.159    | 0.098     | 0.146     | 0.175     | 0.221     | 0.242    | 0.16      | 0.216     | 0.205     | 0.219    | 0.148     | 0.152     | 0.174     | 0.171      | 0.152      |      |
| Be-T             | mg/L | <0.0002   |            | 0.00006  | 0.00014  | <0.00004  | <0.0001   | 0.00008   | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004  | 0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004   | <0.00004   |      |
| Bi-T             | mg/L | <0.001    |            |          |          |           | <0.0005   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     |      |
| B-T              | mg/L | <0.004    |            | <0.005   | 0.036    | 0.042     | 0.079     | 0.095     | 0.015    | 0.135    | 0.02      | 0.124     | 0.134     | 0.142     | 0.137    | 0.036     | 0.106     | 0.137     | 0.14     | 0.021     | 0.11      | 0.151     | 0.11       | 0.055      |      |
| Ca-T             | mg/L | 37.9      |            | 12.1     | 115      | 78.9      | 107       | 125       | 46.3     | 170      | 49        | 145       | 185       | 228       | 223      | 108       | 216       | 239       | 238      | 128       | 166       | 197       | 172        | 80.1       |      |
| Cd-T             | mg/L | <0.00002  |            | 0.00035  | 0.00016  | 0.00014   | 0.00009   | 0.00024   | 0.00003  | 0.00011  | 0.00001   | 0.00011   | 0.00011   | 0.0002    | 0.0002   | 0.00005   | 0.00023   | 0.00019   | 0.0002   | 0.0001    | 0.00014   | 0.00011   | 0.0001     | 0.00013    |      |
| CN-T             | mg/L |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |      |
| Co-T             | mg/L | <0.0002   |            | 0.00296  | 0.00208  | 0.00141   | 0.0008    | 0.00161   | 0.00066  | 0.00172  | 0.00062   | 0.00144   | 0.00147   | 0.00233   | 0.00208  | 0.00103   | 0.00205   | 0.00234   | 0.00245  | 0.00134   | 0.00121   | 0.00155   | 0.00176    | 0.00052    |      |
| Cr-T             | mg/L | 0.001     |            | 0.0028   | 0.0016   | 0.0029    | 0.001     | 0.0006    | <0.0004  | 0.0008   | 0.0005    | 0.0008    | 0.002     | 0.001     | 0.0012   | 0.001     | 0.0008    | 0.0005    | 0.0012   | 0.0014    | 0.0013    | 0.0014    | 0.0007     | <0.0004    |      |
| Cu-T             | mg/L | 0.006     |            | 0.395    | 0.247    | 0.201     | 0.123     | 0.264     | 0.031    | 0.188    | 0.027     | 0.201     | 0.235     | 0.466     | 0.393    | 0.133     | 0.415     | 0.374     | 0.349    | 0.079     | 0.179     | 0.21      | 0.19       | 0.045      |      |
| Fe-T             | mg/L | 0.3       |            | 9.89     | 4.92     | 4.09      | 0.18      | 0.91      | 1.09     | 1.27     | 1.21      | 1.21      | 0.36      | 1.95      | 0.487    | 0.71      | 0.403     | 0.6       | 0.41     | 1.21      | 0.541     | 1         | 1.41       | 0.316      |      |
| Hg-T             | mg/L |           |            | 0.00004  | <0.00001 | 0.00002   | <0.0001   | <0.00001  | <0.00001 | 0.00002  |           | 0.00002   | <0.00001  | 0.00001   |          |           | 0.00002   | 0.00003   | 0.00003  | <0.00001  | <0.00001  | <0.00001  | 0.00001    | <0.00001   |      |
| K-T              | mg/L | <0.8      |            | 2.51     | 9.23     | 4.23      | 7.7       | 6.5       | 2.4      | 6.6      | 2.8       | 6.7       | 6.9       | 7.1       | 6.9      | 4.2       | 6.1       | 7         | 6.8      | 5.4       | 7.1       | 6.4       | 6.2        | 10.7       |      |
| Li-T             | mg/L | <0.002    |            | 0.002    | 0.005    | 0.003     | 0.004     | 0.002     | 0.001    | 0.003    | 0.001     | 0.002     | 0.002     | 0.003     | 0.003    | 0.002     | 0.003     | 0.003     | 0.003    | 0.007     | 0.004     | 0.002     | 0.002      | 0.005      |      |
| Mg-T             | mg/L | 12        |            | 4.1      | 33.7     | 17.7      | 19.2      | 23.1      | 13       | 28.8     | 13.9      | 25.9      | 32.3      | 41.7      | 42       | 25.2      | 42.2      | 43.8      | 42.4     | 56.8      | 31.4      | 33.8      | 31         | 20.3       |      |
| Mn-T             | mg/L | 0.053     |            | 0.259    | 0.401    | 0.224     | 0.157     | 0.496     | 0.9      | 0.659    | 0.878     | 0.582     | 0.796     | 1.23      | 1.36     | 0.965     | 1.98      | 2.14      | 2.48     | 1.86      | 1.06      | 1.51      | 1.73       | 0.571      |      |
| Mo-T             | mg/L | <0.002    |            | 0.0025   | 0.0211   | 0.011     | 0.012     | 0.00918   | 0.00481  | 0.00893  | 0.00581   | 0.0108    | 0.00656   | 0.0063    | 0.007    | 0.0059    | 0.0063    | 0.006     | 0.006    | 0.0067    | 0.0214    | 0.0059    | 0.0063     | 0.0231     |      |
| Na-T             | mg/L | 6         |            | 2.2      | 24.1     | 12.5      | 20        | 20.4      | 12.1     | 25.5     | 13.5      | 24.9      | 23.4      | 25.4      | 23.6     | 18.5      | 23.5      | 28        | 28.9     | 28.1      | 26        | 28.3      | 25.2       | 31.1       |      |
| Ni-T             | mg/L | 0.0026    |            | 0.071    | 0.037    | 0.002     | 0.0024    | 0.002     | <0.001   | 0.002    | 0.001     | 0.002     | 0.002     | 0.004     | 0.004    | 0.002     | 0.003     | 0.003     | 0.003    | 0.003     | 0.002     | 0.006     | 0.006      | 0.002      |      |
| N-TKN            | mg/L |           |            |          |          |           | 8.09      | 6.54      | 0.36     | 5.01     |           |           | 4.93      | 2.77      | 13.9     | 6.8       | 0.39      | 3.88      | 4.36     | 3.72      | 0.61      | 7.81      | 5.82       | 2.16       | 2.66 |
| Pb-T             | mg/L | <0.0002   |            | 0.0022   | 0.0005   | 0.0007    | <0.0001   | 0.0003    | <0.0001  | 0.0002   | 0.0001    | 0.0002    | <0.0001   | 0.0003    | 0.0005   | 0.0004    | 0.0004    | 0.0002    | 0.0004   | 0.0005    | 0.0007    | 0.0006    | 0.0002     | 0.0001     |      |
| P-PO4-T          | mg/L |           |            |          |          |           | 0.04      | 0.02      | 0.03     | 0.05     | 0.012     | 0.04      | 0.05      | 0.04      | 0.03     | 0.03      | 0.07      | 0.07      | 0.05     | 0.07      | 0.05      | 0.09      | 0.06       | 0.03       |      |
| P-T              | mg/L |           |            | 0.2      | 0.2      | 0.27      | <0.05     | 0.06      | <0.05    | 0.078    | 0.017     | 0.058     | 0.056     | 0.109     | 0.056    | 0.031     | 0.055     | 0.077     | 0.045    | 0.064     | <0.05     | <0.05     | <0.05      | <0.05      |      |
| P-TRP (Ortho)    | mg/L |           |            |          |          |           |           |           |          | 0.08     |           | 0.07      | 0.08      | 0.07      | 0.06     | <0.05     | <0.05     | <0.05     | <0.05    | 0.05      |           |           |            |            |      |
| Sb-T             | mg/L | <0.0004   |            | <0.0002  | 0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | 0.0017   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    |      |
| Se-T             | mg/L | <0.0004   |            | <0.0006  | 0.005    | 0.0016    | 0.004     | 0.0051    | <0.0006  | 0.0049   | <0.0006   | 0.0058    | 0.0039    | 0.003     | 0.0034   | <0.0006   | 0.0026    | 0.003     | 0.0033   | 0.0022    | 0.0052    | 0.0049    | 0.0034     | 0.0055     |      |
| Si-T             | mg/L | 5.67      |            | 3.53     | 4.9      | 2.23      | 4.46      | 5.93      | 5.95     | 8.15     | 5.84      | 7.71      | 6.65      | 8.87      | 7.18     | 7.02      | 7.07      | 7.98      | 8.28     | 8.92      | 7.92      | 9.08      | 8.77       | 4.64       |      |
| Sn-T             | mg/L | <0.002    |            | 0.0003   | 0.0001   | <0.0001   | <0.001    | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |      |
| Sr-T             | mg/L | 0.19      |            | 0.106    | 1.66     | 0.942     | 1.36      | 1.34      | 0.453    | 1.44     | 0.514     | 1.35      | 1.56      | 1.8       | 1.96     | 0.831     | 2.04      | 2.08      | 1.77     | 1.35      | 1.67      | 1.42      | 1.29       | 1.73       |      |
| S-T              | mg/L | 2.3       |            |          |          |           | 24.9      | 31.2      | 13.9     | 47.6     | 15.6      | 45.1      | 46.6      | 54        | 42.4     | 23.8      | 54.7      | 56        | 59.5     | 26        | 41.1      | 54.8      | 49         | 33.4       |      |
| Te-T             | mg/L |           |            | 0.0002   | 0.0002   | 0.0002    |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |      |
| Th-T             | mg/L |           |            | 0.0015   | 0.0004   | 0.0002    |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | 0.0002    | <0.0001   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    |      |
| Ti-T             | mg/L | 0.001     |            | 0.234    | 0.128    | 0.0513    | 0.0066    | 0.0325    | 0.0067   | 0.0362   | 0.0072    | 0.0305    | 0.0091    | 0.0528    | 0.012    | 0.0055    | 0.0065    | 0.0117    | 0.0057   | 0.0036    | 0.0148    | 0.0239    |            |            |      |
| Tl-T             | mg/L | <0.0001   |            | 0.00013  | 0.00004  | <0.00001  | <0.00005  | 0.00001   | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | 0.00001   | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | 0.00012   | <0.00001  | <0.00001   | <0.00001   |      |
| U-T              | mg/L | <0.001    |            | <0.0005  | 0.0019   | 0.0014    | 0.0009    | 0.0012    | 0.0006   | 0.0019   | 0.0006    | 0.0021    | 0.0019    | 0.0028    | 0.0026   | 0.0019    | 0.0027    | 0.0023    | 0.0026   | 0.0028    | 0.0031    | 0.0021    | 0.0023     | 0.0018     |      |
| V-T              | mg/L | 0.0006    |            | 0.013    | 0.0072   | 0.00444   | 0.0007    | 0.00203   | 0.00075  | 0.00269  | 0.00072   | 0.00255   | 0.00088   | 0.0033    | 0.0013   | 0.0007    | 0.0009    | 0.0013    | 0.0011   | 0.0018    | 0.0015    | 0.002     | 0.0028     | 0.0005     |      |
| Zn-T             | mg/L | <0.002    |            | 0.047    | 0.032    | 0.02      | 0.007     | 0.013     | 0.022    | 0.012    | 0.024     | 0.013     | 0.01      | 0.019     | 0.023    | 0.004     | 0.009     | 0.015     | 0.005    | 0.012     | 0.009     | 0.011     | 0.013      | 0.008      |      |
| Zr-T             | mg/L | <0.002    |            | 0.0002   | 0.0012   | 0.0005    | <0.001    | 0.0002    | 0.0002   | 0.0001   | 0.0002    | 0.0003    | 0.0002    | 0.0003    | 0.0002   | 0.0002    | 0.0003    | 0.0002    | 0.0003   | 0.0004    | 0.0005    | 0.0001    | 0.0002     | 0.0002     |      |
| Ag-D             | mg/L | <0.0001   | <0.0001    | <0.0010  |          | <0.001    | 0.00002   | <0.00001  | <0.00001 | 0.00015  | <0.00001  | 0.00022   | 0.00076   | 0.00036   | 0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | 0.00003   | <0.00001  | <0.00001  | <0.00001   | <0.00001   |      |
| Al-D             | mg/L | 0.012     | <0.005     | 0.05     |          | 0.99      | 0.009     | 0.021     | 0.029    | 0.023    | 0.014     | <0.005    | 0.054     | <0.005    | 0.021    | <0.005    | <0.005    | 0.01      | 0.022    | 0.027     | <0.005    | <0.005    | <0.005     | 0.017      |      |
| As-D             | mg/L | 0.0005    | 0.0002     | 0.0003   |          | 0.0006    | 0.0006    | 0.0004    | 0.0003   | 0.0005   | 0.0004    | 0.0006    | 0.0005    | 0.0005    | 0.0007   | 0.0006    | 0.001     | 0.0005    | 0.0005   | 0.0009    | 0.0005    | 0.0005    | 0.0006     | 0.0085     |      |
| Ba-D             | mg/L | 0.063     | 0.057      | 0.043    |          | 0.09      | 0.11      | 0.114     | 0.088    | 0.14     | 0.091     | 0.128     | 0.178     | 0.202     | 0.212    | 0.094     | 0.218     | 0.206     | 0.148    | 0.135     | 0.146     | 0.167     | 0.156      | 0.152      |      |
| B-D              | mg/L | <0.002    | 0.021      | <0.005   |          | 0.069     | 0.072     | 0.081     | 0.013    | 0.017    | 0.106     | 0.141     | 0.138     | 0.        |          |           |           |           |          |           |           |           |            |            |      |

Appendix Table A.6: Water quality data at station W8

| Sampling Session |          | 916843    | 953346     | 1115474  | 1118493  | 1124049   | 1219588   | 1224045   | 1227387  | 1233572  | 1227791   | 1233572   | 1235620   | 1240206   | 1241968  | 1242427   | 1247177   | 1247177   | 1249284  | 1251597   | 1253867   | 1260561   | 1262295    | 1265042    |
|------------------|----------|-----------|------------|----------|----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|
| Smpl Date        |          | 10/4/2006 | 12/28/2006 | 5/3/2008 | 5/7/2008 | 5/27/2008 | 5/10/2009 | 5/28/2009 | 6/4/2009 | 6/7/2009 | 6/10/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/5/2009 | 8/11/2009 | 8/19/2009 | 8/31/2009 | 9/7/2009 | 9/18/2009 | 9/23/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 |
| Station Name     |          | W8        | W8         | W8       | W8       | W8        | W8        | W8        | W8       | W8       | W8        | W8        | W8        | W8        | W8       | W8        | W8        | W8        | W8       | W8        | W8        | W8        | W8         | W8         |
| Sample Class     |          | M         | M          | M        | M        | M         | M         | M         | M        | M        | M         | M         | M         | M         | M        | M         | M         | M         | M        | M         | M         | M         | M          | M          |
| S-D              | mg/L     | 2.4       | 15.5       |          |          |           | 23.6      | 29.4      | 12.5     | 48       | 14.6      | 46.6      | 41.5      | 51.6      | 44.2     | 22.6      | 61.3      | 52.3      | 20       | 26.4      | 42.9      | 57.9      | 43.9       | 34.4       |
| Se-D             | mg/L     | <0.0002   | <0.0002    | <0.0006  |          | 0.0029    | 0.0041    | 0.0041    | <0.0006  | 0.0049   | <0.0006   | 0.0061    | <0.0006   | 0.0034    | 0.0033   | 0.0019    | 0.0053    | 0.0034    | 0.0011   | 0.0023    | 0.006     | 0.0058    | 0.0039     | 0.0059     |
| Si-D             | mg/L     | 5.88      | 6.2        | 1.13     |          | 1.94      | 4.78      | 5.01      | 5.39     | 7.08     | 5.4       | 6.98      | 6.38      | 7.3       | 6.69     | 6.34      | 7.35      | 7.23      | 6.69     | 8.43      | 7.18      | 7.5       | 7.34       | 4.36       |
| Sn-D             | mg/L     | <0.001    | <0.001     | <0.004   |          | <0.004    | <0.001    | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |
| Sr-D             | mg/L     | 0.18      | 0.661      | 0.178    |          | 1.05      | 1.22      | 1.1       | 0.425    | 1.53     | 0.489     | 1.4       | 1.6       | 1.73      | 1.54     | 0.95      | 1.73      | 1.7       | 1.03     | 1.43      | 1.59      | 1.39      | 1.25       | 1.7        |
| Te-D             | mg/L     |           |            | <0.0001  |          | <0.0001   |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |
| Th-D             | mg/L     |           |            | 0.0002   |          | <0.0001   |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    |
| Ti-D             | mg/L     | 0.0009    | 0.0017     | 0.0022   |          | 0.0048    | 0.0014    | 0.0019    | 0.0025   | 0.0026   | 0.0017    | 0.001     | 0.0013    | 0.0011    | 0.0019   | 0.0012    | 0.001     | 0.0012    | 0.0019   | 0.0025    | 0.0009    | 0.0014    | <0.01      | <0.01      |
| Tl-D             | mg/L     | <0.00005  | <0.00005   | <0.00001 |          | <0.00001  | <0.00005  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   |
| U-D              | mg/L     | <0.0005   | 0.0022     | <0.0006  |          | 0.0016    | 0.0007    | 0.001     | 0.0005   | 0.0018   | 0.0006    | 0.0019    | 0.0018    | 0.0027    | 0.0027   | 0.0019    | 0.003     | 0.0025    | 0.0021   | 0.0028    | 0.0029    | 0.002     | 0.0022     | 0.0018     |
| V-D              | mg/L     | 0.001     | 0.003      | 0.00029  |          | 0.00062   | 0.0005    | 0.00036   | 0.00043  | 0.0006   | 0.00031   | 0.00053   | 0.00061   | 0.0006    | 0.0007   | 0.0006    | 0.0021    | 0.0007    | 0.0008   | 0.0014    | 0.0008    | 0.0007    | 0.0007     | 0.0003     |
| Zn-D             | mg/L     | <0.001    | 0.001      | 0.001    |          | 0.005     | 0.005     | 0.007     | 0.004    | 0.006    | 0.004     | 0.006     | 0.006     | 0.005     | 0.005    | 0.007     | <0.001    | 0.007     | 0.004    | 0.002     | 0.002     | 0.002     | 0.002      | 0.01       |
| Zr-D             | mg/L     |           |            | 0.0002   |          | 0.0003    |           | <0.0001   | 0.0001   | <0.0001  | 0.0001    | 0.0002    | 0.0001    | 0.0003    | 0.0002   | 0.0002    | 0.0003    | 0.0002    | 0.0003   | 0.0004    | 0.0002    | 0.0002    | 0.0002     | 0.0001     |
| Alk-Bicrb        | mg/L     | 174       |            |          |          |           | 198       | 220       | 160      | 290      | 180       | 270       | 320       | 370       | 400      | 300       | 450       | 400       | 400      | 480       | 340       | 320       | 320        | 200        |
| Alk-Carb         | mg/L     | <6        |            |          |          |           | <6        | <6        | <6       | <6       | <6        | <6        | <6        | <6        | <6       | <6        | <6        | <6        | <6       | <6        | <6        | <6        | <6         | <6         |
| Alk-OH           | mg/L     | <5        |            |          |          |           | <5        | <5        | <5       | <5       | <5        | <5        | <5        | <5        | <5       | <5        | <5        | <5        | <5       | <5        | <5        | <5        | <5         | <5         |
| Alk-P            | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Alk-T            | mg/L     | 143       |            |          |          |           | 162       | 180       | 135      | 237      | 144       | 226       | 261       | 303       | 332      | 247       | 372       | 325       | 330      | 390       | 278       | 261       | 263        | 168        |
| Bromine          | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| C-TIC            | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| C-TOC            | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Chloride         | mg/L     |           |            |          |          |           | 3.5       | 3.61      | 3.8      | 3.98     | 6.9       | 3.75      | 4.37      | 1.12      | 5.41     | 4.81      | 5.4       | 5.27      | 4.97     | 2.64      | 3.74      | 4.49      | 4.51       | 8.78       |
| Colour           | TCU      |           |            |          |          |           | 18        | 29        | 26       | 40       | 9         | 29        | 47        | 12        | 15       | 15        |           |           |          |           |           |           |            |            |
| Cond-F           | µS/cm    |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Cond-L           | µS/cm    | 282       |            |          |          |           | 784       | 881       | 370      | 1090     | 398       | 965       | 1210      | 1340      | 1330     | 672       | 1400      | 1400      | 1390     | 998       | 1040      | 1170      | 1050       | 710        |
| Discharge        | L/s      |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Fluoride         | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Hard-D           | mg/L     | 145       | 236        | 64       |          | 303       | 348       | 389       | 157      | 550      | 171       | 470       | 611       | 728       | 697      | 401       | 768       | 726       | 386      | 543       | 528       | 609       | 528        | 276        |
| Hard-T           | mg/L     |           |            |          | 426      |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| IB               | %        |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Ammonia          | mg/L     | 0.03      |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Ammonium         | mg/L     |           |            |          |          |           | 1.33      | 1.57      | 0.1      | 1.76     |           | 1.85      | 1.74      | 1.42      | 1.51     | 0.28      | 1.03      | 1.12      | 1.11     | 0.24      | 1.56      | 1.11      | 0.9        | 2.12       |
| N-NO2            | mg/L     |           |            |          |          |           | 2.53      |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| NO2+NO3          | mg/L     |           |            |          |          |           | 44.2      | 42.7      | 0.95     | 51.6     |           | 38        | 65        | 66.8      | 73.9     | 12.4      | 61.7      | 77.1      | 70       | 16.7      | 40.4      | 49.2      | 41.8       | 20         |
| N-NO3            | mg/L     | <0.03     |            |          |          |           | 41.6      |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| pH-F             | pH units |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| pH-L             | pH units | 7.89      |            |          |          |           | 7.8       | 7.8       | 7.91     | 7.7      | 7.71      | 7.7       | 7.8       | 8.07      | 7.76     | 7.98      | 7.73      | 7.73      | 7.77     | 7.87      | 7.85      | 7.57      | 7.78       | 7.84       |
| Radium - 226     |          |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| SO4-D            | mg/L     | 6.8       |            |          |          |           |           | 96.3      | 42.2     | 144      | 48.1      | 140       | 124       | 155       | 132      | 68        | 184       | 157       | 60       | 79.3      | 129       | 174       | 132        | 103        |
| SO4-T            | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Sulphide         | mg/L     |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| TDS              | mg/L     |           |            |          |          |           | 610       | 648       | 208      | 820      | 280       | 634       | <5        | 1040      | 1030     | 490       | 1010      | 1120      | 1170     | 730       | 738       | 910       | 774        | 520        |
| Temp-F           | C        |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| Temp-obs-pH      | C        |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |
| TSS              | mg/L     | <2        |            |          |          |           | 12        | 14        | <5       | 12       | 5         | 15        | 6         | 6         | 10       | <3        | 6         | 8         | 14       | 8         | 12        | 16        | 22         | <2         |
| Turb             | NTU      |           |            |          |          |           | 3.7       | 0.7       | 3.6      | 8.9      | 4.5       | 12        | 2.3       | 2.2       | 3.7      | 4         | 3.1       | 3.4       | 2        | 5.1       | 4.4       | 4.2       | 6.3        | 1.9        |
| Turb-F           | NTU      |           |            |          |          |           |           |           |          |          |           |           |           |           |          |           |           |           |          |           |           |           |            |            |

Appendix Table A.7: Water quality data at station W8A

| Sampling Session |      | 1115474  | 1118493  | 1216919  | 1219588   | 1224045   | 1227387  | 1233572  | 1227791   | 1233572   | 1235620   | 1240206   | 1241968  | 1242427   | 1247177   | A945675   | 1247177   | 1249284  | 1251597   | 1253867   | 1260561   | 1260561   | 1262295    | 1265042    | 1277030   | 1280024    |
|------------------|------|----------|----------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|-----------|------------|
| Smpl Date        |      | 5/3/2008 | 5/7/2008 | 5/2/2009 | 5/10/2009 | 5/28/2009 | 6/4/2009 | 6/7/2009 | 6/10/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/6/2009 | 8/11/2009 | 8/19/2009 | 8/21/2009 | 8/31/2009 | 9/7/2009 | 9/18/2009 | 9/23/2009 | 9/30/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 | 11/9/2009 | 11/16/2009 |
| Station Name     |      | W8A      | W8A      | W8A      | W8A       | W8A       | W8A      | W8A      | W8A       | W8A       | W8A       | W8A       | W8A      | W8A       | W8A       | W8A       | W8A       | W8A      | W8A       | W8A       | W8A       | W8A       | W8A        | W8A        | W8A       | W8A        |
| Sample Class     |      | M        | M        | M        | M         | M         | M        | M        | M         | M         | M         | M         | M        | M         | M         | M         | M         | M        | M         | M         | M         | M         | M          | M          | M         | M          |
| Ag-T             | mg/L | <0.0001  | <0.0001  | 0.0121   | 0.00485   | <0.00005  | 0.00055  | 0.00012  | 0.00015   | 0.00034   | 0.00013   | 0.0001    | 0.00003  | 0.00005   | <0.00001  | 0.00003   | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | 0.00001    |
| Al-T             | mg/L | 0.69     | 3.43     | 151      | 44.2      | 10.7      | 19       | 0.268    | 2.39      | 0.31      | 0.069     | 0.179     | 0.15     | 0.242     | 0.661     | 0.287     | 0.874     | 0.104    | 0.078     | 0.544     | 0.22      | 0.083     | 0.151      | 0.096      | 0.059     | 0.069      |
| As-T             | mg/L | <0.0002  | 0.0019   | 0.015    | 0.0046    | 0.002     | 0.0011   | 0.0007   | 0.0009    | 0.0005    | 0.0003    | 0.001     | 0.0008   | 0.0013    | 0.0009    | 0.001     | 0.0013    | 0.001    | 0.0013    | 0.0009    | 0.0007    | 0.0005    | 0.0008     | 0.0007     | 0.0007    | 0.0006     |
| Ba-T             | mg/L | 0.049    | 0.099    | 2.5      | 0.67      | 0.32      | 0.357    | 0.144    | 0.176     | 0.13      | 0.125     | 0.126     | 0.122    | 0.106     | 0.125     | 0.128     | 0.144     | 0.148    | 0.157     | 0.144     | 0.153     | 0.122     | 0.135      | 0.148      | 0.137     | 0.132      |
| Be-T             | mg/L | <0.00004 | 0.00012  | 0.0048   | 0.001     | 0.00056   | 0.00022  | <0.00004 | 0.00009   | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.0001   | 0.00005   | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004   | <0.00004   | <0.00004  | <0.00004   |
| Bi-T             | mg/L |          |          | 0.004    | <0.001    | <0.0005   | 0.0003   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001    | <0.001     |
| B-T              | mg/L | <0.005   | <0.005   | 0.03     | 0.027     | <0.02     | 0.107    | 0.078    | 0.11      | 0.065     | 0.046     | 0.032     | 0.039    | 0.021     | 0.02      | <0.05     | 0.021     | 0.04     | 0.024     | 0.055     | 0.068     | 0.049     | 0.045      | 0.053      | 0.044     | 0.05       |
| Ca-T             | mg/L | 12.4     | 20.3     | 133      | 62.8      | 75.6      | 141      | 117      | 147       | 101       | 90.7      | 87.8      | 88.5     | 84.9      | 80.1      | 100       | 124       | 116      | 138       | 125       | 134       | 108       | 114        | 97.1       | 110       | 99.6       |
| Cd-T             | mg/L | <0.00007 | <0.00007 | 0.00464  | 0.00093   | 0.0115    | 0.00059  | 0.00007  | 0.00029   | 0.00006   | 0.00003   | 0.00004   | 0.00005  | 0.00008   | 0.00008   | 0.00009   | 0.00009   | 0.00006  | 0.0001    | 0.0001    | 0.00009   | 0.00003   | 0.00007    | 0.00001    | 0.00017   | 0.00011    |
| CN-T             | mg/L |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Co-T             | mg/L | 0.00047  | 0.0017   | 0.088    | 0.022     | 0.0057    | 0.00842  | 0.00104  | 0.00267   | 0.00088   | 0.00072   | 0.00073   | 0.00075  | 0.00091   | 0.00119   | 0.0013    | 0.00168   | 0.00124  | 0.00164   | 0.00125   | 0.00133   | 0.0009    | 0.00107    | 0.00075    | 0.00073   | 0.00064    |
| Cr-T             | mg/L | 0.0024   | 0.0057   | 0.0854   | 0.0234    | 0.0067    | 0.007    | 0.0007   | 0.0019    | 0.0007    | 0.0005    | 0.0012    | 0.0012   | 0.0013    | 0.0013    | 0.001     | 0.0017    | 0.0014   | 0.0016    | 0.0027    | 0.0016    | 0.0012    | 0.0005     | 0.0005     | 0.0005    | 0.0005     |
| Cu-T             | mg/L | 0.03     | 0.053    | 30       | 5.85      | 1.63      | 1.79     | 0.101    | 0.91      | 0.123     | 0.077     | 0.109     | 0.084    | 0.174     | 0.143     | 0.109     | 0.125     | 0.083    | 0.093     | 0.092     | 0.104     | 0.066     | 0.09       | 0.072      | 0.066     | 0.068      |
| Fe-T             | mg/L | 0.96     | 4.82     | 365      | 64.6      | 18.3      | 28.2     | 0.72     | 6.12      | 0.86      | 0.34      | 0.864     | 0.528    | 0.807     | 1.16      | 1.03      | 2.07      | 0.788    | 1.31      | 1.2       | 0.746     | 0.555     | 0.456      | 0.383      | 0.41      | 0.353      |
| Hg-T             | mg/L | 0.00002  | 0.00002  | 0.00021  | <0.0001   | 0.00003   | 0.00004  | <0.00001 |           | 0.00001   | <0.00001  | <0.00001  |          |           | <0.00001  | 0.00005   | 0.00001   | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | <0.00001   |
| K-T              | mg/L | 1.97     | 3.55     | 60.2     | 18        | 11        | 12.1     | 5.6      | 7.2       | 5.7       | 4.8       | 6.1       | 4.9      | 5.7       | 4.7       | 5.73      | 6         | 5        | 5.8       | 6.3       | 5.2       | 4.3       | 4.7        | 8.6        | 7.6       | 7.8        |
| Li-T             | mg/L | 0.002    | 0.004    | 0.074    | 0.022     | 0.01      | 0.008    | 0.003    | 0.004     | 0.003     | 0.002     | 0.006     | 0.005    | 0.008     | 0.005     | 0.007     | 0.007     | 0.004    | 0.007     | 0.005     | 0.004     | 0.003     | 0.004      | 0.005      | 0.005     | 0.005      |
| Mg-T             | mg/L | 6.89     | 10.6     | 99.6     | 31.1      | 45.9      | 30.8     | 26.9     | 26        | 25.4      | 24.3      | 45.5      | 40.2     | 50.1      | 33.2      | 45.7      | 56        | 41.6     | 56.5      | 33.7      | 39        | 31.2      | 34.6       | 27.6       | 33        | 31.6       |
| Mn-T             | mg/L | 0.0514   | 0.105    | 6.78     | 1.58      | 1.33      | 1.02     | 0.696    | 0.508     | 0.727     | 0.771     | 0.972     | 1.04     | 1.06      | 1.32      | 1.63      | 1.78      | 1.46     | 2.2       | 0.899     | 1.6       | 1.18      | 1.42       | 0.945      | 1.11      | 0.943      |
| Mo-T             | mg/L | 0.00034  | 0.00058  | 0.0142   | 0.02      | 0.00884   | 0.00718  | 0.0079   | 0.00862   | 0.00847   | 0.00645   | 0.0081    | 0.0053   | 0.007     | 0.0062    | 0.007     | 0.0051    | 0.005    | 0.0071    | 0.0165    | 0.006     | 0.0049    | 0.0057     | 0.0165     | 0.0103    | 0.013      |
| Na-T             | mg/L | 4.6      | 7.7      | 26.4     | 20.7      | 28.1      | 22.9     | 22.2     | 21.9      | 21.6      | 20.1      | 27.8      | 23.9     | 24.4      | 19.4      | 22.2      | 25.9      | 24.1     | 28.4      | 22.1      | 24.6      | 20.7      | 22.4       | 28.4       | 31.3      | 30.4       |
| Ni-T             | mg/L | 0.008    | 0.042    | 0.32     | 0.015     | 0.005     | 0.006    | 0.002    | 0.003     | 0.002     | 0.002     | 0.002     | 0.002    | 0.003     | 0.002     | 0.002     | 0.003     | 0.002    | 0.003     | 0.004     | 0.005     | 0.003     | 0.004      | 0.003      | 0.003     | 0.003      |
| N-TKN            | mg/L |          |          | 2.03     | 1.36      | 0.78      | 7.66     | 3.59     |           | 1.17      | 0.54      | 1.16      | 0.44     | 0.77      | 0.62      |           | 0.86      | <0.06    | 0.77      | 3.41      | 1.87      | 1.11      | 0.19       | 2.05       | 0.73      | 1.97       |
| Pb-T             | mg/L | 0.0005   | 0.0018   | 0.043    | 0.0092    | 0.004     | 0.003    | <0.0001  | 0.0011    | 0.0001    | <0.0001   | 0.0006    | 0.0004   | 0.0005    | 0.0006    | 0.0005    | 0.0007    | 0.0004   | 0.0004    | 0.0017    | 0.0008    | 0.0003    | <0.0001    | 0.0003     | 0.0001    | 0.0001     |
| P-PO4-T          | mg/L |          |          | 0.46     | 0.04      | 0.09      | 0.03     | 0.04     | 0.003     | 0.04      | 0.04      | 0.04      | 0.03     | 0.04      | 0.07      |           | 0.07      | 0.05     | 0.08      | 0.05      | 0.09      | 0.08      | 0.06       | 0.04       | 0.04      | 0.08       |
| P-T              | mg/L | 0.09     | 0.13     | 3.55     | 0.96      | 0.21      | 0.47     | 0.056    | 0.171     | 0.372     | <0.01     | 0.041     | 0.034    | 0.062     | 0.053     |           | 0.105     | 0.047    | 0.073     | 0.05      | <0.05     | <0.05     | <0.05      | <0.05      | 0.06      | 0.08       |
| P-TRP (Ortho)    | mg/L |          |          |          |           |           |          | 0.06     |           | 0.05      | <0.05     | <0.05     | 0.05     | 0.06      | 0.06      | 0.009     | 0.06      | <0.05    | 0.07      |           |           |           |            |            |           |            |
| Sb-T             | mg/L | <0.0002  | <0.0002  | <0.001   | <0.0004   | <0.001    | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0005   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002   | <0.0002    |
| Se-T             | mg/L | <0.0006  | <0.0006  | 0.0077   | 0.003     | <0.003    | 0.0062   | 0.0031   | 0.0077    | 0.0028    | <0.0006   | 0.0008    | <0.0006  | <0.0006   | <0.0006   | 0.0015    | 0.0014    | <0.0006  | 0.003     | 0.0038    | 0.0025    | 0.0015    | 0.0013     | 0.0041     | 0.0024    | 0.0026     |
| Si-T             | mg/L | 1.8      | 6.16     | 148      | 42.3      | 38.7      | 23.5     | 7.2      | 9.52      | 7.05      | 6.1       | 8.14      | 7.42     | 9.25      | 8.13      | 9.21      | 10.3      | 8.34     | 9.31      | 8.6       | 8.42      | 7.87      | 7.74       | 5.8        | 7.36      | 6.55       |
| Sn-T             | mg/L | <0.0001  | <0.0001  | 0.001    | <0.002    | 0.0006    | 0.0002   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.005    | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | <0.0001    |
| Sr-T             | mg/L | 0.124    | 0.182    | 1.45     | 1.18      | 1.08      | 1.36     | 1.13     | 1.39      | 1.1       | 0.882     | 1.09      | 1.17     | 0.988     | 0.866     | 1.12      | 1.2       | 1.03     | 1.41      | 1.37      | 1.21      | 0.915     | 1.13       | 1.54       | 1.24      | 1.56       |
| S-T              | mg/L |          |          | 14       | 10        | 18        | 38.9     | 34.5     | 44.1      | 30.9      | 24.7      | 23.8      | 18.9     | 16.9      | 17.1      | 25        | 35        | 25.2     | 30.6      | 30.2      | 29.6      | 22.9      | 25.6       | 31.2       | 32.2      | 30.9       |
| Te-T             | mg/L | <0.0001  | 0.0002   | 0.004    |           | <0.0005   | 0.0003   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | <0.0001    |
| Th-T             | mg/L | 0.0002   | 0.0006   | 0.026    |           | <0.0005   | 0.0026   | <0.0001  | 0.0004    | <0.0001   | <0.0001   | <0.0004   | <0.0004  | <0.0004   | <0.0004   |           | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    | <0.0004   | <0.0004    |
| Ti-T             | mg/L | 0.0296   | 0.12     | 5.74     | 2.11      | 0.632     | 0.732    | 0.0176   | 0.142     | 0.0148    | 0.0044    | 0.014     | 0.0074   | 0.0186    | 0.0214    | 0.014     | 0.0294    | 0.0085   | 0.0056    | 0.0214    | 0.0095    | 0.005     |            |            |           |            |
| Tl-T             | mg/L | <0.00001 | 0.00003  | 0.00135  | 0.00033   | 0.00011   | 0.00017  | <0.00001 | 0.00003   | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00005  | <0.00001  | <0.00001 | <0.00001  | 0.00014   | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | <0.00001   |
| U-T              | mg/L | <0.0005  | <0.0005  | 0.004    | 0.002     | 0.002     | 0.0015   | 0.0017   | 0.0017    | 0.0017    | 0.0014    | 0.0024    | 0.0014   | 0.0025    | 0.0014    | 0.0024    | 0.0022    | 0.002    | 0.0028    | 0.0029    | 0.002     | 0.0015    | 0.002      | 0.002      | 0.0017    | 0.0018     |
| V-T              | mg/L | 0.00204  | 0.00976  | 0.505    | 0.148     | 0.035     | 0.0444   | 0.00156  | 0.0099    | 0.00158   | 0.0006    | 0.0015    | 0.0012   | 0.0021    | 0.0023    | <0.005    | 0.0033    | 0.0013   | 0.002     | 0.0023    | 0.0016    | 0.001     | 0.0012     | 0.0008     | 0.0008    | 0.0008     |
| Zn-T             | mg/L | 0.009    | 0.018    | 1.59     | 0.348     | 0.1       | 0.15     | 0.008    | 0.033     | 0.008     | 0.003     | 0.013     | 0.005    | 0.007     | 0.008     | 0.007     | 0.015     | 0.009    | 0.012     | 0.006     | 0.009     | 0.003     | 0.006      | 0.007      | 0.014     | 0.011      |
| Zr-T             | mg/L | 0.0004   | 0.0016   | 0.004    | 0.003     | 0.0007    | 0.0003   | 0.0002   | 0.0008    | 0.0003    | 0.0001    | 0.0003    | 0.0002   | 0.0003    | 0.0002    | <0.0005   | 0.0003    | 0.0002   | 0.0004    | 0.0004    | 0.0003    | 0.0002    | 0.0003     | 0.0003     | 0.0004    | 0.0002     |
| Ag-D             | mg/L | <0.0010  |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |

Appendix Table A.7: Water quality data at station W8A

| Sampling Session |          | 1115474  | 1118493  | 1216919  | 1219588   | 1224045   | 1227387  | 1233572  | 1227791   | 1233572   | 1235620   | 1240206   | 1241968  | 1242427   | 1247177   | A945675   | 1247177   | 1249284  | 1251597   | 1253867   | 1260561   | 1260561   | 1262295    | 1265042    | 1277030   | 1280024    |
|------------------|----------|----------|----------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|-----------|------------|
| Smpl Date        |          | 5/3/2008 | 5/7/2008 | 5/2/2009 | 5/10/2009 | 5/28/2009 | 6/4/2009 | 6/7/2009 | 6/10/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/6/2009 | 8/11/2009 | 8/19/2009 | 8/21/2009 | 8/31/2009 | 9/7/2009 | 9/18/2009 | 9/23/2009 | 9/30/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 | 11/9/2009 | 11/16/2009 |
| Station Name     |          | W8A      | W8A      | W8A      | W8A       | W8A       | W8A      | W8A      | W8A       | W8A       | W8A       | W8A       | W8A      | W8A       | W8A       | W8A       | W8A       | W8A      | W8A       | W8A       | W8A       | W8A       | W8A        | W8A        | W8A       |            |
| Sample Class     |          | M        | M        | M        | M         | M         | M        | M        | M         | M         | M         | M         | M        | M         | M         | M         | M         | M        | M         | M         | M         | M         | M          | M          | M         |            |
| P-D              | mg/L     | 0.03     |          | 0.02     |           | 0.03      | 0.02     | 0.01     | 0.01      | 0.02      | 0.01      | 0.01      | <0.01    | 0.04      | 0.03      |           | 0.05      | 0.03     | 0.05      | 0.01      | 0.02      | 0.02      | 0.02       | 0.02       | <0.01     | 0.05       |
| P-TDP            | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Sb-D             | mg/L     | 0.002    |          | 0.0003   | <0.0002   | 0.0012    | 0.0014   | 0.0009   | 0.001     | 0.0008    | 0.0007    | 0.0009    | 0.0006   | <0.0002   | 0.0009    | <0.0005   | 0.0008    | 0.0012   | 0.0009    | 0.0003    | 0.0004    | <0.0002   | 0.0004     | 0.0014     | 0.0012    | 0.001      |
| S-D              | mg/L     |          |          | 8.8      | 9.1       | 16.9      | 35.1     | 34.4     | 43.4      | 31        | 22.5      | 22.2      | 18.4     | 17        | 19.5      | 22        | 32.8      | 43.6     | 28.2      | 29.4      | 31.9      | 25.2      | 24.8       | 31.7       | 29.8      | 29.2       |
| Se-D             | mg/L     | <0.0006  |          | 0.001    | 0.0012    | 0.0008    | 0.0057   | 0.0027   | 0.0075    | 0.0032    | <0.0006   | 0.0008    | 0.0006   | 0.0016    | 0.0007    | 0.0015    | 0.0022    | 0.0032   | 0.0024    | 0.0045    | 0.003     | 0.0015    | 0.0015     | 0.0042     | 0.0025    | 0.0026     |
| Si-D             | mg/L     | 1.24     |          | 3.06     | 4.12      | 5.98      | 5.34     | 6.63     | 5.64      | 6.56      | 5.83      | 7.52      | 6.97     | 7.82      | 7.37      | 8.77      | 8.2       | 6.8      | 8.6       | 7.14      | 7.64      | 7.06      | 7.28       | 5.55       | 6.88      | 6.12       |
| Sn-D             | mg/L     | <0.004   |          | <0.0001  | <0.001    | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.005    | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | <0.0001    |
| Sr-D             | mg/L     | 0.116    |          | 0.634    | 0.802     | 0.998     | 1.23     | 1.16     | 1.34      | 1.11      | 0.926     | 1.11      | 1        | 0.935     | 0.816     | 1.15      | 1.17      | 1.57     | 1.47      | 1.31      | 1.18      | 0.927     | 1.04       | 1.48       | 1.19      | 1.53       |
| Te-D             | mg/L     | <0.0001  |          | <0.0001  |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   |            |
| Th-D             | mg/L     | 0.0002   |          | <0.0001  |           | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0004   | <0.0004  | <0.0004   | <0.0004   |           | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    | <0.0004   |            |
| Ti-D             | mg/L     | 0.0018   |          | 0.0025   | 0.0013    | 0.0071    | 0.0082   | 0.0013   | 0.0024    | 0.0013    | 0.0007    | 0.0023    | 0.0018   | 0.0099    | 0.0008    | <0.005    | 0.0018    | 0.0011   | 0.0023    | 0.001     | 0.0014    | 0.0013    | <0.01      | <0.01      | <0.010    | <0.01      |
| Tl-D             | mg/L     | <0.00001 |          | <0.00001 | <0.00005  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00005  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | <0.00001   |
| U-D              | mg/L     | <0.0006  |          | 0.0008   | 0.0014    | 0.002     | 0.0012   | 0.0016   | 0.0014    | 0.0016    | 0.0014    | 0.0026    | 0.0016   | 0.0022    | 0.0017    | 0.0025    | 0.0025    | 0.0022   | 0.0029    | 0.0026    | 0.0019    | 0.0014    | 0.002      | 0.0019     | 0.0017    | 0.0019     |
| V-D              | mg/L     | 0.00046  |          | 0.00047  | 0.0008    | 0.00095   | 0.00078  | 0.00045  | 0.00046   | 0.00056   | 0.00026   | 0.001     | 0.0008   | 0.0017    | 0.0009    | <0.005    | 0.0014    | 0.0006   | 0.0015    | 0.001     | 0.0008    | 0.0007    | 0.0007     | 0.0008     | 0.0006    | 0.0009     |
| Zn-D             | mg/L     | 0.004    |          | 0.002    | 0.002     | 0.005     | 0.004    | 0.004    | 0.005     | 0.004     | 0.005     | 0.003     | 0.002    | 0.025     | 0.002     | <0.005    | 0.006     | 0.004    | 0.003     | 0.001     | 0.002     | 0.001     | 0.002      | 0.009      | 0.006     | 0.017      |
| Zr-D             | mg/L     | 0.0003   |          | 0.0001   |           | <0.0001   | 0.0002   | 0.0001   | 0.0002    | 0.0002    | 0.0001    | 0.0003    | 0.0002   | 0.0003    | 0.0003    | <0.0005   | 0.0004    | 0.0002   | 0.0004    | 0.0002    | 0.0002    | 0.0002    | 0.0002     | 0.0002     | 0.0002    | 0.0002     |
| Alk-Bicrb        | mg/L     |          |          | 260      | 238       | 400       | 230      | 280      | 230       | 270       | 280       | 400       | 410      | 470       | 380       | 480       | 450       | 410      | 470       | 350       | 370       | 320       | 370        | 290        | 330       | 330        |
| Alk-Carb         | mg/L     |          |          | <6       | <6        | <6        | <6       | <6       | <6        | <6        | <6        | <6        | <6       | <6        | <6        | <0.5      | <6        | <6       | <6        | <6        | <6        | <6        | <6         | <6         | <6        |            |
| Alk-OH           | mg/L     |          |          | <5       | <5        | <5        | <5       | <5       | <5        | <5        | <5        | <5        | <5       | <5        | <5        | <0.5      | <5        | <5       | <5        | <5        | <5        | <5        | <5         | <5         | <5        |            |
| Alk-P            | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           | <0.5      |           |          |           |           |           |           |            |            |           |            |
| Alk-T            | mg/L     |          |          | 212      | 195       | 328       | 192      | 227      | 190       | 219       | 228       | 332       | 339      | 388       | 310       | 390       | 373       | 336      | 389       | 288       | 303       | 261       | 303        | 235        | 274       | 273        |
| Bromine          | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           | <0.4      |           |          |           |           |           |           |            |            |           |            |
| C-TIC            | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| C-TOC            | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Chloride         | mg/L     |          |          | 1.4      | 1.6       | 1.04      | 5        | 3.75     | 5.8       | 3.34      | 4.01      | 0.64      | 3.18     | 1.52      | 3         | 2.6       | 3.09      | 3.38     | 2.79      | 3.43      | 4.01      | 3.69      | 4.12       | 6.95       | 6.54      | 7.01       |
| Colour           | TCU      |          |          | 250      | 90        | 79        | 46       | 160      | 19        | 48        | 36        | <5        | <5       | 87        |           |           |           |          |           |           |           |           |            |            |           |            |
| Cond-F           | µS/cm    |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Cond-L           | µS/cm    |          |          | 343      | 415       | 690       | 925      | 807      | 994       | 725       | 684       | 745       | 710      | 753       | 677       | 841       | 927       | 837      | 1010      | 851       | 923       | 736       | 802        | 778        | 799       | 818        |
| Discharge        | L/s      |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Fluoride         | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           | 0.3       |           |          |           |           |           |           |            |            |           |            |
| Hard-D           | mg/L     | 57       |          | 156      | 191       | 336       | 406      | 401      | 454       | 359       | 334       | 398       | 371      | 377       | 349       | 436       | 508       | 648      | 546       | 435       | 489       | 383       | 408        | 349        | 381       | 358        |
| Hard-T           | mg/L     |          | 94       |          |           |           |          |          |           |           |           |           |          |           |           | 438       |           |          |           |           |           |           |            |            |           |            |
| IB               | %        |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Ammonia          | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           | 0.015     |           |          |           |           |           |           |            |            |           |            |
| Ammonium         | mg/L     |          |          | <0.05    | 0.42      | 0.11      | 1.7      | 0.89     |           | 0.89      | 0.46      | 0.12      | 0.15     | <0.05     | 0.06      |           | 0.23      | 0.19     | 0.31      | 1.19      | 0.44      | 0.22      | 0.23       | 1.39       | 0.4       | 1.03       |
| N-NO2            | mg/L     |          |          |          | 0.106     |           |          |          |           |           |           |           |          |           |           | 0.33      |           |          |           |           |           |           |            |            |           |            |
| NO2+NO3          | mg/L     |          |          | 2.06     | 1.68      | 0.77      | 42.8     | 25.3     |           | 18.3      | 15.5      | 4.48      | 7.36     | 0.82      | 3.97      | 7.7       | 15.3      | 15       | 17.8      | 22        | 22.4      | 14.1      | 14         | 18.6       | 11        | 16.1       |
| N-NO3            | mg/L     |          |          |          | 1.58      |           |          |          |           |           |           |           |          |           |           | 7.4       |           |          |           |           |           |           |            |            |           |            |
| pH-F             | pH units |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| pH-L             | pH units |          |          | 7.45     | 7.76      | 7.92      | 7.86     | 8.09     | 7.8       | 7.98      | 8.18      | 8.32      | 8.13     | 8.15      | 7.94      | 8.2       | 7.95      | 8.08     | 7.86      | 8.11      | 7.99      | 8         | 8.1        | 8.04       | 7.88      | 7.86       |
| Radium - 226     |          |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| SO4-D            | mg/L     |          |          | 24.7     |           | 54.3      | 114      | 103      | 138       | 93        | 67.6      | 66.4      | 55.2     | 51.1      | 58.5      | 52        | 98.2      | 131      | 84.8      | 88.3      | 95.6      | 75.5      | 74.3       | 95         | 89.5      | 87.5       |
| SO4-T            | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Sulphide         | mg/L     |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| TDS              | mg/L     |          |          | 254      | 308       | 476       | 658      | 578      | 758       | 514       | <5        | 498       | 516      | 536       | 496       | 540       | 648       | 600      | 726       | 606       | 646       | 520       | 578        | 568        | 534       | 566        |
| Temp-F           | C        |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |
| Temp-obs-pH      |          |          |          |          |           |           |          |          |           |           |           |           |          |           |           |           |           |          |           |           |           |           |            |            |           |            |

Appendix Table A.8: Water quality data at station W10

| Sampling Session |      | F0001     | V8704     | F0001     | F0001     | F0001     | F0001     | F0001      | X6722     | 1004203   | 1065056    | 1077993    | 1084216    | 1122144   | 1137485   | 1145121   | 1151901   | 1171319    | 1216919  | 1227387  | 1233572  | 1235620   |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|------------|----------|----------|----------|-----------|
| Smpl Date        |      | 5/27/2005 | 5/27/2005 | 6/30/2005 | 7/29/2005 | 8/29/2005 | 9/28/2005 | 10/15/2005 | 5/29/2006 | 5/19/2007 | 10/17/2007 | 11/20/2007 | 12/18/2007 | 5/20/2008 | 7/22/2008 | 8/26/2008 | 9/18/2008 | 10/27/2008 | 5/2/2009 | 6/8/2009 | 7/7/2009 | 7/13/2009 |
| Station Name     |      | W10       | W10       | W10       | W10       | W10       | W10       | W10        | W10       | W10       | W10        | W10        | W10        | W10       | W10       | W10       | W10       | W10        | W10      | W10      | W10      | W10       |
| Sample Class     |      | P         | M         | P         | P         | P         | P         | P          | P         | P         | P          | P          | P          | P         | P         | P         | P         | P          | P        | P        | P        | P         |
| Ag-T             | mg/L | <0.000020 | <0.00002  | <0.000010 | <0.000030 | <0.000020 | <0.000020 | <0.000010  | 0.000024  | <0.0002   | <0.0001    | <0.0001    | <0.0001    | <0.0001   | 0.00019   | <0.00001  | 0.00006   | <0.00001   | <0.00001 | <0.00001 | 0.00002  | 0.00033   |
| Al-T             | mg/L | 0.151     |           | 0.142     | 2.59      | 0.587     | 0.0818    | 0.089      | 1.18      | 0.448     | 0.22       | 0.023      | 0.122      | 0.36      | 0.504     | 0.41      | 0.326     | 0.264      | 0.24     | 0.255    | 0.021    | 0.211     |
| As-T             | mg/L | <0.00050  | <0.0005   | 0.00076   | 0.00095   | <0.00050  | <0.00050  | 0.0003     | 0.00068   | 0.0004    | 0.0004     | 0.0005     | 0.0006     | 0.0002    | 0.0005    | 0.0005    | 0.0003    | 0.0004     | 0.0002   | 0.0008   | 0.0006   | 0.0009    |
| Ba-T             | mg/L | 0.053     |           | 0.0459    | 0.0868    | 0.059     | 0.057     | 0.051      | 0.0564    | 0.062     | 0.286      | 0.267      | 0.148      | 0.056     | 0.066     | 0.052     | 0.06      | 0.221      | 0.06     | 0.075    | 0.247    | 0.245     |
| Be-T             | mg/L | <0.0010   | <0.001    | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   | <0.0005   | <0.0002   | <0.0001    | <0.0001    | <0.0001    | <0.00004  | <0.0001   | 0.00005   | <0.00004  | <0.00004   | <0.00004 | 0.00007  | <0.00004 | <0.00004  |
| Bi-T             | mg/L |           |           | <0.00050  | <0.00050  |           |           | <0.00050   | <0.0005   | <0.001    | <0.0005    | <0.0005    | <0.0005    |           | <0.0005   |           | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001  | <0.0001   |
| B-T              | mg/L | <0.10     | <0.1      | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     | <0.01     | 0.004     | 0.008      | 0.018      | 0.02       | <0.005    | 0.002     | <0.005    | <0.005    | <0.005     | <0.005   | <0.005   | 0.009    | 0.007     |
| Ca-T             | mg/L | 12.9      |           | 13.1      | 15.5      | 18.5      | 25.4      | 24         | 7.68      | 9.8       | 54.4       | 64.7       | 52.3       | 8.23      | 9.6       | 8.7       | 10.1      | 57.1       | 7.35     | 15.9     | 57.6     | 54.4      |
| Cd-T             | mg/L | <0.000050 |           | <0.000050 | 0.000097  | 0.000038  | <0.000017 | <0.000050  | <0.00005  | 0.00003   | 0.00001    | 0.00001    | 0.00006    | <0.00007  | 0.00003   | 0.00002   | 0.00002   | 0.00002    | 0.00012  | 0.00002  | <0.00001 | <0.00001  |
| CN-T             | mg/L |           |           | <0.0050   | <0.0050   | 0.0226    | 0.0136    | 0.018      |           |           |            |            |            |           |           |           |           |            |          |          |          |           |
| Co-T             | mg/L | <0.00030  | 0.00088   | 0.00063   | 0.00241   | 0.00053   | <0.00030  | 0.00011    | 0.00047   | 0.0004    | 0.0006     | 0.0004     | 0.0005     | 0.00013   | 0.0003    | 0.00017   | 0.00018   | 0.00128    | 0.0001   | 0.00015  | 0.0003   | 0.00064   |
| Cr-T             | mg/L | <0.0010   | <0.001    | 0.00069   | 0.00499   | 0.0012    | <0.0010   | <0.00050   | 0.00214   | <0.001    | 0.0005     | <0.0005    | 0.0006     | 0.0016    | 0.001     | 0.0018    | 0.0014    | 0.0008     | 0.0006   | 0.001    | 0.0005   | 0.0009    |
| Cu-T             | mg/L | 0.02      |           | 0.00534   | 0.0138    | 0.0056    | 0.0035    | 0.0045     | 0.0652    | 0.1       | 0.014      | 0.003      | 0.093      | 0.083     | 0.1       | 0.058     | 0.082     | 0.043      | 0.062    | 0.076    | 0.007    | 0.013     |
| Fe-T             | mg/L | 0.113     |           | 1.01      | 2.84      | 0.681     | 0.097     | 0.121      | 1.05      | 0.5       | 3.3        | 0.4        | 0.1        | 0.3       | 0.5       | 0.32      | 0.52      | 1.03       | 0.33     | 0.45     | 1.06     | 2         |
| Hg-T             | mg/L | <0.000020 | <0.00002  |           |           | <0.000020 | <0.000020 |            |           | <0.0001   | <0.0001    | <0.0001    | <0.0001    | 0.00002   | <0.0001   | 0.00002   | 0.00001   | <0.00001   | 0.00002  | 0.00001  | <0.00001 | <0.00001  |
| K-T              | mg/L | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0      | <2.0       | <2        | 0.8       | 2          | 4          | 2.4        | 0.81      | <0.4      | 0.39      | 0.61      | 1.4        | 1        | 0.5      | 1.3      | 1.6       |
| Li-T             | mg/L | <0.0050   | <0.005    | <0.0050   | <0.0050   | <0.0050   | <0.0050   | <0.0050    | <0.005    | <0.002    | 0.001      | 0.003      | 0.004      | <0.001    | <0.001    | <0.001    | <0.001    | <0.001     | <0.001   | <0.001   | <0.001   | <0.001    |
| Mg-T             | mg/L | 3.25      |           | 3.71      | 5         | 6.02      | 8.84      | 8.41       | 1.75      | 2.1       | 13.6       | 18.6       | 20.9       | 1.61      | 1.8       | 1.65      | 2.09      | 13.8       | 1.6      | 3.42     | 13.3     | 12.5      |
| Mn-T             | mg/L | 0.00326   |           | 0.0457    | 0.174     | 0.0422    | 0.00236   | 0.00586    | 0.0247    | 0.039     | 1.09       | 0.858      | 1.2        | 0.0104    | 0.046     | 0.0101    | 0.0206    | 0.485      | 0.0205   | 0.0159   | 0.29     | 0.444     |
| Mo-T             | mg/L | <0.0010   | <0.001    | 0.000177  | 0.000273  | <0.0010   | <0.0010   | 0.000277   | 0.00008   | <0.002    | <0.001     | <0.001     | 0.001      | 0.00007   | <0.001    | 0.00002   | 0.00009   | 0.00029    | 0.00009  | 0.00023  | 0.0002   | 0.00017   |
| Na-T             | mg/L | <2.0      | <2        | 3.6       | 4.7       | 5.3       | 5.4       | 4.4        | <2        | 1         | 7.2        | 8.5        | 9.6        | 2         | 2.7       | 2.1       | 2.3       | 6.01       | 1.16     | 2.36     | 7.7      | 7.56      |
| Ni-T             | mg/L | 0.0018    | 0.0033    | 0.00191   | 0.00411   | 0.0016    | <0.0010   | 0.00086    | 0.00334   | 0.0035    | 0.0006     | <0.0005    | <0.0005    | 0.004     | 0.0024    | 0.003     | 0.002     | 0.002      | 0.001    | 0.003    | 0.001    | 0.001     |
| N-TKN            | mg/L |           |           |           |           |           |           |            |           | 0.97      | 0.6        |            | 0.79       | 1.03      | 1.8       | 1.34      | 0.94      | 0.71       | 1.26     | 1.04     | 0.67     | 0.58      |
| Pb-T             | mg/L | <0.00050  | <0.0005   | 0.000388  | 0.00178   | <0.00050  | <0.00050  | <0.000050  | 0.000267  | <0.0002   | 0.0001     | <0.0001    | 0.0044     | <0.0001   | 0.0001    | <0.0001   | 0.0001    | 0.0002     | 0.0003   | 0.0001   | <0.0001  | <0.0001   |
| P-PO4-T          | mg/L |           |           |           |           |           |           |            | 0.04      | 0.08      | 0.05       | 0.05       | 0.05       | <0.05     | 0.06      | <0.05     | 0.07      | <0.05      | 0.03     | 0.02     | 0.02     | 0.02      |
| P-T              | mg/L |           |           | <0.30     | <0.30     |           |           | <0.30      | <0.3      | 0.07      |            |            | <0.05      | 0.03      |           | 0.05      | 0.04      | 0.059      | 0.13     | <0.05    | 0.026    | 0.04      |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           |           |            |           |           | 0.03       | 0.02       |            | 0.04      | 0.06      | 0.06      | 0.09      | 0.08       |          | <0.05    | <0.05    |           |
| Sb-T             | mg/L | <0.00050  |           | <0.00010  | 0.00015   | <0.00050  | <0.00050  | <0.00010   | 0.00014   | <0.0004   | <0.0002    | <0.0002    | 0.0003     | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002  | <0.0002  | <0.0002  | <0.0002   |
| Se-T             | mg/L | <0.0010   | <0.001    | <0.0010   | <0.0010   | <0.0010   | <0.0010   | <0.0010    | <0.001    | <0.0004   | <0.0002    | <0.0002    | <0.0002    | 0.0012    | <0.0002   | <0.0006   | <0.0006   | <0.0006    | <0.0006  | <0.0006  | <0.0006  | <0.0006   |
| Si-T             | mg/L |           |           | 5.43      | 9.73      |           |           | 5.52       | 5.61      | 4.53      | 4.99       | 5.33       | 4.27       | 1.69      | 5.64      | 4.98      | 6.03      | 6.86       | 1.49     | 3.74     | 1.51     | 1.59      |
| Sn-T             | mg/L | <0.00050  | <0.0005   | <0.00010  | 0.00026   | <0.00050  | <0.00050  | <0.00010   | 0.00015   | <0.002    | <0.001     | <0.001     | <0.001     | <0.0001   | <0.001    | <0.0001   | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001  | <0.0001   |
| Sr-T             | mg/L |           |           | 0.0778    | 0.108     |           |           | 0.153      | 0.0514    | 0.062     | 0.397      | 0.658      | 0.823      | 0.053     | 0.063     | 0.059     | 0.067     | 0.32       | 0.042    | 0.11     | 0.387    | 0.384     |
| S-T              | mg/L |           |           |           |           |           |           |            |           | 0.8       | 3.1        | 3.6        | 4          |           | 0.5       |           |           |            | 0.3      | 0.4      | 1.7      | 1.5       |
| Te-T             | mg/L |           |           |           |           |           |           |            |           |           |            |            |            | <0.0001   |           | <0.0001   | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001  | <0.0001   |
| Th-T             | mg/L |           |           |           |           |           |           |            |           |           |            |            |            | <0.0001   |           | <0.0001   | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001  | <0.0001   |
| Ti-T             | mg/L | <0.010    | <0.01     | <0.010    | 0.09      | 0.018     | <0.010    | <0.010     | 0.028     | 0.0064    | 0.0086     | 0.0014     | 0.0038     | 0.0028    | 0.0072    | 0.0046    | 0.0038    | 0.0111     | 0.0052   | 0.0055   | 0.0009   | 0.0091    |
| Tl-T             | mg/L | <0.00020  | <0.0002   | <0.00010  | <0.00010  | <0.00020  | <0.00020  | <0.00010   | <0.0001   | <0.0001   | <0.00005   | <0.00005   | <0.00005   | <0.00001  | <0.00005  | <0.00001  | <0.00001  | <0.00001   | <0.00001 | <0.00001 | <0.00001 | <0.00001  |
| U-T              | mg/L | <0.00020  | 0.00092   | 0.000034  | 0.000097  | <0.00020  | <0.00020  | 0.000017   | 0.000088  | <0.001    | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.0005   | <0.0004   | <0.0004   | <0.0004    | <0.0004  | <0.0004  | <0.0004  | <0.0004   |
| V-T              | mg/L | <0.030    | <0.03     | 0.0015    | 0.0067    | <0.030    | <0.030    | <0.0010    | 0.0027    | 0.001     | 0.0021     | 0.0002     | 0.0002     | 0.001     | 0.0016    | 0.00086   | 0.00094   | 0.00112    | 0.00069  | 0.0012   | 0.00046  | 0.00114   |
| Zn-T             | mg/L | <0.0050   | <0.005    | 0.0289    | 0.017     | 0.0071    | <0.0050   | 0.0014     | <0.005    | 0.02      | 0.011      | 0.01       | 0.018      | 0.035     | 0.058     | 0.009     | 0.044     | 0.093      | 0.016    | 0.009    | 0.005    | 0.006     |
| Zr-T             | mg/L |           |           |           |           |           |           |            |           | <0.002    | <0.001     | <0.001     | <0.001     | 0.0009    | 0.001     | 0.0011    | 0.0012    | 0.0004     | 0.0004   | 0.0012   | 0.0001   | 0.0002    |
| Ag-D             | mg/L | <0.000020 | <0.00002  | <0.000010 | <0.000010 | <0.000020 | <0.000020 | <0.000010  | <0.00001  | <0.0001   |            |            |            |           |           | <0.00001  |           |            | <0.00001 | <0.00001 | <0.00001 |           |
| Al-D             | mg/L | 0.135     |           | 0.113     | 0.0683    | 0.0433    | 0.0302    | 0.0361     | 0.431     | 0.367     |            |            |            |           |           | 0.418     |           |            | 0.161    | 0.181    | 0.011    |           |
| As-D             | mg/L | <0.00050  | <0.0005   | 0.00059   | 0.00037   | <0.00050  | <0.00050  | 0.0003     | 0.00049   | 0.0005    |            |            |            |           |           | 0.0003    |           |            | 0.0002   | 0.0008   | <0.0002  |           |
| Ba-D             | mg/L | 0.052     |           | 0.0396    | 0.0369    | 0.044     | 0.057     | 0.0487     | 0.0424    | 0.06      |            |            |            |           |           | 0.051     |           |            | 0.029    | 0.07     | 0.128    |           |
| B-D              | mg/L | <0.10     | <0.1      | <0.010    | <0.010    | <0.10     | <0.10     | <0.010     | <0.01     | <0.002    |            |            |            |           |           | <0.004    |           |            | <0.004   | <0.004   | 0.009    |           |
| Be-D             | mg/L | <0.0010   | <0.001    | <0.00050  | <0.00050  | <0.0010   | <0.0010   | <0.00050   | <0.0005   | <0.0001   |            |            |            |           |           | <0.00004  |           |            | <0.00004 | 0.00004  | <0.00004 |           |
| Bi-D             | mg/L |           |           | <0.00050  | <0.00050  |           |           | <0.00050   | <0.0005   | <0.0005   |            |            |            |           |           |           |           |            | <0.0001  | <0.0001  | <0.0001  |           |
| Ca-D             | mg/L | 13.1      |           | 13.1      | 14.7      | 18.2      | 25.8      | 25.4       | 7.59      | 9.5       |            |            |            |           |           | 8.51      |           |            | 5.94     | 15.7     | 57.2     |           |
| Cd-D             | mg/L | <0.000050 | <0.00005  | <0.000050 | <0.000050 | <0.000017 | <0.000017 | <0.000050  | <0.00005  | 0.00003   |            |            |            |           |           | 0.00001   |           |            | 0.00004  | 0.00002  | <0.00001 |           |
| C-DOC            | mg/L |           |           |           |           |           |           |            |           |           |            |            |            |           |           | 52.8      |           |            |          |          |          |           |
| Co-D             | mg/L | <0.00030  | <0.0003   |           |           |           |           |            |           |           |            |            |            |           |           |           |           |            |          |          |          |           |

Appendix Table A.8: Water quality data at station W10

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | F0001<br>5/27/2005<br>W10<br>P | V8704<br>5/27/2005<br>W10<br>M | F0001<br>6/30/2005<br>W10<br>P | F0001<br>7/29/2005<br>W10<br>P | F0001<br>8/29/2005<br>W10<br>P | F0001<br>9/28/2005<br>W10<br>P | F0001<br>10/15/2005<br>W10<br>P | X6722<br>5/29/2006<br>W10<br>P | 1004203<br>5/19/2007<br>W10<br>P | 1065056<br>10/17/2007<br>W10<br>P | 1077993<br>11/20/2007<br>W10<br>P | 1084216<br>12/18/2007<br>W10<br>P | 1122144<br>5/20/2008<br>W10<br>P | 1137485<br>7/22/2008<br>W10<br>P | 1145121<br>8/26/2008<br>W10<br>P | 1151901<br>9/18/2008<br>W10<br>P | 1171319<br>10/27/2008<br>W10<br>P | 1216919<br>5/2/2009<br>W10<br>P | 1227387<br>6/8/2009<br>W10<br>P | 1233572<br>7/7/2009<br>W10<br>P | 1235620<br>7/13/2009<br>W10<br>P |
|---------------------------------------------------------------|----------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| P-TDP                                                         | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                | <0.02                            | <0.02                             | <0.02                             | <0.02                             |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Sb-D                                                          | mg/L     | <0.00050                       | <0.0005                        | <0.00010                       | <0.00010                       | <0.00050                       | <0.00050                       | <0.00010                        | <0.0001                        | <0.0002                          |                                   |                                   |                                   |                                  |                                  | 0.001                            |                                  |                                   | 0.0014                          | 0.0016                          | 0.001                           |                                  |
| S-D                                                           | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                | 0.4                              |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   | 0.5                             | 0.5                             |                                 |                                  |
| Se-D                                                          | mg/L     | <0.0010                        | <0.001                         | <0.0010                        | <0.0010                        | <0.0010                        | <0.0010                        | <0.0010                         | <0.001                         | <0.0002                          |                                   |                                   |                                   |                                  |                                  | <0.0006                          |                                  |                                   | <0.0006                         | <0.0006                         | <0.0006                         |                                  |
| Si-D                                                          | mg/L     |                                |                                | 5.43                           | 5.64                           |                                |                                | 5.82                            | 4.53                           | 4.4                              |                                   |                                   |                                   |                                  |                                  | 5.36                             |                                  |                                   | 1.49                            | 3.44                            | 1.46                            |                                  |
| Sn-D                                                          | mg/L     | <0.00050                       | <0.0005                        | <0.00010                       | <0.00010                       | <0.00050                       | <0.00050                       | <0.00010                        | <0.0001                        | <0.001                           |                                   |                                   |                                   |                                  |                                  | <0.0001                          |                                  |                                   | <0.0001                         | <0.0001                         | <0.0001                         |                                  |
| Sr-D                                                          | mg/L     |                                |                                | 0.0772                         | 0.0921                         |                                |                                | 0.147                           | 0.0477                         | 0.063                            |                                   |                                   |                                   |                                  |                                  | 0.058                            |                                  |                                   | 0.035                           | 0.107                           | 0.39                            |                                  |
| Te-D                                                          | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  | <0.0001                          |                                  |                                   | <0.0001                         | <0.0001                         | <0.0001                         |                                  |
| Th-D                                                          | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  | <0.0001                          |                                  |                                   | <0.0001                         | <0.0001                         | 0.0003                          |                                  |
| Ti-D                                                          | mg/L     | <0.010                         | <0.01                          | <0.010                         | <0.010                         | <0.010                         | <0.010                         | <0.010                          | <0.01                          | 0.0026                           |                                   |                                   |                                   |                                  |                                  | 0.0038                           |                                  |                                   | 0.0022                          | 0.0022                          | 0.0014                          |                                  |
| Tl-D                                                          | mg/L     | <0.00020                       | <0.0002                        | <0.00010                       | <0.00010                       | <0.00020                       | <0.00020                       | <0.00010                        | <0.0001                        | <0.00005                         |                                   |                                   |                                   |                                  |                                  | <0.00001                         |                                  |                                   | <0.00001                        | <0.00001                        | <0.00001                        |                                  |
| U-D                                                           | mg/L     | <0.00020                       | 0.00079                        | 0.000028                       | <0.000010                      | <0.00020                       | <0.00020                       | 0.000013                        | 0.000046                       | <0.0005                          |                                   |                                   |                                   |                                  |                                  | <0.0004                          |                                  |                                   | <0.0004                         | <0.0004                         | <0.0004                         |                                  |
| V-D                                                           | mg/L     | <0.030                         | <0.03                          | <0.0010                        | <0.0010                        | <0.030                         | <0.030                         | <0.0010                         | <0.001                         | 0.0014                           |                                   |                                   |                                   |                                  |                                  | 0.00068                          |                                  |                                   | 0.00047                         | 0.00088                         | 0.00049                         |                                  |
| Zn-D                                                          | mg/L     | 0.0085                         | <0.005                         | 0.0223                         | 0.0074                         | 0.0052                         | <0.0050                        | 0.0015                          | 0.0032                         | 0.015                            |                                   |                                   |                                   |                                  |                                  | 0.007                            |                                  |                                   | 0.009                           | 0.007                           | 0.006                           |                                  |
| Zr-D                                                          | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  | 0.0011                           |                                  |                                   | 0.0002                          | 0.0009                          | 0.0002                          |                                  |
| Alk-Bicrb                                                     | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                | 16                               | 245                               | 312                               | 285                               | 20                               | 20                               | 20                               | 20                               | 210                               | 20                              | 40                              | 230                             | 240                              |
| Alk-Carb                                                      | mg/L     | 36.7                           |                                | 41.5                           | 58.2                           | 79.1                           | 92.3                           | 96.4                            |                                | <6                               | <6                                | <6                                | <6                                | <6                               | <6                               | <6                               | <6                               | <6                                | <6                              | <6                              | <6                              | <6                               |
| Alk-OH                                                        | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                | <5                               | <5                                | <5                                | <5                                | <5                               | <5                               | <5                               | <5                               | <5                                | <5                              | <5                              | <5                              | <5                               |
| Alk-P                                                         | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Alk-T                                                         | mg/L     |                                |                                | 41.5                           |                                | 79.1                           | 92.3                           |                                 | 14.2                           | 13                               | 201                               | 256                               | 234                               | 12                               | 12                               | 13                               | 14                               | 170                               | 16                              | 35                              | 192                             | 196                              |
| Bromine                                                       | mg/L     |                                |                                |                                |                                |                                |                                |                                 | <0.05                          |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| C-TIC                                                         | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| C-TOC                                                         | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  | 52.8                             |                                  |                                   |                                 |                                 |                                 |                                  |
| Chloride                                                      | mg/L     | <0.50                          | <0.5                           | <5.0                           | <0.50                          | <0.50                          | <0.50                          | <0.50                           | <0.5                           | 0.3                              | 0.4                               | 0.19                              | 0.82                              | 0.12                             | 0.02                             | <0.02                            | 0.1                              | 0.04                              | 0.43                            | 0.11                            | 0.14                            | 0.07                             |
| Colour                                                        | TCU      |                                |                                |                                |                                |                                |                                |                                 |                                | 220                              | 20                                | 21                                | 7                                 | 340                              | 280                              | 350                              | 270                              | 100                               | 230                             | 230                             | 79                              | 40                               |
| Cond-F                                                        | µS/cm    |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Cond-L                                                        | µS/cm    | 75.4                           |                                | 84.2                           | 111                            | 145                            | 181                            | 175                             | 34.8                           | 45                               | 375                               | 478                               | 371                               | 43                               | 43                               | 39                               | 47                               | 318                               | 36                              | 78                              | 333                             | 367                              |
| Discharge                                                     | L/s      |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Fluoride                                                      | mg/L     |                                |                                |                                |                                |                                |                                |                                 | 0.054                          |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Hard-D                                                        | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                | 32                               |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   | 22                              | 53                              | 197                             | 188                              |
| Hard-T                                                        | mg/L     | 46.3                           |                                |                                | 54.9                           | 70                             | 101                            | 100                             |                                |                                  | 192                               | 238                               | 217                               |                                  | 31                               |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| IB                                                            | %        |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Ammonia                                                       | mg/L     | 0.027                          | <0.02                          | 0.036                          | <0.020                         | 0.033                          | <0.020                         | <0.020                          | <0.02                          | <0.05                            | <0.05                             | <0.05                             | <0.05                             | <0.05                            | <0.05                            | <0.05                            | <0.05                            | <0.05                             | <0.05                           |                                 |                                 |                                  |
| Ammonium                                                      | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   | <0.05                           | 0.06                            | <0.05                           | <0.05                            |
| N-NO2                                                         | mg/L     | <0.0010                        | <0.001                         | <0.0010                        | <0.0010                        | <0.0010                        | <0.0010                        | <0.0010                         | <0.001                         | <0.05                            | <0.02                             | <0.02                             | <0.02                             | <0.02                            | <0.01                            | <0.01                            | <0.01                            |                                   |                                 |                                 |                                 |                                  |
| NO2+NO3                                                       | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  | <0.1                              |                                   | 0.027                             | <0.01                            | <0.1                             | <0.01                            | 0.01                             | <0.01                             | 0.1                             | 0.05                            | 0.02                            | <0.01                            |
| N-NO3                                                         | mg/L     | 0.0094                         |                                | <0.0050                        | <0.0050                        | <0.0050                        | <0.0050                        | <0.0050                         | <0.005                         | 0.2                              | <0.02                             | <0.02                             | <0.02                             | <0.02                            | <0.01                            | <0.01                            | <0.01                            |                                   |                                 |                                 |                                 |                                  |
| pH-F                                                          | pH units |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| pH-L                                                          | pH units | 7.47                           |                                | 7.31                           | 7.34                           | 7.74                           | 7.77                           | 7.3                             | 7.05                           | 6.38                             | 7.33                              | 7.68                              | 8.16                              | 6.64                             | 6.51                             | 6.31                             | 6.53                             | 6.83                              | 6.6                             | 7.02                            | 7.62                            | 7.75                             |
| Radium - 226                                                  |          |                                |                                | <0.0050                        | <0.0050                        | <0.0050                        | <0.0050                        | 0.007                           |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| SO4-D                                                         | mg/L     |                                |                                | <10                            |                                | 1.82                           | 4.13                           |                                 | <0.5                           | 0.3                              |                                   |                                   | 11.9                              | 0.26                             | 0.17                             | 0.1                              | 0.21                             | 6.82                              | 0.14                            | 0.17                            | 3                               | 3.3                              |
| SO4-T                                                         | mg/L     | <0.50                          |                                | <10                            | 1.56                           | 1.82                           | 4.13                           | 4.19                            |                                |                                  | 8.72                              | 11.4                              |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Sulphide                                                      | mg/L     |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| TDS                                                           | mg/L     | 115                            |                                | 116                            | 105                            | 117                            | 141                            | 138                             | 108                            | 116                              | 242                               | 300                               | 276                               | 144                              | 152                              | 156                              | 158                              | 240                               | 98                              | 154                             | 240                             | 232                              |
| Temp-F                                                        | C        |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| Temp-obs-pH                                                   | C        |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |
| TSS                                                           | mg/L     | <3.0                           |                                | 6                              | 4.2                            | 13                             | 14.5                           | 6.5                             | 16.9                           | 4                                | 26                                | 9                                 | 5                                 | <2                               | 2                                | <2                               | <2                               | 77                                | 6                               | <5                              | <2                              | 8                                |
| Turb                                                          | NTU      |                                |                                |                                |                                |                                |                                |                                 |                                | 1.6                              | 13                                | 1.4                               | 1.3                               | 0.4                              | 0.9                              | 0.4                              | <0.1                             | 2.8                               | 1.5                             | 0.6                             | 2.2                             | 3                                |
| Turb-F                                                        | NTU      |                                |                                |                                |                                |                                |                                |                                 |                                |                                  |                                   |                                   |                                   |                                  |                                  |                                  |                                  |                                   |                                 |                                 |                                 |                                  |

Appendix Table A.8: Water quality data at station W10

| Sampling Session |      | 1241968  | 1242427   | 1247177   | 1245933   | 1247633  | 1251597   | 1262295    |
|------------------|------|----------|-----------|-----------|-----------|----------|-----------|------------|
| Smpl Date        |      | 8/6/2009 | 8/11/2009 | 8/19/2009 | 8/25/2009 | 9/1/2009 | 9/17/2009 | 10/12/2009 |
| Station Name     |      | W10      | W10       | W10       | W10       | W10      | W10       | W10        |
| Sample Class     |      | P        | P         | P         | P         | P        | P         | P          |
| Ag-T             | mg/L | 0.00002  | 0.00002   | <0.00001  | <0.00001  | <0.00001 | <0.00001  | 0.00001    |
| Al-T             | mg/L | 0.037    | 0.022     | 0.058     | 0.158     | 0.031    | 0.027     | 0.403      |
| As-T             | mg/L | 0.0008   | 0.0009    | 0.0004    | 0.0012    | 0.0006   | 0.0004    | 0.0004     |
| Ba-T             | mg/L | 0.268    | 0.234     | 0.198     | 0.049     | 0.204    | 0.205     | 0.189      |
| Be-T             | mg/L | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004   |
| Bi-T             | mg/L | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001     |
| B-T              | mg/L | 0.007    | 0.015     | 0.006     | <0.005    | 0.006    | 0.005     | 0.01       |
| Ca-T             | mg/L | 61.5     | 59.8      | 51.5      | 16        | 54.6     | 60.4      | 57.2       |
| Cd-T             | mg/L | 0.00001  | <0.00001  | 0.00007   | 0.00009   | <0.00001 | 0.00005   | 0.00004    |
| CN-T             | mg/L |          |           |           |           |          |           |            |
| Co-T             | mg/L | 0.00025  | 0.0003    | 0.00024   | 0.00023   | 0.0002   | 0.00016   | 0.00041    |
| Cr-T             | mg/L | 0.0009   | 0.0011    | 0.0008    | 0.0014    | 0.001    | 0.001     | 0.0009     |
| Cu-T             | mg/L | 0.003    | 0.008     | 0.006     | 0.049     | 0.004    | 0.003     | 0.019      |
| Fe-T             | mg/L | 0.777    | 0.736     | 0.643     | 0.399     | 0.495    | 0.426     | 0.89       |
| Hg-T             | mg/L |          |           | <0.00001  | 0.00002   | <0.00001 | <0.00001  | <0.00001   |
| K-T              | mg/L | 1.3      | 1.9       | 1.3       | 0.7       | 1.7      | 1.5       | 1.8        |
| Li-T             | mg/L | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | 0.001      |
| Mg-T             | mg/L | 13.8     | 13.1      | 11.2      | 3.44      | 12       | 13.2      | 12.9       |
| Mn-T             | mg/L | 0.157    | 0.217     | 0.19      | 0.0283    | 0.141    | 0.0938    | 0.196      |
| Mo-T             | mg/L | 0.0002   | 0.0002    | 0.0003    | 0.0004    | 0.0002   | 0.0002    | 0.0002     |
| Na-T             | mg/L | 7.67     | 7.59      | 6.21      | 3.23      | 6.84     | 7.34      | 7.11       |
| Ni-T             | mg/L | 0.001    | <0.001    | <0.001    | 0.002     | <0.001   | 0.001     | 0.002      |
| N-TKN            | mg/L | 0.53     | 0.98      | 0.56      | 1.41      | 0.38     | 0.38      | 0.5        |
| Pb-T             | mg/L | 0.0013   | 0.0004    | 0.0006    | 0.0004    | 0.0004   | 0.0004    | 0.0003     |
| P-PO4-T          | mg/L | <0.01    | <0.01     | 0.02      | 0.04      | 0.02     | 0.03      | 0.03       |
| P-T              | mg/L | 0.024    | 0.2       | 0.022     | 0.068     | 0.027    | 0.021     | <0.05      |
| P-TRP (Ortho)    | mg/L | <0.05    | 0.08      | 0.14      | <0.05     | <0.05    | <0.05     |            |
| Sb-T             | mg/L | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002    |
| Se-T             | mg/L | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006    |
| Si-T             | mg/L | 1.4      | 1.67      | 1.96      | 0.59      | 1.74     | 2.26      | 3.81       |
| Sn-T             | mg/L | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001    |
| Sr-T             | mg/L | 0.417    | 0.354     | 0.354     | 0.076     | 0.38     | 0.36      | 0.375      |
| S-T              | mg/L | 1.3      | 2         | 2         | 1.5       | 2.7      | 3         | 3.6        |
| Te-T             | mg/L | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001    |
| Th-T             | mg/L | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004    |
| Ti-T             | mg/L | 0.0019   | 0.0016    | 0.0026    | 0.004     | 0.0012   | 0.0015    |            |
| Tl-T             | mg/L | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001   |
| U-T              | mg/L | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004    |
| V-T              | mg/L | 0.0004   | 0.0003    | 0.0004    | 0.0008    | 0.0002   | 0.0003    | 0.0011     |
| Zn-T             | mg/L | 0.003    | 0.003     | 0.006     | 0.008     | 0.011    | 0.005     | 0.013      |
| Zr-T             | mg/L | <0.0001  | <0.0001   | <0.0001   | 0.0007    | 0.0001   | <0.0001   | 0.0002     |
| Ag-D             | mg/L |          | <0.00001  |           | <0.00001  |          |           |            |
| Al-D             | mg/L |          | 0.016     |           | 0.112     |          |           |            |
| As-D             | mg/L |          | 0.0009    |           | 0.0009    |          |           |            |
| Ba-D             | mg/L |          | 0.066     |           | 0.042     |          |           |            |
| B-D              | mg/L |          | 0.006     |           | <0.004    |          |           |            |
| Be-D             | mg/L |          | <0.00004  |           | <0.00004  |          |           |            |
| Bi-D             | mg/L |          | <0.001    |           | <0.001    |          |           |            |
| Ca-D             | mg/L |          | 53        |           | 15.6      |          |           |            |
| Cd-D             | mg/L |          | 0.00002   |           | 0.00028   |          |           |            |
| C-DOC            | mg/L |          |           |           |           |          |           |            |
| Co-D             | mg/L |          | 0.00017   |           | 0.00015   |          |           |            |
| Cr-D             | mg/L |          | 0.0005    |           | 0.001     |          |           |            |
| Cu-D             | mg/L |          | 0.004     |           | 0.047     |          |           |            |
| Fe-D             | mg/L |          | 0.21      |           | 0.22      |          |           |            |
| Hg-D             | mg/L |          |           |           | 0.00002   |          |           |            |
| K-D              | mg/L |          | 1.6       |           | 0.7       |          |           |            |
| Li-D             | mg/L |          | 0.001     |           | 0.001     |          |           |            |
| Mg-D             | mg/L |          | 12        |           | 3.4       |          |           |            |
| Mn-D             | mg/L |          | 0.0744    |           | 0.0062    |          |           |            |
| Mo-D             | mg/L |          | 0.0002    |           | 0.0004    |          |           |            |
| Na-D             | mg/L |          | 7.1       |           | 3.6       |          |           |            |
| Ni-D             | mg/L |          | 0.001     |           | 0.003     |          |           |            |
| O-DO             | mg/L |          |           |           |           |          |           |            |
| Pb-D             | mg/L |          | <0.0001   |           | 0.0002    |          |           |            |
| P-D              | mg/L |          | 0.06      |           | 0.02      |          |           |            |

Appendix Table A.8: Water quality data at station W10

| Sampling Session |          | 1241968  | 1242427   | 1247177   | 1245933   | 1247633  | 1251597   | 1262295    |
|------------------|----------|----------|-----------|-----------|-----------|----------|-----------|------------|
| Smpl Date        |          | 8/6/2009 | 8/11/2009 | 8/19/2009 | 8/25/2009 | 9/1/2009 | 9/17/2009 | 10/12/2009 |
| Station Name     |          | W10      | W10       | W10       | W10       | W10      | W10       | W10        |
| Sample Class     |          | P        | P         | P         | P         | P        | P         | P          |
| P-TDP            | mg/L     |          |           |           |           |          |           |            |
| Sb-D             | mg/L     |          | <0.0002   |           | 0.0013    |          |           |            |
| S-D              | mg/L     |          | 1.1       |           | 1.4       |          |           |            |
| Se-D             | mg/L     |          | <0.0006   |           | <0.0006   |          |           |            |
| Si-D             | mg/L     |          | 1.5       |           | 0.48      |          |           |            |
| Sn-D             | mg/L     |          | <0.0001   |           | 0.0021    |          |           |            |
| Sr-D             | mg/L     |          | 0.359     |           | 0.077     |          |           |            |
| Te-D             | mg/L     |          | <0.0001   |           | <0.0001   |          |           |            |
| Th-D             | mg/L     |          | <0.0004   |           | <0.0004   |          |           |            |
| Ti-D             | mg/L     |          | 0.0026    |           | 0.0016    |          |           |            |
| Tl-D             | mg/L     |          | <0.00001  |           | <0.00001  |          |           |            |
| U-D              | mg/L     |          | <0.0004   |           | <0.0004   |          |           |            |
| V-D              | mg/L     |          | 0.0006    |           | 0.0005    |          |           |            |
| Zn-D             | mg/L     |          | 0.008     |           | 0.011     |          |           |            |
| Zr-D             | mg/L     |          | 0.0002    |           | 0.0038    |          |           |            |
| Alk-Bicrb        | mg/L     | 270      | 250       | 230       | 50        | 230      | 230       | 220        |
| Alk-Carb         | mg/L     | <6       | <6        | <6        | <6        | <6       | <6        | <6         |
| Alk-OH           | mg/L     | <5       | <5        | <5        | <5        | <5       | <5        | <5         |
| Alk-P            | mg/L     |          |           |           |           |          |           |            |
| Alk-T            | mg/L     | 225      | 207       | 188       | 40        | 191      | 186       | 185        |
| Bromine          | mg/L     |          |           |           |           |          |           |            |
| C-TIC            | mg/L     |          |           |           |           |          |           |            |
| C-TOC            | mg/L     |          |           |           |           |          |           |            |
| Chloride         | mg/L     | 0.13     | 0.23      | 0.23      | 3         | 0.3      | 0.36      | 0.72       |
| Colour           | TCU      | <5       | <5        |           |           |          |           |            |
| Cond-F           | µS/cm    |          |           |           |           |          |           |            |
| Cond-L           | µS/cm    | 379      | 375       | 345       | 95        | 352      | 379       | 366        |
| Discharge        | L/s      |          |           |           |           |          |           |            |
| Fluoride         | mg/L     |          |           |           |           |          |           |            |
| Hard-D           | mg/L     | 186      | 182       | 168       | 53        | 182      | 182       | 199        |
| Hard-T           | mg/L     |          |           |           |           |          |           |            |
| IB               | %        |          |           |           |           |          |           |            |
| Ammonia          | mg/L     |          |           |           |           |          |           |            |
| Ammonium         | mg/L     | <0.05    | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05      |
| N-NO2            | mg/L     |          |           |           |           |          |           |            |
| NO2+NO3          | mg/L     | 0.05     | <0.01     | 0.02      | 0.01      | <0.01    | <0.01     | 0.03       |
| N-NO3            | mg/L     |          |           |           |           |          |           |            |
| pH-F             | pH units |          |           |           |           |          |           |            |
| pH-L             | pH units | 7.6      | 7.53      | 7.63      | 6.82      | 7.56     | 7.65      | 7.62       |
| Radium - 226     |          |          |           |           |           |          |           |            |
| SO4-D            | mg/L     | 3.6      | 3.4       | 7.3       | 4.1       | 7.5      | 9.2       | 192        |
| SO4-T            | mg/L     |          |           |           |           |          |           |            |
| Sulphide         | mg/L     |          |           |           |           |          |           |            |
| TDS              | mg/L     | 248      | 270       | 244       | 120       | 222      | 250       | 224        |
| Temp-F           | C        |          |           |           |           |          |           |            |
| Temp-obs-pH      | C        |          |           |           |           |          |           |            |
| TSS              | mg/L     | <2       | 44        | 3         | 5         | <3       | 5         | 28         |
| Turb             | NTU      | 0.7      | 0.8       | 1.2       | 0.8       | 1        | 0.7       | 1.9        |
| Turb-F           | NTU      |          |           |           |           |          |           |            |

Appendix Table A.9: Water quality data at station W12

| Sampling Session |      | F0003     | F0003     | F0003     | 1032390  | F0003     | F0003      | F0003      | F0003      | F0003      | 1084216    | 1088370   | F0003     | F0003     | 1112527   | F0003    | F0003     | F0003     | F0003     | F0003     | F0003     | F0003     | F0003     | 1131441    | F0003    | F0003     | F0003    | F0003 | F0003 | 1191569 | 1214867 | 1216919 |
|------------------|------|-----------|-----------|-----------|----------|-----------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------|-----------|----------|-------|-------|---------|---------|---------|
| Smpl Date        |      | 5/19/2007 | 6/20/2007 | 6/27/2007 | 8/1/2007 | 8/12/2007 | 10/23/2007 | 10/30/2007 | 11/27/2007 | 12/18/2007 | 12/18/2007 | 1/15/2008 | 1/16/2008 | 2/13/2008 | 4/22/2008 | 5/7/2008 | 5/13/2008 | 5/20/2008 | 5/27/2008 | 6/18/2008 | 6/27/2008 | 7/22/2008 | 9/18/2008 | 11/18/2008 | 2/2/2009 | 4/21/2009 | 5/2/2009 |       |       |         |         |         |
| Station Name     |      | W12       | W12       | W12       | W12      | W12       | W12        | W12        | W12        | W12        | W12        | W12       | W12       | W12       | W12       | W12      | W12       | W12       | W12       | W12       | W12       | W12       | W12       | W12        | W12      | W12       | W12      | W12   | W12   | W12     | W12     |         |
| Sample Class     |      | P         | P         | P         | P        | P         | P          | P          | P          | P          | P          | P         | P         | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P          | P        | P         | P        | P     | P     | P       | P       |         |
| Ag-T             | mg/L | 0.0003    | 0.0003    | 0.0006    | 0.0001   | 0.002     | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001   | 0.00006   | <0.0001   | 0.0004   | 0.0003    | 0.0004    | 0.0001    | 0.00015   | 0.00006   | 0.00008   | 0.00016   | 0.00016    | <0.00001 | 0.00003   | 0.00006  |       |       |         |         |         |
| Al-T             | mg/L | 0.301     | 1.02      | 4.92      | 0.546    | 13.8      | 0.108      | 0.016      | 0.049      | 0.098      | 0.098      | 0.463     | 0.463     | 0.106     | 0.29      | 3.5      | 4.42      | 3.61      | 1.46      | 1.24      | 0.92      | 0.798     | 1.7       | 0.611      | 0.354    | 1.94      | 5.08     |       |       |         |         |         |
| As-T             | mg/L | 0.0006    | 0.0032    | 0.0196    | 0.0012   | 0.0051    | 0.001      | 0.0008     | 0.0014     | 0.0008     | 0.0008     | 0.0005    | 0.0005    | 0.0009    | <0.0002   | 0.0025   | 0.0035    | 0.0021    | 0.0019    | 0.0015    | 0.0009    | 0.0008    | 0.0016    | 0.001      | 0.0004   | 0.0008    | 0.0025   |       |       |         |         |         |
| Ba-T             | mg/L | 0.09      | 0.06      | 0.167     | 0.06     | 0.3       | 0.052      | 0.042      | 0.032      | 0.036      | 0.036      | 0.047     | 0.047     | 0.052     | 0.036     | 0.146    | 0.146     | 0.145     | 0.081     | 0.074     | 0.072     | 0.093     | 0.103     | 0.107      | 0.137    | 0.072     | 0.139    |       |       |         |         |         |
| Be-T             | mg/L | <0.0002   | <0.0001   | 0.0002    | <0.0001  | 0.0004    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001   | <0.0001   | <0.00004  | 0.00011  | 0.00024   | 0.00025   | 0.0001    | 0.00006   | 0.00006   | <0.0001   | 0.00006   | <0.0001    | <0.00004 | 0.00008   | 0.00029  |       |       |         |         |         |
| Bi-T             | mg/L | <0.001    | <0.0005   | <0.0005   | <0.0005  | <0.001    | <0.0005    | <0.0005    | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.0005   | <0.0005   |           |          |           |           |           |           |           | <0.0005   | <0.0001   | <0.0005    | <0.0001  | <0.0001   | <0.0001  |       |       |         |         |         |
| B-T              | mg/L | 0.215     | 0.451     | 0.374     | 0.32     | 0.255     | 0.182      | 0.112      | 0.166      | 0.062      | 0.062      | 0.059     | 0.059     | 0.582     | 0.035     | 0.047    | 0.051     | 0.043     | 0.051     | 0.058     | 0.056     | 0.094     | 0.032     | 0.063      | 0.073    | 0.091     | 0.011    |       |       |         |         |         |
| Ca-T             | mg/L | 187       | 187       | 146       | 142      | 131       | 99.9       | 90.2       | 84.3       | 91.2       | 91.2       | 80.4      | 80.4      | 166       | 50.2      | 31.4     | 33.5      | 37.3      | 35.8      | 46.2      | 47        | 69.7      | 48        | 102        | 80       | 22.2      |          |       |       |         |         |         |
| Cd-T             | mg/L | 0.00002   | 0.00065   | 0.00055   | 0.00057  | 0.00109   | 0.00008    | 0.00006    | 0.00005    | 0.00011    | 0.00011    | 0.00003   | 0.00003   | 0.00019   | 0.00009   | 0.00026  | 0.00026   | 0.00026   | 0.00019   | 0.00024   | 0.00026   | 0.00024   | 0.00016   | 0.00047    | 0.00029  | 0.00039   | 0.00016  |       |       |         |         |         |
| CN-T             | mg/L |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |       |       |         |         |         |
| Co-T             | mg/L | 0.0024    | 0.0031    | 0.0045    | 0.0011   | 0.0083    | 0.0002     | 0.0001     | 0.0002     | 0.0001     | 0.0001     | 0.0005    | 0.0005    | 0.0014    | 0.00032   | 0.00216  | 0.00243   | 0.0019    | 0.00089   | 0.00081   | 0.00076   | 0.0006    | 0.00129   | 0.0008     | 0.00077  | 0.00134   | 0.0032   |       |       |         |         |         |
| Cr-T             | mg/L | <0.001    | <0.0005   | 0.0012    | <0.0005  | 0.0037    | <0.0005    | <0.0005    | 0.0006     | <0.0005    | <0.0005    | 0.0007    | 0.0007    | <0.0005   | <0.0005   | 0.0045   | 0.0056    | 0.0054    | 0.002     | 0.0021    | 0.0022    | 0.0006    | 0.0032    | 0.0013     | 0.0009   | 0.0011    | 0.0076   |       |       |         |         |         |
| Cu-T             | mg/L | 0.205     | 0.469     | 1.884     | 0.172    | 3.59      | 0.027      | 0.015      | 0.016      | 0.053      | 0.053      | 0.051     | 0.051     | 0.288     | 0.129     | 0.569    | 0.675     | 0.519     | 0.458     | 0.465     | 0.539     | 0.318     | 0.393     | 0.48       | 0.171    | 0.511     | 0.372    |       |       |         |         |         |
| Fe-T             | mg/L | 0.6       | 1.6       | 9.1       | 0.9      | 23.3      | 0.1        | <0.1       | <0.1       | 0.1        | 0.1        | 0.6       | 0.6       | 0.5       | 0.61      | 4.99     | 6.61      | 4.51      | 1.88      | 1.71      | 1.42      | 0.91      | 3.38      | 0.99       |          | 2.6       | 8.17     |       |       |         |         |         |
| Hg-T             | mg/L | 0.0002    | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001   | <0.0001   | <0.00001  | 0.0005   | 0.0005    | 0.0004    | 0.0003    | 0.0002    | 0.00002   | <0.0001   | 0.0001    | <0.0001    | <0.00001 | 0.00002   | 0.00003  |       |       |         |         |         |
| K-T              | mg/L | 6.7       | 9         | 17.5      | 9.2      | 16        | 4.9        | 4.4        | 4.2        | 3.4        | 3.4        | 3.3       | 3.3       | 8.3       | 2.98      | 3.47     | 3.41      | 3.78      | 3.09      | 3.55      | 3.31      | 3.9       | 4.39      | 6          | 5        | 3.8       |          |       |       |         |         |         |
| Li-T             | mg/L | 0.006     | 0.011     | 0.018     | 0.009    | 0.02      | 0.007      | 0.005      | 0.007      | 0.004      | 0.004      | 0.004     | 0.004     | 0.011     | 0.002     | 0.003    | 0.003     | 0.004     | 0.003     | 0.003     | 0.003     | 0.004     | 0.004     | 0.007      | 0.006    | 0.007     | 0.004    |       |       |         |         |         |
| Mg-T             | mg/L | 44        | 37.3      | 30.8      | 32.4     | 33.8      | 28.2       | 25.5       | 22.1       | 26.1       | 26.1       | 27        | 27        | 45.1      | 11.9      | 8.26     | 9.28      | 9.79      | 8.7       | 11.2      | 11        | 16.5      | 13.1      | 25.3       |          | 20.1      | 7.19     |       |       |         |         |         |
| Mn-T             | mg/L | 0.486     | 0.822     | 0.865     | 0.309    | 1.15      | 0.137      | 0.133      | 0.067      | 0.079      | 0.079      | 0.051     | 0.051     | 0.13      | 0.0364    | 0.187    | 0.231     | 0.172     | 0.125     | 0.123     | 0.121     | 0.129     | 0.165     | 0.295      | 0.413    | 0.196     | 0.271    |       |       |         |         |         |
| Mo-T             | mg/L | 0.02      | 0.015     | 0.029     | 0.022    | 0.028     | 0.042      | 0.044      | 0.023      | 0.038      | 0.038      | 0.042     | 0.042     | 0.039     | 0.024     | 0.0232   | 0.0202    | 0.0234    | 0.0208    | 0.0245    | 0.024     | 0.036     | 0.0213    | 0.042      | 0.0425   | 0.0263    | 0.0036   |       |       |         |         |         |
| Na-T             | mg/L | 19        | 34.5      | 39.6      | 22.4     | 25.8      | 26.9       | 21.3       | 27.8       | 19.6       | 19.6       | 50.3      | 50.3      | 41        | 9.8       | 8.6      | 10.1      | 11.3      | 10.1      | 14.4      | 14.2      | 20.2      | 16.1      | 28.6       |          | 23.4      | 4.88     |       |       |         |         |         |
| Ni-T             | mg/L | <0.001    | 0.0013    | 0.0017    | <0.0005  | <0.001    | <0.0005    | <0.0005    | <0.0005    | <0.0005    | <0.0005    | 0.003     | 0.003     | 0.0014    | 0.005     | 0.042    | 0.051     | 0.035     | 0.003     | 0.002     | 0.002     | <0.0005   | 0.002     | 0.0017     | 0.001    | 0.001     | 0.007    |       |       |         |         |         |
| N-TKN            | mg/L | 32.8      | 11        |           |          |           | 17.6       | 7.89       | 4.35       |            | 2.02       | 3.67      |           | 30.3      | 2.08      |          |           | 2.44      |           | 2.5       |           | 11.2      | 1.83      | 0.23       | 7.1      | 11.8      | 1.91     |       |       |         |         |         |
| Pb-T             | mg/L | 0.0003    | 0.001     | 0.0032    | 0.0003   | 0.0056    | <0.0001    | <0.0001    | 0.0002     | 0.0001     | 0.0001     | 0.0002    | 0.0002    | 0.0001    | 0.0002    | 0.0042   | 0.004     | 0.004     | 0.0018    | 0.0015    | 0.0013    | 0.0006    | 0.0018    | 0.0003     | 0.0003   | 0.0012    | 0.004    |       |       |         |         |         |
| P-PO4-T          | mg/L | 0.44      | 0.11      |           |          |           | 0.05       | 0.06       | <0.05      | <0.05      | 0.05       | 0.06      | <0.05     | <0.05     | <0.05     |          |           | 0.11      |           | <0.05     |           | 0.08      | 0.11      | <0.05      | 0.04     | 0.02      | 0.06     |       |       |         |         |         |
| P-T              | mg/L | 0.44      | 0.11      |           |          |           | 0.05       |            | <0.05      | <0.05      | <0.05      | <0.05     |           | <0.05     | 0.02      | 0.13     | 0.17      | 0.11      | 0.06      |           | 0.05      |           | 0.1       |            | 0.08     | <0.05     | 0.23     |       |       |         |         |         |
| P-TRP (Ortho)    | mg/L | 0.07      | 0.1       |           |          | 0.084     | 0.03       | 0.02       | 0.04       | 0.05       |            |           | 0.06      | 0.05      | 0.05      |          |           | 0.04      |           | 0.03      |           | 0.03      | 0.06      | 0.08       |          |           |          |       |       |         |         |         |
| Sb-T             | mg/L | <0.0004   | <0.0002   | 0.0002    | <0.0002  | <0.0004   | <0.0002    | <0.0002    | <0.0002    | 0.0002     | 0.0002     | <0.0002   | <0.0002   | <0.0002   | <0.0002   | 0.0004   | 0.0004    | 0.0004    | 0.0003    | 0.0004    | <0.0002   | 0.0002    | 0.0004    | 0.0004     | 0.0002   | <0.0002   | <0.0002  |       |       |         |         |         |
| Se-T             | mg/L | 0.0046    | 0.0065    | 0.0102    | 0.0066   | 0.0065    | 0.013      | 0.0093     | 0.0096     | 0.0032     | 0.0032     | 0.004     | 0.004     | 0.0185    | 0.0016    | 0.0044   | 0.0034    | 0.003     | 0.0042    | 0.004     | 0.0038    | 0.007     | 0.0078    | 0.0067     | 0.0029   | 0.005     | 0.0009   |       |       |         |         |         |
| Si-T             | mg/L | 7.89      | 7.95      | 11.5      | 5.81     | 22.5      | 3.05       | 3.36       | 3.03       | 4.56       | 4.56       | 6.23      | 6.23      | 4.99      | 2.43      | 5.42     | 5.99      | 5.36      | 2.63      | 4.69      | 3.89      | 4.8       | 7.42      | 4.73       |          | 5.87      | 11.4     |       |       |         |         |         |
| Sn-T             | mg/L | <0.002    | <0.001    | <0.001    | <0.001   | <0.002    | <0.001     | <0.001     | <0.001     | <0.001     | <0.001     | <0.001    | <0.001    | <0.001    | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.001    | 0.0001    | <0.001     | <0.0001  | <0.0001   | <0.0001  |       |       |         |         |         |
| Sr-T             | mg/L | 3.05      | 3.86      | 3.09      | 3.05     | 2.8       | 3.77       | 2.56       | 3.08       | 3.1        | 3.1        | 2.45      | 2.45      | 4.99      | 1.18      | 0.629    | 0.763     | 0.846     | 0.809     | 1.16      | 1.1       | 1.78      | 0.984     | 2.47       | 4.7      | 2.64      | 0.325    |       |       |         |         |         |
| S-T              | mg/L | 37        | 81.5      |           | 47.6     |           | 69.4       | 65.7       | 57.9       |            | 72.8       | 92.4      |           | 107       |           |          |           |           |           |           | 48.1      |           | 66.2      |            |          | 32.8      | 5.3      |       |       |         |         |         |
| Te-T             | mg/L |           |           |           |          |           |            |            |            |            |            |           |           |           | 0.0003    | <0.0001  | 0.0001    | 0.0002    | 0.0001    | 0.0002    | <0.0001   |           | <0.0001   |            | <0.0001  | <0.0001   | <0.0001  |       |       |         |         |         |
| Th-T             | mg/L |           |           |           |          |           |            |            |            |            |            |           |           |           | <0.0001   | 0.0016   | 0.002     | 0.0015    | 0.0005    | 0.0006    | <0.0001   |           | 0.0006    |            | <0.0001  | 0.0001    | <0.0001  |       |       |         |         |         |
| Ti-T             | mg/L | <0.0010   | 0.0079    | 0.401     | 0.061    | 1.02      | 0.0069     | 0.0044     | 0.0064     | 0.0074     | 0.0074     | 0.0173    | 0.0173    | 0.0106    | 0.0121    | 0.128    | 0.0317    | 0.0376    | 0.0776    | 0.0412    | 0.0297    | 0.0286    | 0.0549    | 0.0367     | 0.0134   | 0.0945    | 0.145    |       |       |         |         |         |
| Tl-T             | mg/L | <0.0001   | <0.00005  | 0.00012   | <0.00005 | 0.00025   | <0.00005   | <0.00005   | <0.00005   | <0.00005   | <0.00005   | <0.00005  | <0.00005  | <0.00005  | <0.00001  | 0.00003  | 0.00003   | 0.00005   | <0.00001  | <0.00001  | <0.00001  | <0.00005  | 0.00002   | <0.00005   | <0.00001 | 0.00002   | 0.00004  |       |       |         |         |         |
| U-T              | mg/L | 0.0032    | 0.0146    | 0.0181    | 0.008    | 0.0054    | 0.004      | 0.0035     | 0.0038     | 0.0038     | 0.0038     | 0.0043    | 0.0043    | 0.0048    | 0.0016    | 0.0018   | 0.002     | 0.0026    | 0.0021    | 0.0022    | 0.0023    | 0.0031    | 0.0023    | 0.0035     | 0.0048   | 0.0028    | 0.0007   |       |       |         |         |         |
| V-T              | mg/L | 0.001     | 0.0049    | 0.026     | 0.0028   | 0.0616    | 0.001      | 0.0006     | 0.0007     | 0.0011     | 0.0011     | 0.0042    | 0.0042    | 0.0008    | 0.00137   | 0.0118   | 0.0128    | 0.013     | 0.00569   | 0.00554   | 0.00394   | 0.0036    | 0.00695   | 0.0033     | 0.00171  | 0.00611   | 0.0146   |       |       |         |         |         |
| Zn-T             | mg/L | 0.01      | 0.027     | 0.073     | 0.016    | 0.17      | 0.007      | 0.004      | 0.013      | 0.012      | 0.012      | 0.011     | 0.011     | 0.015     | 0.009     | 0.023    | 0.038     | 0.018     | 0.01      | 0.016     | 0.013     | 0.01      | 0.016     | 0.04       | 0.014    | 0.023     | 0.047    |       |       |         |         |         |
| Zr-T             | mg/L | <0.002    | <0.001    |           | <0.001   |           | <0.001     | <0.001     | <0.001     |            | <0.001     | <0.001    |           | <0.001    | 0.0001    | 0.0018   | 0.002     | 0.0019    | 0.003     | 0.004     | 0.0011    | <0.001    | 0.0008    | 0.00       |          |           |          |       |       |         |         |         |

Appendix Table A.9: Water quality data at station W12

| Sampling Session |          | F0003     | F0003     | F0003     | 1032390  | F0003     | F0003      | F0003      | F0003      | F0003      | 1084216    | 1088370   | F0003     | F0003     | 1112527   | F0003    | F0003     | F0003     | F0003     | F0003     | 1131441   | F0003     | F0003     | F0003      | 1191569  | 1214867   | 1216919  |
|------------------|----------|-----------|-----------|-----------|----------|-----------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------|-----------|----------|
| Smpl Date        |          | 5/19/2007 | 6/20/2007 | 6/27/2007 | 8/1/2007 | 8/12/2007 | 10/23/2007 | 10/30/2007 | 11/27/2007 | 12/18/2007 | 12/18/2007 | 1/15/2008 | 1/16/2008 | 2/13/2008 | 4/22/2008 | 5/7/2008 | 5/13/2008 | 5/20/2008 | 5/27/2008 | 6/18/2008 | 6/27/2008 | 7/22/2008 | 9/18/2008 | 11/18/2008 | 2/2/2009 | 4/21/2009 | 5/2/2009 |
| Station Name     |          | W12       | W12       | W12       | W12      | W12       | W12        | W12        | W12        | W12        | W12        | W12       | W12       | W12       | W12       | W12      | W12       | W12       | W12       | W12       | W12       | W12       | W12       | W12        | W12      | W12       | W12      |
| Sample Class     |          | P         | P         | P         | P        | P         | P          | P          | P          | P          | P          | P         | P         | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P          | P        | P         | P        |
| P-D              | mg/L     |           |           |           |          | <0.02     |            |            |            |            |            |           |           |           |           |          | 0.01      | 0.01      | 0.02      | <0.01     | 0.01      |           | <0.01     |            | <0.01    |           | 0.03     |
| P-TDP            | mg/L     | <0.02     | <0.02     |           |          |           |            | <0.02      | <0.02      | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     |           |          |           | 0.01      |           |           |           |           |           |            |          |           |          |
| Sb-D             | mg/L     | 0.0005    |           |           |          | <0.0002   |            |            |            |            |            |           |           |           |           |          | 0.0011    | 0.002     | 0.64      | 0.0012    | 0.0011    |           | 0.0012    |            | 0.0015   |           | 0.0006   |
| S-D              | mg/L     | 34.9      |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            | 92.3     |           | 5.2      |
| Se-D             | mg/L     | 0.0048    |           |           |          | 0.0071    |            |            |            |            |            |           |           |           |           |          | <0.0006   | 0.0036    | 0.0055    | 0.006     | 0.009     |           | 0.009     |            | 0.0029   |           | 0.0009   |
| Si-D             | mg/L     | 7.5       |           |           |          | 5.52      |            |            |            |            |            |           |           |           |           |          | 1.07      | 1.18      | 1.3       | 2.74      | 2.77      |           | 3.87      |            | 3.69     |           | 1.88     |
| Sn-D             | mg/L     | <0.001    |           |           |          | <0.001    |            |            |            |            |            |           |           |           |           |          | <0.004    | <0.004    | <0.004    | <0.0001   | <0.0001   |           | <0.0001   |            | <0.0001  |           | <0.0001  |
| Sr-D             | mg/L     | 3.38      |           |           |          | 2.84      |            |            |            |            |            |           |           |           |           |          | 0.563     | 0.813     | 0.818     | 1.09      | 1.2       |           | 0.89      |            | 4.46     |           | 0.27     |
| Te-D             | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          | <0.0001   | <0.0001   | 0.0002    | 0.0002    | <0.0001   |           | <0.0001   |            | <0.0001  |           | <0.0001  |
| Th-D             | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          | 0.0003    | 0.0001    | 0.0002    | 0.0002    | <0.0001   |           | <0.0001   |            | <0.0001  |           | <0.0001  |
| Ti-D             | mg/L     | <0.0005   |           |           |          | 0.0052    |            |            |            |            |            |           |           |           |           |          | 0.0111    | 0.012     | 0.0104    | 0.0107    | 0.0068    |           | 0.0074    |            | 0.0009   |           | 0.002    |
| Tl-D             | mg/L     | <0.00005  |           |           |          | <0.00005  |            |            |            |            |            |           |           |           |           |          | <0.00001  | <0.00001  | <0.00001  | 0.00001   | <0.00001  |           | <0.00001  |            | <0.00001 |           | <0.00001 |
| U-D              | mg/L     | 0.003     |           |           |          | 0.006     |            |            |            |            |            |           |           |           |           |          | 0.0018    | 0.0019    | 0.0019    | 0.0023    | 0.0024    |           | 0.0019    |            | 0.0046   |           | 0.0004   |
| V-D              | mg/L     | 0.0017    |           |           |          | 0.0008    |            |            |            |            |            |           |           |           |           |          | 0.00138   | 0.00166   | 0.00161   | 0.00161   | 0.00173   |           | 0.00156   |            | 0.00062  |           | 0.00142  |
| Zn-D             | mg/L     | 0.015     |           |           |          | 0.016     |            |            |            |            |            |           |           |           |           |          | 0.002     | 0.003     | 0.005     | 0.006     | 0.004     |           | 0.005     |            | 0.007    |           | 0.004    |
| Zr-D             | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          | 0.0006    | 0.0009    | 0.0016    | 0.0012    | 0.0014    |           | 0.0005    |            | <0.0001  |           | 0.0003   |
| Alk-Bicrb        | mg/L     | 245       | 291       |           |          |           | 161        | 153        | 174        |            | 171        | 141       |           | 261       | 136       |          |           | 80        |           | 100       |           | 100       | 100       | 220        | 190      | 160       | 50       |
| Alk-Carb         | mg/L     | 201       | 238       |           |          | 209       | 132        | 126        | 142        | 140        | <6         | <6        | 116       | 214       | <6        |          |           | 70        |           | 83        |           | 80        | 91        | 184        | <6       | <6        | <6       |
| Alk-OH           | mg/L     | <5        | <5        |           |          |           | <5         | <5         | <5         |            | <5         | <5        |           | <5        | <5        |          |           | <5        |           | <5        |           | <5        | <5        | <5         | <5       | <5        | <5       |
| Alk-P            | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| Alk-T            | mg/L     | 201       | 238       |           |          |           | 132        | 126        | 142        |            | 140        | 116       |           | 214       | 111       |          |           | 70        |           | 83        |           | 80        | 91        | 184        | 158      | 131       | 39       |
| Bromine          | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| C-TIC            | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| C-TOC            | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| Chloride         | mg/L     | 1.3       | 1.9       |           |          | 1.6       | 1.62       | 0.96       | 1.63       | 0.95       | 0.95       | 0.84      | 0.84      | 1.87      | 1.71      |          |           | 1.18      |           | 1.24      |           | 1.39      | 1.63      | 2.01       | 0.96     | 4.84      | 1.05     |
| Colour           | TCU      | 10        | 8         |           |          |           | 5          | <5         | <5         |            | <5         | <5        |           | 7         | <5        |          |           | 120       |           | 340       |           | 22        | 70        | 16         | <5       | 6         | 150      |
| Cond-F           | µS/cm    |           |           |           |          |           |            |            | 837        | 839        |            |           | 865       | 1131      |           |          |           | 329       |           | 398       |           | 566       |           |            |          |           |          |
| Cond-L           | µS/cm    | 1430      | 1320      |           |          | 979       | 947        | 813        | 721        | 659        | 659        | 788       | 788       | 1490      | 398       |          |           | 320       |           | 389       |           | 544       | 401       | 796        | 1030     | 710       | 146      |
| Discharge        | L/s      |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| Fluoride         | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| Hard-D           | mg/L     | 622       |           |           |          |           |            |            |            |            |            |           |           |           |           |          | 82        | 116       | 126       |           |           |           |           |            | 535      |           | 68       |
| Hard-T           | mg/L     | 622       | 621       |           | 489      | 442       | 366        | 330        | 302        | 335        | 335        | 312       |           | 600       |           | 112      | 82        | 116       | 126       |           |           | 242       | 152       |            |          |           |          |
| IB               | %        |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| Ammonia          | mg/L     | 10.8      | 8.17      |           |          |           | 9.91       | 8.66       | 5.47       | 3.64       |            | 3.43      | 3.43      | 16.3      | 2.16      |          |           | 2.02      |           | 1.73      |           | 1.68      | 1.11      | 0.71       |          |           |          |
| Ammonium         | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            | 3.05     | 7.97      | 0.82     |
| N-NO2            | mg/L     | 6.38      | 8.78      |           |          | 3.87      | 0.97       | 0.48       | 0.34       | 0.14       | 0.14       | 0.18      | 0.18      | 3         | 0.5       |          |           | 0.73      |           | 0.4       | 0.35      | 0.19      | 0.06      |            |          |           |          |
| NO2+NO3          | mg/L     |           | 70.3      |           |          |           | 31.3       | 21.8       | 16.3       |            | 10.3       | 8.53      |           | 63.4      | 6.04      |          |           | 6.76      |           | 8.39      |           | 1.06      | 6.02      | 10.5       | 26.1     | 28.7      | 3.1      |
| N-NO3            | mg/L     | 100       | 66        |           |          | 41        | 35.1       | 20.4       | 19.3       | 9.8        | 9.8        | 9.95      | 9.95      | 68        | 5.77      |          |           | 5.75      |           | 7.28      | 7.88      | 10.6      | 6.68      |            |          |           |          |
| pH-F             | pH units |           |           |           |          | 308       |            |            | 7.44       | 8.17       |            |           | 8.25      | 7.6       |           |          |           | 7.9       |           | 7.85      |           | 8.1       |           |            |          |           |          |
| pH-L             | pH units | 7.67      | 7.52      |           |          | 7.8       | 7.96       | 8.03       | 8.02       | 8.08       | 8.08       | 8.21      | 8.21      | 7.82      | 8.18      |          |           | 7.88      |           | 7.93      |           | 8.03      | 7.92      | 8.12       | 8.02     | 7.8       | 7.28     |
| Radium - 226     |          |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| SO4-D            | mg/L     | 18        | 262       |           |          |           | 244        | 221        | 196        |            | 239        | 290       |           | 282       | 79.5      |          |           | 52.2      |           | 74.2      |           | 141       | 84.7      | 221        | 298      | 98.2      | 14.8     |
| SO4-T            | mg/L     | 18        | 262       |           |          | 167       | 244        | 221        | 196        | 239        |            |           | 290       | 282       |           |          |           | 52.2      |           | 74.2      |           | 141       | 84.7      | 221        |          |           |          |
| Sulphide         | mg/L     |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| TDS              | mg/L     | 1100      | 1050      |           |          | 718       | 636        | 556        | 530        | 572        | 572        | 602       | 602       | 1090      | 294       |          |           | 286       |           | 300       |           | 458       | 352       | 626        | 776      | 458       | 140      |
| Temp-F           | C        |           |           |           |          |           |            |            | 0.1        | 1          |            |           | 3.4       | 0.7       |           |          |           | 7.9       |           | 13.8      |           | 14.2      |           |            |          |           |          |
| Temp-obs-pH      | C        |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |
| TSS              | mg/L     | 66        | 34        |           |          |           | <2         | <2         | <2         | <2         | <2         | 6         | 6         | 2         | 19        |          |           | 14        |           | 19        |           | 15        | 44        | 27         | 16       | 40        | 251      |
| Turb             | NTU      | 1         | 4.6       |           |          | 300       | 2.8        | 0.6        | 0.2        | 0.8        | 0.8        | 3.7       | 3.7       | 2.5       | 14        |          |           | 82        |           | 49        |           | 23        | 26        | 15         | 12       | 56        | 240      |
| Turb-F           | NTU      |           |           |           |          |           |            |            |            |            |            |           |           |           |           |          |           |           |           |           |           |           |           |            |          |           |          |

Appendix Table A.9: Water quality data at station W12

| Sampling Session |      | 1219588  | 1217968  | A936556   | A937508   | 1253867   | 1274409   | 1284423   |
|------------------|------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |      | 5/3/2009 | 5/5/2009 | 7/13/2009 | 7/19/2009 | 9/21/2009 | 11/6/2009 | 12/2/2009 |
| Station Name     |      | W12      | W12      | W12       | W12       | W12       | W12       | W12       |
| Sample Class     |      | P        | P        | P         | P         | P         | P         | P         |
| Ag-T             | mg/L | 0.00006  | 0.00009  | <0.00002  | 0.00002   | <0.00001  | <0.00001  | 0.00251   |
| Al-T             | mg/L | 1.5      | 4.54     | 0.196     | 0.214     | 0.266     | 0.288     | 3.58      |
| As-T             | mg/L | 0.0015   | 0.0025   | 0.0009    | 0.0009    | 0.0006    | 0.0008    | 0.0017    |
| Ba-T             | mg/L | 0.057    | 0.128    | 0.136     | 0.138     | 0.142     | 0.124     | 0.188     |
| Be-T             | mg/L | <0.0001  | 0.00024  | <0.0001   | <0.0001   | <0.00004  | <0.00004  | 0.00012   |
| Bi-T             | mg/L | <0.0005  | <0.0001  | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| B-T              | mg/L | 0.015    | 0.016    | <0.05     | <0.05     | 0.03      | 0.15      | 0.469     |
| Ca-T             | mg/L | 66       | 27.2     | 36.5      | 34.1      | 52.1      | 127       | 364       |
| Cd-T             | mg/L | 0.00029  | 0.00135  | 0.00006   | 0.00008   | 0.00003   | 0.00018   | 0.00126   |
| CN-T             | mg/L |          |          |           |           |           |           |           |
| Co-T             | mg/L | 0.0008   | 0.00298  | <0.0005   | <0.0005   | 0.00029   | 0.00075   | 0.00371   |
| Cr-T             | mg/L | 0.0035   | 0.0065   | <0.001    | <0.001    | 0.0009    | <0.0004   | 0.0022    |
| Cu-T             | mg/L | 0.256    | 0.348    | 0.0467    | 0.0335    | 0.01      | 0.186     | 6.21      |
| Fe-T             | mg/L | 1.87     | 6.7      | 0.298     | 0.245     | 0.054     | 0.269     | 8.79      |
| Hg-T             | mg/L | <0.0001  | 0.00002  | <0.00002  | <0.00002  | <0.00001  | <0.00001  | 0.00003   |
| K-T              | mg/L | 5        | 3.3      | 3.2       | 2.97      | 3.6       | 5.1       | 14.2      |
| Li-T             | mg/L | 0.002    | 0.004    | <0.005    | <0.005    | 0.002     | 0.006     | 0.017     |
| Mg-T             | mg/L | 1.3      | 8        | 9.25      | 8.36      | 13.2      | 29.9      | 88        |
| Mn-T             | mg/L | 0.062    | 0.266    | 0.118     | 0.118     | 0.324     | 0.419     | 0.532     |
| Mo-T             | mg/L | 0.006    | 0.00568  | 0.016     | 0.016     | 0.017     | 0.0391    | 0.0514    |
| Na-T             | mg/L | 4.5      | 6.81     | 11.2      | 11        | 19.5      | 47.2      | 53        |
| Ni-T             | mg/L | 0.0006   | 0.008    | 0.001     | 0.001     | 0.001     | 0.003     | 0.005     |
| N-TKN            | mg/L | 1.67     |          |           |           | 1.29      | 12        | 43.8      |
| Pb-T             | mg/L | 0.001    | 0.0034   | 0.0008    | 0.0005    | 0.0007    | 0.0002    | 0.003     |
| P-PO4-T          | mg/L | 0.01     |          |           |           | 0.02      | 0.04      | 0.09      |
| P-T              | mg/L | 0.06     | 0.171    |           |           | <0.05     | <0.05     | 0.3       |
| P-TRP (Ortho)    | mg/L |          |          |           | <0.005    |           |           |           |
| Sb-T             | mg/L | 0.0003   | 0.0004   | 0.0009    | 0.001     | 0.0008    | 0.0003    | 0.001     |
| Se-T             | mg/L | 0.002    | 0.001    | 0.0022    | 0.002     | 0.0018    | 0.0062    | 0.0142    |
| Si-T             | mg/L | 6.18     | 9.45     | 3.24      | 2.89      | 3.1       | 3.42      | 13        |
| Sn-T             | mg/L | <0.001   | <0.0001  | <0.005    | <0.005    | <0.0001   | <0.0001   | <0.0001   |
| Sr-T             | mg/L | 0.468    | 0.441    | 0.636     | 0.616     | 0.837     | 5.08      | 8.45      |
| S-T              | mg/L | 5.7      | 7.6      | 15        | 15        | 21.5      | 43.7      | 197       |
| Te-T             | mg/L |          | <0.0001  |           |           | 0.0001    | <0.0001   | 0.0006    |
| Th-T             | mg/L |          | 0.0009   |           |           | <0.0004   | <0.0004   | 0.0008    |
| Ti-T             | mg/L | 0.0514   | 0.157    | 0.01      | 0.011     | 0.0019    |           |           |
| Tl-T             | mg/L | <0.00005 | 0.00005  | <0.00005  | <0.00005  | 0.00014   | <0.00001  | 0.00003   |
| U-T              | mg/L | <0.0005  | 0.001    | 0.0011    | 0.0009    | 0.0004    | 0.004     | 0.0121    |
| V-T              | mg/L | 0.0086   | 0.0135   | <0.005    | <0.005    | 0.0007    | 0.0017    | 0.0144    |
| Zn-T             | mg/L | 0.01     | 0.036    | 0.007     | 0.017     | 0.011     | 0.004     | 0.075     |
| Zr-T             | mg/L | 0.001    | 0.0016   | <0.0005   | <0.0005   | 0.0001    | 0.0003    | 0.0006    |
| Ag-D             | mg/L | <0.00001 | <0.00001 | <0.00002  | <0.00002  | <0.00001  |           |           |
| Al-D             | mg/L | <0.005   | 0.034    | 0.075     | 0.07      | 0.021     |           |           |
| As-D             | mg/L | 0.001    | 0.001    | 0.0009    | 0.0008    | 0.0003    |           |           |
| Ba-D             | mg/L | 0.036    | 0.05     | 0.121     | 0.127     | 0.143     |           |           |
| B-D              | mg/L | 0.014    | 0.019    | <0.05     | <0.05     | 0.032     |           |           |
| Be-D             | mg/L | <0.0001  | 0.00004  | <0.0001   | <0.0001   | <0.00004  |           |           |
| Bi-D             | mg/L | <0.0005  | <0.0001  | <0.001    | <0.001    | <0.001    |           |           |
| Ca-D             | mg/L | 62.6     | 24.9     | 34.2      | 35.6      | 50.1      |           |           |
| Cd-D             | mg/L | <0.00001 | 0.00004  | 0.00003   | 0.00003   | 0.00001   |           |           |
| C-DOC            | mg/L |          |          |           |           |           |           |           |
| Co-D             | mg/L | 0.0001   | 0.00026  | <0.0005   | <0.0005   | 0.00027   |           |           |
| Cr-D             | mg/L | <0.0005  | <0.0004  | <0.001    | <0.001    | <0.0004   |           |           |
| Cu-D             | mg/L | 0.117    | 0.081    | 0.0276    | 0.0191    | 0.001     |           |           |
| Fe-D             | mg/L | 0.02     | 0.15     | 0.101     | 0.07      | <0.01     |           |           |
| Hg-D             | mg/L | <0.0001  | <0.00001 | 0.00002   | <0.00002  | <0.00001  |           |           |
| K-D              | mg/L | 4.6      | 2.6      | 3.06      | 3.1       | 3.5       |           |           |
| Li-D             | mg/L | 0.001    | 0.002    | <0.005    | <0.005    | 0.002     |           |           |
| Mg-D             | mg/L | <0.2     | 5.82     | 8.3       | 8.59      | 12.7      |           |           |
| Mn-D             | mg/L | <0.005   | 0.0951   | 0.098     | 0.11      | 0.336     |           |           |
| Mo-D             | mg/L | 0.006    | 0.0074   | 0.016     | 0.017     | 0.017     |           |           |
| Na-D             | mg/L | 4.3      | 5.8      | 10.3      | 11.4      | 18.1      |           |           |
| Ni-D             | mg/L | <0.0005  | 0.001    | <0.001    | <0.001    | 0.002     |           |           |
| O-DO             | mg/L |          |          |           |           |           |           |           |
| Pb-D             | mg/L | <0.0001  | 0.0002   | 0.0003    | 0.0002    | <0.0001   |           |           |

Appendix Table A.9: Water quality data at station W12

| Sampling Session |          | 1219588  | 1217968  | A936556   | A937508   | 1253867   | 1274409   | 1284423   |
|------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 5/3/2009 | 5/5/2009 | 7/13/2009 | 7/19/2009 | 9/21/2009 | 11/6/2009 | 12/2/2009 |
| Station Name     |          | W12      | W12      | W12       | W12       | W12       | W12       | W12       |
| Sample Class     |          | P        | P        | P         | P         | P         | P         | P         |
| P-D              | mg/L     |          | <0.01    |           |           | <0.01     |           |           |
| P-TDP            | mg/L     |          |          |           |           |           |           |           |
| Sb-D             | mg/L     | 0.0002   | 0.0006   | 0.0013    | 0.0009    | 0.001     |           |           |
| S-D              | mg/L     | 5.3      | 7.2      | 15        | 16        | 21.1      |           |           |
| Se-D             | mg/L     | 0.0018   | 0.0014   | 0.0023    | 0.0023    | 0.0023    |           |           |
| Si-D             | mg/L     | 2.09     | 2        | 2.63      | 2.77      | 2.86      |           |           |
| Sn-D             | mg/L     | <0.001   | <0.0001  | <0.005    | <0.005    | <0.0001   |           |           |
| Sr-D             | mg/L     | 0.417    | 0.396    | 0.594     | 0.6       | 0.804     |           |           |
| Te-D             | mg/L     |          | <0.0001  |           |           | <0.0001   |           |           |
| Th-D             | mg/L     |          | <0.0001  |           |           | <0.0004   |           |           |
| Ti-D             | mg/L     | 0.001    | 0.0032   | 0.007     | 0.005     | <0.0004   |           |           |
| Tl-D             | mg/L     | <0.00005 | <0.00001 | <0.00005  | <0.00005  | <0.00001  |           |           |
| U-D              | mg/L     | <0.0005  | 0.0006   | 0.001     | 0.0009    | <0.0004   |           |           |
| V-D              | mg/L     | 0.0042   | 0.00139  | <0.005    | <0.005    | 0.0006    |           |           |
| Zn-D             | mg/L     | 0.001    | 0.004    | <0.005    | <0.005    | 0.004     |           |           |
| Zr-D             | mg/L     |          | 0.0005   | 0.0006    | <0.0005   | <0.0001   |           |           |
| Alk-Bicrb        | mg/L     | <5       | 50       |           | 81        | 100       | 240       | 420       |
| Alk-Carb         | mg/L     | 71       | <6       |           | <0.5      | <6        | <6        | <6        |
| Alk-OH           | mg/L     | 6        | <5       |           | <0.5      | <5        | <5        | <5        |
| Alk-P            | mg/L     |          |          |           | <0.5      |           |           |           |
| Alk-T            | mg/L     | 136      | 45       |           | 66        | 80        | 193       | 342       |
| Bromine          | mg/L     |          |          |           | <0.4      |           |           |           |
| C-TIC            | mg/L     |          |          |           |           |           |           |           |
| C-TOC            | mg/L     |          |          |           |           |           |           |           |
| Chloride         | mg/L     | 1.6      | 1.1      |           | 16        | 32.4      | 1.57      | 4.49      |
| Colour           | TCU      | 70       | 300      |           |           |           |           |           |
| Cond-F           | µS/cm    |          |          |           |           |           |           |           |
| Cond-L           | µS/cm    | 335      | 184      |           | 326       | 449       | 938       | 2490      |
| Discharge        | L/s      |          |          |           |           |           |           |           |
| Fluoride         | mg/L     |          |          |           | 0.3       |           |           |           |
| Hard-D           | mg/L     | 156      | 86       | 120       | 124       | 177       | 398       | 1180      |
| Hard-T           | mg/L     |          |          | 129       | 120       |           |           |           |
| IB               | %        |          |          |           |           |           |           |           |
| Ammonia          | mg/L     |          |          |           | 1.09      |           |           |           |
| Ammonium         | mg/L     | 0.74     | 1.1      |           |           | 0.22      | 6.19      | 36        |
| N-NO2            | mg/L     | 0.132    |          |           | 0.057     |           |           |           |
| NO2+NO3          | mg/L     | 3.03     |          |           | 6.4       | 8.34      | 49.2      | 148       |
| N-NO3            | mg/L     | 2.9      |          |           | 6.4       |           |           |           |
| pH-F             | pH units |          |          |           |           |           |           |           |
| pH-L             | pH units | 10.6     | 7.27     |           | 7.9       | 7.58      | 7.79      | 7.68      |
| Radium - 226     |          |          |          |           |           |           |           |           |
| SO4-D            | mg/L     |          | 20.8     |           | 43        | 63.3      | 121       | 452       |
| SO4-T            | mg/L     |          |          |           |           |           |           |           |
| Sulphide         | mg/L     |          |          |           |           |           |           |           |
| TDS              | mg/L     | 252      | 136      |           | 190       | 304       | 722       | 1860      |
| Temp-F           | C        |          |          |           |           |           |           |           |
| Temp-obs-pH      | C        |          |          |           |           |           |           |           |
| TSS              | mg/L     | 25       | 157      |           | <4        | <2        | 24        | 68        |
| Turb             | NTU      | 67.4     | 200      |           | 6.4       | 2.4       | 4.9       | 8.3       |
| Turb-F           | NTU      |          |          |           |           |           |           |           |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 951335<br>11/26/2006<br>W13<br>P | 957043<br>12/6/2006<br>W13<br>P | 952101<br>12/19/2006<br>W13<br>P | 981201<br>3/23/2007<br>W13<br>P | 986734<br>4/3/2007<br>W13<br>P | 989744<br>4/17/2007<br>W13<br>P | 1001239<br>5/5/2007<br>W13<br>P | 1001239<br>5/6/2007<br>W13<br>P | 1001239<br>5/7/2007<br>W13<br>P | 1001239<br>5/8/2007<br>W13<br>P | 1001239<br>5/9/2007<br>W13<br>P | 1001239<br>5/10/2007<br>W13<br>P | 1004203<br>5/13/2007<br>W13<br>P | 1004203<br>5/14/2007<br>W13<br>P | 1004203<br>5/15/2007<br>W13<br>P | 1004203<br>5/16/2007<br>W13<br>P | 1004203<br>5/17/2007<br>W13<br>P | 1004203<br>5/18/2007<br>W13<br>P | 1004203<br>5/19/2007<br>W13<br>P | 1004203<br>5/20/2007<br>W13<br>P | 1006208<br>5/22/2007<br>W13<br>P | 1006208<br>5/23/2007<br>W13<br>M | 1006208<br>5/24/2007<br>W13<br>P | 1006208<br>5/25/2007<br>W13<br>P | 1008503<br>5/26/2007<br>W13<br>P | 1008503<br>5/29/2007<br>W13<br>P |        |
|---------------------------------------------------------------|------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------|
| Ag-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0004                          | 0.0003                          | 0.0002                          | 0.0003                          | 0.0004                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Al-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 7.01                            | 3.67                            | 4.64                            | 2.83                            | 3.1                              |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| As-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0028                          | 0.002                           | 0.0022                          | 0.001                           | 0.001                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Ba-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.14                            | 0.098                           | 0.11                            | 0.089                           | 0.088                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Be-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0003                          | <0.0002                         | 0.0002                          | <0.0002                         | <0.0002                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Bi-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.001                          | <0.001                          | <0.001                          | <0.001                          | <0.001                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| B-T                                                           | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.038                           | 0.034                           | 0.024                           | 0.032                           | 0.03                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Ca-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 35.7                            | 32.9                            | 27.5                            | 33.5                            | 34.6                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Cd-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.00012                         | 0.00008                         | 0.00008                         | 0.00008                         | 0.00008                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| CN-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Co-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0038                          | 0.0022                          | 0.0025                          | 0.002                           | 0.002                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Cr-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0089                          | 0.0052                          | 0.0066                          | 0.0046                          | 0.0043                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Cu-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.293                           | 0.18                            | 0.16                            | 0.12                            | 0.17                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Fe-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 9                               | 4.6                             | 5.7                             | 3.5                             | 4                                |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Hg-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0001                          | 0.0001                          | <0.0001                         | 0.0001                          | 0.0001                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| K-T                                                           | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 3.1                             | 2.3                             | 2.5                             | 2.1                             | 2.2                              |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Li-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.004                           | 0.002                           | 0.003                           | 0.002                           | 0.002                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Mg-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 9.6                             | 8                               | 7.5                             | 8.1                             | 8.4                              |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Mn-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.301                           | 0.17                            | 0.2                             | 0.14                            | 0.16                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Mo-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.004                           | 0.003                           | 0.003                           | 0.003                           | 0.004                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Na-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 4.9                             | 4.2                             | 3.9                             | 4.3                             | 4.4                              |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Ni-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0075                          | 0.0045                          | 0.0062                          | 0.0043                          | 0.0038                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| N-TKN                                                         | mg/L | 1                                |                                 |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Pb-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0028                          | 0.001                           | 0.002                           | 0.001                           | 0.001                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| P-PO4-T                                                       | mg/L | 0.07                             | 0.014                           |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.01                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| P-T                                                           | mg/L | <0.05                            | 0.03                            |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.04                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Sb-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.0004                         | <0.0004                         | <0.0004                         | <0.0004                         | <0.0004                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Se-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.0004                         | <0.0004                         | <0.0004                         | <0.0004                         | <0.0004                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Si-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 18.1                            | 12.8                            | 15.5                            | 10.7                            | 12.1                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Sn-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.002                          | <0.002                          | <0.002                          | <0.002                          | <0.002                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Sr-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.272                           | 0.25                            | 0.2                             | 0.259                           | 0.259                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| S-T                                                           | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 6.5                             | 5.9                             | 4.6                             | 6.3                             | 6.2                              |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Te-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Th-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Ti-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.332                           | 0.192                           | 0.216                           | 0.137                           | 0.154                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Tl-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| U-T                                                           | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | <0.001                          | <0.001                          | <0.001                          | <0.001                          | <0.001                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| V-T                                                           | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.0221                          | 0.011                           | 0.014                           | 0.0088                          | 0.01                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Zn-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.073                           | 0.066                           | 0.063                           | 0.069                           | 0.074                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Zr-T                                                          | mg/L |                                  |                                 |                                  |                                 |                                |                                 |                                 | 0.005                           | 0.003                           | 0.004                           | 0.002                           | 0.003                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |
| Ag-D                                                          | mg/L | <0.0001                          | <0.0001                         | <0.0001                          | 0.0027                          | <0.0001                        | 0.0002                          | 0.0001                          |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.0002                           |                                  |                                  | 0.0001                           | 0.0023                           | <0.0001                          | 0.0002                           | <0.0001                          | 0.0002 |
| Al-D                                                          | mg/L | 0.009                            | 0.012                           | 0.008                            | 0.008                           | <0.005                         | 0.024                           | 0.079                           |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |        |

Appendix Table A.10: Water quality at station W13

| Sampling Session |          | 951335     | 957043    | 952101     | 981201    | 986734   | 989744    | 1001239  | 1001239  | 1001239  | 1001239  | 1001239  | 1001239   | 1001239   | 1004203   | 1004203   | 1004203   | 1004203   | 1004203   | 1004203   | 1004203   | 1006208   | 1006208   | 1006208   | 1006208   | 1008503   | 1008503   |
|------------------|----------|------------|-----------|------------|-----------|----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 11/26/2006 | 12/6/2006 | 12/19/2006 | 3/23/2007 | 4/3/2007 | 4/17/2007 | 5/5/2007 | 5/6/2007 | 5/7/2007 | 5/8/2007 | 5/9/2007 | 5/10/2007 | 5/13/2007 | 5/14/2007 | 5/15/2007 | 5/16/2007 | 5/17/2007 | 5/18/2007 | 5/19/2007 | 5/20/2007 | 5/22/2007 | 5/23/2007 | 5/24/2007 | 5/25/2007 | 5/26/2007 | 5/29/2007 |
| Station Name     |          | W13        | W13       | W13        | W13       | W13      | W13       | W13      | W13      | W13      | W13      | W13      | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       |           |
| Sample Class     |          | P          | P         | P          | P         | P        | P         | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | M         | P         | P         | P         |           |
| P-TDP            | mg/L     |            | <0.02     |            |           |          | <0.02     |          |          |          |          |          |           |           |           |           |           |           |           | <0.02     |           |           |           |           |           |           |           |
| Sb-D             | mg/L     | <0.0002    | <0.0002   | <0.0002    | <0.0002   | <0.0002  | 0.0004    | 0.0013   |          |          |          |          |           |           |           |           |           |           |           | <0.0002   |           | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   |
| S-D              | mg/L     | 13.8       | 13.4      | 14.5       | 26.8      | 16.1     | 13.9      | 6.9      |          |          |          |          |           |           |           |           |           |           |           | 13.4      |           | 9.5       | 9         | 8.4       | 7.6       | 8.3       | 50.8      |
| Se-D             | mg/L     | <0.0002    | <0.0002   | <0.0002    | 0.0008    | 0.0005   | 0.0004    | <0.0002  |          |          |          |          |           |           |           |           |           |           |           | 0.0014    |           | 0.0009    | 0.0008    | 0.0006    | 0.0003    | 0.0008    | 0.0039    |
| Si-D             | mg/L     | 7.43       | 7.55      | 8.07       | 8.96      | 7.42     | 4.57      | 4.14     |          |          |          |          |           |           |           |           |           |           |           | 5.6       |           | 4.91      | 5.08      | 5.12      | 4.78      | 5.1       | 6.85      |
| Sn-D             | mg/L     | <0.001     | <0.001    | <0.001     | <0.001    | <0.001   | <0.001    | <0.001   |          |          |          |          |           |           |           |           |           |           |           | <0.001    |           | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |
| Sr-D             | mg/L     | 0.273      | 0.276     | 0.297      | 0.861     | 0.715    | 0.372     | 0.244    |          |          |          |          |           |           |           |           |           |           |           | 0.858     |           | 0.504     | 0.492     | 0.416     | 0.382     | 0.383     | 3.2       |
| Te-D             | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Th-D             | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ti-D             | mg/L     | 0.0019     | 0.002     | 0.002      | 0.0026    | 0.0016   | 0.0018    | 0.0067   |          |          |          |          |           |           |           |           |           |           |           | 0.0024    |           | 0.0057    | 0.0029    | 0.0017    | 0.0016    | 0.0019    | 0.0046    |
| Tl-D             | mg/L     | <0.00005   | <0.00005  | <0.00005   | <0.00005  | <0.00005 | <0.00005  | <0.00005 |          |          |          |          |           |           |           |           |           |           |           | <0.00005  |           | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  |
| U-D              | mg/L     | <0.0005    | <0.0005   | <0.0005    | 0.0007    | 0.0021   | 0.0005    | <0.0005  |          |          |          |          |           |           |           |           |           |           |           | 0.0011    |           | 0.0008    | 0.0009    | 0.0007    | 0.0008    | 0.0009    | 0.0047    |
| V-D              | mg/L     | 0.0018     | 0.0018    | 0.0019     | 0.0017    | 0.0074   | 0.0022    | 0.0014   |          |          |          |          |           |           |           |           |           |           |           | 0.0024    |           | 0.0017    | 0.0012    | 0.003     | 0.001     | 0.0017    | 0.0019    |
| Zn-D             | mg/L     | 0.024      | 0.011     | 0.011      | 0.011     | 0.001    | 0.043     | 0.065    |          |          |          |          |           |           |           |           |           |           |           | 0.222     |           | 0.335     | 0.409     | 0.54      | 0.388     | 0.575     | 0.017     |
| Zr-D             | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-Bicrb        | mg/L     | 154        | 158       | 159        | 206       |          | 97        |          |          |          |          |          |           |           |           |           |           |           |           | 131       |           |           |           |           |           |           |           |
| Alk-Carb         | mg/L     | <6         | <6        | <6         | <6        |          | <6        |          |          |          |          |          |           |           |           |           |           |           |           | <6        |           |           |           |           |           |           |           |
| Alk-OH           | mg/L     | <5         | <5        | <5         | <5        |          | <5        |          |          |          |          |          |           |           |           |           |           |           |           | <5        |           |           |           |           |           |           |           |
| Alk-P            | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Alk-T            | mg/L     | 126        | 130       | 130        | 169       |          | 79        |          |          |          |          |          |           |           |           |           |           |           |           | 107       |           |           |           |           |           |           |           |
| Bromine          | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| C-TIC            | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| C-TOC            | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Chloride         | mg/L     |            | 1.79      |            | 1.2       |          | 1.2       |          |          |          |          |          |           |           |           |           |           |           |           | 0.9       |           |           |           |           |           |           |           |
| Colour           | TCU      |            | 35        |            | 52        |          | 30        |          |          |          |          |          |           |           |           |           |           |           |           | 170       |           |           |           |           |           |           |           |
| Cond-F           | µS/cm    |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Cond-L           | µS/cm    | 326        | 337       | 338        | 787       |          | 324       |          |          |          |          |          |           |           |           |           |           |           |           | 529       |           |           |           |           |           |           |           |
| Discharge        | L/s      |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Fluoride         | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Hard-D           | mg/L     | 157        | 157       | 165        | 358       |          | 156       | 120      |          |          |          |          |           |           |           |           |           |           |           | 238       |           | 166       | 168       | 157       | 145       | 158       | 623       |
| Hard-T           | mg/L     |            |           |            |           |          |           |          | 130      | 110      | 100      | 120      | 120       |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| IB               | %        |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ammonia          | mg/L     | 0.15       |           | 0.02       | 3.7       |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Ammonium         | mg/L     |            |           |            |           |          | 1.7       |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| N-NO2            | mg/L     | <0.005     | <0.03     | <0.1       | 4.73      |          | 1.55      |          |          |          |          |          |           |           |           |           |           |           |           | 2.26      |           |           |           |           |           |           |           |
| NO2+NO3          | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| N-NO3            | mg/L     | 0.06       | <0.03     | <0.1       | 32        |          | 11        |          |          |          |          |          |           |           |           |           |           |           |           | 25        |           |           |           |           |           |           |           |
| pH-F             | pH units |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| pH-L             | pH units | 7.5        | 8.06      | 7.52       | 7.85      |          | 7.92      |          |          |          |          |          |           |           |           |           |           |           |           | 7.73      |           |           |           |           |           |           |           |
| Radium - 226     |          |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SO4-D            | mg/L     | 41         | 40        | 40         | 72        |          | 40        |          |          |          |          |          |           |           |           |           |           |           |           | 39        |           |           |           |           |           |           |           |
| SO4-T            | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Sulphide         | mg/L     |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TDS              | mg/L     | 238        | 208       | 254        | 554       |          | 256       |          |          |          |          |          |           |           |           |           |           |           |           | 422       |           |           |           |           |           |           |           |
| Temp-F           | C        |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| Temp-obs-pH      | C        |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| TSS              | mg/L     |            | 4         |            | <2        |          | 15        |          |          |          |          |          |           |           |           |           |           |           |           | 16        |           |           |           |           |           |           |           |
| Turb             | NTU      | 3.8        | 2.5       |            | 3.2       |          | 10        |          |          |          |          |          |           |           |           |           |           |           |           | 5.4       |           |           |           |           |           |           |           |
| Turb-F           | NTU      |            |           |            |           |          |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1008503<br>5/30/2007<br>W13<br>P | 1008503<br>5/31/2007<br>W13<br>P | 1009476<br>6/5/2007<br>W13<br>P | 1015480<br>6/12/2007<br>W13<br>P | 1012944<br>6/13/2007<br>W13<br>P | 1015480<br>6/19/2007<br>W13<br>P | 1015480<br>6/20/2007<br>W13<br>P | 1019002<br>6/21/2007<br>W13<br>P | 1019002<br>6/22/2007<br>W13<br>P | 1019002<br>6/23/2007<br>W13<br>P | 1019002<br>6/24/2007<br>W13<br>P | 1019002<br>6/25/2007<br>W13<br>P | 1019002<br>6/26/2007<br>W13<br>P | 1019002<br>6/27/2007<br>W13<br>P | 1019002<br>6/28/2007<br>W13<br>P | 1023074<br>7/6/2007<br>W13<br>P | 1023074<br>7/7/2007<br>W13<br>P | 1023074<br>7/8/2007<br>W13<br>P | 1023074<br>7/9/2007<br>W13<br>P | 1023074<br>7/11/2007<br>W13<br>P | 1028730<br>7/12/2007<br>W13<br>P | 1203450<br>7/13/2007<br>W13<br>P | 1203450<br>7/14/2007<br>W13<br>P | 1203450<br>7/15/2007<br>W13<br>P | 1203450<br>7/16/2007<br>W13<br>P | 1203450<br>7/17/2007<br>W13<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Ag-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Al-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| As-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Ba-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Be-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Bi-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| B-T                                                           | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Ca-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Cd-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| CN-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Co-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Cr-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Cu-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Fe-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Hg-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| K-T                                                           | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Li-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Mg-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Mn-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Mo-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Na-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Ni-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| N-TKN                                                         | mg/L | 5.76                             |                                  |                                 |                                  | 2.11                             |                                  | 5.82                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Pb-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| P-PO4-T                                                       | mg/L | 0.24                             |                                  |                                 |                                  | 0.06                             |                                  | 0.04                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| P-T                                                           | mg/L | 0.3                              |                                  |                                 |                                  | 0.06                             |                                  | 0.06                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Sb-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Se-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Si-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Sn-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Sr-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| S-T                                                           | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Te-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Th-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Ti-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Tl-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| U-T                                                           | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| V-T                                                           | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Zn-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Zr-T                                                          | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Ag-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                         |                                  | 0.0001                           |                                  | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          |                                 |                                 |                                 |                                 | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |
| Al-D                                                          | mg/L | 0.048                            | 0.005                            | 0.008                           |                                  | 0.026                            |                                  | 0.02                             | 0.018                            | 0.014                            | 0.064                            | 0.083                            | 0.025                            | 0.077                            | 0.016                            | 0.012                            |                                 |                                 |                                 |                                 | 0.163                            |                                  |                                  |                                  |                                  |                                  |                                  |
| As-D                                                          | mg/L | 0.001                            | 0.0013                           | 0.0013                          |                                  | 0.001                            |                                  | 0.0017                           | 0.0016                           | 0.0019                           | 0.0021                           | 0.0016                           | 0.0016                           | 0.0016                           | 0.0016                           | 0.0014                           |                                 |                                 |                                 |                                 | 0.0018                           |                                  |                                  |                                  |                                  |                                  |                                  |
| Ba-D                                                          | mg/L | 0.061                            | 0.09                             | 0.093                           |                                  | 0.085                            |                                  | 0.083                            | 0.086                            | 0.087                            | 0.081                            | 0.084                            | 0.091                            | 0.076                            | 0.1                              | 0.099                            |                                 |                                 |                                 |                                 | 0.066                            |                                  |                                  |                                  |                                  |                                  |                                  |
| B-D                                                           | mg/L | 0.076                            | 0.158                            | 0.185                           |                                  | 0.029                            |                                  | 0.167                            | 0.147                            | 0.177                            | 0.159                            | 0.154                            | 0.151                            | 0.148                            | 0.155                            | 0.149                            |                                 |                                 |                                 |                                 | 0.104                            |                                  |                                  |                                  |                                  |                                  |                                  |
| Be-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                         |                                  | <0.0001                          |                                  | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          |                                 |                                 |                                 |                                 | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |
| Bi-D                                                          | mg/L | <0.0005                          | <0.0005                          | <0.0005                         |                                  | <0.0005                          |                                  | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          |                                 |                                 |                                 |                                 | <0.0005                          |                                  |                                  |                                  |                                  |                                  |                                  |
| Ca-D                                                          | mg/L | 58.3                             | 92                               | 99.3                            |                                  | 49.8                             |                                  | 88.4                             | 89.2                             | 97.9                             | 50.8                             | 54.3                             | 87.2                             | 44.9                             | 95.2                             | 93.5                             |                                 |                                 |                                 |                                 | 30.3                             |                                  |                                  |                                  |                                  |                                  |                                  |
| Cd-D                                                          | mg/L | 0.00004                          | <0.00001                         | 0.00007                         |                                  | 0.00003                          |                                  | 0.00013                          | 0.00013                          | 0.0002                           | 0.00005                          | 0.00005                          | 0.0001                           | 0.00018                          | 0.00009                          | 0.00011                          |                                 |                                 |                                 |                                 | 0.00003                          |                                  |                                  |                                  |                                  |                                  |                                  |
| C-DOC                                                         | mg/L |                                  |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |
| Co-D                                                          | mg/L | 0.0006                           | 0.001                            | 0.0013                          |                                  | 0.0006                           |                                  | 0.001                            | 0.0053                           | 0.001                            | 0.0002                           | 0.0002                           | 0.0011                           | 0.0006                           | 0.0009                           | 0.0008                           |                                 |                                 |                                 |                                 | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |
| Cr-D                                                          | mg/L | 0.0008                           | 0.0018                           | 0.001                           |                                  | 0.0008                           |                                  | 0.0008                           | 0.0012                           | 0.0014                           | 0.0017                           | 0.001                            | 0.0014                           | 0.0009                           | 0.0013                           | 0.0011                           |                                 |                                 |                                 |                                 | 0.0007                           |                                  |                                  |                                  |                                  |                                  |                                  |
| Cu-D                                                          | mg/L | 0.102                            | 0.083                            | 0.103                           | 0.014                            | 0.025                            | 0.01                             | 0.079                            | 0.075                            | 0.081                            | 0.018                            | 0.017                            | 0.074                            | 0.007                            | 0.067                            | 0.065                            | 0.036                           | 0.068                           | 0.055                           | 0.049                           | 0.015                            | 0.065                            | 0.066                            | 0.069                            | 0.067                            | 0.068                            | 0.015                            |
| Fe-D                                                          | mg/L | 0.08                             | 0.07                             | 0.06                            |                                  | 0.                               |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |

Appendix Table A.10: Water quality at station W13

| Sampling Session |          | 1008503   | 1008503   | 1009476  | 1015480   | 1012944   | 1015480   | 1015480   | 1019002   | 1019002   | 1019002   | 1019002   | 1019002   | 1019002   | 1019002   | 1019002   | 1023074  | 1023074  | 1023074  | 1023074  | 1023074   | 1028730   | 1203450   | 1203450   | 1203450   | 1203450   | 1203450   |
|------------------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 5/30/2007 | 5/31/2007 | 6/5/2007 | 6/12/2007 | 6/13/2007 | 6/19/2007 | 6/20/2007 | 6/21/2007 | 6/22/2007 | 6/23/2007 | 6/24/2007 | 6/25/2007 | 6/26/2007 | 6/27/2007 | 6/28/2007 | 7/6/2007 | 7/7/2007 | 7/8/2007 | 7/9/2007 | 7/11/2007 | 7/12/2007 | 7/13/2007 | 7/14/2007 | 7/15/2007 | 7/16/2007 | 7/17/2007 |
| Station Name     |          | W13       | W13       | W13      | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13      | W13      | W13      | W13      | W13       | W13       | W13       | W13       | W13       | W13       | W13       |
| Sample Class     |          | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P        | P        | P         | P         | P         | P         | P         | P         | P         |
| P-TDP            | mg/L     |           |           |          |           | <0.02     |           | <0.02     |           |           |           |           |           |           |           |           |          |          |          |          | <0.02     |           |           |           |           |           |           |
| Sb-D             | mg/L     | 0.0003    | <0.0002   | <0.0002  |           | <0.0002   |           | <0.0002   | <0.0002   | <0.0002   | 0.0002    | 0.0002    | <0.0002   | 0.0002    | <0.0002   | <0.0002   |          |          |          |          | 0.0002    |           |           |           |           |           |           |
| S-D              | mg/L     | 13.3      | 21.3      | 23.4     |           | 14.3      |           | 28.5      | 29.1      | 34.2      | 33.2      | 30        | 30.5      | 29.5      | 34        | 33.7      |          |          |          |          | 18.5      |           |           |           |           |           |           |
| Se-D             | mg/L     | 0.0015    | 0.0027    | 0.0026   |           | 0.0002    |           | 0.0024    | 0.0025    | 0.0033    | 0.0115    | 0.0089    | 0.0027    | 0.0188    | 0.0032    | 0.003     |          |          |          |          | 0.0206    |           |           |           |           |           |           |
| Si-D             | mg/L     | 4.68      | 5.7       | 5.71     |           | 5.62      |           | 5.58      | 5.65      | 5.59      | 3.37      | 3.39      | 4.81      | 3.41      | 5.22      | 5.26      |          |          |          |          | 3.86      |           |           |           |           |           |           |
| Sn-D             | mg/L     | <0.001    | <0.001    | <0.001   |           | <0.001    |           | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |          |          |          |          | <0.001    |           |           |           |           |           |           |
| Sr-D             | mg/L     | 0.67      | 1.27      | 1.39     |           | 0.34      |           | 1.4       | 1.36      | 1.67      | 0.826     | 0.913     | 1.42      | 0.594     | 1.54      | 1.46      |          |          |          |          | 0.375     |           |           |           |           |           |           |
| Te-D             | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Th-D             | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Ti-D             | mg/L     | 0.002     | 0.0025    | 0.0031   |           | 0.0028    |           | 0.003     | 0.0028    | 0.0031    | 0.0028    | 0.0025    | 0.0036    | 0.0025    | 0.0033    | 0.0032    |          |          |          |          | 0.002     |           |           |           |           |           |           |
| Tl-D             | mg/L     | <0.00005  | <0.00005  | <0.00005 |           | <0.00005  |           | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  |          |          |          |          | <0.00005  |           |           |           |           |           |           |
| U-D              | mg/L     | 0.0018    | 0.0019    | 0.0024   |           | 0.0008    |           | 0.0044    | 0.0043    | 0.0053    | 0.0013    | 0.0017    | 0.0046    | 0.0009    | 0.0048    | 0.0051    |          |          |          |          | 0.0009    |           |           |           |           |           |           |
| V-D              | mg/L     | 0.0016    | 0.0047    | 0.0018   |           | 0.0017    |           | 0.0026    | 0.0032    | 0.0031    | 0.0042    | 0.0027    | 0.0033    | 0.0017    | 0.0034    | 0.0031    |          |          |          |          | 0.0025    |           |           |           |           |           |           |
| Zn-D             | mg/L     | 0.107     | 0.126     | 0.215    |           | 0.1       |           | 0.075     | 0.071     | 0.071     | 0.109     | 0.048     | 0.037     | 0.087     | 0.06      | 0.06      |          |          |          |          | 0.058     |           |           |           |           |           |           |
| Zr-D             | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Alk-Bicrb        | mg/L     | 136       |           |          |           | 164       |           | 197       |           |           |           |           |           |           |           |           |          |          |          |          | 126       |           |           |           |           |           |           |
| Alk-Carb         | mg/L     | <6        |           |          |           | <6        |           | <6        |           |           |           |           |           |           |           |           |          |          |          |          | <6        |           |           |           |           |           |           |
| Alk-OH           | mg/L     | <5        |           |          |           | <5        |           | <5        |           |           |           |           |           |           |           |           |          |          |          |          | <5        |           |           |           |           |           |           |
| Alk-P            | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Alk-T            | mg/L     | 112       |           |          |           | 135       |           | 161       |           |           |           |           |           |           |           |           |          |          |          |          | 103       |           |           |           |           |           |           |
| Bromine          | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| C-TIC            | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| C-TOC            | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Chloride         | mg/L     | 1.9       |           |          |           | 1         |           | 1.1       |           |           |           |           |           |           |           |           |          |          |          |          | 9.3       |           |           |           |           |           |           |
| Colour           | TCU      | 130       |           |          |           | 100       |           | 60        |           |           |           |           |           |           |           |           |          |          |          |          | <5        |           |           |           |           |           |           |
| Cond-F           | µS/cm    |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Cond-L           | µS/cm    | 470       |           |          |           | 440       |           | 636       |           |           |           |           |           |           |           |           |          |          |          |          | 549       |           |           |           |           |           |           |
| Discharge        | L/s      |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Fluoride         | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Hard-D           | mg/L     | 197       | 316       | 341      |           | 175       |           | 301       |           |           |           |           |           |           |           |           |          |          |          |          | 99        |           |           |           |           |           |           |
| Hard-T           | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| IB               | %        |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Ammonia          | mg/L     | 2.04      |           |          |           | 0.56      |           | 2.36      |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Ammonium         | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| N-NO2            | mg/L     | 1.51      |           |          |           | 1.47      |           | 2.77      |           |           |           |           |           |           |           |           |          |          |          |          | 0.68      |           |           |           |           |           |           |
| NO2+NO3          | mg/L     | 18.4      |           |          |           | 7.95      |           | 24.1      |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| N-NO3            | mg/L     | 18        |           |          |           | 15        |           | 23        |           |           |           |           |           |           |           |           |          |          |          |          | 21        |           |           |           |           |           |           |
| pH-F             | pH units |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| pH-L             | pH units | 8         |           |          |           | 7.88      |           | 7.89      |           |           |           |           |           |           |           |           |          |          |          |          | 7.51      |           |           |           |           |           |           |
| Radium - 226     |          |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| SO4-D            | mg/L     | 36        |           |          |           | 52        |           | 83        |           |           |           |           |           |           |           |           |          |          |          |          | 55        |           |           |           |           |           |           |
| SO4-T            | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Sulphide         | mg/L     |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| TDS              | mg/L     | 342       |           |          |           | 340       |           | 498       |           |           |           |           |           |           |           |           |          |          |          |          | 368       |           |           |           |           |           |           |
| Temp-F           | C        |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| Temp-obs-pH      | C        |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |
| TSS              | mg/L     | 255       |           |          |           | 46        |           | 41        |           |           |           |           |           |           |           |           |          |          |          |          | 39        |           |           |           |           |           |           |
| Turb             | NTU      | 51        |           |          |           | 5.8       |           | 7.6       |           |           |           |           |           |           |           |           |          |          |          |          | 59        |           |           |           |           |           |           |
| Turb-F           | NTU      |           |           |          |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |           |           |           |           |           |           |           |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1203450<br>7/18/2007<br>W13<br>P | 1028730<br>7/19/2007<br>W13<br>P | 1028730<br>7/20/2007<br>W13<br>M | 1028730<br>7/20/2007<br>W13<br>P | 1028730<br>7/21/2007<br>W13<br>P | 1028730<br>7/22/2007<br>W13<br>P | 1028730<br>7/23/2007<br>W13<br>P | 1028730<br>7/24/2007<br>W13<br>P | 1028730<br>7/25/2007<br>W13<br>P | 1029284<br>7/26/2007<br>W13<br>M | 1029284<br>7/26/2007<br>W13<br>P | 1029284<br>7/27/2007<br>W13<br>P | 1031323<br>7/28/2007<br>W13<br>P | 1031323<br>7/30/2007<br>W13<br>P | 1031323<br>7/31/2007<br>W13<br>P | 1031323<br>8/1/2007<br>W13<br>P | 1034628<br>8/3/2007<br>W13<br>P | 1034628<br>8/4/2007<br>W13<br>P | 1034628<br>8/7/2007<br>W13<br>P | 1034628<br>8/8/2007<br>W13<br>P | 1034628<br>8/9/2007<br>W13<br>P | 1036694<br>8/10/2007<br>W13<br>P | 1036694<br>8/11/2007<br>W13<br>P | 1036694<br>8/12/2007<br>W13<br>P | 1036694<br>8/13/2007<br>W13<br>P | 1036694<br>8/14/2007<br>W13<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Ag-T                                                          | mg/L |                                  |                                  |                                  | 0.0004                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.001                            |                                  |                                  |                                  |                                  | 0.0003                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Al-T                                                          | mg/L |                                  |                                  |                                  | 9.75                             |                                  |                                  |                                  |                                  |                                  |                                  | 111                              |                                  |                                  |                                  |                                  | 2.89                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| As-T                                                          | mg/L |                                  |                                  |                                  | 0.0022                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.005                            |                                  |                                  |                                  |                                  | 0.0017                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Ba-T                                                          | mg/L |                                  |                                  |                                  | 0.244                            |                                  |                                  |                                  |                                  |                                  |                                  | 2.1                              |                                  |                                  |                                  |                                  | 0.153                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Be-T                                                          | mg/L |                                  |                                  |                                  | 0.0187                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.002                            |                                  |                                  |                                  |                                  | <0.0001                         |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Bi-T                                                          | mg/L |                                  |                                  |                                  | <0.0005                          |                                  |                                  |                                  |                                  |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                  | <0.0005                         |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| B-T                                                           | mg/L |                                  |                                  |                                  | 0.122                            |                                  |                                  |                                  |                                  |                                  |                                  | 0.096                            |                                  |                                  |                                  |                                  | 0.155                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Ca-T                                                          | mg/L |                                  |                                  |                                  | 36.1                             |                                  |                                  |                                  |                                  |                                  |                                  | 61                               |                                  |                                  |                                  |                                  | 88.3                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Cd-T                                                          | mg/L |                                  |                                  |                                  | 0.00022                          |                                  |                                  |                                  |                                  |                                  |                                  | 0.00115                          |                                  |                                  |                                  |                                  | 0.00023                         |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Co-T                                                          | mg/L |                                  |                                  |                                  | 0.0018                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.025                            |                                  |                                  |                                  |                                  | 0.0021                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Cr-T                                                          | mg/L |                                  |                                  |                                  | 0.0029                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.0264                           |                                  |                                  |                                  |                                  | 0.0021                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Cu-T                                                          | mg/L |                                  |                                  |                                  | 1.18                             |                                  |                                  |                                  |                                  |                                  |                                  | 5                                |                                  |                                  |                                  |                                  | 0.58                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Fe-T                                                          | mg/L |                                  |                                  |                                  | 7.5                              |                                  |                                  |                                  |                                  |                                  |                                  | 94                               |                                  |                                  |                                  |                                  | 3.6                             |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Hg-T                                                          | mg/L |                                  |                                  |                                  | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  | 0.0001                           |                                  |                                  |                                  |                                  | <0.0001                         |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| K-T                                                           | mg/L |                                  |                                  |                                  | 41                               |                                  |                                  |                                  |                                  |                                  |                                  | 81.9                             |                                  |                                  |                                  |                                  | 6.7                             |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Li-T                                                          | mg/L |                                  |                                  |                                  | 0.023                            |                                  |                                  |                                  |                                  |                                  |                                  | 0.039                            |                                  |                                  |                                  |                                  | 0.007                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Mg-T                                                          | mg/L |                                  |                                  |                                  | 8.3                              |                                  |                                  |                                  |                                  |                                  |                                  | 31.6                             |                                  |                                  |                                  |                                  | 21.6                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Mn-T                                                          | mg/L |                                  |                                  |                                  | 0.187                            |                                  |                                  |                                  |                                  |                                  |                                  | 2.37                             |                                  |                                  |                                  |                                  | 0.496                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Mo-T                                                          | mg/L |                                  |                                  |                                  | 0.079                            |                                  |                                  |                                  |                                  |                                  |                                  | 0.045                            |                                  |                                  |                                  |                                  | 0.011                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Na-T                                                          | mg/L |                                  |                                  |                                  | 55.3                             |                                  |                                  |                                  |                                  |                                  |                                  | 78.4                             |                                  |                                  |                                  |                                  | 17.7                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Ni-T                                                          | mg/L |                                  |                                  |                                  | 0.0014                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.013                            |                                  |                                  |                                  |                                  | 0.0031                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| N-TKN                                                         | mg/L | 1.55                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 2.43                             |                                  |                                  |                                  |                                  | 14.6                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Pb-T                                                          | mg/L |                                  |                                  |                                  | 0.0026                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.024                            |                                  |                                  |                                  |                                  | 0.0011                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| P-PO4-T                                                       | mg/L | 0.06                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.05                             |                                  |                                  |                                  |                                  | 0.13                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| P-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 1.43                             |                                  |                                  |                                  |                                  | 0.15                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| P-TRP (Ortho)                                                 | mg/L | 0.05                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Sb-T                                                          | mg/L |                                  |                                  |                                  | 0.0002                           |                                  |                                  |                                  |                                  |                                  |                                  | <0.0004                          |                                  |                                  |                                  |                                  | <0.0002                         |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Se-T                                                          | mg/L |                                  |                                  |                                  | 0.0275                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.0075                           |                                  |                                  |                                  |                                  | 0.0041                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Si-T                                                          | mg/L |                                  |                                  |                                  | 13.6                             |                                  |                                  |                                  |                                  |                                  |                                  | 66.9                             |                                  |                                  |                                  |                                  | 9.54                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Sn-T                                                          | mg/L |                                  |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.002                            |                                  |                                  |                                  |                                  | <0.001                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Sr-T                                                          | mg/L |                                  |                                  |                                  | 0.6                              |                                  |                                  |                                  |                                  |                                  |                                  | 1.58                             |                                  |                                  |                                  |                                  | 1.56                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| S-T                                                           | mg/L |                                  |                                  |                                  | 24.2                             |                                  |                                  |                                  |                                  |                                  |                                  | 18                               |                                  |                                  |                                  |                                  | 24.8                            |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Ti-T                                                          | mg/L |                                  |                                  |                                  | 0.329                            |                                  |                                  |                                  |                                  |                                  |                                  | 4.62                             |                                  |                                  |                                  |                                  | 0.196                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Tl-T                                                          | mg/L |                                  |                                  |                                  | 0.00009                          |                                  |                                  |                                  |                                  |                                  |                                  | 0.0013                           |                                  |                                  |                                  |                                  | <0.00005                        |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| U-T                                                           | mg/L |                                  |                                  |                                  | 0.0008                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.0037                           |                                  |                                  |                                  |                                  | 0.0038                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| V-T                                                           | mg/L |                                  |                                  |                                  | 0.0181                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.252                            |                                  |                                  |                                  |                                  | 0.0111                          |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Zn-T                                                          | mg/L |                                  |                                  |                                  | 0.087                            |                                  |                                  |                                  |                                  |                                  |                                  | 0.588                            |                                  |                                  |                                  |                                  | 0.085                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Zr-T                                                          | mg/L |                                  |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                  |                                  |                                  | 0.01                             |                                  |                                  |                                  |                                  | 0.001                           |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |
| Ag-D                                                          | mg/L | <0.0001                          |                                  |                                  | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          |
| Al-D                                                          | mg/L | 0.014                            |                                  |                                  | 0.138                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.011                           | 0.135                           | 0.198                           | 0.096                           | 0.016                           | 0.107                           | 0.015                            | 0.01                             | <0.005                           | <0.005                           | 0.012                            |
| As-D                                                          | mg/L | 0.0016                           |                                  |                                  | 0.0019                           |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.0011                          | 0.0009                          | 0.001                           | 0.0011                          | 0.0011                          | 0.0009                          | 0.0012                           | 0.0011                           | 0.0015                           | 0.0013                           | 0.0012                           |
| Ba-D                                                          | mg/L | 0.09                             |                                  |                                  | 0.07                             |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.11                            | 0.071                           | 0.083                           | 0.088                           | 0.135                           | 0.101                           | 0.132                            | 0.128                            | 0.127                            | 0.125                            | 0.127                            |
| B-D                                                           | mg/L | 0.084                            |                                  |                                  | 0.115                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 0.163                           | 0.104                           | 0.127                           | 0.093                           | 0.143                           | 0.119                           | 0.128                            | 0.125                            | 0.122                            | 0.112                            | 0.1                              |
| Be-D                                                          | mg/L | <0.0001                          |                                  |                                  | <0.0001                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          |
| Bi-D                                                          | mg/L | <0.0005                          |                                  |                                  | <0.0005                          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                         | <0.0005                          | <0.0005                          | &                                |                                  |                                  |

Appendix Table A.10: Water quality at station W13

| Sampling Session |          | 1203450   | 1028730   | 1028730   | 1028730   | 1028730   | 1028730   | 1028730   | 1028730   | 1028730   | 1029284   | 1029284   | 1029284   | 1031323   | 1031323   | 1031323   | 1031323  | 1034628  | 1034628  | 1034628  | 1034628  | 1034628  | 1034628   | 1036694   | 1036694   | 1036694   | 1036694   | 1036694 |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|---------|
| Smpl Date        |          | 7/18/2007 | 7/19/2007 | 7/20/2007 | 7/20/2007 | 7/21/2007 | 7/22/2007 | 7/23/2007 | 7/24/2007 | 7/25/2007 | 7/26/2007 | 7/26/2007 | 7/27/2007 | 7/28/2007 | 7/30/2007 | 7/31/2007 | 8/1/2007 | 8/3/2007 | 8/4/2007 | 8/7/2007 | 8/8/2007 | 8/9/2007 | 8/10/2007 | 8/11/2007 | 8/12/2007 | 8/13/2007 | 8/14/2007 |         |
| Station Name     |          | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13      | W13      | W13      | W13      | W13      | W13      | W13       | W13       | W13       | W13       | W13       |         |
| Sample Class     |          | P         | P         | M         | P         | P         | P         | P         | P         | P         | M         | P         | P         | P         | P         | P         | P        | P        | P        | P        | P        | P        | P         | P         | P         | P         | P         |         |
| P-TDP            | mg/L     | <0.02     |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <0.02    |          |          |          |          |          |           |           |           |           |           |         |
| Sb-D             | mg/L     | <0.0002   |           |           | 0.0003    |           |           |           |           |           |           |           |           |           |           |           | <0.0002  | 0.0004   | 0.0003   | 0.0003   | <0.0002  | 0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   |         |
| S-D              | mg/L     | 20.7      |           |           | 24.9      |           |           |           |           |           |           |           |           |           |           |           | 24.6     | 19.2     | 21.7     | 14.1     | 24.4     | 21.8     | 23.8      | 23.7      | 24        | 23.4      | 22.2      |         |
| Se-D             | mg/L     | 0.003     |           |           | 0.0259    |           |           |           |           |           |           |           |           |           |           |           | 0.003    | 0.0057   | 0.0046   | 0.0158   | 0.0035   | 0.0097   | 0.0031    | 0.0031    | 0.0042    | 0.0038    | 0.0027    |         |
| Si-D             | mg/L     | 6.01      |           |           | 3.71      |           |           |           |           |           |           |           |           |           |           |           | 5.9      | 3.37     | 4.68     | 2.96     | 5.8      | 4.81     | 5.95      | 6.04      | 6.24      | 6.33      | 6.2       |         |
| Sn-D             | mg/L     | <0.001    |           |           | <0.001    |           |           |           |           |           |           |           |           |           |           |           | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001    |         |
| Sr-D             | mg/L     | 0.853     |           |           | 0.506     |           |           |           |           |           |           |           |           |           |           |           | 1.5      | 0.784    | 0.964    | 0.476    | 1.14     | 0.903    | 1.09      | 1.08      | 1.06      | 0.998     | 0.94      |         |
| Te-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Th-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Ti-D             | mg/L     | 0.0017    |           |           | 0.0022    |           |           |           |           |           |           |           |           |           |           |           | 0.0027   | 0.002    | 0.0022   | 0.0034   | 0.0026   | 0.0018   | 0.0021    | 0.0018    | 0.0019    | 0.0019    | 0.0019    |         |
| TI-D             | mg/L     | <0.00005  |           |           | <0.00005  |           |           |           |           |           |           |           |           |           |           |           | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005  |         |
| U-D              | mg/L     | 0.0024    |           |           | 0.0007    |           |           |           |           |           |           |           |           |           |           |           | 0.0034   | 0.0011   | 0.002    | <0.0005  | 0.003    | 0.0019   | 0.0028    | 0.0028    | 0.0026    | 0.0025    | 0.0024    |         |
| V-D              | mg/L     | 0.0037    |           |           | 0.0015    |           |           |           |           |           |           |           |           |           |           |           | 0.002    | 0.0014   | 0.0013   | 0.0034   | 0.0036   | 0.0035   | 0.0038    | 0.0034    | 0.0075    | 0.0074    | 0.0039    |         |
| Zn-D             | mg/L     | 0.035     |           |           | 0.01      |           |           |           |           |           |           |           |           |           |           |           | 0.057    | 0.017    | 0.036    | 0.007    | 0.095    | 0.062    | 0.035     | 0.039     | 0.025     | 0.025     | 0.056     |         |
| Zr-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Alk-Bicrb        | mg/L     | 184       |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 219      |          |          |          |          |          |           |           |           |           |           |         |
| Alk-Carb         | mg/L     | <6        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <6       |          |          |          |          |          |           |           |           |           |           |         |
| Alk-OH           | mg/L     | <5        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | <5       |          |          |          |          |          |           |           |           |           |           |         |
| Alk-P            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Alk-T            | mg/L     | 150       |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 180      |          |          |          |          |          |           |           |           |           |           |         |
| Bromine          | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| C-TIC            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| C-TOC            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Chloride         | mg/L     | 1.1       |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 1.4      |          |          |          |          |          |           |           |           |           |           |         |
| Colour           | TCU      | 80        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 58       |          |          |          |          |          |           |           |           |           |           |         |
| Cond-F           | µS/cm    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Cond-L           | µS/cm    | 502       |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 706      |          |          |          |          |          |           |           |           |           |           |         |
| Discharge        | L/s      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Fluoride         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Hard-D           | mg/L     |           |           |           | 120       |           |           |           |           |           |           |           |           |           |           |           | 307      | 140      | 191      | 130      | 281      | 209      | 276       | 276       | 279       | 275       | 260       |         |
| Hard-T           | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Ammonia          | mg/L     | 1.41      |           |           |           |           |           |           |           |           |           | 0.4       |           |           |           |           | 7.64     |          |          |          |          |          |           |           |           |           |           |         |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| N-NO2            | mg/L     | 1.04      |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 2.39     |          |          |          |          |          |           |           |           |           |           |         |
| NO2+NO3          | mg/L     | 14.5      |           |           |           |           |           |           |           |           |           | 6.96      |           |           |           |           | 34.1     |          |          |          |          |          |           |           |           |           |           |         |
| N-NO3            | mg/L     | 13        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 32       |          |          |          |          |          |           |           |           |           |           |         |
| pH-F             | pH units |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| pH-L             | pH units | 7.94      |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 8.06     |          |          |          |          |          |           |           |           |           |           |         |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| SO4-D            | mg/L     | 59        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 76       |          |          |          |          |          |           |           |           |           |           |         |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| TDS              | mg/L     | 410       |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 580      |          |          |          |          |          |           |           |           |           |           |         |
| Temp-F           | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |
| TSS              | mg/L     | 13        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 79       |          |          |          |          |          |           |           |           |           |           |         |
| Turb             | NTU      | 14        |           |           |           |           |           |           |           |           |           |           |           |           |           |           | 45       |          |          |          |          |          |           |           |           |           |           |         |
| Turb-F           | NTU      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |         |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1036694<br>8/14/2007<br>W13<br>P | 1042534<br>8/29/2007<br>W13<br>P | 1048063<br>9/11/2007<br>W13<br>P | 1050334<br>9/18/2007<br>W13<br>P | 1053227<br>9/25/2007<br>W13<br>P | 1065056<br>10/1/2007<br>W13<br>P | 1065056<br>10/3/2007<br>W13<br>M | 1057213<br>10/3/2007<br>W13<br>P | 1065056<br>10/4/2007<br>W13<br>P | 1065056<br>10/5/2007<br>W13<br>P | 1065056<br>10/6/2007<br>W13<br>P | 1065056<br>10/7/2007<br>W13<br>P | 1065056<br>10/8/2007<br>W13<br>P | 1065056<br>10/9/2007<br>W13<br>P | 1061125<br>10/10/2007<br>W13<br>P | 1065056<br>10/11/2007<br>W13<br>P | 1065056<br>10/12/2007<br>W13<br>P | 1065056<br>10/13/2007<br>W13<br>P | 1065056<br>10/17/2007<br>W13<br>P | 1065056<br>10/18/2007<br>W13<br>P | 1070279<br>10/30/2007<br>W13<br>P | 1077993<br>11/20/2007<br>W13<br>P | 1084216<br>12/18/2007<br>W13<br>P | 1084216<br>12/18/2007<br>W13<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Ag-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Al-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| As-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ba-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Be-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Bi-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| B-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ca-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Cd-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Co-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Cr-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Cu-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Fe-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Hg-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| K-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Li-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Mg-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Mn-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Mo-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Na-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ni-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| N-TKN                                                         | mg/L | 6.36                             | 11.9                             | 3.15                             | 8.32                             | 8.49                             |                                  |                                  | 1.33                             |                                  |                                  |                                  |                                  |                                  |                                  | 7.3                               |                                   |                                   |                                   | 4.04                              |                                   | 7.92                              |                                   |                                   | 4.57                              |
| Pb-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| P-PO4-T                                                       | mg/L | 0.35                             | 0.06                             | 0.05                             | 0.1                              | 0.04                             |                                  |                                  | 1.24                             |                                  |                                  |                                  |                                  |                                  |                                  | 0.03                              |                                   |                                   |                                   | <0.05                             |                                   | 0.06                              | 0.08                              |                                   | 0.03                              |
| P-T                                                           | mg/L | 0.55                             | <0.05                            | 0.06                             | 0.13                             | <0.05                            |                                  |                                  | 1.99                             |                                  |                                  |                                  |                                  |                                  |                                  | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.14                              |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   | 0.03                              |                                   | 0.019                             | 0.01                              |                                   |                                   |
| Sb-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Se-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Si-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Sn-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Sr-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| S-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ti-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Tl-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| U-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| V-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Zn-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Zr-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ag-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           |                                   | <0.0001                           |
| Al-D                                                          | mg/L | 0.069                            | 0.017                            | 0.024                            | 0.125                            | 0.014                            | 0.017                            | 0.018                            | 0.016                            | 0.019                            | 0.017                            | 0.017                            | 0.026                            | 0.015                            | 0.015                            | 0.012                             | 0.014                             | 0.023                             | 0.02                              | 0.022                             | 0.017                             | 0.015                             | 0.075                             |                                   | 0.03                              |
| As-D                                                          | mg/L | 0.0012                           | 0.0007                           | 0.0008                           | 0.0009                           | 0.0008                           | 0.0008                           | 0.0008                           | 0.0011                           | 0.0008                           | 0.0009                           | 0.0008                           | 0.0007                           | 0.0006                           | 0.0007                           | 0.0006                            | 0.0007                            | 0.0006                            | 0.0006                            | 0.0007                            | 0.0008                            | 0.001                             | 0.0004                            |                                   | 0.0015                            |
| Ba-D                                                          | mg/L | 0.11                             | 0.098                            | 0.098                            | 0.066                            | 0.092                            | 0.084                            | 0.089                            | 0.035                            | 0.089                            | 0.088                            | 0.089                            | 0.083                            | 0.08                             | 0.082                            | 0.083                             | 0.085                             | 0.065                             | 0.071                             | 0.088                             | 0.094                             | 0.096                             | 0.12                              |                                   | 0.072                             |
| B-D                                                           | mg/L | 0.101                            | 0.165                            | 0.078                            | 0.119                            | 0.159                            | 0.088                            | 0.106                            | 0.037                            | 0.108                            | 0.098                            | 0.101                            | 0.074                            | 0.086                            | 0.089                            | 0.086                             | 0.093                             | 0.057                             | 0.062                             | 0.074                             | 0.086                             | 0.112                             | 0.178                             |                                   | 0.127                             |
| Be-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           |                                   | <0.0001                           |
| Bi-D                                                          | mg/L | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           |                                   | <0.0005                           |
| Ca-D                                                          | mg/L | 66.2                             | 86.3                             | 69.6                             | 31.4                             | 80.4                             | 68.3                             | 71.1                             | 25.3                             | 71.1                             | 70.6                             | 71.1                             | 62.6                             | 67.5                             | 69.1                             | 67.9                              | 73.8                              | 50.9                              | 54.9                              | 62.8                              | 71.2                              | 91.1                              | 68.1                              |                                   | 36.9                              |
| Cd-D                                                          | mg/L | 0.00006                          | 0.00018                          | 0.00008                          | 0.00005                          | 0.00006                          | 0.00006                          | 0.00005                          | <0.00001                         | 0.00006                          | 0.00005                          | 0.00005                          | 0.00005                          | 0.00005                          | 0.00005                          | 0.00008                           | 0.00005                           | 0.00006                           | 0.00007                           | 0.00005                           | 0.00007                           | 0.00006                           | 0.00005                           |                                   | 0.00009                           |
| C-DOC                                                         | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Co-D                                                          | mg/L | 0.0011                           | 0.0008                           | 0.0008                           | <0.0001                          | 0.0008                           | 0.0006                           | 0.0006                           | 0.0072                           | 0.0006                           | 0.0006                           | 0.0006                           | 0.0006                           | 0.0005                           | 0.0006                           | 0.0006                            | 0.0006                            | 0.0004                            | 0.0004                            | 0.0005                            | 0.0006                            | 0.0006                            | 0.0007                            |                                   | 0.0001                            |
| Cr-D                                                          | mg/L | 0.0014                           | 0.0011                           | <0.0005                          | <0.0005                          | 0.0006                           | <0.0005                          | <0.0005                          | 0.0018                           | <0.0005                          | <0.0005                          | <0.0005                          | 0.0006                           | <0.0005                          | <0.0005                          | 0.0007                            | <0.0005                           | <0.0005                           | <0.0005                           | 0.0006                            | <0.0005                           | 0.0006                            | 0.0008                            |                                   | 0.0014                            |
| Cu-D                                                          | mg/L | 0.059                            | 0.078                            | 0.063                            | 0.004                            | 0.148                            | 0.092                            | 0.099                            | 0.025                            | 0.098                            | 0.1                              | 0.099                            | 0.085                            | 0.089                            | 0.093                            | 0.092                             | 0.095                             | 0.081                             | 0.08                              | 0.078                             | 0.085                             | 0.048                             | 0.009                             |                                   | 0.07                              |
| Fe-D                                                          | mg/L | 0.03                             | 0.05                             | 0.05                             | <0.01                            | 0.09                             | 0.1                              | 0.12                             | <0.01                            | 0.12                             | 0.11                             | 0.11                             | 0.13                             | 0.08                             | 0.08                             | 0.09                              | 0.1                               | 0.08                              | 0.08                              | 0.11                              | 0.09                              | 0.05                              | <0.01                             |                                   | <0.01                             |
| Hg-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | 0.0004                           | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           |                                   | <0.0001                           | <0.0001                           |                                   |                                   | <0.0001                           |
| K-D                                                           | mg/L | 12                               | 4.7                              | 4                                | 37.5                             | 4.1                              | 3.3                              | 3.2                              | 4.2                              | 3.2                              | 3.1                              | 3.2                              | 3                                | 3.1                              | 3.2                              | 3.2                               | 3.4                               | 2.6                               | 2.8                               |                                   | 3.2                               | 3.4                               | 4.4                               | 67.2                              | 49.2                              |
| Li-D                                                          | mg/L | 0.007                            | 0.005                            | 0.003                            | 0.019                            | 0.004                            | 0.003                            | 0.004                            | 0.002                            | 0.004                            | 0.003                            | 0.003                            | 0.003                            | 0.003                            | 0.003                            | 0.003                             | 0.003                             | 0.002                             | 0.002                             | 0.003                             | 0.003                             | 0.004                             | 0.024                             |                                   | 0.018                             |
| Mg-D                                                          | mg/L | 16.6                             | 24.5                             | 19.2                             | 7.6                              | 23.9                             | 19.3                             | 20.1                             | 3.2                              | 19.9                             | 19.8                             | 19.9                             | 17.7                             | 19.1                             | 19.8                             | 19.8                              | 21.2                              | 14                                | 15.3                              | 18.8                              | 20.7                              | 25.7                              | 10.8                              |                                   | 8.2                               |
| Mn-D                                                          | mg/L | 0.354                            | 0.384                            | 0.416                            | 0.022                            | 0.411                            | 0.394                            | 0.441                            | 0.02                             | 0.442                            | 0.436                            | 0.441                            | 0.422                            | 0.384                            | 0.392                            | 0.38                              | 0.401                             | 0.296                             | 0.317                             | 0.419                             | 0.456                             | 0.336                             | 0.049                             |                                   | 0.031                             |
| Mo-D                                                          | mg/L | 0.019                            | 0.013                            | 0.012                            | 0.075                            | 0.018                            | 0.014                            | 0.011                            | 0.04                             | 0.011                            | 0.01                             | 0.01                             | 0.008                            | 0.014                            | 0.014                            | 0.015                             | 0.016                             | 0.01                              | 0.011                             | 0.012                             | 0.015                             | 0.029                             | 0.117                             |                                   | 0.092                             |
| Na-D                                                          | mg/L | 24.4                             | 17.1                             | 14                               | 53.9                             | 16.4                             | 13                               | 13.2                             | 9.6                              | 13.2                             | 13                               | 13                               | 11.6                             | 12.7                             | 13.2                             | 13.6                              | 14.4                              | 9.7                               | 10.4                              | 12.2                              | 14.3                              | 20                                | 80.5                              |                                   | 67.5                              |
| Ni-D                                                          | mg/L | <0.0005                          | <0.0005                          | 0.0017                           | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | 0.0006                           | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | 0.0008                            | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | <0.0005                           | 0.0011                            | 0.0082                            |                                   | 0.0012                            |
| O-DO                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Pb-D                                                          | mg/L | 0.0001                           | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | 0.0001                            | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                           |                                   | <0.0001                           |
| P-D                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 1.14                             |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | 1036694<br>8/14/2007<br>W13<br>P | 1042534<br>8/29/2007<br>W13<br>P | 1048063<br>9/11/2007<br>W13<br>P | 1050334<br>9/18/2007<br>W13<br>P | 1053227<br>9/25/2007<br>W13<br>P | 1065056<br>10/1/2007<br>W13<br>P | 1065056<br>10/3/2007<br>W13<br>M | 1057213<br>10/3/2007<br>W13<br>P | 1065056<br>10/4/2007<br>W13<br>P | 1065056<br>10/5/2007<br>W13<br>P | 1065056<br>10/6/2007<br>W13<br>P | 1065056<br>10/7/2007<br>W13<br>P | 1065056<br>10/8/2007<br>W13<br>P | 1065056<br>10/9/2007<br>W13<br>P | 1061125<br>10/10/2007<br>W13<br>P | 1065056<br>10/11/2007<br>W13<br>P | 1065056<br>10/12/2007<br>W13<br>P | 1065056<br>10/13/2007<br>W13<br>P | 1065056<br>10/17/2007<br>W13<br>P | 1065056<br>10/18/2007<br>W13<br>P | 1070279<br>10/30/2007<br>W13<br>P | 1077993<br>11/20/2007<br>W13<br>P | 1084216<br>12/18/2007<br>W13<br>P | 1084216<br>12/18/2007<br>W13<br>P |
|---------------------------------------------------------------|----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| P-TDP                                                         | mg/L     | <0.02                            | <0.02                            | <0.02                            | <0.02                            | <0.02                            |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.02                             |                                   |                                   | <0.02                             |                                   |                                   | <0.02                             |                                   |                                   | <0.02                             |
| Sb-D                                                          | mg/L     | <0.0002                          | 0.0008                           | 0.0009                           | 0.0004                           | <0.0002                          | <0.0002                          | <0.0002                          | 0.001                            | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                           | <0.0002                           | <0.0002                           | <0.0002                           | <0.0002                           | <0.0002                           | 0.0009                            | 0.0017                            |                                   | 0.0004                            |
| S-D                                                           | mg/L     | 22                               | 25                               | 21.1                             | 20                               | 25.9                             | 24.4                             | 23                               | 10                               | 22.7                             | 22.6                             | 22.9                             | 19.9                             | 23.7                             | 24.5                             | 24.8                              | 27.8                              | 17.4                              | 19.2                              | 23.1                              | 26.4                              | 48.8                              | 49.8                              |                                   | 34.3                              |
| Se-D                                                          | mg/L     | 0.0066                           | 0.0027                           | 0.0018                           | 0.0119                           | 0.0037                           | 0.0042                           | 0.0032                           | 0.0027                           | 0.0031                           | 0.0033                           | 0.0032                           | 0.0022                           | 0.0036                           | 0.0037                           | 0.0037                            | 0.0045                            | 0.0028                            | 0.003                             | 0.0033                            | 0.0038                            | 0.0108                            | 0.0139                            |                                   | 0.0308                            |
| Si-D                                                          | mg/L     | 5.72                             | 5.76                             | 5.63                             | 2.99                             | 5.78                             | 5.38                             | 6.04                             | 4.79                             | 6.04                             | 5.97                             | 6.01                             | 5.89                             | 5.16                             | 5.29                             | 5.29                              | 5.49                              | 3.93                              | 4.26                              | 5.49                              | 5.54                              | 5.05                              | 2.68                              |                                   | 2.34                              |
| Sn-D                                                          | mg/L     | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                            | <0.001                            | <0.001                            | <0.001                            | <0.001                            | <0.001                            | <0.001                            | <0.001                            |                                   | <0.001                            |
| Sr-D                                                          | mg/L     | 0.844                            | 1.83                             | 1.12                             | 0.728                            | 2                                | 1.41                             | 1.47                             | 0.136                            | 1.45                             | 1.47                             | 1.5                              | 1.15                             | 1.49                             | 1.52                             | 1.43                              | 1.66                              | 1.05                              | 1.14                              | 1.31                              | 1.53                              | 2.51                              | 0.891                             |                                   | 0.595                             |
| Te-D                                                          | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Th-D                                                          | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ti-D                                                          | mg/L     | 0.0018                           | 0.002                            | 0.0028                           | 0.002                            | 0.0023                           | 0.0023                           | 0.0025                           | 0.0006                           | 0.0027                           | 0.0024                           | 0.0024                           | 0.0031                           | 0.0023                           | 0.0022                           | 0.0027                            | 0.0026                            | 0.0026                            | 0.0025                            | 0.0024                            | 0.0024                            | 0.0033                            | 0.0031                            |                                   | 0.0026                            |
| Tl-D                                                          | mg/L     | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                          |                                   | <0.00005                          |
| U-D                                                           | mg/L     | 0.002                            | 0.0024                           | 0.0018                           | <0.0005                          | 0.002                            | 0.0015                           | 0.0014                           | 0.0007                           | 0.0015                           | 0.0014                           | 0.0015                           | 0.0012                           | 0.0016                           | 0.0016                           | 0.0016                            | 0.0018                            | 0.0011                            | 0.0012                            | 0.0015                            | 0.0018                            | 0.0029                            | 0.0017                            |                                   | <0.0005                           |
| V-D                                                           | mg/L     | 0.0043                           | 0.002                            | 0.0007                           | 0.0014                           | 0.0015                           | 0.001                            | 0.001                            | 0.0022                           | 0.0009                           | 0.001                            | 0.0009                           | 0.0009                           | 0.0008                           | 0.0008                           | 0.0009                            | 0.0009                            | 0.0007                            | 0.0007                            | 0.0012                            | 0.0007                            | 0.0018                            | 0.0021                            |                                   | 0.0031                            |
| Zn-D                                                          | mg/L     | 0.104                            | 0.125                            | 0.023                            | 0.004                            | 0.078                            | 0.063                            | 0.058                            | 0.013                            | 0.057                            | 0.055                            | 0.057                            | 0.059                            | 0.041                            | 0.044                            | 0.046                             | 0.048                             | 0.042                             | 0.045                             | 0.052                             | 0.047                             | 0.042                             | 0.009                             |                                   | 0.017                             |
| Zr-D                                                          | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Alk-Bicrb                                                     | mg/L     | 143                              | 243                              | 291                              | 142                              | 193                              |                                  |                                  | 120                              |                                  |                                  |                                  |                                  |                                  |                                  | 157                               |                                   |                                   |                                   | 166                               |                                   | 190                               | 151                               |                                   | 156                               |
| Alk-Carb                                                      | mg/L     | <6                               | <6                               | <6                               | <6                               | <6                               |                                  |                                  | <6                               |                                  |                                  |                                  |                                  |                                  |                                  | <6                                |                                   |                                   | <6                                |                                   | <6                                | <6                                |                                   |                                   | <6                                |
| Alk-OH                                                        | mg/L     | <5                               | <5                               | <5                               | <5                               | <5                               |                                  |                                  | <5                               |                                  |                                  |                                  |                                  |                                  |                                  | <5                                |                                   |                                   | <5                                |                                   | <5                                | <5                                |                                   |                                   | <5                                |
| Alk-P                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Alk-T                                                         | mg/L     | 117                              | 199                              | 239                              | 117                              | 158                              |                                  |                                  | 100                              |                                  |                                  |                                  |                                  |                                  |                                  | 129                               |                                   |                                   |                                   | 136                               |                                   | 156                               | 124                               |                                   | 128                               |
| Bromine                                                       | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| C-TIC                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| C-TOC                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Chloride                                                      | mg/L     | 6.6                              | 2                                | 2.21                             | 9.72                             | 1.82                             |                                  |                                  | 3.56                             |                                  |                                  |                                  |                                  |                                  |                                  | 1.74                              |                                   |                                   |                                   | 1.8                               |                                   | 1.83                              | 16.9                              |                                   | 12.2                              |
| Colour                                                        | TCU      | 10                               | 39                               | 38                               | <5                               | 44                               |                                  |                                  | <5                               |                                  |                                  |                                  |                                  |                                  |                                  | 30                                |                                   |                                   |                                   | 30                                |                                   | 25                                | 18                                |                                   | <5                                |
| Cond-F                                                        | µS/cm    |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Cond-L                                                        | µS/cm    | 584                              | 713                              | 515                              | 604                              | 645                              |                                  |                                  | 201                              |                                  |                                  |                                  |                                  |                                  |                                  | 585                               |                                   |                                   |                                   | 567                               |                                   | 800                               | 1020                              |                                   | 637                               |
| Discharge                                                     | L/s      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Fluoride                                                      | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Hard-D                                                        | mg/L     | 234                              | 317                              | 253                              | 110                              | 299                              |                                  |                                  | 76                               |                                  |                                  |                                  |                                  |                                  |                                  | 251                               |                                   |                                   |                                   | 234                               |                                   | 333                               | 214                               |                                   | 120                               |
| Hard-T                                                        | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| IB                                                            | %        |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Ammonia                                                       | mg/L     | 2.19                             | 6.86                             | 3.22                             | 1.41                             | 6.17                             |                                  |                                  | 0.08                             |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   | 4.67                              |                                   | 7.81                              | 5.32                              | 2.84                              |                                   |
| Ammonium                                                      | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | 5.48                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| N-NO2                                                         | mg/L     | 0.97                             | 2.06                             | 0.95                             | 0.66                             | 1.86                             |                                  |                                  | 0.16                             |                                  |                                  |                                  |                                  |                                  |                                  | 0.84                              |                                   |                                   |                                   | 0.72                              |                                   | 24                                | 1.05                              |                                   | 1.43                              |
| NO2+NO3                                                       | mg/L     | 27.3                             | 33.2                             | 18.1                             | 25.8                             | 31                               |                                  |                                  | 2.89                             |                                  |                                  |                                  |                                  |                                  |                                  | 23.2                              |                                   |                                   |                                   | 19.3                              |                                   | 24.6                              |                                   |                                   | 24.5                              |
| N-NO3                                                         | mg/L     | 27                               | 31                               | 18.2                             | 26                               | 30.2                             |                                  |                                  | 2.77                             |                                  |                                  |                                  |                                  |                                  |                                  | 21.8                              |                                   |                                   |                                   | 19.7                              |                                   | 0.72                              | 50                                |                                   | 24.6                              |
| pH-F                                                          | pH units |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| pH-L                                                          | pH units | 8.11                             | 8.14                             | 8.05                             | 8.28                             | 8.02                             |                                  |                                  | 8.42                             |                                  |                                  |                                  |                                  |                                  |                                  | 8.01                              |                                   |                                   |                                   | 7.98                              |                                   | 8.01                              | 7.85                              |                                   | 7.5                               |
| Radium - 226                                                  |          |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| SO4-D                                                         | mg/L     | 59                               | 73                               | 62                               | 58.2                             | 76.9                             |                                  |                                  | 30.4                             |                                  |                                  |                                  |                                  |                                  |                                  | 72.3                              |                                   |                                   |                                   |                                   |                                   | 159                               |                                   |                                   | 95.1                              |
| SO4-T                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   | 73.6                              |                                   |                                   | 150                               |                                   |                                   |
| Sulphide                                                      | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| TDS                                                           | mg/L     | 452                              | 554                              | 432                              | 400                              | 534                              |                                  |                                  | 194                              |                                  |                                  |                                  |                                  |                                  |                                  | 428                               |                                   |                                   |                                   | 440                               |                                   | 568                               | 1030                              |                                   | 526                               |
| Temp-F                                                        | C        |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| Temp-obs-pH                                                   | C        |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |
| TSS                                                           | mg/L     | 681                              | 9                                | 32                               | 294                              | 16                               |                                  |                                  | 148                              |                                  |                                  |                                  |                                  |                                  |                                  | 6                                 |                                   |                                   |                                   | 10                                |                                   | 23                                | 154                               |                                   | 159                               |
| Turb                                                          | NTU      | 14                               | 7.9                              | 61                               | 320                              | 21                               |                                  |                                  | 1200                             |                                  |                                  |                                  |                                  |                                  |                                  | 5.2                               |                                   |                                   |                                   | 8.3                               |                                   | 16                                | 12                                |                                   | 42                                |
| Turb-F                                                        | NTU      |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1088370<br>1/15/2008<br>W13<br>P | 1094163<br>2/13/2008<br>W13<br>P | 1100515<br>3/14/2008<br>W13<br>M | 1115474<br>5/3/2008<br>W13<br>P | 1117314<br>5/5/2008<br>W13<br>P | 1118493<br>5/7/2008<br>W13<br>P | 1118493<br>5/8/2008<br>W13<br>P | 1118493<br>5/8/2008<br>W13<br>P | 1119091<br>5/11/2008<br>W13<br>M | 1119086<br>5/11/2008<br>W13<br>P | 1120081<br>5/13/2008<br>W13<br>P | 1120759<br>5/15/2008<br>W13<br>P | 1120929<br>5/18/2008<br>W13<br>P | 1122127<br>5/20/2008<br>W13<br>M | 1124049<br>5/27/2008<br>W13<br>M | 1124049<br>5/27/2008<br>W13<br>P | 1124027<br>5/29/2008<br>W13<br>P | 1129098<br>6/17/2008<br>W13<br>P | 1131174<br>6/25/2008<br>W13<br>P | 1132803<br>7/3/2008<br>W13<br>P | 1133503<br>7/8/2008<br>W13<br>P | 1137485<br>7/23/2008<br>W13<br>P | 1140646<br>8/6/2008<br>W13<br>P | 1151901<br>9/18/2008<br>W13<br>P | 1153291<br>9/22/2008<br>W13<br>M | 1153291<br>9/22/2008<br>W13<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Ag-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.0001                         | <0.0001                         |                                 | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | 0.0001                           | <0.0001                          | <0.0001                          | <0.0001                          | 0.00001                          | 0.00002                          | 0.00006                         | <0.00001                        | <0.00001                         | 0.00001                         |                                  | 0.00025                          | 0.00012                          |
| Al-T                                                          | mg/L |                                  |                                  |                                  |                                 | 1.33                            | 1.48                            |                                 | 0.87                            | 0.46                             | 0.46                             | 0.41                             | 0.24                             | 0.29                             | 1.13                             | <0.01                            | 0.71                             | <0.01                            | 0.05                             | 0.13                             | 0.388                           | 1.56                            | 0.421                            | 0.242                           |                                  | 3.94                             | 1.93                             |
| As-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0007                          | 0.0011                          |                                 | <0.0002                         | 0.0012                           | 0.0012                           | 0.0008                           | 0.0005                           | 0.0018                           | 0.0014                           | 0.0009                           | 0.0002                           | <0.0002                          | 0.0007                           | 0.001                            | 0.001                           | 0.0021                          | 0.0008                           | 0.0018                          |                                  | 0.0022                           | 0.0019                           |
| Ba-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.073                           | 0.071                           |                                 | 0.059                           | 0.06                             | 0.06                             | 0.087                            | 0.084                            | 0.08                             | 0.116                            | 0.147                            | 0.08                             | 0.049                            | 0.108                            | 0.085                            | 0.088                           | 0.087                           | 0.073                            | 0.139                           |                                  | 0.14                             | 0.108                            |
| Be-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.00005                         | 0.00008                         |                                 | 0.00007                         | 0.00005                          | 0.00005                          | 0.00005                          | <0.00004                         | <0.00004                         | 0.00004                          | <0.00004                         | 0.00006                          | <0.00004                         | <0.00004                         | <0.00004                         | <0.0001                         | 0.00011                         | <0.0001                          | <0.0001                         |                                  | 0.00016                          | 0.0001                           |
| Bi-T                                                          | mg/L |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  | <0.0005                          |                                 | <0.0005                         | <0.0005                          |                                 | <0.0001                          | <0.0001                          |                                  |
| B-T                                                           | mg/L |                                  |                                  |                                  |                                 | 0.007                           | 0.01                            |                                 | 0.009                           | 0.017                            | 0.017                            | 0.046                            | 0.045                            | 0.044                            | 0.069                            | 0.082                            | 0.061                            | 0.006                            | 0.035                            | 0.028                            | 0.055                           | 0.036                           | 0.012                            | 0.135                           |                                  | 0.049                            | 0.04                             |
| Ca-T                                                          | mg/L |                                  |                                  |                                  |                                 | 19.6                            | 20.3                            |                                 | 19.7                            | 24.8                             | 24.8                             | 29.9                             | 33.6                             | 32.8                             | 46.2                             | 52.2                             | 35.7                             | 31.7                             | 59.4                             | 55.7                             | 49.3                            | 55.2                            | 35.1                             | 74.4                            |                                  | 52.3                             | 45.7                             |
| Cd-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.00007                        | <0.00007                        |                                 | <0.00007                        | <0.00007                         | <0.00007                         | <0.00007                         | 0.00009                          | 0.00009                          | 0.00012                          | <0.00007                         | 0.00018                          | <0.00007                         | <0.00008                         | <0.00008                         | 0.00009                         | 0.00008                         | 0.00004                          | 0.00012                         |                                  | 0.00022                          | 0.00018                          |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                  |                                 |                                  |                                  |                                  |
| Co-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.00133                         | 0.00122                         |                                 | 0.00083                         | 0.00072                          | 0.00072                          | 0.00068                          | 0.00056                          | 0.00058                          | 0.00076                          | 0.00035                          | 0.00088                          | 0.00051                          | 0.0003                           | 0.00054                          | 0.0004                          | 0.00117                         | 0.0006                           | 0.0004                          |                                  | 0.00242                          | 0.00125                          |
| Cr-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0018                          | 0.0026                          |                                 | 0.0013                          | 0.0008                           | 0.0008                           | 0.0006                           | 0.0022                           | 0.0011                           | 0.002                            | 0.002                            | 0.0022                           | 0.0014                           | 0.001                            | 0.0029                           | 0.0008                          | 0.0029                          | 0.001                            | 0.0006                          |                                  | 0.0045                           | 0.0032                           |
| Cu-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.223                           | 0.169                           |                                 | 0.149                           | 0.191                            | 0.191                            | 0.235                            | 0.17                             | 0.139                            | 0.237                            | 0.043                            | 0.38                             | 0.123                            | 0.102                            | 0.15                             | 0.133                           | 0.21                            | 0.121                            | 0.078                           |                                  | 0.806                            | 0.351                            |
| Fe-T                                                          | mg/L |                                  |                                  |                                  |                                 | 2.34                            | 2.34                            |                                 | 1.36                            | 0.88                             | 0.88                             | 0.78                             | 0.46                             | 0.49                             | 1.43                             | 34.5                             | 1.8                              | 0.47                             | 0.24                             | 0.66                             | 0.53                            | 2.92                            | 0.73                             | 0.3                             |                                  | 5.28                             | 2.4                              |
| Hg-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.00001                         | 0.00001                         |                                 | 0.00001                         | 0.00001                          | 0.00001                          | 0.00001                          | <0.00001                         | <0.00001                         | <0.00001                         | <0.00001                         | 0.00002                          | <0.00001                         | <0.01                            | <0.00001                         | <0.0001                         | 0.00001                         | <0.0001                          | <0.0001                         |                                  | 0.00001                          | 0.00002                          |
| K-T                                                           | mg/L |                                  |                                  |                                  |                                 | 4.63                            | 3.91                            |                                 | 3.44                            | 5.97                             | 5.97                             | 13.4                             | 17.4                             | 17.5                             | 31.2                             | 30.7                             | 10.6                             | 2.04                             | 6.81                             | 6.55                             | 15                              | 11.1                            | 3.6                              | 27.8                            |                                  | 8.32                             | 3.82                             |
| Li-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.002                           | 0.002                           |                                 | 0.001                           | 0.002                            | 0.002                            | 0.004                            | 0.006                            | 0.006                            | 0.011                            | 0.01                             | 0.005                            | <0.001                           | 0.002                            | 0.002                            | 0.005                           | 0.004                           | 0.002                            | 0.015                           |                                  | 0.008                            | 0.004                            |
| Mg-T                                                          | mg/L |                                  |                                  |                                  |                                 | 4.9                             | 4.88                            |                                 | 4.72                            | 5.8                              | 5.8                              | 7.03                             | 7.51                             | 7.83                             | 10.5                             | 13.1                             | 8.62                             | 7.59                             | 13.6                             | 13.4                             | 13                              | 14.7                            | 8.1                              | 16.1                            |                                  | 14.2                             | 13.2                             |
| Mn-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.211                           | 0.185                           |                                 | 0.164                           | 0.209                            | 0.209                            | 0.233                            | 0.198                            | 0.197                            | 0.168                            | 0.517                            | 0.146                            | 0.332                            | 0.24                             | 0.482                            | 0.219                           | 0.33                            | 0.187                            | 0.334                           |                                  | 0.268                            | 0.171                            |
| Mo-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.00655                         | 0.00447                         |                                 | 0.00402                         | 0.00875                          | 0.00875                          | 0.0234                           | 0.031                            | 0.0299                           | 0.0502                           | 0.0447                           | 0.0244                           | 0.00269                          | 0.0108                           | 0.0101                           | 0.028                           | 0.0156                          | 0.006                            | 0.059                           |                                  | 0.0314                           | 0.0244                           |
| Na-T                                                          | mg/L |                                  |                                  |                                  |                                 | 7.3                             | 6.1                             |                                 | 5.7                             | 10.4                             | 10.4                             | 21.8                             | 27.7                             | 30.8                             | 48.9                             | 46.4                             | 19.8                             | 5.4                              | 15.4                             | 15.3                             | 28.7                            | 21                              | 9                                | 52.4                            |                                  | 21.7                             | 13.9                             |
| Ni-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.021                           | 0.02                            |                                 | 0.012                           | 0.008                            | 0.008                            | 0.007                            | 0.006                            | 0.006                            | 0.012                            | 0.024                            | 0.002                            | 0.001                            | 0.002                            | 0.002                            | 0.0026                          | 0.004                           | 0.0022                           | 0.0025                          |                                  | 0.003                            | 0.002                            |
| N-TKN                                                         | mg/L | 4.01                             | 11.8                             | 3.62                             |                                 | 1.55                            |                                 |                                 | 1.22                            |                                  |                                  | 0.77                             |                                  |                                  | 2.82                             | 7.12                             | 1.7                              | 0.88                             | 1.01                             | 0.91                             | 1.19                            | 0.76                            | 1.08                             | 3.93                            | 0.78                             | 1.77                             | 1.75                             |
| Pb-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0006                          | 0.0007                          |                                 | 0.0004                          | 0.0002                           | 0.0002                           | 0.0007                           | 0.0002                           | 0.0002                           | 0.0007                           | 0.0008                           | 0.0014                           | <0.0001                          | <0.0001                          | 0.0001                           | 0.0001                          | 0.0007                          | 0.0004                           | 0.0002                          |                                  | 0.002                            | 0.0014                           |
| P-PO4-T                                                       | mg/L | 0.03                             | 0.03                             | 5.57                             |                                 | 0.1                             |                                 |                                 | 0.1                             |                                  |                                  | 0.06                             |                                  |                                  | 0.07                             | 0.09                             | 0.09                             | <0.05                            | 0.05                             | <0.05                            | <0.05                           | <0.05                           | <0.05                            |                                 | <0.05                            | 0.34                             | 0.14                             |
| P-T                                                           | mg/L | 0.14                             | 0.13                             | 5.68                             |                                 | 0.1                             | 0.11                            |                                 | 0.1                             | 0.08                             | 0.08                             | 0.08                             | 0.06                             | 0.06                             | 0.07                             | 0.06                             | 0.08                             | 0.02                             | <0.05                            | 0.03                             |                                 | 0.08                            |                                  | <0.05                           |                                  | 0.39                             | 0.07                             |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  |                                  |                                 | 0.03                            |                                 |                                 | 0.05                            |                                  |                                  | 0.04                             |                                  |                                  | 0.03                             | 0.04                             | 0.04                             | 0.05                             |                                  | 0.04                             | 0.03                            | 0.04                            | 0.05                             | 0.04                            | 0.09                             | 0.06                             | 0.07                             |
| Sb-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.0002                         | <0.0002                         |                                 | <0.0002                         | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | 0.0002                           | <0.0002                          | 0.0002                           | <0.0002                          | <0.0002                          | <0.0002                          | 0.0002                          | <0.0002                         | <0.0002                          | 0.0003                          |                                  | 0.0005                           | 0.0005                           |
| Se-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.0006                         | 0.0022                          |                                 | <0.0006                         | 0.0025                           | 0.0025                           | 0.006                            | 0.0099                           | 0.0087                           | 0.0186                           | 0.0116                           | 0.0063                           | <0.0006                          | 0.0022                           | 0.0037                           | 0.0089                          | 0.0059                          | 0.0014                           | 0.027                           |                                  | 0.011                            | 0.0068                           |
| Si-T                                                          | mg/L |                                  |                                  |                                  |                                 | 2.78                            | 3.16                            |                                 | 2.61                            | 2.39                             | 2.39                             | 2                                | 1.76                             | 1.82                             | 2.58                             | 1.58                             | 1.87                             | 1.86                             | 4.04                             | 4.26                             | 4.73                            | 6.77                            | 5.4                              | 4.02                            |                                  | 13                               | 10                               |
| Sn-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.0001                         | <0.0001                         |                                 | 0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.001                          | 0.0005                          | <0.001                           | <0.001                          |                                  | 0.0002                           | 0.0002                           |
| Sr-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.202                           | 0.174                           |                                 | 0.16                            | 0.247                            | 0.247                            | 0.448                            | 0.513                            | 0.487                            | 0.799                            | 0.891                            | 0.718                            | 0.234                            | 0.604                            | 0.525                            | 0.756                           | 0.636                           | 0.28                             | 1.34                            |                                  | 1.04                             | 0.992                            |
| S-T                                                           | mg/L |                                  |                                  |                                  |                                 |                                 |                                 |                                 |                                 |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                  |                                 |                                  |                                  |                                  |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.0001                         | <0.0001                         |                                 | 0.0002                          | <0.0001                          | <0.0001                          | 0.0001                           | <0.0001                          | <0.0001                          | <0.0001                          | 0.0001                           | 0.0002                           | 0.0002                           | 0.0002                           | <0.0001                          |                                 | <0.0001                         |                                  |                                 |                                  |                                  |                                  |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0004                          | 0.0004                          |                                 | 0.0002                          | 0.0002                           | 0.0002                           | 0.0003                           | <0.0001                          | <0.0001                          | 0.0004                           | 0.0002                           | 0.0004                           | <0.0001                          | <0.0001                          | <0.0001                          |                                 | 0.0004                          |                                  |                                 |                                  |                                  |                                  |
| Ti-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0693                          | 0.0752                          |                                 | 0.0386                          | 0.0211                           | 0.0211                           | 0.0124                           | 0.01                             | 0.0128                           | 0.0264                           | 0.0225                           | 0.0471                           | 0.0056                           | 0.0017                           | 0.0108                           | 0.0221                          | 0.0467                          | 0.0165                           | 0.0121                          |                                  | 0.164                            | 0.0858                           |
| Tl-T                                                          | mg/L |                                  |                                  |                                  |                                 | <0.00001                        | 0.00002                         |                                 | 0.00001                         | 0.00001                          | 0.00001                          | 0.00001                          | <0.00001                         | 0.00002                          | 0.00002                          | <0.00001                         | <0.00001                         | <0.00001                         | <0.00001                         | <0.00001                         | <0.00005                        | <0.00001                        | <0.00005                         | <0.00005                        |                                  | 0.00004                          | 0.00002                          |
| U-T                                                           | mg/L |                                  |                                  |                                  |                                 | <0.0005                         | <0.0005                         |                                 | <0.0005                         | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | 0.0008                           | <0.0005                          | 0.0016                           | <0.0005                          | 0.0014                           | 0.0009                           | 0.0014                          | 0.0014                          | 0.0005                           | 0.0017                          |                                  | 0.0021                           | 0.0023                           |
| V-T                                                           | mg/L |                                  |                                  |                                  |                                 | 0.0047                          | 0.00499                         |                                 | 0.00281                         | 0.00179                          | 0.00179                          | 0.00132                          | 0.00134                          | 0.00107                          | 0.00388                          | 0.00172                          | 0.00402                          | 0.00087                          | 0.00099                          | 0.00151                          | 0.0021                          | 0.00554                         | 0.0022                           | 0.0014                          |                                  | 0.0131                           | 0.00728                          |
| Zn-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.046                           | 0.046                           |                                 | 0.043                           | 0.077                            | 0.077                            | 0.1                              | 0.112                            | 0.1                              | 0.111                            | 0.012                            | 0.058                            | 0.205                            | 0.539                            | 0.267                            | 0.131                           | 0.09                            | 0.062                            | 0.151                           |                                  | 0.076                            | 0.02                             |
| Zr-T                                                          | mg/L |                                  |                                  |                                  |                                 | 0.0006                          | 0.0009                          |                                 | 0.0006                          | 0.0004                           | 0.0004                           | 0.0003                           | 0.0003                           | 0.0002                           | 0.0007                           | 0.0005                           | 0.0017                           | 0.0007                           | 0.0006                           | 0.0006                           | <0.001                          | 0.0014                          | <0.001                           | <0.001                          |                                  | 0.0016                           | 0.0015                           |
| Ag-D                                                          | mg/L | <0.0001                          | <0.00001                         | <0.00001                         | <0.0010                         |                                 |                                 |                                 | <0.0010                         | <0.0010                          | <0.0010                          | <0.0010                          | <0.001                           | <0.0010                          | <0.001                           | <0.0010                          | <0.001                           | <0.001                           | <0.00001                         | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         | <0.00001                        | <0.00001                         | <0.00001                         | <0.00001                         |
| Al-D                                                          | mg/L | 0.045                            | 0.037                            | 0.059                            | 0.06                            |                                 |                                 |                                 | 0.08                            | 0.06                             | 0.06                             | 0.03                             | <0.02                            | 0.02                             | <0.02                            | <0.02                            | 0.6                              | <0.02                            | 0.01                             | 0.02                             | 0.034                           | 0.03                            | 0.037                            | 0.021                           | 0.054                            | 0.023                            | 0.01                             |
| As-D                                                          | mg/L | 0.0017                           | 0.0011                           | 0.0005                           | <0.0002                         |                                 |                                 |                                 | <0.0002                         | 0.0006                           | 0.0006                           | 0.0016                           | 0.0009                           | 0.0013                           | 0.0024                           | 0.0022                           | 0.0005                           | 0.0003                           | 0.0011                           | 0.0007                           | 0.0014                          | 0.0003                          | 0.0007                           | 0.0009                          | 0.0007                           | 0.0013                           | 0.0024                           |
| Ba-D                                                          | mg/L | 0.072                            | 0.097                            | 0.057                            | 0.034                           |                                 |                                 |                                 | 0.043                           | 0.051                            | 0.051                            | 0.074                            | 0.077                            | 0.074                            | 0.093                            | 0.19                             | 0.055                            | 0.053                            | 0.104                            | 0.079                            | 0.076                           | 0.061                           | 0.06                             | 0.125                           | 0.065                            | 0.082                            | 0.077                            |
| B-D                                                           | mg/L | 0.111                            | 0.208                            | 0.134                            | <0.005                          |                                 |                                 |                                 | 0.008                           | 0.016                            | 0.016                            | 0.029                            | 0.046                            | 0.044                            | 0.068                            | 0.104                            | 0.1                              | 0.008                            | 0.035                            | 0.025                            | 0.057                           | 0.036                           | 0.012                            | 0.125                           | 0.004                            | 0.045                            | 0.036                            |
| Be-D                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                          | <0.00004                        |                                 |                                 |                                 | <0.00004                        | <0.00004                         | <0.00004                         | <                                |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                  |                                 |                                 |                                  |                                 |                                  |                                  |                                  |

Appendix Table A.10: Water quality at station W13

| Sampling Session |          | 1088370   | 1094163   | 1100515   | 1115474  | 1117314  | 1118493  | 1118493  | 1118493  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124049   | 1124027   | 1129098   | 1131174   | 1132803  | 1133503  | 1137485   | 1140646  | 1151901   | 1153291   | 1153291   |
|------------------|----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|----------|-----------|-----------|-----------|
| Smpl Date        |          | 1/15/2008 | 2/13/2008 | 3/14/2008 | 5/3/2008 | 5/5/2008 | 5/7/2008 | 5/8/2008 | 5/8/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/27/2008 | 5/29/2008 | 6/17/2008 | 6/25/2008 | 7/3/2008 | 7/8/2008 | 7/23/2008 | 8/6/2008 | 9/18/2008 | 9/22/2008 | 9/22/2008 |
| Station Name     |          | W13       | W13       | W13       | W13      | W13      | W13      | W13      | W13      | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13       | W13      | W13      | W13       | W13      | W13       | W13       |           |
| Sample Class     |          | P         | P         | M         | P        | P        | P        | P        | P        | M         | P         | P         | P         | P         | M         | M         | P         | P         | P         | P         | P        | P        | P         | P        | P         | M         | P         |
| P-TDP            | mg/L     | <0.02     | <0.02     | <0.02     |          | <0.05    |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Sb-D             | mg/L     | 0.0004    | 0.001     | 0.0018    | 0.0008   |          |          |          | 0.0008   | 0.0007    | 0.0007    | 0.0009    | 0.0019    | 0.0008    | 0.0015    | 0.0013    | 0.0017    | 0.004     | 0.0009    | 0.0007    | 0.001    | 0.0009   | 0.0021    | 0.0013   | 0.0026    | 0.0007    | 0.0008    |
| S-D              | mg/L     | 48.7      | 69.2      | 47.2      |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           | 31.3     | 9.1      | 58.5      |          |           |           |           |
| Se-D             | mg/L     | 0.0513    | 0.0222    | 0.0083    | <0.0006  |          |          |          | <0.0006  | 0.0028    | 0.0028    | 0.0014    | 0.0115    | 0.0124    | 0.0224    | 0.0043    | 0.0121    | <0.0006   | 0.0037    | 0.0023    | 0.0093   | 0.0078   | 0.0012    | 0.0288   | 0.0013    | 0.0121    | 0.0054    |
| Si-D             | mg/L     | 2.28      | 2.6       | 2.2       | 0.942    |          |          |          | 1.72     | 1.9       |           | 1.18      | 1.59      | 1.55      | 1.08      | 1.72      | 1.37      | 1.89      |           | 3.77      | 4.11     | 3.88     | 4.99      | 3.96     | 5.54      | 3.8       | 3.8       |
| Sn-D             | mg/L     | <0.001    | <0.001    | <0.001    | <0.004   |          |          |          | <0.004   | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.001   | <0.001    | <0.0001  | 0.0001    | <0.0001   |           |
| Sr-D             | mg/L     | 0.718     | 2.18      | 1.29      | 0.068    |          |          |          | 0.154    | 0.245     | 0.245     | 0.347     | 0.524     | 0.508     | 0.85      | 0.94      | 0.788     | 0.253     | 0.588     | 0.492     | 0.757    | 0.599    | 0.283     | 1.26     | 0.183     | 1.02      | 0.998     |
| Te-D             | mg/L     |           |           |           | <0.0001  |          |          |          | 0.0001   | 0.0001    | 0.0001    | <0.0001   | <0.0001   | 0.0002    | <0.0001   | 0.0003    | <0.0001   | <0.0001   | 0.0003    | 0.0003    |          | <0.0001  |           |          | <0.0001   |           |           |
| Th-D             | mg/L     |           |           |           | 0.0001   |          |          |          | <0.0001  | <0.0001   | <0.0001   | 0.0001    | 0.0001    | <0.0001   | <0.0001   | 0.0002    | 0.0002    | <0.0001   | <0.0001   | <0.0001   |          | <0.0001  |           |          | <0.0001   |           |           |
| Ti-D             | mg/L     | 0.0026    | 0.0035    | 0.0034    | 0.0017   |          |          |          | 0.0045   | 0.0013    | 0.0013    | 0.0007    | 0.002     | 0.0006    | 0.0023    | 0.0004    | 0.0076    | 0.0015    | 0.0009    | 0.0013    | 0.0046   | 0.0025   | 0.0015    | 0.0016   | 0.003     | 0.0037    | 0.001     |
| Tl-D             | mg/L     | <0.00005  | <0.00005  | <0.00005  | <0.00001 |          |          |          | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00005 | <0.00001 | <0.00005  | <0.00005 | <0.00001  | 0.00001   | <0.00001  |
| U-D              | mg/L     | <0.0005   | 0.0006    | <0.0005   | <0.0006  |          |          |          | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | 0.0007    | <0.0006   | 0.0016    | <0.0006   | 0.0013    | 0.0008    | 0.0014   | 0.0013   | <0.0005   | 0.0017   | <0.0004   | 0.002     | 0.0021    |
| V-D              | mg/L     | 0.0008    | 0.0023    | 0.001     | 0.00026  |          |          |          | 0.00074  | 0.00087   | 0.00087   | 0.00033   | 0.00064   | 0.00069   | 0.0007    | 0.0004    | 0.00126   | 0.00077   | 0.00118   | 0.00119   | 0.0014   | 0.00093  | 0.001     | 0.0013   | 0.0009    | 0.00186   | 0.0019    |
| Zn-D             | mg/L     | 0.003     | 0.006     | 0.002     | 0.016    |          |          |          | 0.041    | 0.077     | 0.077     | 0.064     | 0.099     | 0.104     | 0.103     | 0.003     | 0.042     | 0.22      | 0.52      | 0.244     | 0.127    | 0.068    | 0.058     | 0.147    | 0.065     | 0.013     | 0.005     |
| Zr-D             | mg/L     |           |           |           | 0.0002   |          |          |          | 0.0004   | 0.0004    | 0.0004    | 0.0002    | 0.0003    | 0.0003    | 0.0002    | 0.0002    | 0.0009    | 0.0006    | 0.0006    | 0.0006    |          | 0.0006   |           |          | 0.0005    | 0.0004    | 0.0006    |
| Alk-Bicrb        | mg/L     | 147       | 168       | 195       |          | 60       |          |          | 61       | 80        | 80        | 110       | 120       | 120       | 140       | 270       | 100       | 120       | 210       | 170       | 140      | 140      | 100       | 180      | 120       | 120       | 100       |
| Alk-Carb         | mg/L     | <6        | <6        | <6        |          | <6       |          |          | <6       | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6       | <6       | <6        | <6       | <6        | <6        |           |
| Alk-OH           | mg/L     | <5        | <5        | <5        |          | <5       |          |          | <5       | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5       | <5       | <5        | <5       | <5        | <5        |           |
| Alk-P            | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Alk-T            | mg/L     | 121       | 138       | 160       |          | 49       |          |          | 50       | 66        | 66        | 91        | 97        | 102       | 111       | 223       | 80        | 101       | 174       | 137       | 118      | 114      | 97        | 149      | 101       | 101       | 92        |
| Bromine          | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| C-TIC            | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| C-TOC            | mg/L     |           |           |           |          |          |          |          |          | 36        | 36        | 36.8      | 39.2      | 35.6      | 39.5      | 103       | 23.4      | 23        |           | 15.4      | 17.5     | 17.6     |           | 16.4     |           |           |           |
| Chloride         | mg/L     | 10.3      | 8.94      | 12.8      |          | 1.56     |          |          | 1.1      | 2.04      | 2.04      | 4.85      | 6.42      | 6.79      | 9.93      | 9.7       | 3.6       | 1.06      | 2.7       | 2.82      | 5.75     | 4.03     | 1.09      | 11.2     | 0.48      | 3.61      | 1.7       |
| Colour           | TCU      | 8         | 6         | <5        |          | 250      |          |          | 250      | 190       | 190       | 170       | 190       | 180       | 80        | 56        | 190       | 150       | 80        | 110       | 50       | 60       | 60        | 39       | 120       | 70        | 70        |
| Cond-F           | µS/cm    |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Cond-L           | µS/cm    | 729       | 950       | 700       |          | 163      |          |          | 144      | 214       | 214       | 348       | 442       | 459       | 662       | 599       | 389       | 249       | 456       | 407       | 512      | 442      | 249       | 785      | 223       | 452       | 391       |
| Discharge        | L/s      |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Fluoride         | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Hard-D           | mg/L     | 145       | 286       |           | 28       |          |          |          | 68       | 86        |           | 79        | 117       | 121       | 154       | 217       | 139       | 121       |           | 180       | 185      |          | 120       | 263      |           |           |           |
| Hard-T           | mg/L     |           |           |           |          |          | 71       |          | 69       |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| IB               | %        |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Ammonia          | mg/L     | 2.24      | 5.41      | 2.23      |          | 0.22     |          | 0.11     |          |           |           | 0.79      | 0.7       | 0.86      | 1.69      | 2.29      | 2.17      | 0.12      | 0.22      | 0.27      | 0.84     | 0.6      | 0.14      | 1.96     | <0.05     | 1.07      | 1.08      |
| Ammonium         | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| N-NO2            | mg/L     | 0.84      | 1.28      | 0.82      |          | 0.08     |          |          | 0.04     | 0.02      | 0.02      | 0.07      | <0.02     | 0.06      | 0.23      | <0.01     | 0.57      | 0.07      | 0.1       | 0.12      | 0.16     | 0.1      | 0.05      | 0.28     | <0.01     | 0.12      | 0.06      |
| NO2+NO3          | mg/L     | 17.7      | 28.8      | 20.1      |          | 1.53     |          |          | 0.89     |           |           | 6.41      |           |           | 12.9      | <0.01     | 11.3      | 1.05      | 3.22      | 3.69      | 11       | 6.68     | 1.7       | 21.6     | 0.06      | 8.9       | 6.28      |
| N-NO3            | mg/L     | 17.9      | 29.3      | 19.9      |          | 1.69     |          |          | 0.94     | 2.3       | 2.3       | 5.38      | 6.11      | 6.04      | 13.9      | <0.01     | 11.3      | 1.06      | 3.49      | 3.8       | 11.2     | 8.82     | 1.77      | 9.83     | 0.05      | 9.28      | 6.9       |
| pH-F             | pH units |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| pH-L             | pH units | 7.98      | 8.17      | 8.06      |          | 7.49     |          |          | 7.52     | 7.67      | 7.67      | 7.73      | 7.55      | 7.66      | 7.76      | 6.97      | 7.77      | 8.07      | 8.17      | 8.13      | 8.06     | 8.08     | 7.9       | 8.02     | 7.96      | 8.5       | 7.92      |
| Radium - 226     |          |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| SO4-D            | mg/L     | 131       | 194       | 126       |          | 20.6     |          |          | 14.1     | 23.9      | 23.9      | 54.4      | 68.6      | 79.1      | 133       | 72        | 75.4      | 23.6      | 56.2      | 61        | 94.2     | 86.7     | 23.8      | 168      | 14.3      | 95.9      | 84.2      |
| SO4-T            | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Sulphide         | mg/L     |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| TDS              | mg/L     | 514       | 636       | 498       |          | 208      |          |          | 160      | 228       | 228       | 290       | 326       | 352       | 494       | 542       | 338       | 216       | 322       | 368       | 370      | 352      | 234       | 584      | 234       | 350       | 312       |
| Temp-F           | C        |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           |          |           |           |           |
| Temp-obs-pH      | C        |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |          |          |           | </       |           |           |           |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1171319<br>10/27/2008<br>W13<br>P | 1178181<br>11/18/2008<br>W13<br>P | 1199519<br>3/11/2009<br>W13<br>P | 1203957<br>3/24/2009<br>W13<br>P | 1205490<br>4/5/2009<br>W13<br>P | 1214867<br>4/20/2009<br>W13<br>P | 1221849<br>5/12/2009<br>W13<br>P | 1221849<br>5/18/2009<br>W13<br>P | 1235620<br>7/8/2009<br>W13<br>P | 1235620<br>7/13/2009<br>W13<br>P | 1241968<br>8/6/2009<br>W13<br>P | 1249284<br>9/7/2009<br>W13<br>P | 1251597<br>9/18/2009<br>W13<br>P | 1262295<br>10/12/2009<br>W13<br>P | 1282386<br>11/25/2009<br>W13<br>P | 1284423<br>12/2/2009<br>W13<br>P | 1288789<br>1/2/2010<br>W13<br>P | 1289800<br>1/5/2010<br>W13<br>P | 1290613<br>1/12/2010<br>W13<br>P |
|---------------------------------------------------------------|------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
| Ag-T                                                          | mg/L | <0.00001                          |                                   |                                  |                                  | <0.00001                        | 0.00007                          |                                  |                                  | 0.00051                         | 0.00057                          | 0.00013                         | <0.00001                        | <0.00001                         | 0.00002                           | 0.00006                           | 0.0001                           | 0.00008                         | 0.00007                         | 0.00005                          |
| Al-T                                                          | mg/L | 0.021                             |                                   |                                  |                                  | 0.624                           | 2.56                             |                                  |                                  | 0.987                           | 1.69                             | 2.29                            | 0.462                           | 0.231                            | 0.765                             | 0.862                             | 0.987                            | 1.47                            | 2.09                            | 1.62                             |
| As-T                                                          | mg/L | 0.0011                            |                                   |                                  |                                  | 0.0007                          | 0.0013                           |                                  |                                  | 0.001                           | 0.0009                           | 0.0017                          | 0.0017                          | 0.0016                           | 0.0014                            | 0.001                             | 0.001                            | 0.0009                          | 0.001                           | 0.001                            |
| Ba-T                                                          | mg/L | 0.176                             |                                   |                                  |                                  | 0.094                           | 0.162                            |                                  |                                  | 0.096                           | 0.098                            | 0.117                           | 0.11                            | 0.122                            | 0.125                             | 0.131                             | 0.136                            | 0.161                           | 0.181                           | 0.162                            |
| Be-T                                                          | mg/L | <0.00004                          |                                   |                                  |                                  | <0.00004                        | 0.00012                          |                                  |                                  | <0.00004                        | <0.00004                         | 0.0001                          | <0.00004                        | <0.00004                         | <0.00004                          | <0.00004                          | <0.00004                         | <0.00004                        | <0.00004                        | 0.00005                          |
| Bi-T                                                          | mg/L | <0.0001                           |                                   |                                  |                                  | <0.0001                         | <0.0001                          |                                  |                                  | <0.0001                         | 0.0001                           | <0.001                          | <0.001                          | <0.001                           | <0.001                            | <0.001                            | <0.001                           | <0.001                          | <0.001                          | <0.001                           |
| B-T                                                           | mg/L | 0.01                              |                                   |                                  |                                  | 0.122                           | 0.076                            |                                  |                                  | 0.122                           | 0.12                             | 0.185                           | 0.11                            | 0.123                            | 0.084                             | 0.177                             | 0.146                            | 0.151                           | 0.146                           | 0.129                            |
| Ca-T                                                          | mg/L | 101                               |                                   |                                  |                                  | 42.4                            | 51.5                             |                                  |                                  | 52.4                            | 43.4                             | 56.1                            | 70.8                            | 92.7                             | 56.7                              | 108                               | 79.2                             | 75.5                            | 74.9                            | 67.2                             |
| Cd-T                                                          | mg/L | 0.00004                           |                                   |                                  |                                  | 0.00014                         | 0.00018                          |                                  |                                  | 0.00011                         | 0.0004                           | 0.00017                         | 0.00013                         | 0.00015                          | 0.00015                           | 0.00036                           | 0.00016                          | 0.00017                         | 0.00688                         | 0.0148                           |
| CN-T                                                          | mg/L |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Co-T                                                          | mg/L | 0.00167                           |                                   |                                  |                                  | 0.00047                         | 0.00125                          |                                  |                                  | 0.00037                         | 0.0007                           | 0.0017                          | 0.00049                         | 0.0004                           | 0.00036                           | 0.00066                           | 0.00062                          | 0.00058                         | 0.00069                         | 0.00052                          |
| Cr-T                                                          | mg/L | 0.0006                            |                                   |                                  |                                  | 0.0009                          | 0.0013                           |                                  |                                  | 0.0007                          | 0.0017                           | 0.0011                          | 0.0009                          | 0.001                            | <0.0004                           | 0.0008                            | 0.0007                           | 0.001                           | 0.0013                          | 0.001                            |
| Cu-T                                                          | mg/L | 0.094                             |                                   |                                  |                                  | 0.122                           | 0.363                            |                                  |                                  | 0.129                           | 1.43                             | 0.302                           | 0.088                           | 0.031                            | 0.066                             | 0.234                             | 0.222                            | 0.187                           | 0.203                           | 0.15                             |
| Fe-T                                                          | mg/L | 1.33                              |                                   |                                  |                                  | 0.87                            | 3.41                             |                                  |                                  | 0.92                            | 2.49                             | 2.82                            | 0.387                           | <0.01                            | 0.323                             | 0.79                              | 1.18                             | 1.1                             | 1.37                            | 1.07                             |
| Hg-T                                                          | mg/L | 0.00001                           |                                   |                                  |                                  | <0.00001                        | <0.00001                         |                                  |                                  | <0.00001                        | 0.00002                          |                                 | <0.00001                        | <0.00001                         | <0.00001                          | <0.00001                          | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         |
| K-T                                                           | mg/L | 4.3                               |                                   |                                  |                                  | 36.4                            | 23.9                             |                                  |                                  | 50.2                            | 44.2                             | 55                              | 46                              | 63                               | 52                                | 46                                | 55                               | 59                              | 58                              | 52                               |
| Li-T                                                          | mg/L | 0.002                             |                                   |                                  |                                  | 0.014                           | 0.012                            |                                  |                                  | 0.019                           | 0.017                            | 0.022                           | 0.023                           | 0.026                            | 0.016                             | 0.019                             | 0.015                            | 0.021                           | 0.021                           | 0.021                            |
| Mg-T                                                          | mg/L | 23.5                              |                                   |                                  |                                  | 11.2                            | 11.5                             |                                  |                                  | 14                              | 11.4                             | 17.1                            | 19.4                            | 26.5                             | 15.4                              | 23.8                              | 17.8                             | 16.9                            | 16.6                            | 15.5                             |
| Mn-T                                                          | mg/L | 1.66                              |                                   |                                  |                                  | 0.0729                          | 0.243                            |                                  |                                  | 0.106                           | 0.132                            | 0.443                           | 0.249                           | 0.212                            | 0.122                             | 0.127                             | 0.0958                           | 0.0892                          | 0.102                           | 0.0859                           |
| Mo-T                                                          | mg/L | 0.00321                           |                                   |                                  |                                  | 0.0696                          | 0.0487                           |                                  |                                  | 0.0929                          | 0.0916                           | 0.0954                          | 0.0987                          | 0.0979                           | 0.104                             | 0.0741                            | 0.086                            | 0.101                           | 0.104                           | 0.105                            |
| Na-T                                                          | mg/L | 11.2                              |                                   |                                  |                                  | 86.2                            | 57                               |                                  |                                  | 95.8                            | 85.1                             | 98.7                            | 110                             | 116                              | 89.3                              | 94                                | 107                              | 101                             | 101                             | 105                              |
| Ni-T                                                          | mg/L | 0.004                             |                                   |                                  |                                  | 0.001                           | 0.002                            |                                  |                                  | 0.001                           | 0.002                            | 0.002                           | 0.002                           | 0.002                            | 0.002                             | 0.003                             | 0.002                            | 0.003                           | 0.003                           | 0.002                            |
| N-TKN                                                         | mg/L | 1.22                              | 2.65                              | 15.1                             | 5.95                             | 6.12                            | 4.3                              | 0.96                             | 0.88                             | 6                               | 2.58                             | 6.62                            | 4.07                            | 4.87                             | 2.56                              | 17.2                              | 15.3                             | 17                              |                                 | 7.94                             |
| Pb-T                                                          | mg/L | 0.0001                            |                                   |                                  |                                  | 0.0008                          | 0.0015                           |                                  |                                  | 0.0009                          | 0.0019                           | 0.0009                          | 0.0007                          | 0.0004                           | 0.0003                            | 0.0011                            | 0.0005                           | 0.0005                          | 0.0021                          | 0.0011                           |
| P-PO4-T                                                       | mg/L | <0.05                             | <0.05                             | 0.02                             | 0.01                             | <0.01                           | 0.01                             | 0.02                             | 0.02                             | 0.03                            | 0.03                             | 0.03                            | 0.04                            | 0.04                             | 0.04                              | 0.02                              | 0.03                             | 0.02                            |                                 | 0.04                             |
| P-T                                                           | mg/L | 0.026                             |                                   | <0.05                            | 0.05                             | 0.06                            | 0.09                             | 0.05                             | 0.06                             | 0.063                           | 0.131                            | 0.214                           | 0.16                            | 0.034                            | <0.05                             | 0.09                              | 0.11                             | 0.06                            | 0.065                           | 0.07                             |
| P-TRP (Ortho)                                                 | mg/L | 0.12                              | 0.05                              |                                  |                                  |                                 |                                  |                                  |                                  | 0.06                            | 0.11                             | 0.08                            | 0.11                            | <0.05                            |                                   |                                   |                                  |                                 |                                 |                                  |
| Sb-T                                                          | mg/L | <0.0002                           |                                   |                                  |                                  | 0.0003                          | <0.0002                          |                                  |                                  | 0.0003                          | 0.0004                           | 0.0003                          | 0.0003                          | 0.0003                           | 0.0003                            | 0.0003                            | 0.0004                           | 0.0013                          | 0.0034                          | 0.0005                           |
| Se-T                                                          | mg/L | <0.0006                           |                                   |                                  |                                  | 0.0078                          | 0.0069                           |                                  |                                  | 0.0305                          | 0.0234                           | 0.0291                          | 0.0287                          | 0.0406                           | 0.029                             | 0.0135                            | 0.0119                           | 0.0166                          | 0.0174                          | 0.0163                           |
| Si-T                                                          | mg/L | 10                                |                                   |                                  |                                  | 3.02                            | 6.65                             |                                  |                                  | 5.13                            | 6.1                              | 7.01                            | 4.57                            | 2.98                             | 3.46                              | 3.49                              | 3.85                             | 4.6                             | 4.78                            | 4.72                             |
| Sn-T                                                          | mg/L | <0.0001                           |                                   |                                  |                                  | <0.0001                         | <0.0001                          |                                  |                                  | <0.0001                         | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          |
| Sr-T                                                          | mg/L | 0.638                             |                                   |                                  |                                  | 2.09                            | 1                                |                                  |                                  | 1.76                            | 1.64                             | 2.53                            | 2.71                            | 3.75                             | 1.9                               | 3.93                              | 2.93                             | 2.18                            | 2.26                            | 1.89                             |
| S-T                                                           | mg/L |                                   |                                   |                                  |                                  | 38.5                            | 28.6                             |                                  |                                  | 69.6                            | 53.7                             | 61.7                            | 84.2                            | 112                              | 69.3                              | 56.5                              | 57.2                             | 56.6                            | 46.9                            | 46.6                             |
| Te-T                                                          | mg/L | <0.0001                           |                                   |                                  |                                  | <0.0001                         | <0.0001                          |                                  |                                  | <0.0001                         | 0.0002                           | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          |
| Th-T                                                          | mg/L | <0.0001                           |                                   |                                  |                                  | <0.0001                         | 0.0002                           |                                  |                                  | 0.0003                          | 0.0003                           | <0.0004                         | <0.0004                         | <0.0004                          | <0.0004                           | <0.0004                           | <0.0004                          | <0.0004                         | <0.0004                         | <0.0004                          |
| Ti-T                                                          | mg/L | 0.0025                            |                                   |                                  |                                  | 0.0274                          | 0.103                            |                                  |                                  | 0.0272                          | 0.0528                           | 0.103                           | 0.0132                          | 0.0047                           |                                   |                                   |                                  |                                 |                                 |                                  |
| Tl-T                                                          | mg/L | <0.00001                          |                                   |                                  |                                  | <0.00001                        | 0.00002                          |                                  |                                  | <0.00001                        | <0.00001                         | 0.00003                         | 0.00002                         | 0.00001                          | <0.00001                          | 0.00001                           | 0.00001                          | 0.00001                         | <0.00001                        | 0.00002                          |
| U-T                                                           | mg/L | 0.0011                            |                                   |                                  |                                  | 0.0005                          | 0.0007                           |                                  |                                  | 0.0008                          | 0.0008                           | 0.001                           | 0.0009                          | 0.0004                           | <0.0004                           | 0.0018                            | 0.0011                           | 0.0007                          | 0.0006                          | 0.0004                           |
| V-T                                                           | mg/L | 0.00104                           |                                   |                                  |                                  | 0.00219                         | 0.0067                           |                                  |                                  | 0.0022                          | 0.00408                          | 0.0065                          | 0.0012                          | 0.0009                           | 0.0009                            | 0.0019                            | 0.0023                           | 0.0025                          | 0.0032                          | 0.0026                           |
| Zn-T                                                          | mg/L | 0.464                             |                                   |                                  |                                  | 0.028                           | 0.041                            |                                  |                                  | 0.006                           | 0.017                            | 0.018                           | 0.006                           | 0.009                            | 0.006                             | 0.021                             | 0.012                            | 0.01                            | 0.026                           | 0.014                            |
| Zr-T                                                          | mg/L | 0.0005                            |                                   |                                  |                                  | 0.0002                          | 0.0006                           |                                  |                                  | 0.0003                          | 0.0002                           | 0.0002                          | 0.0002                          | 0.0002                           | 0.0003                            | 0.0005                            | 0.0004                           | 0.0002                          | 0.0003                          | 0.0006                           |
| Ag-D                                                          | mg/L | <0.00001                          | <0.00001                          | <0.00001                         | <0.00001                         | <0.00001                        | 0.0001                           | <0.00001                         | <0.00001                         | <0.00001                        |                                  | <0.00001                        | <0.00001                        | 0.00002                          | <0.00001                          | <0.00001                          | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         |
| Al-D                                                          | mg/L | 0.01                              | 0.078                             | 0.04                             | 0.022                            | 0.018                           | 0.022                            | 0.052                            | 0.029                            | 0.1                             |                                  | 0.047                           | 0.059                           | 0.062                            | 0.031                             | 0.05                              | 0.027                            | 0.051                           | 0.953                           | 0.252                            |
| As-D                                                          | mg/L | 0.0013                            | 0.0008                            | 0.0007                           | 0.0005                           | 0.0006                          | 0.0005                           | 0.0005                           | 0.0005                           | 0.0015                          |                                  | <0.0002                         | 0.0011                          | 0.0014                           | 0.0011                            | 0.0013                            | 0.0008                           | 0.0007                          | 0.0012                          | 0.0012                           |
| Ba-D                                                          | mg/L | 0.17                              | 0.071                             | 0.079                            | 0.07                             | 0.079                           | 0.112                            | 0.048                            | 0.038                            | 0.081                           |                                  | 0.106                           | 0.095                           | 0.112                            | 0.108                             | 0.11                              | 0.109                            | 0.117                           | 0.143                           | 0.115                            |
| B-D                                                           | mg/L | 0.01                              | 0.092                             | 0.199                            | 0.147                            | 0.123                           | 0.064                            | 0.014                            | 0.006                            | 0.138                           |                                  | 0.177                           | 0.111                           | 0.122                            | 0.076                             | 0.172                             | 0.148                            | 0.154                           | 0.126                           | 0.127                            |
| Be-D                                                          | mg/L | <0.00004                          | <0.0001                           | <0.00004                         | <0.00004                         | <0.00004                        | <0.00004                         | <0.00004                         | <0.00004                         | <0.00004                        |                                  | <0.00004                        | <0.00004                        | <0.00004                         | <0.00004                          | <0.00004                          | <0.00004                         | <0.00004                        | <0.00004                        | <0.00004                         |
| Bi-D                                                          | mg/L |                                   | <0.0005                           | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         |                                  | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          |
| Ca-D                                                          | mg/L | 103                               | 27.3                              | 68.4                             | 58.8                             | 40.9                            | 48.9                             | 30.7                             | 25.7                             | 49.5                            |                                  | 54.3                            | 67.6                            | 87.5                             | 51.9                              | 106                               | 81.4                             | 68.8                            | 69.3                            | 66.6                             |
| Cd-D                                                          | mg/L | 0.00006                           | 0.00005                           | 0.00006                          | 0.00005                          | 0.00012                         | 0.00029                          | 0.00026                          | 0.00002                          | 0.00007                         |                                  | 0.00013                         | 0.00009                         | 0.00018                          | 0.00019                           | 0.00037                           | 0.00012                          | 0.00012                         | 0.00043                         | 0.00266                          |
| C-DOC                                                         | mg/L |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Co-D                                                          | mg/L | 0.0016                            | <0.0001                           | 0.00033                          | 0.00028                          | 0.00016                         | 0.00034                          | 0.00028                          | 0.00022                          | 0.00016                         |                                  | 0.00068                         | 0.00048                         | 0.00041                          | 0.00025                           | 0.00058                           | 0.00031                          | 0.00036                         | 0.0006                          | 0.00043                          |
| Cr-D                                                          | mg/L | 0.0005                            | <0.0005                           | <0.0004                          | <0.0004                          | 0.0005                          | 0.0006                           | 0.0005                           | 0.0016                           | <0.0004                         |                                  | 0.001                           | 0.0012                          | 0.001                            | <0.0004                           | <0.0004                           | <0.0004                          | <0.0004                         | 0.0008                          | 0.0006                           |
| Cu-D                                                          | mg/L | 0.079                             | 0.006                             | 0.065                            | 0.015                            | 0.011                           | 0.028                            | 0.084                            | 0.219                            | 0.014                           |                                  | 0.026                           | 0.036                           | 0.03                             | 0.015                             | 0.113                             | 0.052                            | 0.026                           | 0.135                           | 0.03                             |
| Fe-D                                                          | mg/L | 1                                 | 0.02                              | 0.06                             | <0.01                            | <0.01                           | 0.04                             | 0.18                             | 0.19                             | 0.02                            |                                  | <0.01                           | 0.03                            | 0.02                             | <0.01                             | 0.11                              | 0.03                             | 0.04                            | 1.13                            | 0.27                             |
| Hg-D                                                          | mg/L |                                   | 0.0003                            | <0.00001                         | <0.00001                         | <0.00001                        | <0.00001                         | <0.00001                         | <0.00001                         | <0.00001                        |                                  |                                 | <0.00001                        | <0.00001                         | <0.00001                          | <0.00001                          | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         |
| K-D                                                           | mg/L | 4.3                               | 38.8                              | 28.6                             | 37                               | 35.5                            | 23.2                             | 3.8                              | 3                                | 45.4                            |                                  | 56                              | 45                              | 57.3                             | 48                                | 56                                | 52                               | 54                              | 50                              |                                  |
| Li-D                                                          | mg/L | 0.001                             | 0.012                             | 0.013                            | 0.013                            | 0.013                           | 0.01                             | 0.002                            | 0.001                            | 0.019                           |                                  | 0.021                           | 0.021                           | 0.027                            | 0.016                             | 0.018                             | 0.016                            | 0.022                           | 0.019                           | 0.021                            |
| Mg-D                                                          | mg/L | 24.8                              | 8                                 | 17.4                             | 14.5                             | 10.6                            | 10.3                             | 7.54                             | 5.62                             | 12.9                            |                                  | 16.3                            | 18.3                            | 24.6                             | 14.4                              | 23.1                              | 17.6                             | 15                              | 15.4                            | 15.2                             |
| Mn-D                                                          | mg/L | 1.55                              | 0.046                             | 0.0557                           | 0.0446                           | 0.0484                          | 0.153                            | 0.173                            | 0.0844                           | 0.0848                          |                                  | 0.321                           | 0.226                           | 0.201                            | 0.109                             | 0.111                             | 0.0744                           | 0.0651                          | 0.0842                          | 0.0652                           |
| Mo-D                                                          | mg/L | 0.00287                           | 0.079                             | 0.0658                           | 0.0689                           | 0.0609                          | 0.0452                           | 0.00597                          | 0.00603                          | 0.0859                          |                                  | 0.104                           | 0.0953                          | 0.0956                           | 0.101                             | 0.0722                            | 0.0856                           | 0.0983                          | 0.0958                          | 0.10                             |

Appendix Table A.10: Water quality at station W13

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | 1171319<br>10/27/2008<br>W13<br>P | 1178181<br>11/18/2008<br>W13<br>P | 1199519<br>3/11/2009<br>W13<br>P | 1203957<br>3/24/2009<br>W13<br>P | 1205490<br>4/5/2009<br>W13<br>P | 1214867<br>4/20/2009<br>W13<br>P | 1221849<br>5/12/2009<br>W13<br>P | 1221849<br>5/18/2009<br>W13<br>P | 1235620<br>7/8/2009<br>W13<br>P | 1235620<br>7/13/2009<br>W13<br>P | 1241968<br>8/6/2009<br>W13<br>P | 1249284<br>9/7/2009<br>W13<br>P | 1251597<br>9/18/2009<br>W13<br>P | 1262295<br>10/12/2009<br>W13<br>P | 1282386<br>11/25/2009<br>W13<br>P | 1284423<br>12/2/2009<br>W13<br>P | 1288789<br>1/2/2010<br>W13<br>P | 1289800<br>1/5/2010<br>W13<br>P | 1290613<br>1/12/2010<br>W13<br>P |
|---------------------------------------------------------------|----------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
| P-TDP                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Sb-D                                                          | mg/L     | 0.0014                            | 0.0014                            | 0.0009                           | 0.0045                           | 0.0004                          | 0.0016                           | 0.0009                           | 0.0008                           | 0.0014                          |                                  | 0.0008                          | 0.0019                          | 0.0013                           | 0.0004                            | 0.0022                            | 0.0013                           | 0.0029                          | 0.0025                          | 0.0016                           |
| S-D                                                           | mg/L     |                                   | 38                                | 50.9                             | 47                               | 41.1                            | 27.6                             | 9                                | 4.6                              | 52.5                            |                                  | 68.6                            | 74.6                            | 119                              | 63.1                              | 53.6                              | 49.3                             | 48.4                            | 44.7                            | 47.6                             |
| Se-D                                                          | mg/L     | <0.0006                           | 0.011                             | 0.009                            | 0.0082                           | 0.0072                          | 0.0068                           | <0.0006                          | <0.0006                          | 0.029                           |                                  | 0.0401                          | 0.028                           | 0.0415                           | 0.0294                            | 0.0135                            | 0.0121                           | 0.0162                          | 0.0151                          | 0.0155                           |
| Si-D                                                          | mg/L     | 10.6                              | 2.27                              | 2.08                             | 2.11                             | 1.88                            | 2.5                              | 3.11                             | 3.2                              | 2.82                            |                                  | 3.25                            | 3.39                            | 2.55                             | 2.12                              | 2.14                              | 1.95                             | 2.08                            | 3.95                            | 2.69                             |
| Sn-D                                                          | mg/L     | 0.0016                            | <0.001                            | <0.0001                          | <0.0001                          | 0.0066                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         |                                  | <0.0001                         | <0.0001                         | <0.0001                          | 0.0001                            | <0.0001                           | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          |
| Sr-D                                                          | mg/L     | 0.609                             | 1.13                              | 4.34                             | 2.73                             | 2                               | 0.874                            | 0.315                            | 0.225                            | 1.75                            |                                  | 2.76                            | 2.42                            | 3.87                             | 1.82                              | 3.75                              | 2.88                             | 2.1                             | 2.04                            | 1.81                             |
| Te-D                                                          | mg/L     | <0.0001                           |                                   | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         |                                  | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                           | <0.0001                           | 0.0001                           | <0.0001                         | <0.0001                         | <0.0001                          |
| Th-D                                                          | mg/L     | <0.0001                           |                                   | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         |                                  | <0.0004                         | <0.0004                         | <0.0004                          | <0.0004                           | <0.0004                           | <0.0004                          | <0.0004                         | <0.0004                         | <0.0004                          |
| Ti-D                                                          | mg/L     | 0.0017                            | 0.0024                            | 0.001                            | 0.0002                           | 0.0002                          | 0.0014                           | 0.0044                           | 0.0018                           | <0.0001                         |                                  | 0.0007                          | 0.0011                          | 0.0012                           | <0.01                             | <0.01                             | <0.01                            | <0.01                           | 0.031                           | <0.01                            |
| Tl-D                                                          | mg/L     | 0.00004                           | <0.00005                          | <0.00001                         | <0.00001                         | <0.00001                        | 0.00001                          | <0.00001                         | <0.00001                         | <0.00001                        |                                  | <0.00001                        | 0.00001                         | 0.00001                          | <0.00001                          | <0.00001                          | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         |
| U-D                                                           | mg/L     | 0.0011                            | <0.0005                           | 0.0015                           | 0.0007                           | 0.0005                          | 0.0006                           | 0.0007                           | 0.0005                           | 0.0009                          |                                  | 0.001                           | 0.0009                          | 0.0004                           | <0.0004                           | 0.0017                            | 0.001                            | 0.0007                          | 0.0006                          | <0.0004                          |
| V-D                                                           | mg/L     | 0.00091                           | 0.0014                            | 0.00039                          | 0.00026                          | 0.00037                         | 0.0004                           | 0.00047                          | 0.0007                           | 0.00044                         |                                  | 0.0012                          | 0.0005                          | 0.0006                           | 0.0004                            | 0.0005                            | 0.0003                           | 0.0004                          | 0.0021                          | 0.0007                           |
| Zn-D                                                          | mg/L     | 0.472                             | 0.022                             | 0.026                            | 0.015                            | 0.017                           | 0.02                             | 0.051                            | 0.062                            | 0.002                           |                                  | 0.002                           | 0.004                           | 0.003                            | 0.001                             | 0.012                             | 0.006                            | 0.004                           | 0.014                           | 0.006                            |
| Zr-D                                                          | mg/L     | 0.0004                            |                                   | 0.0002                           | <0.0001                          | <0.0001                         | 0.0005                           | 0.0004                           | 0.0003                           | 0.0003                          |                                  | 0.0001                          | 0.0002                          | 0.0002                           | 0.0003                            | 0.0005                            | 0.0004                           | <0.0001                         | 0.0006                          | 0.0001                           |
| Alk-Bicrb                                                     | mg/L     | 360                               | 150                               | 150                              | 140                              | 130                             | 120                              | 90                               | 80                               | 120                             | 140                              | 160                             | 150                             | 100                              | 100                               | 130                               | 100                              | 100                             |                                 | 100                              |
| Alk-Carb                                                      | mg/L     | <6                                | <6                                | <6                               | <6                               | <6                              | <6                               | <6                               | <6                               | <6                              | <6                               | <6                              | <6                              | <6                               | <6                                | <6                                | <6                               | <6                              |                                 | <6                               |
| Alk-OH                                                        | mg/L     | <5                                | <5                                | <5                               | <5                               | <5                              | <5                               | <5                               | <5                               | <5                              | <5                               | <5                              | <5                              | <5                               | <5                                | <5                                | <5                               | <5                              |                                 | <5                               |
| Alk-P                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Alk-T                                                         | mg/L     | 295                               | 121                               | 121                              | 111                              | 105                             | 102                              | 75                               | 67                               | 103                             | 114                              | 130                             | 123                             | 90                               | 96                                | 107                               | 96                               | 95                              |                                 | 96                               |
| Bromine                                                       | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| C-TIC                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| C-TOC                                                         | mg/L     | 23                                |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Chloride                                                      | mg/L     | 0.2                               | 15.4                              | 13.5                             | 15                               | 15.1                            | 15.7                             | 1.93                             | 1.04                             | 18.7                            | 19.7                             | 26                              | 27.2                            | 38.7                             | 52                                | 24                                | 27.8                             | 28.8                            |                                 | 29.3                             |
| Colour                                                        | TCU      | 80                                | <5                                | <5                               | <5                               | <5                              | <5                               | 140                              | 140                              | 35                              | 21                               | <5                              |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Cond-F                                                        | µS/cm    |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Cond-L                                                        | µS/cm    | 542                               | 699                               | 1090                             | 915                              | 787                             | 653                              | 231                              | 173                              | 867                             | 808                              | 933                             | 1070                            | 1210                             | 870                               | 1290                              | 1240                             | 1180                            |                                 | 1100                             |
| Discharge                                                     | L/s      |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Fluoride                                                      | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Hard-D                                                        | mg/L     | 359                               |                                   | 242                              | 206                              | 146                             | 164                              | 108                              | 87                               | 177                             | 152                              | 203                             | 244                             | 320                              | 189                               | 359                               | 275                              | 234                             | 236                             | 229                              |
| Hard-T                                                        | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| IB                                                            | %        |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Ammonia                                                       | mg/L     |                                   | 0.39                              |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Ammonium                                                      | mg/L     |                                   |                                   | 9.16                             | 4.4                              | 1.79                            | 0.87                             | 0.11                             | 0.07                             | 1.78                            | 1.24                             | 2.17                            | 1.04                            | 1.78                             | 0.66                              | 12.1                              | 8.81                             | 7.18                            | 6.2                             | 5.67                             |
| N-NO2                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| NO2+NO3                                                       | mg/L     | 0.05                              | 16.6                              | 59                               | 45.4                             | 37.4                            | 25                               | 1.47                             | 0.41                             | 25.5                            | 20.8                             | 23.8                            | 26.3                            | 28.3                             | 18                                | 89.8                              | 79.8                             | 71.6                            |                                 | 66                               |
| N-NO3                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| pH-F                                                          | pH units |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| pH-L                                                          | pH units | 8.02                              | 7.81                              | 7.75                             | 7.63                             | 7.61                            | 7.45                             | 7.56                             | 7.61                             | 7.6                             | 7.74                             | 7.66                            | 7.57                            | 7.48                             | 7.55                              | 7.56                              | 7.5                              | 7.65                            |                                 | 7.74                             |
| Radium - 226                                                  |          |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| SO4-D                                                         | mg/L     | 21                                | 113                               | 167                              | 134                              | 114                             | 82.5                             | 27.6                             | 14.8                             | 158                             | 136                              | 206                             | 224                             | 356                              | 189                               | 161                               | 148                              | 145                             |                                 | 143                              |
| SO4-T                                                         | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Sulphide                                                      | mg/L     |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| TDS                                                           | mg/L     | 374                               | 510                               | 774                              | 666                              | 532                             | 438                              | 188                              | 150                              | 586                             | 560                              | 670                             | 774                             | 920                              | 628                               | 952                               | 892                              | 592                             |                                 | 758                              |
| Temp-F                                                        | C        |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| Temp-obs-pH                                                   | C        |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |
| TSS                                                           | mg/L     | 5                                 | 56                                | 16                               | 26                               | 23                              | 84                               | 16                               | 90                               | 45                              | 56                               | 38                              | 20                              | 5                                | 20                                | 28                                | 30                               | 57                              |                                 | 36                               |
| Turb                                                          | NTU      | 1.4                               | 65                                | 6.3                              | 24                               | 26                              | 41                               | 20                               | 7.9                              | 3.8                             | 25                               | 3                               | 1.8                             | 2.6                              | 9.7                               | 27                                | 35                               | 39                              |                                 | 48                               |
| Turb-F                                                        | NTU      |                                   |                                   |                                  |                                  |                                 |                                  |                                  |                                  |                                 |                                  |                                 |                                 |                                  |                                   |                                   |                                  |                                 |                                 |                                  |

Appendix Table A.11: Water quality at station W15

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1004203<br>5/19/2007<br>W15<br>P | 1015480<br>6/20/2007<br>W15<br>P | 1203450<br>7/18/2007<br>W15<br>P | 1036694<br>8/14/2007<br>W15<br>P | 1050334<br>9/17/2007<br>W15<br>P | 1065056<br>10/17/2007<br>W15<br>P | 1077993<br>11/20/2007<br>W15<br>P | 1112527<br>4/22/2008<br>W15<br>P | 1118493<br>5/7/2008<br>W15<br>P | 1122144<br>5/20/2008<br>W15<br>P | 1129098<br>6/18/2008<br>W15<br>P | 1137485<br>7/22/2008<br>W15<br>P | 1145121<br>8/26/2008<br>W15<br>P | 1151901<br>9/18/2008<br>W15<br>P | 1171319<br>10/27/2008<br>W15<br>P | 1178181<br>11/18/2008<br>W15<br>P | 1216270<br>4/30/2009<br>W15<br>P | 1221849<br>5/18/2009<br>W15<br>P | 1227387<br>6/4/2009<br>W15<br>P | 1233572<br>7/7/2009<br>W15<br>P | 1235620<br>7/13/2009<br>W15<br>P | 1242427<br>8/11/2009<br>W15<br>P | 1245933<br>8/25/2009<br>W15<br>P | 1247633<br>9/3/2009<br>W15<br>P | 1251597<br>9/18/2009<br>W15<br>P | 1262295<br>10/12/2009<br>W15<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|-----------------------------------|
| Ag-T                                                          | mg/L | <0.0002                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | <0.0001                          | <0.0001                         | <0.0001                          | <0.00001                         | <0.00001                         | <0.00001                         | 0.00006                          | 0.00009                           | 0.00007                           | <0.00001                         | <0.00001                         | <0.00001                        | 0.00012                         | 0.00051                          | 0.00001                          | <0.00001                         | <0.00001                        | <0.00001                         | <0.00001                          |
| Al-T                                                          | mg/L | 0.1                              | 0.093                            | 0.052                            | 0.047                            | 0.036                            | 0.033                             | 0.127                             | 0.7                              | 0.23                            | 0.17                             | 0.04                             | 0.135                            | 0.308                            | 0.203                            | 3.09                              | 0.398                             | 0.504                            | 0.153                            | 0.101                           | 0.099                           | 0.346                            | 0.046                            | 1.25                             | 0.137                           | 0.054                            | 0.166                             |
| As-T                                                          | mg/L | 0.0005                           | 0.0006                           | 0.0005                           | 0.0004                           | 0.0004                           | 0.0003                            | 0.0006                            | 0.001                            | 0.0005                          | 0.0007                           | 0.0008                           | 0.0004                           | 0.0006                           | 0.0002                           | 0.0011                            | 0.0004                            | 0.0003                           | 0.0004                           | 0.0004                          | 0.0018                          | 0.0025                           | 0.0019                           | 0.0024                           | 0.002                           | 0.0009                           | 0.001                             |
| Ba-T                                                          | mg/L | 0.058                            | 0.064                            | 0.087                            | 0.092                            | 0.063                            | 0.086                             | 0.11                              | 0.072                            | 0.054                           | 0.048                            | 0.067                            | 0.046                            | 0.043                            | 0.05                             | 0.096                             | 0.121                             | 0.025                            | 0.053                            | 0.071                           | 0.223                           | 0.256                            | 0.229                            | 0.331                            | 0.236                           | 0.091                            | 0.148                             |
| Be-T                                                          | mg/L | <0.0002                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | 0.00008                          | <0.00004                        | <0.00004                         | <0.00004                         | <0.0001                          | <0.00004                         | <0.00004                         | 0.00012                           | <0.0001                           | <0.00004                         | <0.00004                         | <0.00004                        | <0.00004                        | <0.00004                         | <0.00004                         | 0.00005                          | <0.00004                        | <0.00004                         | <0.00004                          |
| Bi-T                                                          | mg/L | <0.001                           | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                           | <0.0005                           |                                  |                                 |                                  |                                  | <0.0005                          |                                  | <0.0001                          | <0.0001                           | <0.0005                           | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          | <0.001                           | <0.001                           | <0.001                          | <0.001                           |                                   |
| B-T                                                           | mg/L | 0.005                            | 0.007                            | 0.002                            | <0.002                           | 0.002                            | <0.002                            | <0.002                            | <0.005                           | <0.005                          | <0.005                           | <0.005                           | <0.002                           | <0.005                           | <0.005                           | <0.005                            | <0.002                            | <0.005                           | <0.005                           | <0.005                          | <0.005                          | <0.005                           | <0.005                           | 0.008                            | 0.005                           | <0.005                           | <0.005                            |
| Ca-T                                                          | mg/L | 24.5                             | 22.8                             | 38.5                             | 41.1                             | 26                               | 37                                | 59.5                              | 23.3                             | 11.4                            | 15.4                             | 27.4                             | 16.4                             | 14.2                             | 21.2                             | 38.5                              | 59.3                              | 5.72                             | 19.3                             | 27.2                            | 83.7                            | 100                              | 88.5                             | 114                              | 95.7                            | 54.7                             | 64.5                              |
| Cd-T                                                          | mg/L | 0.00003                          | <0.00001                         | 0.00002                          | <0.00001                         | <0.00001                         | 0.00001                           | 0.00003                           | <0.00007                         | <0.00007                        | <0.00007                         | <0.00008                         | <0.00001                         | <0.00001                         | 0.00002                          | 0.00008                           | 0.00003                           | 0.00004                          | 0.00001                          | <0.00001                        | 0.00008                         | <0.00001                         | 0.00003                          | 0.00024                          | 0.00002                         | 0.00014                          | 0.00003                           |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                  |                                  |                                 |                                 |                                  |                                  |                                  |                                 |                                  |                                   |
| Co-T                                                          | mg/L | 0.0003                           | 0.0005                           | 0.0005                           | 0.0002                           | 0.0001                           | 0.0002                            | 0.0005                            | 0.00069                          | 0.00074                         | 0.0003                           | 0.00016                          | 0.0002                           | 0.0002                           | 0.00024                          | 0.002                             | 0.0002                            | 0.00056                          | 0.00025                          | 0.00025                         | 0.0067                          | 0.00693                          | 0.00502                          | 0.00691                          | 0.00528                         | 0.00032                          | 0.00231                           |
| Cr-T                                                          | mg/L | <0.001                           | 0.0006                           | 0.0007                           | <0.0005                          | 0.0005                           | <0.0005                           | 0.0009                            | 0.0007                           | <0.0005                         | 0.0014                           | 0.0014                           | 0.0006                           | 0.0024                           | 0.0014                           | 0.0022                            | 0.0008                            | 0.0015                           | 0.0021                           | 0.0004                          | 0.001                           | 0.0018                           | 0.0015                           | 0.0026                           | 0.0014                          | 0.0012                           | 0.0006                            |
| Cu-T                                                          | mg/L | 0.027                            | 0.008                            | 0.049                            | 0.013                            | 0.003                            | 0.002                             | 0.017                             | 0.066                            | 0.018                           | 0.009                            | 0.003                            | 0.009                            | 0.02                             | 0.011                            | 0.275                             | 0.073                             | 0.049                            | 0.015                            | 0.011                           | 0.028                           | 0.026                            | 0.024                            | 0.09                             | 0.024                           | 0.034                            | 0.038                             |
| Fe-T                                                          | mg/L | 0.8                              | 0.7                              | 0.8                              | 0.1                              | 0.2                              | 0.4                               | 0.4                               | 1.01                             | 0.55                            | 0.51                             | 0.35                             | 0.32                             | 0.62                             | 0.87                             | 6.1                               | 0.54                              | 0.73                             | 0.28                             | 0.4                             | 4.02                            | 6.91                             | 3.67                             | 6.93                             | 3.67                            | 0.634                            | 1.31                              |
| Hg-T                                                          | mg/L | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | <0.0001                           | 0.00001                          | 0.00001                         | <0.00001                         | <0.01                            | <0.0001                          | 0.00001                          | <0.00001                         | <0.00001                          | <0.0001                           | 0.00002                          | <0.00001                         | <0.00001                        | <0.00001                        | 0.00001                          |                                  | 0.00002                          | <0.00001                        | <0.00001                         | <0.00001                          |
| K-T                                                           | mg/L | 0.9                              | <0.4                             | 2.2                              | 2.2                              | 1.5                              | 1.6                               | 5.1                               | 3.63                             | 1.89                            | 2.04                             | 1.26                             | <0.4                             | 0.65                             | 0.83                             | 2                                 | 1                                 | 1.9                              | 1.7                              | 1.2                             | 2.2                             | 2.6                              | 2                                | 2.8                              | 2.9                             | 2.6                              | 3.1                               |
| Li-T                                                          | mg/L | <0.002                           | <0.001                           | 0.001                            | 0.002                            | <0.001                           | <0.001                            | 0.002                             | 0.003                            | <0.001                          | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | 0.002                             | 0.001                             | <0.001                           | <0.001                           | <0.001                          | 0.001                           | <0.001                           | 0.001                            | 0.002                            | 0.002                           | <0.001                           | 0.001                             |
| Mg-T                                                          | mg/L | 7.5                              | 6.4                              | 11.3                             | 11.9                             | 8.1                              | 11.4                              | 24.6                              | 7.16                             | 3.42                            | 5.02                             | 9.11                             | 5.1                              | 4.16                             | 6.2                              | 13.9                              | 18.9                              | 1.95                             | 5.66                             | 8.59                            | 22.2                            | 27.7                             | 24.3                             | 30                               | 24.4                            | 16.7                             | 17.2                              |
| Mn-T                                                          | mg/L | 0.078                            | 0.15                             | 0.254                            | 0.047                            | 0.009                            | 0.025                             | 0.299                             | 0.379                            | 0.37                            | 0.101                            | 0.0661                           | 0.01                             | 0.0097                           | 0.0422                           | 0.248                             | 0.087                             | 0.109                            | 0.0129                           | 0.0492                          | 4.57                            | 7.73                             | 3.8                              |                                  | 4.67                            | 0.147                            | 1.82                              |
| Mo-T                                                          | mg/L | <0.002                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                            | <0.001                            | 0.00225                          | 0.00027                         | 0.00034                          | 0.00046                          | <0.001                           | 0.0004                           | 0.00051                          | 0.00051                           | <0.001                            | 0.00016                          | 0.00075                          | 0.00049                         | 0.0029                          | 0.00293                          | 0.0027                           | 0.003                            | 0.0036                          | 0.0012                           | 0.0024                            |
| Na-T                                                          | mg/L | 3.1                              | 4.3                              | 6                                | 8.6                              | 6.3                              | 7.5                               | 17                                | 5.1                              | 2.5                             | 4.1                              | 6.9                              | 4.6                              | 3.3                              | 3.6                              | 5.44                              | 8.8                               | 1.11                             | 3.16                             | 4.61                            | 7.06                            | 7.8                              | 8.88                             | 10.4                             | 9.31                            | 7.88                             | 6.8                               |
| Ni-T                                                          | mg/L | 0.002                            | 0.0022                           | 0.0009                           | 0.0011                           | <0.0005                          | 0.0007                            | <0.0005                           | 0.009                            | 0.005                           | 0.005                            | <0.001                           | 0.0015                           | 0.003                            | <0.001                           | 0.002                             | 0.0013                            | 0.001                            | 0.002                            | 0.002                           | 0.004                           | 0.005                            | 0.004                            | 0.005                            | 0.003                           | 0.002                            | 0.004                             |
| N-TKN                                                         | mg/L | 0.76                             | 0.6                              | 1                                | 0.28                             | 0.28                             | 0.25                              |                                   | 0.69                             |                                 | 0.78                             | 0.49                             | 0.8                              | 1.13                             | 0.7                              | 0.62                              | 0.51                              | 1.1                              | 0.69                             | 0.62                            | 1.04                            | 1.14                             | 0.81                             | 2.11                             | 0.56                            | 1.06                             | 1.09                              |
| Pb-T                                                          | mg/L | 0.0004                           | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                           | 0.0002                            | 0.0006                           | 0.0006                          | <0.0001                          | <0.0001                          | 0.0001                           | <0.0001                          | 0.0002                           | 0.0013                            | <0.0001                           | 0.0002                           | 0.0001                           | <0.0001                         | 0.0001                          | 0.0002                           | 0.0004                           | 0.0011                           | 0.0004                          | 0.0004                           | <0.0001                           |
| P-PO4-T                                                       | mg/L | 0.03                             | 0.03                             | 0.11                             | 0.02                             | 0.03                             | <0.05                             | 0.13                              | 0.13                             |                                 | <0.05                            | 0.03                             | 0.05                             | 0.05                             | <0.05                            | 0.27                              | <0.05                             | 0.02                             | 0.02                             | 0.02                            | 0.05                            | 0.05                             | 0.03                             | 0.03                             | 0.07                            | 0.06                             | 0.05                              |
| P-T                                                           | mg/L | 0.07                             | <0.05                            |                                  | <0.05                            | <0.05                            |                                   |                                   | 0.11                             | 0.06                            | 0.05                             | <0.05                            |                                  | 0.05                             | 0.04                             | 0.245                             |                                   | 0.07                             | <0.05                            | <0.05                           | 0.045                           | 0.084                            | 0.056                            | 0.099                            | 0.051                           | 0.04                             | <0.05                             |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  | 0.06                             |                                  |                                  | 0.03                              | 0.11                              | 0.04                             |                                 | 0.04                             |                                  | 0.04                             | 0.06                             | 0.08                             | 0.08                              | 0.12                              |                                  |                                  |                                 | 0.08                            | 0.08                             | 0.05                             | <0.05                            | <0.05                           | <0.05                            |                                   |
| Sb-T                                                          | mg/L | <0.0004                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                           | <0.0002                           | 0.0002                           | <0.0002                         | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                           | <0.0002                           | <0.0002                          | <0.0002                          | <0.0002                         | <0.0002                         | <0.0002                          | <0.0002                          | <0.0002                          | <0.0002                         | <0.0002                          | <0.0002                           |
| Se-T                                                          | mg/L | <0.0004                          | <0.0002                          | 0.0004                           | 0.0011                           | 0.0003                           | 0.0012                            | 0.0011                            | 0.0013                           | <0.0006                         | <0.0006                          | <0.0006                          | <0.0002                          | <0.0006                          | <0.0006                          | <0.0006                           | <0.0002                           | <0.0006                          | <0.0006                          | <0.0006                         | <0.0006                         | 0.0009                           | <0.0006                          | 0.0016                           | 0.0011                          | <0.0006                          | <0.0006                           |
| Si-T                                                          | mg/L | 4.66                             | 5.46                             | 6.56                             | 4.75                             | 5.12                             | 5.54                              | 11                                | 2.18                             | 1.28                            | 1.71                             | 2.3                              | 4.37                             | 4.64                             | 5.3                              | 13.4                              | 8.63                              | 1.79                             | 3.07                             | 3.92                            | 7.84                            | 8.52                             | 7.39                             | 10.2                             | 7.43                            | 6.11                             | 7.03                              |
| Sn-T                                                          | mg/L | <0.002                           | <0.001                           | <0.001                           | <0.001                           | <0.001                           | <0.001                            | <0.001                            | <0.0001                          | 0.0001                          | <0.0001                          | <0.0001                          | <0.001                           | <0.0001                          | <0.0001                          | <0.0001                           | <0.001                            | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                          | <0.0001                           |
| Sr-T                                                          | mg/L | 0.12                             | 0.124                            | 0.31                             | 0.241                            | 0.161                            | 0.223                             | 0.348                             | 0.143                            | 0.061                           | 0.079                            | 0.146                            | 0.089                            | 0.074                            | 0.111                            | 0.174                             | 0.292                             | 0.031                            | 0.107                            | 0.164                           | 0.602                           | 0.799                            | 0.868                            | 2.36                             | 1.86                            | 0.334                            | 0.645                             |
| S-T                                                           | mg/L | 3.3                              | 2.5                              | 6                                | 17.8                             | 12.3                             | 17.8                              | 50.6                              |                                  |                                 |                                  |                                  | 6.6                              |                                  |                                  |                                   | 0.9                               | 0.9                              | 7.2                              | 11.7                            | 3.5                             | 2.9                              | 3.7                              | 4.4                              | 6.7                             | 14.1                             | 7.3                               |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                   |                                   | 0.0002                           | <0.0001                         | <0.0001                          | 0.0001                           |                                  | <0.0001                          | <0.0001                          | <0.0001                           |                                   | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                         | <0.0001                          | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                          | <0.0001                           |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                   |                                   | 0.0002                           | 0.0001                          | <0.0001                          | <0.0001                          |                                  | <0.0001                          | <0.0001                          | 0.0005                            |                                   | <0.0001                          | <0.0001                          | <0.0001                         | <0.0001                         | 0.0001                           | <0.0004                          | <0.0004                          | <0.0004                         | <0.0004                          |                                   |
| Ti-T                                                          | mg/L | 0.001                            | <0.0005                          | 0.0027                           | 0.0025                           | 0.0017                           | 0.0019                            | 0.0081                            | 0.0471                           | 0.009                           | 0.0056                           | 0.0011                           | 0.0028                           | 0.0101                           | 0.0097                           | 0.127                             | 0.0182                            | 0.016                            | 0.0044                           | 0.0039                          | 0.0055                          | 0.0203                           | 0.0026                           | 0.065                            | 0.007                           | 0.0026                           |                                   |
| Tl-T                                                          | mg/L | <0.0001                          | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                         | <0.00005                          | <0.00005                          | <0.00001                         | <0.00001                        | <0.00001                         | <0.00001                         | <0.00005                         | <0.00001                         | <0.00001                         | <0.00001                          | <0.00005                          | <0.00001                         | <0.00001                         | <0.00001                        | <0.00001                        | <0.00001                         | <0.00001                         | <0.00001                         | <0.00001                        | <0.00001                         | <0.00001                          |
| U-T                                                           | mg/L | <0.001                           | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                          | <0.0005                           | <0.0005                           | <0.0005                          | <0.0005                         | <0.0005                          | <0.0004                          | <0.0005                          | <0.0004                          | <0.0004                          | <0.0004                           | <0.0005                           | <0.0004                          | <0.0004                          | <0.0004                         | 0.0017                          | 0.0023                           | 0.0015                           | 0.0017                           | 0.0014                          | <0.0004                          | 0.0007                            |
| V-T                                                           | mg/L | 0.0006                           | 0.0008                           | 0.0006                           | 0.0004                           | 0.0004                           | 0.0006                            | 0.0007                            | 0.00225                          | 0.00067                         | 0.00069                          | 0.00036                          | 0.0007                           | 0.00126                          | 0.0011                           | 0.00843                           | 0.0014                            | 0.0015                           | 0.0006                           | 0.00064                         | 0.00249                         | 0.00399                          | 0.0019                           | 0.0064                           | 0.0021                          | 0.0007                           | 0.0013                            |
| Zn-T                                                          | mg/L | 0.01                             | 0.005                            | 0.003                            | 0.003                            | 0.007                            | 0.006                             | 0.016                             | 0.017                            | 0.01                            | 0.002                            | 0.005                            | 0.006                            | 0.005                            | 0.006                            | 0.004                             | 0.013                             | 0.014                            | 0.005                            | 0.006                           | 0.001                           | 0.005                            | 0.007                            | 0.014                            | 0.009                           | 0.007                            | 0.006                             |
|                                                               |      |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                  |                                 |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                  |                                  |                                 |                                 |                                  |                                  |                                  |                                 |                                  |                                   |

Appendix Table A.11: Water quality at station W15

| Sampling Session |          | 1004203   | 1015480   | 1203450   | 1036694   | 1050334   | 1065056    | 1077993    | 1112527   | 1118493  | 1122144   | 1129098   | 1137485   | 1145121   | 1151901   | 1171319    | 1178181    | 1216270   | 1221849   | 1227387  | 1233572  | 1235620   | 1242427   | 1245933   | 1247633  | 1251597   | 1262295    |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|-----------|------------|
| Smpl Date        |          | 5/19/2007 | 6/20/2007 | 7/18/2007 | 8/14/2007 | 9/17/2007 | 10/17/2007 | 11/20/2007 | 4/22/2008 | 5/7/2008 | 5/20/2008 | 6/18/2008 | 7/22/2008 | 8/26/2008 | 9/18/2008 | 10/27/2008 | 11/18/2008 | 4/30/2009 | 5/18/2009 | 6/4/2009 | 7/7/2009 | 7/13/2009 | 8/11/2009 | 8/25/2009 | 9/3/2009 | 9/18/2009 | 10/12/2009 |
| Station Name     |          | W15       | W15       | W15       | W15       | W15       | W15        | W15        | W15       | W15      | W15       | W15       | W15       | W15       | W15       | W15        | W15        | W15       | W15       | W15      | W15      | W15       | W15       | W15       | W15      | W15       | W15        |
| Sample Class     |          | P         | P         | P         | P         | P         | P          | P          | P         | P        | P         | P         | P         | P         | P         | P          | P          | P         | P         | P        | P        | P         | P         | P         | P        | P         | P          |
| Sb-D             | mg/L     | <0.0002   |           |           |           |           |            |            |           |          |           |           |           | 0.0012    |           |            |            | 0.0008    |           | 0.001    | 0.0008   | 0.0011    |           | 0.0011    |          |           |            |
| S-D              | mg/L     | 2.8       |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            | 0.8       |           | 10.7     | 3.4      | 2.2       |           | 4.5       |          |           |            |
| Se-D             | mg/L     | <0.0002   |           |           |           |           |            |            |           |          |           |           |           | <0.0006   |           |            |            | <0.0006   |           | <0.0006  | <0.0006  | <0.0006   |           | 0.0009    |          |           |            |
| Si-D             | mg/L     | 4.94      |           |           |           |           |            |            |           |          |           |           |           | 4.83      |           |            |            | 1.35      |           | 3.58     | 7.68     | 7.32      |           | 7.22      |          |           |            |
| Sn-D             | mg/L     | <0.001    |           |           |           |           |            |            |           |          |           |           |           | <0.0001   |           |            |            | <0.0001   |           | <0.0001  | <0.0001  | <0.0001   |           | 0.0001    |          |           |            |
| Sr-D             | mg/L     | 0.116     |           |           |           |           |            |            |           |          |           |           |           | 0.072     |           |            |            | 0.026     | 0.072     | 0.151    | 0.623    | 0.813     |           | 2.92      |          |           |            |
| Te-D             | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           | <0.0001   |           |            |            | <0.0001   |           | <0.0001  | <0.0001  | <0.0001   |           | <0.0001   |          |           |            |
| Th-D             | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           | <0.0001   |           |            |            | <0.0001   |           | <0.0001  | <0.0001  | <0.0001   |           | <0.0004   |          |           |            |
| Ti-D             | mg/L     | <0.0005   |           |           |           |           |            |            |           |          |           |           |           | 0.0062    |           |            |            | 0.0052    |           | 0.0017   | 0.0017   | 0.0014    |           | 0.0081    |          |           |            |
| Tl-D             | mg/L     | <0.00005  |           |           |           |           |            |            |           |          |           |           |           | <0.00001  |           |            |            | <0.00001  |           | <0.00001 | <0.00001 | <0.00001  |           | <0.00001  |          |           |            |
| U-D              | mg/L     | <0.0005   |           |           |           |           |            |            |           |          |           |           |           | <0.0004   |           |            |            | <0.0004   |           | <0.0004  | 0.0015   | 0.0024    |           | 0.0014    |          |           |            |
| V-D              | mg/L     | 0.001     |           |           |           |           |            |            |           |          |           |           |           | 0.00081   |           |            |            | 0.00057   |           | 0.00049  | 0.00177  | 0.00205   |           | 0.0018    |          |           |            |
| Zn-D             | mg/L     | 0.004     |           |           |           |           |            |            |           |          |           |           |           | 0.003     |           |            |            | 0.007     |           | 0.002    | 0.003    | 0.004     |           | 0.014     |          |           |            |
| Zr-D             | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           | 0.0008    |           |            |            | 0.0003    |           | 0.0004   | 0.0007   | 0.0008    |           | 0.0011    |          |           |            |
| Alk-Bicrb        | mg/L     | 88        | 93        | 159       | 120       | 82        | 78         | 144        | 65        |          | 40        | 60        | 40        | 40        | 60        | 90         | 290        | <5        | 40        | 70       | 330      | 420       | 350       | 370       | 320      | 160       | 220        |
| Alk-Carb         | mg/L     | <6        | <6        | <6        | <6        | <6        | <6         | <6         | <6        |          | <6        | <6        | <6        | <6        | <6        | <6         | <6         | 9         | <6        | <6       | <6       | <6        | <6        | <6        | <6       | <6        | <6         |
| Alk-OH           | mg/L     | <5        | <5        | <5        | <5        | <5        | <5         | <5         | <5        |          | <5        | <5        | <5        | <5        | <5        | <5         | <5         | <5        | <5        | <5       | <5       | <5        | <5        | <5        | <5       | <5        | <5         |
| Alk-P            | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Alk-T            | mg/L     | 72        | 76        | 130       | 99        | 68        | 64         | 118        | 54        |          | 37        | 49        | 29        | 34        | 50        | 75         | 236        | 8         | 33        | 59       | 274      | 345       | 290       | 306       | 261      | 130       | 178        |
| Bromine          | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| C-TIC            | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| C-TOC            | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           | 46.2      |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Chloride         | mg/L     | 0.5       | 0.5       | 1.1       | 2.5       | 1.96      | 3.01       | 9.94       | 1.87      |          | 0.76      | 1.3       | 0.27      | 0.24      | 0.49      | 0.97       | 2.1        | 0.35      | 0.46      | 4.1      | 0.82     | 0.97      | 1.09      | 1.37      | 1.06     | 3.26      | 2.53       |
| Colour           | TCU      | 180       | 70        | 80        | 49        | 70        | 20         | 60         | 60        |          | 170       | 70        | 160       | 330       | 130       | 60         | 39         | 220       | 170       | 91       | 190      | 110       | 86        |           |          |           |            |
| Cond-F           | µS/cm    |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Cond-L           | µS/cm    | 160       | 151       | 267       | 305       | 231       | 315        | 611        | 203       |          | 123       | 241       | 116       | 87        | 153       | 228        | 424        | 35        | 128       | 208      | 510      | 623       | 567       | 757       | 656      | 362       | 422        |
| Discharge        | L/s      |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Fluoride         | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Hard-D           | mg/L     | 89        |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            | 22        |           | 96       | 299      | 362       | 319       | 388       | 330      | 186       |            |
| Hard-T           | mg/L     |           | 83        | 143       | 152       | 98        | 139        | 250        |           | 42       |           | 106       | 62        |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| IB               | %        |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Ammonia          | mg/L     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05      | <0.05      | <0.05     |          | <0.05     | <0.05     | <0.05     | <0.05     | <0.05     | <0.05      | <0.05      |           |           |          |          |           |           |           |          |           |            |
| Ammonium         | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            | <0.05     | <0.05     | <0.05    | <0.05    | 0.09      | 0.1       | 0.24      | 0.16     | <0.05     | 0.57       |
| N-NO2            | mg/L     | <0.05     | <0.05     | <0.05     | 0.09      | <0.02     | <0.02      | <0.02      | 0.15      |          | 0.02      | 0.01      | 0.02      | <0.01     | <0.01     | <0.01      |            |           |           |          |          |           |           |           |          |           |            |
| NO2+NO3          | mg/L     | <0.1      | <0.1      | <0.02     | 3.45      | 3.68      | 9.14       |            | 1.34      |          | 0.19      | 0.14      | <0.1      | <0.01     | 0.37      | 0.38       | <0.01      | 0.05      | 0.95      | 0.55     | 0.45     | 1.05      | 5.24      | 27.7      | 18.9     | 1.22      | 4.97       |
| N-NO3            | mg/L     | <0.1      | 0.1       | 0.2       | 3.2       | 3.75      | 8.1        | 4.69       | 1.24      |          | 0.19      | 0.14      | 0.02      | <0.01     | 0.4       |            |            |           |           |          |          |           |           |           |          |           |            |
| pH-F             | pH units |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| pH-L             | pH units | 7.43      | 7.26      | 7.41      | 7.67      | 7.66      | 7.3        | 7.64       | 7.57      |          | 7.43      | 7.22      | 7.4       | 7.14      | 7.42      | 7.31       | 7.47       | 6.39      | 7.12      | 7.43     | 7.84     | 7.9       | 7.84      | 7.85      | 7.83     | 7.63      | 7.9        |
| Radium - 226     |          |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| SO4-D            | mg/L     | 8.1       | 6.7       | 18.6      | 52        | 35.2      |            |            | 44.5      |          | 19.1      | 59.7      | 17.5      | 8.8       | 21.1      | 36.1       | 1.27       | 1.77      | 20.2      | 34.5     | 10       | 6.7       | 13        | 13        | 21       | 49.5      |            |
| SO4-T            | mg/L     |           |           |           |           |           | 53.9       | 182        |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Sulphide         | mg/L     |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| TDS              | mg/L     | 150       | 140       | 234       | 268       | 182       | 266        | 494        | 190       |          | 160       | 176       | 146       | 162       | 198       | 186        | 322        | 94        | 138       | 166      | 364      | 452       | 424       | 548       | 510      | 298       | 318        |
| Temp-F           | C        |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| Temp-obs-pH      | C        |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |
| TSS              | mg/L     | <2        | 2         | <2        | <2        | 20        | <2         | <5         | 14        |          | <2        | <2        | <2        | <2        | 4         | 134        | 2          | 8         | 3         | 5        | 6        | 18        | 6         | 23        | 9        | <3        | 8          |
| Turb             | NTU      | 1         | 1.5       | 13        | 0.3       | 1.8       | 2          | 1.3        | 40        |          | 1.4       | 1.6       | 0.8       | 3.5       | 0.6       | 11         | 1.3        | 6.1       | 0.6       | 0.9      | 9        | 17        | 11        | 19        | 12       | 1.1       | 5          |
| Turb-F           | NTU      |           |           |           |           |           |            |            |           |          |           |           |           |           |           |            |            |           |           |          |          |           |           |           |          |           |            |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |      | 1202881    | 952101     | 955067   | 957146    | 958553    | 965369    | 966281   | 968912    | 970708    | 982337   | 981201    | 989744    | 1001239   | 1004203   | 1008503   | 1012944   | 1015480   | 1018416   | 1020545  | 1020545  | 1023074   | 1203450   | 1028730   | 1031323  | 1034620  |
|------------------|------|------------|------------|----------|-----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|
| Smpl Date        |      | 11/22/2006 | 12/19/2006 | 1/4/2007 | 1/10/2007 | 1/16/2007 | 1/30/2007 | 2/7/2007 | 2/15/2007 | 2/22/2007 | 3/2/2007 | 3/23/2007 | 4/17/2007 | 5/11/2007 | 5/19/2007 | 5/30/2007 | 6/13/2007 | 6/20/2007 | 6/27/2007 | 7/4/2007 | 7/5/2007 | 7/11/2007 | 7/18/2007 | 7/25/2007 | 8/1/2007 | 8/9/2007 |
| Station Name     |      | W16        | W16        | W16      | W16       | W16       | W16       | W16      | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16      | W16       | W16       | W16       | W16      | W16      |
| Sample Class     |      | P          | P          | P        | P         | P         | P         | P        | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | M         | P        | P        |
| Ag-T             | mg/L | <0.0002    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | 0.001     | <0.0001  | <0.0002   | <0.0001   | <0.0002   | 0.0002    | 0.0001    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | 0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |
| Al-T             | mg/L | 0.1        | 0.031      | 0.056    | 0.026     | 0.92      | 0.012     | 0.053    | 0.072     | 0.094     | 4.72     | 6.06      | 1.55      | 1.96      | 1.21      | 0.552     | 0.09      | 0.127     | 0.038     | 0.071    | 0.062    | 0.365     | 0.035     | 0.031     | 0.135    | 0.066    |
| As-T             | mg/L | 0.0005     | 0.0011     | 0.0008   | 0.0008    | 0.0011    | 0.0009    | 0.0008   | 0.0008    | 0.0022    | 0.002    | 0.002     | 0.0008    | 0.001     | 0.001     | 0.0007    | 0.0003    | 0.0006    | 0.0007    | 0.0005   | 0.0005   | 0.0008    | 0.0008    | 0.0005    | 0.0008   | 0.0007   |
| Ba-T             | mg/L | 0.12       | 0.138      | 0.139    | 0.137     | 0.15      | 0.133     | 0.14     | 0.137     | 0.26      | 0.179    | 0.2       | 0.09      | 0.081     | 0.077     | 0.068     | 0.061     | 0.061     | 0.06      | 0.064    | 0.068    | 0.076     | 0.071     | 0.072     | 0.074    | 0.083    |
| Be-T             | mg/L | <0.0002    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0002   | 0.0002   | 0.0002    | <0.0001   | <0.0002   | <0.0002   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | 0.0009    | <0.0001  | <0.0001  |
| Bi-T             | mg/L | <0.001     | <0.0005    | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.001    | <0.0005  | <0.001    | <0.0005   | <0.001    | <0.001    | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005  | <0.0005  |
| B-T              | mg/L | 0.01       | 0.008      | 0.006    | 0.006     | 0.014     | 0.008     | 0.008    | 0.007     | 0.078     | 0.008    | 0.01      | 0.012     | 0.044     | 0.021     | 0.023     | 0.024     | 0.022     | 0.02      | 0.022    | 0.024    | 0.024     | 0.023     | 0.024     | 0.026    | 0.027    |
| Ca-T             | mg/L | 97.8       | 112        | 114      | 114       | 113       | 111       | 115      | 107       | 221       |          | 110       | 46        | 32.3      | 33.1      | 32.6      | 32.7      | 35.8      | 34.6      | 33.8     | 34.8     | 38.3      | 38.8      | 39.1      | 41.8     | 43.1     |
| Cd-T             | mg/L | <0.00002   | 0.00009    | <0.00001 | 0.00009   | 0.00004   | <0.00001  | 0.00002  | <0.00001  | <0.00002  | 0.00004  | 0.00003   | 0.00003   | 0.00004   | 0.00006   | 0.00005   | 0.00003   | 0.00003   | 0.00001   | 0.00003  | 0.00003  | 0.00002   | 0.00001   | 0.00002   | 0.00002  | 0.00002  |
| CN-T             | mg/L |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Co-T             | mg/L | 0.0004     | 0.0005     | 0.0007   | 0.0006    | 0.0013    | 0.0012    | 0.0016   | 0.0013    | 0.002     | 0.004    | 0.0043    | 0.0008    | 0.001     | 0.001     | 0.0008    | 0.0006    | 0.0006    | 0.0005    | 0.0005   | 0.0005   | 0.0006    | 0.0003    | 0.0002    | 0.0004   | 0.0008   |
| Cr-T             | mg/L | <0.001     | 0.0013     | <0.0005  | <0.0005   | 0.0012    | 0.0006    | <0.0005  | <0.0005   | <0.001    | 0.0047   | 0.0066    | 0.0012    | 0.0026    | 0.001     | 0.0011    | 0.0006    | 0.0006    | <0.0005   | <0.0005  | <0.0005  | 0.0007    | <0.0005   | <0.0005   | <0.0005  | <0.0005  |
| Cu-T             | mg/L | 0.007      | 0.006      | 0.009    | 0.006     | 0.006     | 0.003     | 0.004    | 0.007     | 0.1       | 0.017    | 0.01      | 0.042     | 0.082     | 0.07      | 0.054     | 0.047     | 0.052     | 0.041     | 0.035    | 0.038    | 0.059     | 0.031     | 0.029     | 0.028    | 0.031    |
| Fe-T             | mg/L | 0.2        | <0.1       | <0.1     | <0.1      | 1.2       | <0.1      | 0.1      | 0.2       | 0.6       |          | 8.2       | 1.9       | 2.6       | 2         | 0.8       | 0.2       | 0.2       | 0.1       | 0.2      | 0.1      | 0.6       | 0.1       | 0.1       | 0.2      | 0.1      |
| Hg-T             | mg/L | <0.00005   | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | 0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |
| K-T              | mg/L | 3.8        | 4.4        | 4.8      | 4.4       | 4.4       | 4.2       | 4.2      | 4.2       | 21        |          | 5.2       | 3.7       | 2.3       | 2.2       | 2.3       | 2.4       | 2.4       | 2.4       | 2.4      | 2.5      | 2.8       | 3         | 3.3       | 3.4      | 4.3      |
| Li-T             | mg/L | 0.003      | 0.002      | 0.002    | 0.002     | 0.002     | 0.001     | 0.004    | 0.002     | 0.009     | 0.005    | 0.004     | 0.005     | 0.003     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002     | 0.002     | 0.003    | 0.003    |
| Mg-T             | mg/L | 35.8       | 34         | 31.8     | 31.9      | 31.4      | 29.5      | 29       | 25.9      | 95.8      |          | 31.4      | 26.4      | 11        | 11        | 10.6      | 11.3      | 11.6      | 12.2      | 12.4     | 12.6     | 13.5      | 14.2      | 14.2      | 14.5     | 15.3     |
| Mn-T             | mg/L | 0.271      | 0.62       | 1.04     | 1.08      | 1.35      | 1.78      | 1.96     | 1.97      | 0.333     |          | 2.41      | 0.162     | 0.19      | 0.17      | 0.125     | 0.085     | 0.077     | 0.046     | 0.028    | 0.03     | 0.055     | 0.049     | 0.043     | 0.085    | 0.091    |
| Mo-T             | mg/L | 0.004      | 0.005      | 0.004    | 0.005     | 0.004     | 0.004     | 0.004    | 0.004     | 0.02      | 0.004    | 0.003     | 0.006     | 0.003     | 0.003     | 0.003     | 0.002     | 0.003     | 0.003     | 0.003    | 0.003    | 0.003     | 0.004     | 0.004     | 0.005    | 0.007    |
| Na-T             | mg/L | 21.1       | 17.8       | 15.8     | 15.9      | 14.2      | 13.1      | 12.8     | 12.5      | 64.6      |          | 13        | 17.3      | 5.7       | 5.6       | 6.6       | 7.1       | 7.1       | 7.6       | 7.8      | 8.2      | 9         | 10        | 10.2      | 11.4     | 13.1     |
| Ni-T             | mg/L | 0.0039     | 0.003      | 0.0023   | 0.0018    | 0.0018    | 0.0018    | 0.0076   | 0.0018    | 0.0046    | 0.0063   | 0.0083    | 0.0019    | 0.0027    | 0.0033    | 0.0019    | 0.001     | 0.0021    | 0.0019    | 0.002    | 0.002    | 0.0018    | 0.0011    | 0.0007    | 0.0018   | 0.0017   |
| N-TKN            | mg/L |            |            | 1        | 0.53      |           |           | 0.5      |           |           |          |           |           | 1.71      | 1.03      | 2.97      | 2.1       | 1.19      |           |          | 1.66     | 1.44      | 1.63      | 1.34      |          | 1.27     |
| Pb-T             | mg/L | 0.0006     | 0.0002     | 0.0003   | 0.0006    | 0.0005    | 0.0003    | 0.0002   | 0.0002    | 0.0002    | 0.0016   | 0.002     | 0.0005    | 0.0009    | 0.0006    | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | 0.0004   | 0.0002    | <0.0001   | <0.0001   | 0.0001   | 0.0001   |
| P-PO4-T          | mg/L |            |            | 0.06     | 0.07      |           | 0.022     | 0.09     |           | 0.211     | 0.12     |           |           | 0.04      | 0.05      | 0.03      | 0.03      | 0.03      |           |          | 0.02     | 0.03      | 0.06      | 0.06      |          | 0.04     |
| P-T              | mg/L |            |            | 0.16     | <0.05     |           | 0.04      | 0.04     |           | 0.28      |          |           |           | 0.1       | 0.11      | 0.06      | <0.05     | 0.06      |           |          | <0.05    | <0.05     | <0.05     | <0.05     |          | <0.05    |
| P-TRP (Ortho)    | mg/L |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           | 0.04      |           |          |          |
| Sb-T             | mg/L | <0.0004    | <0.0002    | 0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0004   | <0.0002  | <0.0004   | <0.0002   | <0.0004   | <0.0004   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  |
| Se-T             | mg/L | <0.0004    | <0.0002    | 0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | 0.002     | <0.0002  | 0.0004    | 0.0004    | <0.0004   | <0.0004   | <0.0002   | 0.0003    | 0.0002    | <0.0002   | 0.0002   | 0.0002   | 0.0007    | 0.0006    | 0.0006    | 0.0011   | 0.0009   |
| Si-T             | mg/L | 10.1       | 8.65       | 8.21     | 7.5       | 8.95      | 7.5       | 7.66     | 6.47      | 28.4      |          | 21.6      | 9.89      | 9.1       | 7.18      | 5.1       | 4.56      | 4.84      | 4.74      | 4.7      | 4.73     | 5.61      | 5         | 4.74      | 5.04     | 4.95     |
| Sn-T             | mg/L | <0.002     | <0.001     | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.002    | <0.001   | <0.002    | <0.001    | <0.002    | <0.002    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   |
| Sr-T             | mg/L | 0.604      | 0.543      | 0.559    | 0.485     | 0.45      | 0.498     | 0.49     | 0.471     | 1.68      | 0.535    | 0.519     | 0.367     | 0.232     | 0.228     | 0.236     | 0.258     | 0.263     | 0.275     | 0.259    | 0.275    | 0.286     | 0.34      | 0.319     | 0.333    | 0.389    |
| S-T              | mg/L | 26.7       | 23.4       | 20.9     | 23.1      | 19.2      | 18.1      | 18.4     | 15.9      | 102       |          | 18        | 19.1      | 7.5       | 7.9       | 8.1       | 8.2       | 8.5       | 8.5       | 8.6      | 8.7      | 9.7       | 10.1      | 10.2      | 10.7     | 11.6     |
| Te-T             | mg/L |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Th-T             | mg/L |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Ti-T             | mg/L | 0.0058     | 0.0032     | 0.0027   | <0.0005   | 0.0444    | 0.0017    | 0.0041   | 0.0048    | 0.0089    | 0.244    | 0.261     | 0.08      | 0.1       | 0.0654    | 0.0286    | 0.0047    | <0.0005   | 0.0023    | <0.0005  | 0.0013   | 0.0221    | 0.0019    | 0.002     | 0.0059   | 0.0026   |
| Tl-T             | mg/L | <0.0001    | <0.00005   | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.0001   | <0.00005 | <0.0001   | <0.00005  | <0.0001   | <0.0001   | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005 | <0.00005 |
| U-T              | mg/L | 0.0042     | 0.0058     | 0.0065   | 0.0059    | 0.0058    | 0.0054    | 0.0052   | 0.005     | 0.0036    | 0.0053   | 0.0054    | 0.0016    | <0.001    | <0.001    | 0.0006    | 0.0006    | 0.0006    | 0.0006    | 0.0006   | 0.0006   | 0.0007    | 0.0007    | 0.0007    | 0.0009   | 0.001    |
| V-T              | mg/L | 0.002      | 0.0012     | 0.0014   | 0.0011    | 0.004     | 0.001     | 0.001    | 0.0009    | 0.002     | 0.0173   | 0.0202    | 0.0057    | 0.0068    | 0.005     | 0.0022    | 0.0011    | 0.0015    | 0.001     | 0.0011   | 0.0011   | 0.0021    | 0.0008    | 0.0009    | 0.0017   | 0.0011   |
| Zn-T             | mg/L | 0.01       | 0.004      | 0.025    | 0.009     | 0.008     | 0.005     | 0.004    | 0.003     | 0.01      | 0.033    | 0.029     | 0.009     | 0.02      | 0.02      | 0.015     | 0.006     | 0.007     | 0.007     | 0.005    | 0.011    | 0.012     | 0.005     | 0.005     | 0.006    | 0.006    |
| Zr-T             | mg/L | <0.002     | <0.001     | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.002    | 0.002    | 0.003     | 0.001     | 0.002     | <0.002    | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   |
| Ag-D             | mg/L |            |            |          |           |           | <0.0001   |          |           |           |          |           |           | <0.0001   | <0.0001   |           | <0.0001   |           |           |          | <0.0001  |           |           |           |          |          |
| Al-D             | mg/L |            |            |          |           |           | <0.005    |          |           |           |          |           |           | 0.072     | 0.068     |           | 0.037     |           |           |          |          | 0.022     |           |           |          |          |
| As-D             | mg/L |            |            |          |           |           | 0.0012    |          |           |           |          |           |           | 0.0007    | 0.0006    |           | 0.0005    |           |           |          |          | 0.0007    |           |           |          |          |
| Ba-D             | mg/L |            |            |          |           |           | 0.14      |          |           |           |          |           |           | 0.056     | 0.057     |           |           |           |           |          |          |           |           |           |          |          |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |          | 1202881    | 952101     | 955067   | 957146    | 958553    | 965369    | 966281   | 968912    | 970708    | 982337   | 981201    | 989744    | 1001239   | 1004203   | 1008503   | 1012944   | 1015480   | 1018416   | 1020545  | 1020545  | 1023074   | 1203450   | 1028730   | 1031323  | 1034620  |
|------------------|----------|------------|------------|----------|-----------|-----------|-----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|----------|----------|
| Smpl Date        |          | 11/22/2006 | 12/19/2006 | 1/4/2007 | 1/10/2007 | 1/16/2007 | 1/30/2007 | 2/7/2007 | 2/15/2007 | 2/22/2007 | 3/2/2007 | 3/23/2007 | 4/17/2007 | 5/11/2007 | 5/19/2007 | 5/30/2007 | 6/13/2007 | 6/20/2007 | 6/27/2007 | 7/4/2007 | 7/5/2007 | 7/11/2007 | 7/18/2007 | 7/25/2007 | 8/1/2007 | 8/9/2007 |
| Station Name     |          | W16        | W16        | W16      | W16       | W16       | W16       | W16      | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16      | W16       | W16       | W16       | W16      | W16      |
| Sample Class     |          | P          | P          | P        | P         | P         | P         | P        | P         | P         | P        | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | M         | P        | P        |
| P-TDP            | mg/L     |            |            |          |           |           | 0.03      | <0.02    |           | 0.06      |          |           | 0.03      | 0.02      | 0.03      |           | <0.02     | <0.02     |           |          | <0.02    | <0.02     | <0.02     | <0.02     |          | 0.02     |
| Sb-D             | mg/L     |            |            |          |           |           | <0.0002   |          |           |           |          |           |           | <0.0002   | <0.0002   |           | <0.0002   |           |           |          | <0.0002  |           |           |           |          |          |
| S-D              | mg/L     |            |            |          |           |           | 18.4      |          |           |           |          |           |           | 8.1       | 7.3       |           | 8.3       |           |           |          | 9.4      |           |           |           |          |          |
| Se-D             | mg/L     |            |            |          |           |           | <0.0002   |          |           |           |          |           |           | <0.0002   | <0.0002   |           | <0.0002   |           |           |          | 0.0004   |           |           |           |          |          |
| Si-D             | mg/L     |            |            |          |           |           | 7.88      |          |           |           |          |           |           | 4.66      | 4.48      |           | 4.59      |           |           |          | 4.84     |           |           |           |          |          |
| Sn-D             | mg/L     |            |            |          |           |           | <0.001    |          |           |           |          |           |           | <0.001    | <0.001    |           | <0.001    |           |           |          | <0.001   |           |           |           |          |          |
| Sr-D             | mg/L     |            |            |          |           |           | 0.492     |          |           |           |          |           |           | 0.238     | 0.225     |           | 0.237     |           |           |          | 0.286    |           |           |           |          |          |
| Te-D             | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Th-D             | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Ti-D             | mg/L     |            |            |          |           |           | 0.002     |          |           |           |          |           |           | 0.0065    | 0.006     |           | 0.0032    |           |           |          | 0.0025   |           |           |           |          |          |
| Tl-D             | mg/L     |            |            |          |           |           | <0.00005  |          |           |           |          |           |           | <0.00005  | <0.00005  |           | <0.00005  |           |           |          | <0.00005 |           |           |           |          |          |
| U-D              | mg/L     |            |            |          |           |           | 0.0054    |          |           |           |          |           |           | <0.0005   | 0.0005    |           | 0.0005    |           |           |          | 0.0006   |           |           |           |          |          |
| V-D              | mg/L     |            |            |          |           |           | 0.0056    |          |           |           |          |           |           | 0.0034    | 0.0024    |           | 0.0013    |           |           |          | 0.0012   |           |           |           |          |          |
| Zn-D             | mg/L     |            |            |          |           |           | 0.001     |          |           |           |          |           |           | 0.008     | 0.012     |           | 0.004     |           |           |          | 0.008    |           |           |           |          |          |
| Zr-D             | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Alk-Bicrb        | mg/L     | 408        | 467        | 469      | 414       | 472       | 452       | 440      | 444       | 710       | 450      | 415       | 225       | 89        | 90        | 96        | 100       | 100       |           |          | 140      | 148       | 156       | 167       |          | 185      |
| Alk-Carb         | mg/L     | <6         | <6         | <6       | 16        | <6        | <6        | <5       | <6        | <5        | <6       | <6        | <6        | <6        | <6        | <6        | <6        | 7         |           |          | <6       | <6        | <6        | <6        |          | <6       |
| Alk-OH           | mg/L     | <5         | <5         | <5       | <5        | <5        | <5        | <5       | <5        | <5        | <5       | <5        | <5        | <5        | <5        | <5        | <5        | <5        |           |          | <5       | <5        | <5        | <5        |          | <5       |
| Alk-P            | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Alk-T            | mg/L     | 335        | 383        | 385      | 366       | 387       | 371       | 361      | 364       | 582       | 369      | 340       | 185       | 73        | 74        | 79        | 93        | 98        |           |          | 115      | 121       | 128       | 137       |          | 152      |
| Bromine          | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| C-TIC            | mg/L     |            |            |          |           |           | 83.3      |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| C-TOC            | mg/L     |            |            |          |           |           | 8.1       |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Chloride         | mg/L     |            |            |          |           |           | 0.81      | 0.84     |           | 0.9       | 1.4      | 1.7       | 2.4       | 0.9       | 0.9       | 1.1       | 1.1       | 1.1       |           |          | 1.2      | 1         | 1.2       | 1.3       |          | 1.6      |
| Colour           | TCU      |            |            |          |           |           | 13        | 13       |           | 100       | 15       | 16        | 50        | >60       | 150       | 220       | 50        | 160       |           |          | 80       | 120       | 120       | 100       |          | 90       |
| Cond-F           | µS/cm    |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Cond-L           | µS/cm    | 739        | 780        | 733      | 744       | 752       | 735       | 741      | 742       | 1600      | 762      | 726       | 438       | 240       | 246       | 259       | 235       | 252       |           |          | 269      | 309       | 320       | 336       |          | 377      |
| Discharge        | L/s      |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Fluoride         | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Hard-D           | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           | 115       | 122       |           | 132       |           |           |          |          | 146       |           |           |          |          |
| Hard-T           | mg/L     | 392        | 419        | 415      | 415       | 412       | 399       |          | 375       | 947       | 394      | 404       | 223       |           |           | 125       |           | 137       |           | 135      | 139      |           | 155       | 156       | 164      | 171      |
| IB               | %        |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Ammonia          | mg/L     | 0.004      | 0.066      | 0.15     | 0.09      | 0.033     | 0.058     | 0.11     | 0.101     | 2         |          | 0.082     |           | 0.48      | 0.51      | 0.37      | 0.07      | 0.1       |           |          |          | 0.13      | 0.15      | 0.17      |          | 0.31     |
| Ammonium         | mg/L     |            |            |          |           |           |           |          |           |           |          |           | 0.035     |           |           |           |           |           |           |          | 0.1      |           |           |           |          |          |
| N-NO2            | mg/L     | <0.03      | <0.1       | <0.03    | <0.03     | <0.03     | 0.31      | <0.03    | <0.05     | 3.75      | 0.022    | <0.05     | 0.18      | 0.62      | 0.62      | 0.64      | 0.3       | 0.23      |           |          | 0.24     | 0.21      | 0.21      | 0.19      |          | 0.32     |
| NO2+NO3          | mg/L     |            |            | <0.1     | 0.78      |           |           | <0.1     |           |           |          |           |           | 6.09      |           | 4.77      | 4.38      | 4.34      |           |          | 3.06     | 3.16      | 3.48      | 3.09      |          | 3.88     |
| N-NO3            | mg/L     | 0.14       | 0.1        | 0.09     | 0.08      | <0.05     | <0.05     | <0.05    | <0.1      | 35        | 0.17     | 0.2       | 1.1       | 5.7       | 5.6       | 5.4       | 4.8       | 4.3       |           |          | 3        | 3.2       | 3.2       | 2.9       |          | 3.7      |
| pH-F             | pH units |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| pH-L             | pH units | 7.83       | 7.5        | 7.4      | 8.52      | 7.41      | 8.12      | 7.34     | 7.33      | 8.25      | 7.97     | 7.82      | 8.27      | 7.61      | 7.46      | 7.72      | 8.59      | 8.76      |           |          | 7.81     | 7.77      | 7.66      | 7.73      |          | 7.76     |
| Radium - 226     |          |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| SO4-D            | mg/L     | 83         | 64         | 56       | 54        | 52        | 48        | 47       | 51        | 286       |          | 52        | 67        | 21.4      | 21.6      | 25.1      | 25.9      | 26.9      |           |          | 30       | 26        | 27        | 30        |          | 34       |
| SO4-T            | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Sulphide         | mg/L     |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| TDS              | mg/L     | 502        | 536        | 484      | 500       | 492       | 484       | 484      | 470       | 1440      | 473      | 432       | 318       | 250       | 220       | 244       | 226       | 266       |           |          | 258      | 244       | 270       | 276       |          | 282      |
| Temp-F           | C        |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| Temp-obs-pH      | C        |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |
| TSS              | mg/L     | 2          | <2         | <2       | <2        | 41        | <2        | <2       | <2        | <2        | 181      | 126       | 31        | 28        | 15        | 8         | 5         | <2        |           |          | <2       | 2         | <2        | 2         |          | <2       |
| Turb             | NTU      | 1.8        |            |          |           |           | 1.3       | 0.8      |           | 4.1       | 70.6     | 78        | 18        | 16        | 13        | 9.1       | 2.6       | 1.8       |           |          | 1.5      | 0.8       | <0.1      | 0.6       |          | 0.5      |
| Turb-F           | NTU      |            |            |          |           |           |           |          |           |           |          |           |           |           |           |           |           |           |           |          |          |           |           |           |          |          |

**Appendix Table A.12: Water quality data at station W16**

| Sampling Session |      | 1036694   | 1042534   | 1045842  | 1048063   | 1050334   | 1053227   | 1057213   | 1061125    | 1065056    | 1067248    | 1070279    | 1073925   | 1075156    | 1077993    | 1079274    | 1083276    | 1084216    | 1084216    | 1088205    | 1086857  | 1088370   | 1089526   | 1094163   | 1100515   |
|------------------|------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|------------|------------|------------|------------|------------|------------|------------|----------|-----------|-----------|-----------|-----------|
| Smpl Date        |      | 8/14/2007 | 8/29/2007 | 9/6/2007 | 9/11/2007 | 9/18/2007 | 9/25/2007 | 10/3/2007 | 10/11/2007 | 10/17/2007 | 10/22/2007 | 10/30/2007 | 11/8/2007 | 11/13/2007 | 11/20/2007 | 11/27/2007 | 12/11/2007 | 12/18/2007 | 12/18/2007 | 12/26/2007 | 1/9/2008 | 1/16/2008 | 1/22/2008 | 2/13/2008 | 3/14/2008 |
| Station Name     |      | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16        | W16        | W16        | W16        | W16       | W16        | W16        | W16        | W16        | W16        | W16        | W16        | W16      | W16       | W16       | W16       | W16       |
| Sample Class     |      | P         | P         | P        | P         | P         | P         | P         | P          | P          | P          | P          | P         | P          | P          | P          | P          | P          | P          | P          | M        | P         | M         | P         | M         |
| Ag-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   |
| Al-T             | mg/L | 0.065     | 0.101     | 0.103    | 0.137     | 0.151     | 0.123     | 0.125     | 0.126      | 0.142      | 0.093      | 0.073      | 0.114     | 0.404      | 0.128      | 0.067      | 0.053      |            | 0.047      | 0.043      | 0.046    | 0.034     | 0.029     | 0.072     | 0.09      |
| As-T             | mg/L | 0.0007    | 0.0007    | 0.0007   | 0.0008    | 0.0007    | 0.0006    | 0.0007    | 0.0007     | 0.0006     | 0.0007     | 0.0006     | 0.0005    | 0.0008     | 0.0007     | 0.0006     | 0.0007     |            | 0.001      | 0.0007     | 0.0007   | 0.0004    | 0.0008    | 0.0006    | 0.0006    |
| Ba-T             | mg/L | 0.088     | 0.098     | 0.091    | 0.095     | 0.094     | 0.094     | 0.104     | 0.103      | 0.101      | 0.102      | 0.101      | 0.105     | 0.106      | 0.108      | 0.107      | 0.112      |            | 0.11       | 0.105      | 0.125    | 0.112     | 0.115     | 0.115     | 0.116     |
| Be-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    |            | <0.0001    | <0.0001    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   |
| Bi-T             | mg/L | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005    | <0.0005   | <0.0005    | <0.0005    | <0.0005    | <0.0005    |            | <0.0005    | <0.0005    | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   |
| B-T              | mg/L | 0.032     | 0.049     | 0.052    | 0.051     | 0.044     | 0.047     | 0.052     | 0.044      | 0.049      | 0.045      | 0.045      | 0.05      | 0.042      | 0.049      | 0.048      | 0.052      |            | 0.048      | 0.049      | 0.054    | 0.052     | 0.052     | 0.052     | 0.057     |
| Ca-T             | mg/L | 46.1      | 48.8      | 51.7     | 50.4      | 47        | 47.4      | 50.4      | 49.9       | 51.2       | 51.6       | 53.4       | 54        | 55.8       | 55.8       | 56.8       | 57.5       |            | 57.4       | 59.2       | 64.2     | 63.3      | 66.4      | 66.8      | 63.8      |
| Cd-T             | mg/L | 0.00002   | 0.00002   | 0.00002  | 0.00003   | 0.00002   | 0.00003   | 0.00005   | 0.00002    | 0.00002    | 0.00002    | 0.00004    | 0.00004   | 0.00005    | 0.00004    | 0.00003    | 0.00004    |            | 0.00009    | 0.00003    | 0.00007  | 0.00002   | 0.00004   | 0.00003   | 0.00003   |
| CN-T             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Co-T             | mg/L | 0.0003    | 0.0003    | 0.0004   | 0.0004    | 0.0004    | 0.0003    | 0.0003    | 0.0004     | 0.0004     | 0.0002     | 0.0002     | 0.0004    | 0.0004     | 0.0003     | 0.0003     | 0.0003     |            | 0.0003     | 0.0003     | 0.0004   | 0.0004    | 0.0004    | 0.0004    | 0.0004    |
| Cr-T             | mg/L | <0.0005   | <0.0005   | 0.0005   | 0.0007    | 0.0006    | <0.0005   | 0.0016    | 0.0007     | 0.0006     | <0.0005    | 0.0005     | 0.0008    | 0.0009     | 0.0009     | 0.0013     | 0.0006     |            | 0.0008     | 0.0006     | 0.0013   | <0.0005   | <0.0005   | 0.0012    | 0.0014    |
| Cu-T             | mg/L | 0.031     | 0.033     | 0.032    | 0.031     | 0.03      | 0.034     | 0.036     | 0.032      | 0.029      | 0.03       | 0.026      | 0.035     | 0.044      | 0.032      | 0.028      | 0.031      |            | 0.032      | 0.04       | 0.053    | 0.029     | 0.028     | 0.077     | 0.053     |
| Fe-T             | mg/L | 0.1       | 0.1       | 0.1      | 0.2       | 0.2       | 0.2       | 0.2       | 0.2        | 0.2        | 0.2        | 0.1        | 0.2       | 0.6        | 0.2        | 0.5        | 0.1        |            | 0.1        | 0.1        | 0.2      | <0.1      | <0.1      | 0.2       | 0.2       |
| Hg-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    | <0.0001    |            | <0.0001    | <0.0001    | 0.0001   | <0.0001   | <0.0001   | <0.0001   |           |
| K-T              | mg/L | 4.5       | 6.7       | 6.6      | 7.6       | 7.6       | 7         | 6.8       | 6.5        | 6.6        | 6.4        | 6.6        | 8.8       | 7.8        | 8          | 8          | 9.9        |            | 8.6        | 8.1        | 9        | 9         | 9.8       | 10.9      | 11.5      |
| Li-T             | mg/L | 0.004     | 0.004     | 0.005    | 0.004     | 0.005     | 0.004     | <0.001    | 0.004      | 0.004      | 0.004      | 0.004      | 0.004     | 0.004      | 0.004      | 0.004      | 0.005      |            | 0.004      | 0.005      | 0.005    | 0.004     | 0.004     | 0.005     | 0.006     |
| Mg-T             | mg/L | 15.4      | 16.2      | 16       | 15.4      | 15.2      | 15.4      | 15.9      | 15.6       | 16         | 16         | 16.6       | 16.7      | 16.8       | 17.3       | 17.6       | 18.1       |            | 18.8       | 17.8       | 19.5     | 18.9      | 19.7      | 19.8      | 18.9      |
| Mn-T             | mg/L | 0.091     | 0.123     | 0.137    | 0.15      | 0.144     | 0.148     | 0.14      | 0.127      | 0.115      | 0.107      | 0.098      | 0.106     | 0.115      | 0.108      | 0.11       | 0.109      |            | 0.12       | 0.114      | 0.152    | 0.153     | 0.213     | 0.256     | 0.284     |
| Mo-T             | mg/L | 0.008     | 0.011     | 0.012    | 0.012     | 0.012     | 0.012     | 0.012     | 0.011      | 0.012      | 0.011      | 0.011      | 0.012     | 0.012      | 0.012      | 0.012      | 0.014      |            | 0.014      | 0.013      | 0.016    | 0.015     | 0.017     | 0.019     | 0.019     |
| Na-T             | mg/L | 13.7      | 17.2      | 16.4     | 17.5      | 17.4      | 16.4      | 16.7      | 16.7       | 16.4       | 16.6       | 16.9       | 19.3      | 18.4       | 18.3       | 18.7       | 20.8       |            | 21         | 19.5       | 21.2     | 21.3      | 22.7      | 24        | 25.7      |
| Ni-T             | mg/L | 0.0014    | 0.0015    | 0.0018   | 0.0024    | 0.0009    | 0.0016    | 0.002     | 0.0015     | 0.0015     | <0.0005    | 0.0008     | 0.0018    | 0.0008     | <0.0005    | 0.0014     | 0.0018     |            | 0.002      | 0.0017     | 0.0026   | 0.0019    | 0.0021    | 0.0025    | 0.0025    |
| N-TKN            | mg/L | 1.15      | 1.6       | 1.65     | 1.44      | 1.54      | 0.94      | 0.83      | 1.17       | 0.68       | 1.65       | 0.49       | 0.96      | 0.57       | 0.59       | 0.7        | 1.28       |            | 0.45       | 0.82       | 1.23     | 0.62      | 1.26      | 1.93      | 0.84      |
| Pb-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | 0.0001    | 0.0001    | 0.0002     | <0.0001    | <0.0001    | <0.0001    | 0.0004    | 0.0004     | 0.0006     | 0.0001     | <0.0001    |            | 0.0002     | 0.0001     | 0.0024   | <0.0001   | 0.0002    | 0.0004    | 0.0003    |
| P-PO4-T          | mg/L | 0.02      | 0.05      | 0.04     | 0.03      | 0.04      | 0.03      | 0.06      | 0.03       | <0.05      | 0.05       | <0.02      | <0.01     | 0.07       | <0.05      | 0.06       | 0.07       |            | 0.07       | 0.06       | 0.06     | 0.06      | 0.06      | 0.06      | 0.04      |
| P-T              | mg/L | <0.05     | <0.05     | <0.05    | <0.05     | 0.13      | <0.05     | 0.18      | <0.05      |            | 0.07       |            | 0.02      | <0.05      |            | <0.05      | 0.09       |            | <0.05      | <0.05      | <0.05    | <0.05     | <0.05     | <0.05     | <0.05     |
| P-TRP (Ortho)    | mg/L |           |           |          |           |           |           |           |            | 0.03       |            | <0.01      |           |            | 0.04       |            |            |            |            |            |          |           |           |           |           |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002    | 0.0002    | <0.0002    | <0.0002    | <0.0002    | <0.0002    |            | 0.0003     | <0.0002    | 0.0002   | <0.0002   | <0.0002   | <0.0002   | 0.0004    |
| Se-T             | mg/L | 0.001     | 0.0012    | 0.0014   | 0.0015    | 0.0018    | 0.0017    | 0.0013    | 0.0018     | 0.0021     | 0.0014     | 0.0014     | 0.0017    | 0.0013     | 0.0017     | 0.0012     | 0.0021     |            | 0.0018     | 0.0014     | 0.0026   | 0.0022    | 0.0029    | 0.0029    | 0.0032    |
| Si-T             | mg/L | 4.7       | 4.97      | 5.11     | 5.26      | 5.18      | 3.56      | 5.24      | 5.02       | 5.12       | 5.18       | 5.2        | 4.79      | 6.27       | 5.69       | 5.48       | 5.46       |            | 5.55       | 5.45       | 5.85     | 5.84      | 5.78      | 5.78      | 5.52      |
| Sn-T             | mg/L | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001     | <0.001     | <0.001    | <0.001     | <0.001     | <0.001     | <0.001     |            | <0.001     | <0.001     | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    |
| Sr-T             | mg/L | 0.406     | 0.511     | 0.54     | 0.51      | 0.516     | 0.561     | 0.568     | 0.577      | 0.549      | 0.576      | 0.607      | 0.645     | 0.576      | 0.574      | 0.589      | 0.598      |            | 0.645      | 0.677      | 0.718    | 0.653     | 0.686     | 0.719     | 0.687     |
| S-T              | mg/L | 12.2      | 13.4      | 13.7     | 14.2      | 13.5      | 13.1      | 13.6      | 13.3       | 13.4       | 13.6       | 13.8       | 15.2      | 14.6       | 14.8       | 15.1       | 16.1       |            | 17.4       | 16.3       | 17.8     | 17.8      | 18.8      | 20.2      | 20.6      |
| Te-T             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Th-T             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Ti-T             | mg/L | <0.0005   | 0.003     | <0.0005  | 0.0051    | 0.0059    | 0.005     | 0.0062    | <0.0005    | 0.0022     | 0.0045     | 0.0037     | 0.006     | 0.0324     | 0.0019     | 0.0034     | 0.0038     |            | 0.003      | 0.003      | 0.003    | 0.0023    | <0.0005   | 0.0043    | 0.0048    |
| Tl-T             | mg/L | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005  | <0.00005   | <0.00005   | <0.00005   | <0.00005   | <0.00005  | <0.00005   | <0.00005   | <0.00005   | <0.00005   |            | <0.00005   | <0.00005   | <0.00005 | <0.00005  | <0.00005  | <0.00005  | <0.00005  |
| U-T              | mg/L | 0.0011    | 0.0014    | 0.0014   | 0.0013    | 0.0012    | 0.0013    | 0.0014    | 0.0015     | 0.0015     | 0.0016     | 0.0016     | 0.0017    | 0.0016     | 0.0018     | 0.0018     | 0.002      |            | 0.0022     | 0.0021     | 0.0026   | 0.0024    | 0.0024    | 0.0024    | 0.0022    |
| V-T              | mg/L | 0.0012    | 0.0011    | 0.0011   | 0.0013    | 0.0014    | 0.0012    | 0.0012    | 0.0012     | 0.0013     | 0.0011     | 0.001      | 0.0011    | 0.0021     | 0.0012     | 0.0009     | 0.001      |            | 0.0009     | 0.0008     | 0.001    | 0.0009    | 0.001     | 0.0011    | 0.0008    |
| Zn-T             | mg/L | 0.01      | 0.013     | 0.011    | 0.009     | 0.014     | 0.014     | 0.01      | 0.013      | 0.012      | 0.012      | 0.014      | 0.019     | 0.021      | 0.016      | 0.014      | 0.019      |            | 0.022      | 0.016      | 0.033    | 0.016     | 0.02      | 0.035     | 0.02      |
| Zr-T             | mg/L | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001     | <0.001     | <0.001    | <0.001     | <0.001     | <0.001     | <0.001     |            | <0.001     | <0.001     | <0.001   | <0.001    | <0.001    | <0.001    | <0.001    |
| Ag-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.0001    |            |            |            | <0.0001    |            |          |           |           |           |           |
| Al-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.017      |            |            |            | 0.017      |            |          |           |           |           |           |
| As-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0004     |            |            |            | 0.0009     |            |          |           |           |           |           |
| Ba-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.11       |            |            |            | 0.108      |            |          |           |           |           |           |
| B-D              | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.046      |            |            |            | 0.052      |            |          |           |           |           |           |
| Be-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.0001    |            |            |            | <0.0001    |            |          |           |           |           |           |
| Bi-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.0005    |            |            |            | <0.0005    |            |          |           |           |           |           |
| Ca-D             | mg/L |           |           |          |           |           |           |           |            |            |            |            |           |            | 58.3       |            |            |            | 61.6       |            |          |           |           |           |           |
| Cd-D             | mg/L |           |           |          |           |           |           |           | </         |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |          | 1036694   | 1042534   | 1045842  | 1048063   | 1050334   | 1053227   | 1057213   | 1061125    | 1065056    | 1067248    | 1070279    | 1073925   | 1075156    | 1077993    | 1079274    | 1083276    | 1084216    | 1084216    | 1088205    | 1086857  | 1088370   | 1089526   | 1094163   | 1100515   |
|------------------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|------------|------------|------------|------------|------------|------------|------------|----------|-----------|-----------|-----------|-----------|
| Smpl Date        |          | 8/14/2007 | 8/29/2007 | 9/6/2007 | 9/11/2007 | 9/18/2007 | 9/25/2007 | 10/3/2007 | 10/11/2007 | 10/17/2007 | 10/22/2007 | 10/30/2007 | 11/8/2007 | 11/13/2007 | 11/20/2007 | 11/27/2007 | 12/11/2007 | 12/18/2007 | 12/18/2007 | 12/26/2007 | 1/9/2008 | 1/16/2008 | 1/22/2008 | 2/13/2008 | 3/14/2008 |
| Station Name     |          | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16        | W16        | W16        | W16        | W16       | W16        | W16        | W16        | W16        | W16        | W16        | W16        | W16      | W16       | W16       | W16       | W16       |
| Sample Class     |          | P         | P         | P        | P         | P         | P         | P         | P          | P          | P          | P          | P         | P          | P          | P          | P          | P          | P          | M          | P        | M         | P         | M         | M         |
| P-TDP            | mg/L     | <0.02     | <0.02     | <0.02    | <0.02     | <0.02     | <0.02     |           | <0.02      | <0.02      |            | <0.02      | <0.02     | <0.02      | <0.02      | <0.02      | <0.02      |            | <0.02      | <0.02      | <0.02    | <0.02     | <0.02     | <0.02     |           |
| Sb-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0012     |            |            |            | 0.0012     |            |          |           |           |           |           |
| S-D              | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 15.1       |            |            |            | 17.6       |            |          |           |           |           |           |
| Se-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0018     |            |            |            | 0.0021     |            |          |           |           |           |           |
| Si-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 5.73       |            |            |            | 5.78       |            |          |           |           |           |           |
| Sn-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.001     |            |            |            | <0.001     |            |          |           |           |           |           |
| Sr-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.557      |            |            |            | 0.617      |            |          |           |           |           |           |
| Te-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Th-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Ti-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0019     |            |            |            | 0.0023     |            |          |           |           |           |           |
| Tl-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.00005   |            |            |            | <0.00005   |            |          |           |           |           |           |
| U-D              | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0017     |            |            |            | 0.0021     |            |          |           |           |           |           |
| V-D              | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0019     |            |            |            | 0.0011     |            |          |           |           |           |           |
| Zn-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.01       |            |            |            | 0.021      |            |          |           |           |           |           |
| Zr-D             | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Alk-Bicrb        | mg/L     | 196       | 217       | 229      | 212       | 218       | 198       | 198       | 197        | 196        | 197        | 206        | 216       | 222        | 224        | 222        | 230        |            | 234        | 247        | 248      | 253       | 254       | 262       | 266       |
| Alk-Carb         | mg/L     | <6        | <6        | <6       | <6        | <6        | <6        | <6        | <6         | <6         | <6         | <6         | <6        | <6         | <6         | <6         | <6         |            | <6         | <6         | <6       | <6        | <6        | <6        | <6        |
| Alk-OH           | mg/L     | <5        | <5        | <5       | <5        | <5        | <5        | <5        | <5         | <5         | <5         | <5         | <5        | <5         | <5         | <5         | <5         |            | <5         | <5         | <5       | <5        | <5        | <5        | <5        |
| Alk-P            | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Alk-T            | mg/L     | 161       | 178       | 188      | 174       | 179       | 163       | 162       | 162        | 160        | 162        | 168        | 177       | 182        | 184        | 182        | 189        |            | 192        | 203        | 203      | 208       | 208       | 215       | 218       |
| Bromine          | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| C-TIC            | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| C-TOC            | mg/L     |           |           |          |           |           |           |           |            |            |            |            | 22.2      |            | 19.5       |            | 28.4       |            | 19.8       | 14.5       | 17.3     |           | 20.2      |           |           |
| Chloride         | mg/L     | 1.8       | 2.2       | 2.2      | 2.32      | 2.38      | 2.42      | 2.56      | 2.51       | 2.61       | 2.5        | 2.72       | 3.37      | 3.42       | 2.96       | 3.74       | 3.88       |            | 3.77       | 3.63       | 4.41     | 4.31      | 4.83      | 4.98      | 5.3       |
| Colour           | TCU      | 80        | 80        | 70       | 70        | 56        | 58        | 54        | 47         | 40         | 50         | 52         | 47        | 50         | 48         | 49         | 46         |            | 42         | 42         | 44       | 49        | 52        | 45        | 37        |
| Cond-F           | µS/cm    |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Cond-L           | µS/cm    | 370       | 420       | 411      | 401       | 445       | 409       | 439       | 462        | 444        | 462        | 470        | 492       | 497        | 510        | 477        | 536        |            | 465        | 491        | 521      | 547       | 570       | 591       | 540       |
| Discharge        | L/s      |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Fluoride         | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Hard-D           | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            | 219        |            |            |            | 234        |            |          |           |           |           |           |
| Hard-T           | mg/L     | 178       | 188       | 195      | 189       | 180       | 182       | 191       | 189        | 194        | 195        | 202        | 204       | 208        |            | 214        | 218        |            |            | 221        | 241      | 236       | 247       | 248       |           |
| IB               | %        |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Ammonia          | mg/L     | 0.41      | 0.68      | 0.69     | 0.74      | 0.6       | 0.77      | 0.55      |            | 0.65       | 0.63       | 0.57       | 0.61      | 0.64       | 0.52       | 0.54       | 0.63       | 0.44       |            | 0.64       | 0.61     | 0.6       | 0.67      | 0.73      | 0.75      |
| Ammonium         | mg/L     |           |           |          |           |           |           |           | 0.74       |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| N-NO2            | mg/L     | 0.32      | 0.47      | 0.46     | 0.53      | 0.47      | 0.48      | 0.41      | 0.36       | 0.34       | 0.3        | 8.62       | 0.35      | 0.27       | 0.17       | 0.25       | 0.27       |            | 0.35       | 0.34       | 0.4      | 0.52      | 0.52      | 0.61      | 0.39      |
| NO2+NO3          | mg/L     | 4.37      | 7.04      | 7.04     | 7.36      | 6.7       | 7.86      | 8.24      | 8.04       | 7.73       | 7.17       | 8.17       | 7.99      | 7.78       | 7.78       | 8.14       | 8.3        |            | 8.98       | 8.16       | 7.98     | 8.12      | 7.88      | 7.48      | 6.54      |
| N-NO3            | mg/L     | 4.2       | 7.4       | 7.4      | 8.51      | 7.47      | 8.33      | 8.96      | 6.8        | 6.8        | 8.73       | 0.26       | 9.11      | 9.11       | 8          | 7.7        | 9.85       |            | 8.6        | 9.75       | 9.14     | 9.27      | 8.69      | 8.53      | 7.28      |
| pH-F             | pH units |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| pH-L             | pH units | 7.99      | 7.97      | 8        | 7.87      | 7.9       | 7.86      | 7.94      | 8          | 7.91       | 7.96       | 7.89       | 7.56      | 8.16       | 7.83       | 7.9        | 7.74       |            | 7.94       | 7.64       | 7.66     | 7.58      | 7.65      | 7.67      | 7.77      |
| Radium - 226     |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| SO4-D            | mg/L     | 35        | 39        | 41       | 39.9      | 39.7      | 40.2      | 41.5      | 40         |            | 40.4       | 38.8       | 40.7      | 43         |            | 40.7       | 44.5       |            | 49.7       | 43.7       | 48       | 47.1      | 51.8      | 53.1      | 56        |
| SO4-T            | mg/L     |           |           |          |           |           |           |           |            | 39.3       |            |            |           |            | 43.3       |            |            |            |            |            |          |           |           |           |           |
| Sulphide         | mg/L     |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| TDS              | mg/L     | 328       | 334       | 322      | 316       | 304       | 320       | 320       | 306        | 298        | 322        | 322        | 352       | 364        | 374        | 368        | 380        |            | 412        | 378        | 390      | 394       | 412       | 398       | 400       |
| Temp-F           | C        |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| Temp-obs-pH      | C        |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |
| TSS              | mg/L     | <2        | <2        | <2       | <2        | 19        | <2        | 14        | <2         | <2         | 8          | <2         | 4         | 4          | 3          | 2          | 2          |            | <2         | <5         | <2       | <5        | <2        | 3         | <2        |
| Turb             | NTU      | 0.5       | 1.2       | 1.1      | 1.5       | 1.3       | 5.5       | 2.4       | 1.9        | 1.6        | 2          | 1.4        | 1.4       | 2.1        | 1.3        | 1.9        | 1.5        |            | 1          | 0.8        | 0.8      | 0.4       | 0.7       | 1.2       | 1.2       |
| Turb-F           | NTU      |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |            |            |            |            |          |           |           |           |           |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |      | 1102011   | 1103501   | 1103501   | 1108275   | 1110212   | 1112527   | 1115474  | 1116116  | 1117314  | 1118493  | 1118493  | 1119091  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125778  | 1127472   | 1129098   | 1131174   | 1131441   | 1132803  |
|------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|
| Smpl Date        |      | 3/20/2008 | 3/26/2008 | 3/26/2008 | 4/10/2008 | 4/17/2008 | 4/22/2008 | 5/3/2008 | 5/4/2008 | 5/5/2008 | 5/7/2008 | 5/8/2008 | 5/9/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 | 6/26/2008 | 7/3/2008 |
| Station Name     |      | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16      | W16      | W16      | W16      | W16      | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16      |
| Sample Class     |      | M         | M         | P         | P         | P         | P         | P        | M        | P        | P        | P        | M        | M         | P         | P         | M         | P         | P         | P         | P         | P        | P         | P         | P         | P         | P        |
| Ag-T             | mg/L | <0.001    | <0.0001   | <0.0001   |           | 0.00004   | <0.0001   |          | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.00005  | <0.00001 | <0.00001  | 0.00001   | 0.00007   | 0.00004   |          |
| Al-T             | mg/L | 0.23      | 0.05      | 0.03      |           | 0.625     | 0.2       |          | 0.39     | 0.48     | 0.55     | 0.43     | 0.95     | 0.84      | 0.84      | 0.59      | 0.31      | 0.35      | 0.39      | 0.04      | 0.04      | <0.01    | <0.01     | 0.08      | 0.09      | 0.07      | 0.084    |
| As-T             | mg/L | 0.0009    | 0.0006    | 0.0007    |           | 0.0007    | 0.005     |          | 0.0002   | 0.0004   | <0.0002  | <0.0002  | 0.0011   | 0.001     | 0.001     | 0.0022    | <0.0002   | 0.0012    | 0.0002    | 0.0003    | <0.0002   | 0.002    | 0.0003    | 0.0009    | <0.0002   | 0.0009    | 0.0007   |
| Ba-T             | mg/L | 0.108     | 0.106     | 0.105     |           | 0.126     | 0.04      |          | 0.029    | 0.04     | 0.045    | 0.038    | 0.058    | 0.056     | 0.056     | 0.055     | 0.05      | 0.056     | 0.057     | 0.05      | 0.051     | 0.058    | 0.06      | 0.057     | 0.061     | 0.056     | 0.07     |
| Be-T             | mg/L | <0.00004  | <0        | <0        |           | <0.0001   | <0.0002   |          | <0.00004 | <0.00004 | 0.00005  | 0.00004  | <0.00004 | 0.00005   | 0.00005   | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004  | 0.00005   | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.0001   |          |
| Bi-T             | mg/L |           |           |           |           | <0.0005   |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           | <0.0005  |
| B-T              | mg/L | 0.049     | 0.057     | 0.053     |           | 0.063     | <0.02     |          | <0.005   | <0.005   | 0.01     | 0.009    | 0.014    | 0.014     | 0.014     | 0.015     | 0.01      | 0.013     | 0.012     | 0.016     | 0.019     | 0.02     | 0.023     | 0.022     | 0.023     | 0.023     | 0.023    |
| Ca-T             | mg/L | 62.3      | 63.3      | 62        |           | 57.6      | 28.9      |          | 6.65     | 14.3     | 16.5     | 14.2     | 20.2     | 20.5      | 20.5      | 20.2      | 18.1      | 19.9      | 21.9      | 21.1      | 23.2      | 28.4     | 33.5      | 28.7      | 31.6      | 30.6      | 29.7     |
| Cd-T             | mg/L | <0.00007  | <0.00007  | <0.00007  |           | 0.00009   | <0.0004   |          | <0.00007 | <0.00007 | <0.00007 | <0.00007 | <0.00007 | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007 | <0.00008  | <0.00008  | <0.00008  | 0.00012   | 0.00007  |
| CN-T             | mg/L |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Co-T             | mg/L | 0.00051   | 0.00032   | 0.00036   |           | 0.0012    | 0.0004    |          | 0.00038  | 0.00057  | 0.00057  | 0.00051  | 0.00091  | 0.00088   | 0.00088   | 0.00078   | 0.00055   | 0.0007    | 0.00073   | 0.00057   | 0.00062   | 0.0006   | 0.00057   | 0.00043   | 0.00061   | 0.00056   | 0.0006   |
| Cr-T             | mg/L | 0.006     | 0.0014    | 0.0025    |           | 0.001     | <0.002    |          | <0.0005  | 0.0007   | 0.0005   | <0.0005  | 0.001    | 0.0009    | 0.0009    | 0.0008    | 0.0015    | 0.0016    | 0.0015    | 0.0014    | 0.0015    | 0.001    | 0.0015    | 0.001     | 0.0027    | 0.0024    | 0.001    |
| Cu-T             | mg/L | 0.021     | 0.022     | 0.019     |           | 0.047     | 0.052     |          | 0.043    | 0.082    | 0.088    | 0.068    | 0.138    | 0.127     | 0.127     | 0.121     | 0.083     | 0.082     | 0.08      | 0.083     | 0.081     | 0.085    | 0.094     | 0.072     | 0.075     | 0.066     | 0.06     |
| Fe-T             | mg/L | 0.36      | 0.15      | 0.12      |           | 0.7       | 0.38      |          | 0.64     | 1.08     | 1.16     | 0.92     | 2.38     | 2.53      | 2.53      | 2.58      | 1.65      | 1.94      | 1.94      | 1.72      | 1.84      | 1.83     | 1.83      | 1.49      | 1.56      | 1.4       | 1.39     |
| Hg-T             | mg/L | <0.00001  | <0.0001   | 0.0001    |           | <0.0001   | 0.00002   |          | <0.00001 | 0.00001  | 0.00001  | <0.00001 | 0.00001  | 0.00001   | 0.00001   | 0.00001   | <0.00001  | 0.00001   | 0.00001   | 0.00001   | <0.00001  | <0.01    | <0.01     | <0.01     | 0.00002   | <0.00001  | <0.0001  |
| K-T              | mg/L | 13.6      | 15        | 13.6      |           | 26        | 7.73      |          | 1.6      | 3.74     | 4.52     | 3.89     | 6.09     | 5.91      | 5.91      | 5.6       | 4.39      | 5.52      | 6.35      | 5.91      | 6.53      | 7.86     | 8.97      | 7.84      | 9.21      | 8.99      | 9.3      |
| Li-T             | mg/L | 0.005     | 0.005     | 0.005     |           | 0.006     | <0.005    |          | <0.001   | <0.001   | <0.001   | <0.001   | 0.002    | 0.001     | 0.001     | 0.002     | 0.001     | 0.001     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    |
| Mg-T             | mg/L | 18.1      | 19.2      | 18.1      |           | 17.8      | 8.36      |          | 1.75     | 3.87     | 4.44     | 3.73     | 5.86     | 5.81      | 5.81      | 5.77      | 4.53      | 5.57      | 6.36      | 6.04      | 6.54      | 7.84     | 9.37      | 8.28      | 8.96      | 9.04      | 9.1      |
| Mn-T             | mg/L | 0.299     | 0.33      | 0.314     |           | 0.489     | 0.117     |          | 0.0526   | 0.113    | 0.134    | 0.111    | 0.21     | 0.212     | 0.212     | 0.212     | 0.148     | 0.198     | 0.209     | 0.203     | 0.206     | 0.211    | 0.237     | 0.195     | 0.237     | 0.23      | 0.253    |
| Mo-T             | mg/L | 0.0216    | 0.0268    | 0.0228    |           | 0.031     | 0.0121    |          | 0.00171  | 0.00378  | 0.00424  | 0.00373  | 0.00557  | 0.00537   | 0.00537   | 0.00507   | 0.00481   | 0.00579   | 0.00604   | 0.00621   | 0.0073    | 0.00889  | 0.00944   | 0.00884   | 0.00836   | 0.00814   | 0.01     |
| Na-T             | mg/L | 27.2      | 31        | 28.5      |           | 37.8      | 12.6      |          | 2.2      | 6        | 7.2      | 6.2      | 10.2     | 10.4      | 10.4      | 10        | 8.2       | 10.6      | 11.2      | 10.9      | 12.1      | 14.3     | 16.1      | 14.4      | 15.9      | 15.5      | 15.8     |
| Ni-T             | mg/L | 0.005     | 0.003     | 0.003     |           | 0.0029    | <0.005    |          | 0.006    | 0.01     | 0.01     | 0.008    | 0.019    | 0.02      | 0.02      | 0.019     | 0.014     | 0.017     | 0.015     | 0.003     | 0.002     | 0.002    | 0.025     | <0.001    | 0.003     | 0.003     | 0.0027   |
| N-TKN            | mg/L | 1.39      | 0.49      | 0.47      |           |           | 1.88      |          | 0.88     | 1.48     |          | 1.55     |          |           |           | 1.76      |           |           | 1.91      | 1.91      | 1.83      | 1.69     | 1.87      | 1.83      | 2.13      |           | 1.95     |
| Pb-T             | mg/L | 0.0002    | <0.0001   | 0.0001    |           | 0.0005    | <0.0005   |          | 0.0004   | 0.0002   | 0.0003   | 0.0002   | 0.0004   | 0.0003    | 0.0003    | 0.0003    | 0.0003    | 0.0003    | 0.0002    | 0.0002    | 0.0002    | 0.0002   | 0.0012    | 0.0002    | 0.0002    | 0.0003    | <0.0001  |
| P-PO4-T          | mg/L | 0.05      | 0.05      | 0.03      |           | <0.05     | <0.05     |          | <0.05    | 0.06     | 0.06     | 0.06     | 0.11     | 0.09      |           | 0.06      |           | 0.04      | <0.05     | 0.06      | 0.06      | 0.03     | 0.02      | 0.04      | <0.05     | <0.05     | <0.05    |
| P-T              | mg/L | 0.09      | <0.05     | <0.05     |           | <0.05     | <0.05     |          | 0.06     | 0.1      | 0.07     | 0.07     | 0.11     | 0.09      | 0.09      | 0.08      | 0.04      | 0.06      | 0.07      | 0.04      | 0.04      | <0.05    | <0.05     | <0.05     | 0.04      | 0.05      |          |
| P-TRP (Ortho)    | mg/L |           |           |           |           |           | 0.03      |          | 0.04     | 0.03     |          | 0.03     |          |           |           | 0.04      |           |           | 0.04      | 0.04      | 0.04      |          |           |           | 0.03      |           | 0.03     |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002   |           | 0.0003    | <0.001    |          | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  |
| Se-T             | mg/L | 0.0056    | 0.0058    | 0.0063    |           | 0.0039    | 0.004     |          | <0.0006  | <0.0006  | <0.0006  | <0.0006  | 0.002    | 0.0014    | 0.0014    | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | 0.0009   | 0.0015    | 0.0019    | 0.0009    | 0.0028    | 0.002    |
| Si-T             | mg/L | 5.2       | 2.69      | 2.68      |           | 5.96      | 1         |          | 1.11     | 1.67     | 1.8      | 1.49     | 2.68     | 2.43      | 2.43      | 2.08      | 1.51      | 1.8       | 1.74      | 1.48      | 1.55      | 1.64     | 3.21      | 2.74      | 3.04      | 2.96      | 3.36     |
| Sn-T             | mg/L | <0.004    | <0.0001   | <0.0001   |           | <0.001    | <0.0005   |          | <0.0001  | <0.0001  | <0.0001  | 0.0001   | <0.0001  | <0.0001   | <0.0001   | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.001   |
| Sr-T             | mg/L | 0.7       | 0.79      | 0.68      |           | 0.755     | 0.55      |          | 0.076    | 0.152    | 0.177    | 0.154    | 0.221    | 0.216     | 0.216     | 0.207     | 0.191     | 0.212     | 0.222     | 0.225     | 0.255     | 0.309    | 0.351     | 0.336     | 0.339     | 0.322     | 0.365    |
| S-T              | mg/L |           |           |           |           | 25.9      |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           | 16.1     |
| Te-T             | mg/L | <0.0001   | <0.0001   | <0.0001   |           |           | 0.0006    |          | <0.0001  | <0.0001  | 0.0003   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | 0.0002    | <0.0001   | <0.0001   | <0.0001   | 0.0002    | <0.0001   | 0.0002   | 0.0006    | <0.0001   | <0.0001   | <0.0001   |          |
| Th-T             | mg/L | <0.0001   | <0.00001  | <0.00001  |           | <0.0001   | <0.0001   |          | <0.0001  | 0.0002   | 0.0002   | 0.0002   | 0.0004   | 0.0003    | 0.0003    | 0.0004    | <0.0001   | 0.0002    | 0.0002    | <0.0001   | <0.0001   | 0.0001   | <0.0001   | 0.0002    | <0.0001   | <0.0001   |          |
| Ti-T             | mg/L | 0.0093    | 0.0016    | 0.0012    |           | 0.0425    | 0.011     |          | 0.0344   | 0.0231   | 0.0275   | 0.0276   | 0.0376   | 0.0393    | 0.0393    | 0.0104    | 0.0093    | 0.0113    | 0.0117    | 0.0149    | 0.0152    | 0.0058   | 0.0049    | 0.0046    | 0.0075    | 0.0038    | 0.0057   |
| Tl-T             | mg/L | <0.00001  | <0.00001  | <0.00001  |           | <0.00005  | <0.00005  |          | <0.00001 | <0.00001 | <0.00001 | <0.00001 | 0.00001  | 0.00001   | 0.00001   | <0.00001  | <0.00001  | <0.00001  | 0.00001   | <0.00001  | <0.00001  | <0.00001 | 0.00001   | <0.00001  | <0.00001  | <0.00001  | <0.00005 |
| U-T              | mg/L | 0.0022    | 0.0018    | 0.0018    |           | 0.002     | <0.002    |          | <0.0005  | <0.0005  | <0.0005  | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | <0.0005   | 0.0005   | 0.0005    | 0.0005    | 0.0005    | 0.0005    | 0.0005   |
| V-T              | mg/L | 0.00272   | 0.00067   | 0.0008    |           | 0.003     | 0.0012    |          | 0.00142  | 0.00239  | 0.00237  | 0.002    | 0.00411  | 0.00446   | 0.00446   | 0.00359   | 0.00315   | 0.00334   | 0.00362   | 0.00259   | 0.00279   | 0.00288  | 0.00252   | 0.0023    | 0.00251   | 0.00243   | 0.0026   |
| Zn-T             | mg/L | 0.015     | 0.023     | 0.024     |           | 0.027     | 0.02      |          | 0.01     | 0.016    | 0.017    | 0.014    | 0.026    | 0.022     | 0.022     | 0.027     | 0.02      | 0.019     | 0.021     | 0.019     | 0.022     | 0.028    | 0.028     | 0.024     | 0.029     | 0.034     | 0.024    |
| Zr-T             | mg/L | 0.0003    | 0.0002    | 0.0002    |           | <0.001    | <0.0005   |          | 0.0004   | 0.0003   | 0.0004   | 0.0003   | 0.0005   | 0.0005    | 0.0005    | 0.0004    | 0.0005    | 0.0004    | 0.0004    | 0.0008    | 0.0007    | 0.0007   | 0.0007    | 0.0008    | 0.0006    | 0.0006    | <0.001   |
| Ag-D             | mg/L |           |           |           |           |           |           | <0.0010  | <0.0010  |          |          | <0.0010  | <0.0010  | <0.0010   | <0.0010   | <0.0010   | <0.001    | <0.0010   |           |           |           |          |           |           |           |           |          |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |          | 1102011   | 1103501   | 1103501   | 1108275   | 1110212   | 1112527   | 1115474  | 1116116  | 1117314  | 1118493  | 1118493  | 1119091  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125778  | 1127472   | 1129098   | 1131174   | 1131441   | 1132803  |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|
| Smpl Date        |          | 3/20/2008 | 3/26/2008 | 3/26/2008 | 4/10/2008 | 4/17/2008 | 4/22/2008 | 5/3/2008 | 5/4/2008 | 5/5/2008 | 5/7/2008 | 5/8/2008 | 5/9/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 | 6/26/2008 | 7/3/2008 |
| Station Name     |          | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16      | W16      | W16      | W16      | W16      | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16       | W16      | W16       | W16       | W16       | W16       | W16      |
| Sample Class     |          | M         | M         | P         | P         | P         | P         | P        | M        | P        | P        | P        | M        | M         | P         | P         | M         | P         | P         | P         | P         | P        | P         | P         | P         | P         | P        |
| P-TDP            | mg/L     |           |           |           |           |           |           |          |          | <0.05    |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Sb-D             | mg/L     |           |           |           |           |           |           | 0.0008   | 0.0009   |          |          | 0.0007   | 0.0007   | 0.0011    | 0.0011    | 0.0008    | 0.0016    | 0.0007    | 0.0009    | 0.0012    | 0.0008    | 0.0008   | 0.0007    | 0.0008    | 0.0007    | 0.0008    | 0.0021   |
| S-D              | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           | 16.9     |
| Se-D             | mg/L     |           |           |           |           |           |           | <0.0006  | <0.0006  |          |          | <0.0006  | 0.0008   | 0.0011    | 0.0011    | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | 0.0015    | 0.001    | 0.002     | 0.0037    | <0.0006   | 0.0035    | 0.002    |
| Si-D             | mg/L     |           |           |           |           |           |           | 0.811    | 0.755    |          |          | 1.37     | 1.68     | 1.71      |           | 1.08      | 1.25      | 1.49      | 1.22      | 1.42      | 1.44      |          |           |           | 2.86      | 3.01      | 3.5      |
| Sn-D             | mg/L     |           |           |           |           |           |           | <0.004   | <0.004   |          |          | <0.004   | <0.004   | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.0040   | <0.004    | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.001   |
| Sr-D             | mg/L     |           |           |           |           |           |           | 0.082    | 0.098    |          |          | 0.184    | 0.216    | 0.212     | 0.212     | 0.149     | 0.197     | 0.225     | 0.232     | 0.243     | 0.265     | 0.309    | 0.317     | 0.315     | 0.319     | 0.327     | 0.358    |
| Te-D             | mg/L     |           |           |           |           |           |           | <0.0001  | <0.0001  |          |          | 0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0001    | <0.0001   | <0.0001   | <0.0001   | 0.0009   | <0.0001   | 0.0001    | <0.0001   | <0.0001   |          |
| Th-D             | mg/L     |           |           |           |           |           |           | <0.0001  | <0.0001  |          |          | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | 0.0001    | <0.0001   | <0.0001   | <0.0001   | 0.0001    | <0.0001  | <0.0001   | 0.0001    | <0.0001   | <0.0001   |          |
| Ti-D             | mg/L     |           |           |           |           |           |           | 0.0025   | 0.0016   |          |          | 0.0036   | 0.0032   | 0.0045    | 0.0045    | 0.003     | 0.0034    | 0.0035    | 0.0019    | 0.0029    | 0.0037    | 0.004    | 0.0035    | 0.0037    | 0.0029    | 0.0035    | 0.0046   |
| Tl-D             | mg/L     |           |           |           |           |           |           | <0.00001 | <0.00001 |          |          | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00005 |
| U-D              | mg/L     |           |           |           |           |           |           | <0.0006  | <0.0006  |          |          | <0.0006  | <0.0006  | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | 0.0005    | 0.0005   | 0.0005    | 0.0005    | 0.0005    | 0.0005    | 0.0005   |
| V-D              | mg/L     |           |           |           |           |           |           | 0.00033  | 0.00037  |          |          | 0.00114  | 0.00153  | 0.00179   | 0.00179   | 0.00105   | 0.00153   | 0.00179   | 0.00162   | 0.00161   | 0.00169   | 0.00186  | 0.00167   | 0.00218   | 0.0021    | 0.00229   | 0.0021   |
| Zn-D             | mg/L     |           |           |           |           |           |           | 0.006    | 0.006    |          |          | 0.022    | 0.017    | 0.017     | 0.017     | 0.011     | 0.01      | 0.016     | 0.014     | 0.017     | 0.016     | 0.019    | 0.021     | 0.018     | 0.02      | 0.02      | 0.026    |
| Zr-D             | mg/L     |           |           |           |           |           |           | 0.0002   | 0.0002   |          |          | 0.0003   | 0.0004   | 0.0004    | 0.0004    | 0.0002    | 0.0003    | 0.0003    | 0.0003    | 0.0005    | 0.0006    | 0.0006   | 0.0006    | 0.0006    | 0.0007    | 0.0006    |          |
| Alk-Bicrb        | mg/L     |           |           | 253       |           |           |           |          | 33       | 56       |          | 53       | 73       | 72        | 72        | 68        | 80        | 80        | 90        | 90        | 90        | 90       | 90        | 100       | 100       |           | 100      |
| Alk-Carb         | mg/L     |           |           | <6        |           |           |           |          | <6       | <6       |          | <6       | <6       | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6       | <6        | <6        | <6        | <6        | <6       |
| Alk-OH           | mg/L     |           |           | <5        |           |           |           |          | <5       | <5       |          | <5       | <5       | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5       | <5        | <5        | <5        | <5        | <5       |
| Alk-P            | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Alk-T            | mg/L     |           |           | 208       |           |           |           |          | 27       | 46       |          | 44       | 60       | 60        | 60        | 59        | 56        | 67        | 68        | 71        | 72        | 76       | 78        | 80        | 87        |           | 94       |
| Bromine          | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| C-TIC            | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| C-TOC            | mg/L     | 23.8      | 14.6      | 14        | 309       | 78.7      | 19.3      |          |          |          |          |          |          | 45.2      | 45.2      | 41.8      | 33.8      | 38.7      | 41.2      | 36.6      | 34.8      | 32.9     | 31.5      | 33.3      | 32.9      | 33.8      | 34.9     |
| Chloride         | mg/L     |           |           | 5.77      |           |           |           |          | 0.71     | 1.28     |          | 1.27     | 1.98     | 1.87      | 1.87      | 1.78      | 1.61      | 2.07      | 2.11      | 2.27      | 2.43      | 2.46     | 2.63      | 2.55      | 2.78      |           | 2.86     |
| Colour           | TCU      |           |           | 33        |           |           |           |          | 120      | 200      |          | 180      | 240      | 240       | 240       | 280       | 250       | 360       | 240       | 250       | 250       | 150      | 230       | 310       | 230       |           | 120      |
| Cond-F           | µS/cm    |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Cond-L           | µS/cm    |           |           | 560       |           |           |           |          | 76       | 132      |          | 134      | 187      | 189       | 189       | 178       | 178       | 212       | 216       | 207       | 234       | 246      | 249       | 273       | 286       |           | 299      |
| Discharge        | L/s      |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Fluoride         | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Hard-D           | mg/L     |           |           |           |           |           |           | 30       |          |          |          | 63       | 74       | 74        |           | 50        | 65        | 75        | 75        | 88        | 90        |          |           |           |           |           | 120      |
| Hard-T           | mg/L     | 230       | 237       | 230       |           | 217       |           |          |          | 59       |          | 51       |          |           |           |           |           |           |           |           |           | 103      |           |           |           |           |          |
| IB               | %        |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Ammonia          | mg/L     | 0.83      | 1.09      | 0.93      |           | 0.243     | 0.79      |          | 0.12     | 0.12     |          | 0.11     |          |           |           | <0.05     | 0.032     | 0.056     | <0.05     | 0.11      | 0.22      | 0.3      | 0.34      | 0.38      | 0.38      |           | 0.34     |
| Ammonium         | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| N-NO2            | mg/L     | 0.15      |           | 0.46      |           |           |           |          | 0.05     | 0.08     |          | 0.07     | 0.09     | 0.08      | 0.08      | 0.08      | 0.08      | 0.1       | 0.09      | 0.09      | 0.13      | 0.16     | 0.28      | 0.25      | 0.32      | 0.28      | 0.31     |
| NO2+NO3          | mg/L     | 7.17      | 8.1       | 7.63      |           |           | 1.45      |          | 0.44     | 0.7      |          | 0.74     | 0.94     | 0.95      | 0.95      | 0.86      | 0.86      |           | 0.98      | 1.28      | 1.83      | 1.9      | 1.69      | 1.81      | 1.52      |           | 1.06     |
| N-NO3            | mg/L     | 7.02      |           | 8.17      |           |           |           |          | 0.51     | 0.71     |          | 0.71     | 0.94     | 0.95      | 0.95      | 0.96      | 0.86      | 1.02      | 1.03      | 1.28      | 1.88      | 2.05     | 1.99      | 1.82      | 1.32      | 1.23      | 0.82     |
| pH-F             | pH units |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| pH-L             | pH units |           |           | 7.63      |           |           |           |          | 7.19     | 7.18     |          | 7.07     | 7.02     | 7.08      | 7.08      | 7.28      | 7.22      | 7.24      | 7.41      | 7.38      | 7.64      | 7.7      | 7.59      | 7.6       | 7.69      |           | 7.71     |
| Radium - 226     |          |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| SO4-D            | mg/L     |           |           | 65.4      |           |           |           |          | 7        | 13.8     |          | 13.8     | 20.6     | 21.8      | 21.8      | 22.4      | 21.6      | 26.5      | 27        | 27.5      | 32        | 39.3     | 44.3      | 43.8      | 46.1      |           | 50.3     |
| SO4-T            | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Sulphide         | mg/L     |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| TDS              | mg/L     |           |           | 380       |           |           |           |          | 102      | 176      |          | 126      | 224      | 230       | 230       | 188       | 170       | 210       | 236       | 222       | 230       | 254      | 222       | 246       | 342       |           | 272      |
| Temp-F           | C        |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| Temp-obs-pH      | C        |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |
| TSS              | mg/L     |           |           | <5        |           |           |           |          | 8        | 18       |          | 12       | 12       | 16        | 16        | 12        | 10        | 8         | 16        | 7         | 8         | 4        | <2        | 3         | <2        |           | <2       |
| Turb             | NTU      |           |           | 1         |           |           |           |          | 9        | 18       |          | 12       | 16       | 20        | 20        | 18        | 12        | 13        | 8.4       | 8.6       | 9.6       | 4.4      | 3.4       | 7.1       | 2.6       |           | 2.2      |
| Turb-F           | NTU      |           |           |           |           |           |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |           |          |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |      | 1133503  | 1134207  | 1137485   | 1144428   | 1145121   | 1151901   | 1160286   | 1163994    | 1178181    | 1183214    | 1184491    | 1188755   | 1203957   | 1214867   | 1217968  | 1231771   | 1272306    | 1274409   | 1284423   | 1289800  |
|------------------|------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|-----------|-----------|----------|-----------|------------|-----------|-----------|----------|
| Smpl Date        |      | 7/8/2008 | 7/9/2008 | 7/22/2008 | 8/23/2008 | 8/25/2008 | 9/18/2008 | 10/8/2008 | 10/17/2008 | 11/18/2008 | 12/10/2008 | 12/17/2008 | 1/17/2009 | 3/31/2009 | 4/21/2009 | 5/5/2009 | 6/22/2009 | 10/27/2009 | 11/5/2009 | 12/2/2009 | 1/4/2010 |
| Station Name     |      | W16      | W16      | W16       | W16       | W16       | W16       | W16       | W16        | W16        | W16        | W16        | W16       | W16       | W16       | W16      | W16       | W16        | W16       | W16       | W16      |
| Sample Class     |      | P        | P        | P         | P         | M         | P         | P         | P          | P          | P          | P          | P         | P         | P         | P        | P         | P          | P         | P         | P        |
| Ag-T             | mg/L | <0.00001 | 0.00013  | <0.00001  | 0.00011   | <0.00001  | 0.00011   | 0.00005   | <0.00001   | 0.00033    | 0.00002    | 0.00005    | 0.00016   | <0.00001  | <0.00001  | <0.00001 | 0.00033   | <0.00001   | <0.00001  | <0.00001  | <0.00001 |
| Al-T             | mg/L | 0.06     | 0.128    | 0.107     | 0.083     | 0.24      | 1.15      | 0.645     | 0.497      | 3.71       | 0.27       | 0.301      | 0.158     | 0.046     | 0.225     | 0.218    | 0.125     | 0.073      | 0.11      | 0.092     | 0.096    |
| As-T             | mg/L | 0.0007   | 0.0004   | 0.0005    | 0.0005    | 0.0008    | 0.0012    | 0.0009    | 0.0009     | 0.0007     | 0.0008     | 0.0009     | 0.0008    | 0.0007    | 0.0003    | <0.0002  | 0.0004    | 0.0003     | 0.0006    | 0.0006    | 0.0006   |
| Ba-T             | mg/L | 0.064    | 0.071    | 0.074     | 0.076     | 0.075     | 0.104     | 0.081     | 0.089      | 0.154      | 0.102      | 0.096      | 0.083     | 0.095     | 0.044     | 0.015    | 0.073     | 0.068      | 0.137     | 0.138     | 0.145    |
| Be-T             | mg/L | <0.00004 | <0.0001  | <0.0001   | <0.00004  | <0.00004  | 0.00007   | <0.00004  | <0.00004   | <0.0001    | <0.00004   | <0.0001    | <0.0001   | <0.00004  | <0.00004  | <0.00004 | 0.00004   | <0.00004   | <0.00004  | <0.00004  | <0.00004 |
| Bi-T             | mg/L |          | <0.0005  | <0.0005   |           |           | <0.0001   | <0.0001   | <0.0001    | <0.0005    | <0.0001    | <0.0005    | <0.0005   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.001     | <0.001    | <0.001    | <0.001   |
| B-T              | mg/L | 0.021    | 0.037    | 0.028     | 0.022     | 0.021     | 0.022     | 0.03      | 0.038      | 0.051      | 0.037      | 0.031      | 0.034     | 0.038     | 0.009     | <0.005   | 0.024     | 0.019      | 0.042     | 0.038     | 0.04     |
| Ca-T             | mg/L | 32.7     | 32.6     | 32.8      | 38.8      | 38.7      | 49.3      | 57.3      | 53.3       | 54.6       | 65.8       | 57.2       | 54.8      | 72.9      | 24.4      | 6.2      | 45.1      | 35.2       | 64.5      | 63.7      | 69.2     |
| Cd-T             | mg/L | <0.00008 | 0.00007  | 0.00002   | 0.00004   | 0.00003   | 0.0001    | 0.00011   | 0.00019    | 0.00019    | 0.00012    | 0.00012    | 0.00011   | 0.00014   | 0.0001    | 0.0026   | 0.00006   | 0.00002    | 0.00004   | 0.00002   | 0.00004  |
| CN-T             | mg/L |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Co-T             | mg/L | 0.00067  | 0.0007   | 0.0008    | 0.00072   | 0.00075   | 0.00142   | 0.00092   | 0.00075    | 0.001      | 0.00052    | 0.0006     | 0.0007    | 0.00044   | 0.00021   | 0.00015  | 0.00021   | 0.00011    | 0.00035   | 0.00032   | 0.00036  |
| Cr-T             | mg/L | 0.001    | 0.0012   | <0.0005   | 0.0017    | 0.0019    | 0.0028    | 0.0014    | 0.001      | 0.0019     | 0.0008     | 0.0012     | 0.0006    | 0.0006    | <0.0004   | 0.0005   | 0.0005    | <0.0004    | <0.0004   | <0.0004   | 0.0005   |
| Cu-T             | mg/L | 0.057    | 0.058    | 0.051     | 0.127     | 0.036     | 0.207     | 0.207     | 0.178      | 0.468      | 0.125      | 0.149      | 0.16      | 0.114     | 0.069     | 0.035    | 0.082     | 0.005      | 0.013     | 0.019     | 0.02     |
| Fe-T             | mg/L | 1.5      | 1.4      | 1.36      | 1.1       | 1.25      | 3.02      | 1.81      | 1.24       | 2.92       | 0.86       | 0.87       | 0.63      | 0.3       | 0.32      | 0.27     | 0.3       | 0.022      | 0.061     | 0.127     | 0.139    |
| Hg-T             | mg/L | 0.00001  | <0.0001  | <0.0001   | 0.00002   | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.0001    | <0.00001   | 0.00004    | <0.0001   | <0.00001  | <0.00001  | <0.00001 | 0.00002   | <0.00001   | <0.00001  | <0.00001  | <0.00001 |
| K-T              | mg/L | 9.83     | 9        | 9.4       | 9.28      | 9.05      | 9.83      | 7.3       | 6.4        | 15.6       | 11.5       | 6.9        | 6.5       | 8.6       | 3.1       | 0.8      | 5.7       | 2.7        | 4.8       | 5.4       | 5.8      |
| Li-T             | mg/L | 0.002    | 0.003    | 0.003     | 0.003     | 0.002     | 0.002     | 0.003     | 0.004      | 0.008      | 0.004      | 0.003      | 0.004     | 0.004     | 0.001     | <0.001   | 0.003     | 0.001      | 0.002     | 0.002     | 0.003    |
| Mg-T             | mg/L | 9.47     | 9.5      | 10        | 12.3      | 12.1      | 14.3      | 15.5      | 14.4       | 17         | 19.5       | 15.1       | 14.9      | 21.1      | 5.8       | 1.28     | 13.2      | 8.24       | 17.6      | 17.9      | 19.7     |
| Mn-T             | mg/L | 0.282    | 0.283    | 0.326     | 0.439     | 0.447     | 0.72      | 0.502     | 0.461      | 0.529      | 0.481      | 0.488      | 0.455     | 0.536     | 0.145     | 0.0383   | 0.2       | 0.178      | 0.39      | 0.386     | 0.431    |
| Mo-T             | mg/L | 0.0085   | 0.01     | 0.009     | 0.00754   | 0.00684   | 0.0055    | 0.0193    | 0.0207     | 0.033      | 0.0297     | 0.022      | 0.02      | 0.02      | 0.00652   | 0.00051  | 0.0109    | 0.0067     | 0.0172    | 0.0184    | 0.0183   |
| Na-T             | mg/L | 14.8     | 15.4     | 16.6      | 17.6      | 16.4      | 18.8      |           | 17.3       | 36.1       | 31.7       | 18.9       | 18.1      | 26.6      | 7.71      | 2.14     | 15.4      | 9.5        | 20.9      | 22.9      | 23.3     |
| Ni-T             | mg/L | 0.003    | 0.0052   | 0.002     | 0.004     | 0.005     | 0.003     | 0.003     | 0.002      | 0.0022     | 0.002      | 0.0021     | 0.0027    | 0.002     | <0.001    | <0.001   | 0.002     | 0.001      | 0.003     | 0.002     | 0.003    |
| N-TKN            | mg/L | 2.03     |          | 2.16      |           | 1.85      | 1.99      | 1.29      | 1.27       | 1.05       | 1.35       | 1.63       | 1         |           | 0.49      | 0.56     | 1.63      | 0.58       | 0.88      | 0.12      | 1.82     |
| Pb-T             | mg/L | 0.0002   | 0.0002   | 0.0002    | 0.0002    | 0.0002    | 0.0008    | 0.0006    | 0.0006     | 0.001      | 0.0002     | 0.0006     | 0.0002    | 0.0003    | 0.0002    | 0.0006   | <0.0001   | <0.0001    | 0.0001    | 0.0002    | 0.0002   |
| P-PO4-T          | mg/L | <0.05    |          | 0.08      |           | <0.05     | 0.09      | <0.05     | <0.05      | 0.05       | <0.05      | <0.05      | 0.05      | <0.05     | <0.01     | 0.01     | 0.02      | 0.04       | 0.04      | 0.05      | 0.05     |
| P-T              | mg/L | 0.02     |          |           | 0.06      | 0.05      | 0.09      | 0.079     | 0.03       |            | 0.026      |            | <0.05     | 0.018     | <0.05     | <0.05    | <0.01     | <0.05      | <0.05     | 0.06      | <0.05    |
| P-TRP (Ortho)    | mg/L | 0.03     |          | 0.04      |           | 0.05      | 0.08      | 0.05      | 0.05       | 0.08       | 0.04       | 0.02       |           |           |           |          | 0.05      |            |           |           |          |
| Sb-T             | mg/L | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | 0.0003    | <0.0002    | 0.0003     | 0.0002     | 0.0004     | 0.0003    | <0.0002   | <0.0002   | <0.0002  | <0.0002   | 0.0002     | 0.0006    | 0.001     | 0.0022   |
| Se-T             | mg/L | 0.001    | 0.0024   | 0.0014    | 0.0015    | 0.0013    | <0.0006   | 0.006     | 0.0067     | 0.0052     | 0.0059     | 0.0048     | 0.0053    | 0.0042    | 0.001     | <0.0006  | 0.0019    | 0.0006     | 0.0025    | 0.0026    | 0.003    |
| Si-T             | mg/L | 3.01     | 3.42     | 3.62      | 4.52      | 4.48      | 7.19      | 6.04      | 5.26       | 11.4       | 5.06       | 5.54       | 4.36      | 5.75      | 1.92      | 1.09     | 3.71      | 5.3        | 3.94      | 4.22      | 4.23     |
| Sn-T             | mg/L | 0.0012   | <0.001   | <0.001    | <0.0001   | <0.0001   | 0.0002    | <0.0001   | 0.0003     | <0.001     | 0.0007     | <0.001     | <0.001    | <0.0001   | <0.0001   | <0.0001  | 0.0077    | <0.0001    | <0.0001   | <0.0001   | <0.0001  |
| Sr-T             | mg/L | 0.353    | 0.37     | 0.379     | 0.416     | 0.4       | 0.488     | 0.871     | 0.949      | 0.973      | 1.19       | 0.855      | 0.861     | 1.03      | 0.292     | 0.044    | 0.598     | 0.399      | 1.02      | 1.08      | 1.22     |
| S-T              | mg/L |          | 16.8     | 17.3      |           |           |           |           |            | 33.8       |            | 25.1       | 24.6      | 31        | 8.1       | 0.8      | 15.8      | 10.4       | 24.9      | 26.7      | 28.9     |
| Te-T             | mg/L | <0.0001  |          |           | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    |            | <0.0001    |            |           | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001    | <0.0001   | <0.0001   | <0.0001  |
| Th-T             | mg/L | 0.0001   |          |           | 0.0003    | <0.0001   | 0.0002    | 0.0006    | <0.0001    |            | 0.0007     |            |           | <0.0001   | <0.0001   | <0.0001  | 0.0002    | <0.0004    | <0.0004   | <0.0004   | <0.0004  |
| Ti-T             | mg/L | 0.0038   | 0.0058   | 0.0053    | 0.0061    | 0.0137    | 0.0416    | 0.0268    | 0.015      | 0.139      | 0.0096     | 0.0194     | 0.0093    | 0.0025    | 0.016     | 0.0106   | 0.0049    |            |           |           |          |
| Tl-T             | mg/L | <0.00001 | <0.00005 | <0.00005  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00005   | 0.00002    | <0.00005   | <0.00005  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001   | <0.00001  | <0.00001  | <0.00001 |
| U-T              | mg/L | 0.0005   | 0.0005   | 0.0006    | 0.0006    | 0.0006    | 0.0011    | 0.0017    | 0.0019     | 0.0015     | 0.0017     | 0.002      | 0.0022    | 0.0024    | 0.0007    | <0.0004  | 0.001     | <0.0004    | 0.0009    | 0.0011    | 0.0014   |
| V-T              | mg/L | 0.00215  | 0.0024   | 0.0028    | 0.00265   | 0.00327   | 0.00668   | 0.00401   | 0.00326    | 0.0085     | 0.00158    | 0.0028     | 0.0024    | 0.00079   | 0.00096   | 0.00071  | 0.00088   | 0.0006     | 0.0008    | 0.0008    | 0.0008   |
| Zn-T             | mg/L | 0.024    | 0.024    | 0.022     | 0.025     | 0.012     | 0.016     | 0.022     | 0.021      | 0.029      | 0.016      | 0.019      | 0.017     | 0.024     | 0.008     | 0.017    | 0.004     | 0.104      | 0.015     | 0.013     | 0.012    |
| Zr-T             | mg/L | 0.0007   | <0.001   | <0.001    | 0.0004    | 0.0004    | 0.0005    | 0.0006    | 0.0018     | 0.001      | 0.0004     | 0.001      | <0.001    | 0.0003    | 0.0001    | 0.0002   | 0.0003    | 0.0001     | 0.0002    | 0.0007    | 0.0002   |
| Ag-D             | mg/L | <0.00001 | <0.00001 | 0.00001   | <0.00001  | <0.00001  | <0.00001  | 0.0003    |            |            | <0.00001   | <0.00001   | <0.00001  | <0.00001  |           | <0.00001 | <0.00001  |            |           |           | <0.00001 |
| Al-D             | mg/L | 0.05     | 0.064    | 0.037     | 0.026     | 0.041     | 0.091     | 0.013     |            |            | 0.016      | 0.026      | 0.029     | 0.012     |           | 0.098    | 0.043     |            |           |           | 0.03     |
| As-D             | mg/L | 0.0006   | 0.0006   | 0.0005    | 0.0007    | 0.0005    | 0.0003    | 0.0007    |            |            | 0.0006     | 0.0006     | 0.0008    | 0.0007    |           | <0.0002  | 0.0003    |            |           |           | 0.0006   |
| Ba-D             | mg/L | 0.063    | 0.068    | 0.07      | 0.074     | 0.071     | 0.081     | 0.079     |            |            | 0.09       | 0.085      | 0.086     | 0.088     |           | 0.016    | 0.072     |            |           |           | 0.131    |
| B-D              | mg/L | 0.022    | 0.023    | 0.023     | 0.021     | 0.022     | 0.027     | 0.032     |            |            | 0.049      | 0.032      | 0.035     | 0.037     |           | <0.004   | 0.019     |            |           |           | 0.036    |
| Be-D             | mg/L | <0.00004 | <0.0001  | <0.0001   | <0.00004  | <0.00004  | <0.00004  | <0.00004  |            |            | <0.00004   | <0.0001    | <0.0001   | <0.00004  |           | <0.00004 | <0.00004  |            |           |           | <0.00004 |
| Bi-D             | mg/L |          | <0.0005  | <0.0005   |           |           |           |           |            |            | <0.0001    | <0.0005    | <0.0005   | <0.0001   |           | <0.0001  | <0.0001   |            |           |           | <0.001   |
| Ca-D             | mg/L | 33.8     | 30.6     | 33.3      | 36.5      | 37.7      | 46.2      | 47.8      |            |            | 65.7       | 54.3       | 55.1      | 62        |           | 7.21     | 44.1      |            |           |           | 65.3     |
| Cd-D             | mg/L | <0.00008 | 0.00005  | <0.00001  | 0.00002   | <0.00001  | 0.00002   | 0.00009   |            |            | 0.00008    | 0.00009    | 0.00012   | 0.00006   |           | 0.00557  | 0.00006   |            |           |           | 0.00018  |
| C-DOC            | mg/L |          |          |           |           | 26.7      | 27.6      | 18.3      |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Co-D             | mg/L | 0.00072  | 0.001    | 0.0008    | 0.00058   | 0.00067   | 0.00134   | 0.0004    |            |            | 0.00049    | 0.0005     | 0.0005    | 0.00041   |           | 0.00024  | 0.00016   |            |           |           | 0.00029  |
| Cr-D             | mg/L | 0.0011   | 0.0172   | <0.0005   | 0.001     | 0.0009    | 0.0018    | 0.0009    |            |            | 0.0007     | <0.0005    | 0.0005    | 0.0005    |           | 0.0006   | <0.0004   |            |           |           | <0.0004  |
| Cu-D             | mg/L |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |

Appendix Table A.12: Water quality data at station W16

| Sampling Session |          | 1133503  | 1134207  | 1137485   | 1144428   | 1145121   | 1151901   | 1160286   | 1163994    | 1178181    | 1183214    | 1184491    | 1188755   | 1203957   | 1214867   | 1217968  | 1231771   | 1272306    | 1274409   | 1284423   | 1289800  |
|------------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|-----------|-----------|----------|-----------|------------|-----------|-----------|----------|
| Smpl Date        |          | 7/8/2008 | 7/9/2008 | 7/22/2008 | 8/23/2008 | 8/25/2008 | 9/18/2008 | 10/8/2008 | 10/17/2008 | 11/18/2008 | 12/10/2008 | 12/17/2008 | 1/17/2009 | 3/31/2009 | 4/21/2009 | 5/5/2009 | 6/22/2009 | 10/27/2009 | 11/5/2009 | 12/2/2009 | 1/4/2010 |
| Station Name     |          | W16      | W16      | W16       | W16       | W16       | W16       | W16       | W16        | W16        | W16        | W16        | W16       | W16       | W16       | W16      | W16       | W16        | W16       | W16       | W16      |
| Sample Class     |          | P        | P        | P         | P         | M         | P         | P         | P          | P          | P          | P          | P         | P         | P         | P        | P         | P          | P         | P         | P        |
| P-TDP            | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Sb-D             | mg/L     | 0.0008   | 0.0011   | 0.0014    | 0.001     | 0.0008    | 0.0033    | 0.0004    |            |            | 0.0018     | 0.0003     | 0.0021    | 0.001     |           | 0.0008   | <0.0002   |            |           |           | 0.0077   |
| S-D              | mg/L     |          | 16.5     | 17        | 0.012     |           |           |           |            |            | 35.7       | 25.1       | 25.5      | 28.9      |           | 1.3      | 15.1      |            |           |           | 26.9     |
| Se-D             | mg/L     | 0.0019   | 0.0016   | 0.0016    | 0.0024    | <0.0006   | 0.0039    | 0.0064    |            |            | 0.0056     | 0.0058     | 0.0058    | 0.0041    |           | <0.0006  | 0.0024    |            |           |           | 0.0028   |
| Si-D             | mg/L     | 3.17     | 3.52     | 3.63      | 4.07      | 4.45      | 5.02      | 4.22      |            |            | 4.4        | 4.98       | 5.22      | 5         |           | 1.01     | 3.53      |            |           |           | 3.89     |
| Sn-D             | mg/L     | <0.0001  | <0.001   | <0.001    | <0.0001   | <0.0001   | <0.0001   | <0.0001   |            |            | 0.0002     | <0.001     | <0.001    | <0.0001   |           | <0.0001  | 0.0071    |            |           |           | <0.0001  |
| Sr-D             | mg/L     | 0.354    | 0.359    | 0.373     |           | 0.403     | 0.383     | 0.442     | 0.844      |            | 1.2        | 0.851      | 0.885     |           |           | 0.051    | 0.571     |            |           |           | 1.08     |
| Te-D             | mg/L     | <0.0001  |          |           | <0.0001   | <0.0001   | <0.0001   | <0.0001   |            |            | <0.0001    |            |           | <0.0001   |           | <0.0001  | <0.0001   |            |           |           | <0.0001  |
| Th-D             | mg/L     | <0.0001  |          |           | <0.0001   | <0.0001   | 0.0001    | <0.0001   |            |            | <0.0001    |            |           | <0.0001   |           | <0.0001  | <0.0001   |            |           |           | <0.0004  |
| Ti-D             | mg/L     | 0.003    | 0.0053   | 0.0028    | 0.0022    | 0.004     | 0.0066    | 0.0016    |            |            | 0.0011     | 0.004      | 0.0036    | 0.0008    |           | 0.0037   | 0.0029    |            |           |           | <0.01    |
| Tl-D             | mg/L     | <0.00001 | <0.00005 | <0.00005  | <0.00001  | <0.00001  | <0.00001  | 0.00002   |            |            | <0.00001   | <0.00005   | <0.00005  | <0.00001  |           | <0.00001 | <0.00001  |            |           |           | <0.00001 |
| U-D              | mg/L     | 0.0005   | <0.0005  | 0.0005    | 0.0006    | 0.0005    | 0.0009    | 0.0016    |            |            | 0.0016     | 0.0021     | 0.0022    | 0.0022    |           | <0.0004  | 0.0008    |            |           |           | 0.0013   |
| V-D              | mg/L     | 0.00205  | 0.002    | 0.0023    | 0.00184   | 0.00226   | 0.0038    | 0.00103   |            |            | 0.00059    | 0.0012     | 0.0018    | 0.00056   |           | 0.00042  | 0.00066   |            |           |           | 0.0005   |
| Zn-D             | mg/L     | 0.02     | 0.024    | 0.014     | 0.008     | 0.008     | 0.005     | 0.008     |            |            | 0.012      | 0.017      | 0.015     | 0.013     |           | 0.023    | 0.003     |            |           |           | 0.02     |
| Zr-D             | mg/L     | 0.0008   |          |           | 0.0003    | 0.0003    | 0.0005    | 0.0003    |            |            | 0.0002     |            |           | 0.0002    |           | 0.0002   | 0.0003    |            |           |           | 0.0001   |
| Alk-Bicrb        | mg/L     | 100      |          | 100       | 160       | 160       | 220       | 170       | 170        | 210        | 200        | 180        | 170       |           | 80        | 10       | 160       | 90         | 130       | 150       | 170      |
| Alk-Carb         | mg/L     | <6       |          | <6        | <6        | <6        | <6        | <6        | <6         | <6         | <6         | <6         | <6        |           | <6        | <6       | <6        | <6         | <6        | <6        | <6       |
| Alk-OH           | mg/L     | <5       |          | <5        | <5        | <5        | <5        | <5        | <5         | <5         | <5         | <5         | <5        |           | <5        | <5       | <5        | <5         | <5        | <5        | <5       |
| Alk-P            | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Alk-T            | mg/L     | 96       |          | 83        | 134       | 131       | 184       | 138       | 140        | 172        | 168        | 148        | 143       |           | 62        | 11       | 131       | 78         | 107       | 123       | 141      |
| Bromine          | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| C-TIC            | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| C-TOC            | mg/L     | 35.8     | 34.9     | 32        | 27.6      | 26.9      | 28.8      | 18.2      |            |            |            | 19.1       |           |           |           |          |           |            |           |           |          |
| Chloride         | mg/L     | 2.88     |          | 2.85      | 2.72      | 2.66      | 3.72      | 2.64      | 2.58       | 6.6        | 5.28       | 2.78       | 3.27      |           | 1.22      | 0.4      | 2.92      | 9.79       | 7.35      | 23.9      | 23       |
| Colour           | TCU      | 200      |          | 140       | 170       | 150       | 120       | 60        | 70         | 35         | 31         | 65         | <50       |           | 13        | 89       | 91        |            |           |           |          |
| Cond-F           | µS/cm    |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Cond-L           | µS/cm    | 300      |          | 307       | 327       | 348       | 419       | 424       | 450        | 571        | 606        | 466        | 497       |           | 194       | 36       | 396       | 262        | 485       | 554       | 627      |
| Discharge        | L/s      |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Fluoride         | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Hard-D           | mg/L     |          |          | 125       |           |           |           |           |            |            |            | 199        | 203       | 232       |           | 24       | 163       | 110        | 208       | 228       | 239      |
| Hard-T           | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| IB               | %        |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          | 128       |            |           |           |          |
| Ammonia          | mg/L     | 0.29     |          | 0.33      |           | 0.53      | 0.46      | 0.94      | 0.72       | 0.49       | 0.7        | 0.76       |           |           |           |          |           |            |           |           |          |
| Ammonium         | mg/L     |          |          |           |           |           |           |           |            |            |            |            | 0.65      |           | 0.25      | 0.06     | 0.08      | 0.08       | 0.32      | 0.39      | 0.47     |
| N-NO2            | mg/L     | 0.27     | 0.163    | 0.11      | <0.01     | <0.01     | <0.01     | 0.18      | 0.2        |            |            |            | <0.005    |           |           |          |           |            |           |           |          |
| NO2+NO3          | mg/L     | 0.81     |          | 0.22      |           | 0.05      | <0.01     | 4.93      | 4.62       | 7.39       | 8.3        | 4.53       | 4.81      |           | 1.51      | 0.16     | 3.08      | 3.61       | 9.38      | 10.2      | 11.4     |
| N-NO3            | mg/L     | 0.66     | 0.6      | 0.22      | 0.03      | 0.03      | 0.01      | 5.22      | 5.05       |            |            |            | 4.81      |           |           |          |           |            |           |           |          |
| pH-F             | pH units |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| pH-L             | pH units | 7.77     |          | 7.7       | 7.8       | 7.76      | 7.47      | 7.9       | 7.81       | 7.84       | 7.87       | 7.59       | 7.7       |           | 7.52      | 6.74     | 7.93      | 7.56       | 7.52      | 7.8       | 7.68     |
| Radium - 226     |          |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| SO4-D            | mg/L     | 48.2     |          | 50.4      | 47.5      | 44.9      | 31.7      | 73.8      | 74.8       | 80.9       | 105        | 78         | 76        |           | 23.4      | 2.1      | 45.3      | 28         | 69.9      | 79        | 80.6     |
| SO4-T            | mg/L     |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Sulphide         | mg/L     |          |          |           |           |           |           |           |            |            |            | 0.01       | <0.005    |           |           |          |           |            |           |           |          |
| TDS              | mg/L     | 302      |          | 284       | 264       | 272       | 300       | 308       | 362        | 436        | 446        | 192        | 364       |           | 140       | 36       | 274       | 184        | 356       | 364       | 392      |
| Temp-F           | C        |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| Temp-obs-pH      | C        |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |
| TSS              | mg/L     | <2       |          | 4         | <2        | 4         | 33        | 12        | 10         | 57         | 15         | 8          | 4         |           | <5        | 10       | 4         | <2         | 14        | <2        | <5       |
| Turb             | NTU      | 2.1      |          | 1.9       | 1.1       | 3         | 38        | 14        | 19         | 37         | 15         | 12         | 3.8       |           | 5.6       | 4.3      | 4.5       | 0.9        | 3         | 2.1       | 1.7      |
| Turb-F           | NTU      |          |          |           |           |           |           |           |            |            |            |            |           |           |           |          |           |            |           |           |          |



Appendix Table A.13: Water quality at station W17

| Sampling Session |          | 1031323  | 1034628  | 1036694   | 1042534   | 1045842  | 1048063   | 1050334   | 1053227   | 1057213   | 1061125    | 1065056    | 1067248    | 1070279    | 1073925   | 1075156    | 1077993    | 1079274    | 1081330   | 1083276    | 1084216    | 1084216    | 1086857  | 1088370   | 1089526   | 1092589  |
|------------------|----------|----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|------------|----------|-----------|-----------|----------|
| Smpl Date        |          | 8/1/2007 | 8/9/2007 | 8/15/2007 | 8/29/2007 | 9/6/2007 | 9/11/2007 | 9/17/2007 | 9/25/2007 | 10/3/2007 | 10/11/2007 | 10/17/2007 | 10/22/2007 | 10/30/2007 | 11/8/2007 | 11/13/2007 | 11/20/2007 | 11/27/2007 | 12/6/2007 | 12/11/2007 | 12/18/2007 | 12/18/2007 | 1/9/2008 | 1/15/2008 | 1/22/2008 | 2/7/2008 |
| Station Name     |          | W17      | W17      | W17       | W17       | W17      | W17       | W17       | W17       | W17       | W17        | W17        | W17        | W17        | W17       | W17        | W17        | W17        | W17       | W17        | W17        | W17        | W17      | W17       | W17       | W17      |
| Sample Class     |          | P        | P        | P         | P         | P        | P         | P         | P         | P         | P          | P          | P          | P          | P         | P          | P          | P          | P         | P          | P          | P          | M        | M         | M         | M        |
| Sb-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0012     |            |           |            |            | 0.001      |          |           |           |          |
| S-D              | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 14.8       |            |           |            |            | 14.4       |          |           |           |          |
| Se-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0008     |            |           |            |            | 0.001      |          |           |           |          |
| Si-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 5.41       |            |           |            |            | 5.81       |          |           |           |          |
| Sn-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.001     |            |           |            |            | <0.001     |          |           |           |          |
| Sr-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.484      |            |           |            |            | 0.534      |          |           |           |          |
| Te-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Th-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Ti-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0012     |            |           |            |            | 0.0014     |          |           |           |          |
| Tl-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | <0.00005   |            |           |            |            | <0.00005   |          |           |           |          |
| U-D              | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0043     |            |           |            |            | 0.005      |          |           |           |          |
| V-D              | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.0023     |            |           |            |            | 0.0011     |          |           |           |          |
| Zn-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 0.004      |            |           |            |            | 0.043      |          |           |           |          |
| Zr-D             | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Alk-Bicrb        | mg/L     | 212      | 222      | 223       | 240       | 258      | 242       | 244       | 222       | 219       | 219        | 217        | 215        | 227        | 255       | 258        | 275        | 284        | 294       | 304        |            | 319        | 345      | 364       | 352       | 358      |
| Alk-Carb         | mg/L     | <6       | <6       | <6        | <6        | <6       | <6        | <6        | <6        | <6        | <6         | <6         | <6         | <6         | <6        | <6         | <6         | <6         | <6        | <6         |            | <6         | <6       | <6        | <6        | <6       |
| Alk-OH           | mg/L     | <5       | <5       | <5        | <5        | <5       | <5        | <5        | <5        | <5        | <5         | <5         | <5         | <5         | <5        | <5         | <5         | <5         | <5        | <5         |            | <5         | <5       | <5        | <5        | <5       |
| Alk-P            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Alk-T            | mg/L     | 174      | 182      | 183       | 197       | 211      | 198       | 200       | 182       | 179       | 180        | 178        | 176        | 186        | 209       | 219        | 226        | 233        | 242       | 249        |            | 262        | 283      | 299       | 289       | 293      |
| Bromine          | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| C-TIC            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| C-TOC            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            | 12.2      |            | 11.1       |            |           | 12.5       |            | 12         | 11.9     | 12.5      | 12        | 11.7     |
| Chloride         | mg/L     | 2        | 2.3      | 2.5       | 2.9       | 3.2      | 3.5       | 3.66      | 4.1       | 4.36      | 3.2        | 3.3        | 3.3        | 4.27       | 6.04      | 5.03       | 4.65       | 1.64       | 4.8       | 5.75       |            | 6          | 6.74     | 7.49      | 6.98      | 6.72     |
| Colour           | TCU      | 60       | 59       | 58        | 52        | 47       | 45        | 40        | 38        | 35        | 26         | 20         | 30         | 35         | 31        | 36         | 27         | 29         | 27        | 24         |            | 23         | 27       | 42        | 21        | 23       |
| Cond-F           | µS/cm    |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Cond-L           | µS/cm    | 373      | 412      | 394       | 422       | 419      | 410       | 467       | 429       | 457       | 476        | 467        | 484        | 496        | 507       | 508        | 525        | 511        | 548       | 572        |            | 490        | 570      | 612       | 615       | 592      |
| Discharge        | L/s      |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Fluoride         | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Hard-D           | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            | 254        |            |           |            |            | 282        |          |           |           |          |
| Hard-T           | mg/L     | 197      | 201      | 202       | 204       | 215      | 217       | 207       | 208       | 215       | 211        | 218        | 216        | 230        | 232       | 237        |            | 253        | 270       | 260        |            |            | 301      | 300       | 302       | 288      |
| IB               | %        |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Ammonia          | mg/L     |          | <0.05    | <0.05     | 0.06      | <0.05    | 0.07      | <0.05     | <0.05     | <0.05     |            | <0.05      | <0.05      | <0.05      | 0.05      | 0.1        | <0.05      | <0.05      | <0.05     | <0.05      | <0.05      |            | <0.05    | <0.05     | <0.05     | 0.05     |
| Ammonium         | mg/L     |          |          |           |           |          |           |           |           |           | <0.05      |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| N-NO2            | mg/L     | <0.05    | <0.05    | <0.05     | 0.07      | <0.05    | <0.02     | <0.02     | <0.02     | <0.02     | <0.02      | <0.02      | <0.02      | 7.84       | 0.3       | 0.2        | <0.02      | <0.02      | <0.02     | <0.02      |            | <0.02      | <0.02    | <0.02     | <0.2      | <0.02    |
| NO2+NO3          | mg/L     |          | 3.15     | 3.66      | 4.42      | 4.79     | 5.17      | 5.85      | 6.27      | 7.58      | 7.7        | 7.53       | 6.73       | 6.88       | 2.97      | 2.65       | 2.38       | 2.43       | 2.3       | 2.17       |            | 1.97       | 1.3      | 1.18      | 1.09      | 0.93     |
| N-NO3            | mg/L     | 2.8      | 3        | 3.8       | 4.8       | 5.2      | 5.89      | 6.27      | 6.7       | 7.96      | 6.2        | 6.6        | 8.58       | 0.1        | 2.81      | 2.71       | 2.97       | 3.04       | 2.52      | 2.38       |            | 2.04       | 1.24     | 1.19      | 0.99      | 0.82     |
| pH-F             | pH units |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| pH-L             | pH units | 8.04     | 7.82     | 7.98      | 7.96      | 7.98     | 7.9       | 7.94      | 7.91      | 8.09      | 8          | 7.99       | 8.04       | 7.93       | 7.85      | 8.35       | 7.91       | 8.05       | 8.02      | 8.01       |            | 8.18       | 7.95     | 7.84      | 7.93      | 7.79     |
| Radium - 226     |          |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| SO4-D            | mg/L     | 30       | 32       | 32        | 35        | 38       | 36.9      | 37.7      | 39.5      | 40.6      | 39.1       |            | 40.8       | 41.2       | 44.3      | 43         |            | 42.1       | 38.7      | 40.4       |            | 38.3       | 38.2     | 38.7      | 39.7      | 40.8     |
| SO4-T            | mg/L     |          |          |           |           |          |           |           |           |           |            | 39.3       |            |            |           |            | 41.1       |            |           |            |            |            |          |           |           |          |
| Sulphide         | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| TDS              | mg/L     | 332      | 274      | 332       | 330       | 318      | 330       | 342       | 340       | 326       | 302        | 322        |            | 354        | 348       | 356        | 352        | 366        | 370       | 372        |            | 414        | 406      | 416       | 416       | 426      |
| Temp-F           | C        |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| Temp-obs-pH      | C        |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |
| TSS              | mg/L     | <2       | <2       | 3         | <2        | <2       | <2        | 14        | 2         | <2        | <2         | <2         | <2         | <2         | <2        | <2         | <2         | <2         | <2        | <2         |            | <2         | 4        | <2        | <2        | <2       |
| Turb             | NTU      | 0.7      | 0.4      | 0.3       | 1         | 0.2      | 0.4       | 0.2       | 1.1       | 2.6       | 1.7        | 0.7        | 0.9        | 1.1        | 0.5       | 0.2        | 0.2        | 0.3        | 0.4       | 0.5        |            | 0.4        | 0.3      | <0.1      | 0.2       | 0.3      |
| Turb-F           | NTU      |          |          |           |           |          |           |           |           |           |            |            |            |            |           |            |            |            |           |            |            |            |          |           |           |          |

Appendix Table A.13: Water quality at station W17

| Sampling Session |      | 1094163   | 1095134   | 1098035  | 1103811   | 1105954  | 1108275   | 1110212   | 1112527   | 1115047   | 1115047  | 1115474  | 1116116  | 1117314  | 1118493  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125778  | 1127472   | 1129098   | 1131174   |         |
|------------------|------|-----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|---------|
| Smpl Date        |      | 2/13/2008 | 2/20/2008 | 3/3/2008 | 3/26/2008 | 4/3/2008 | 4/10/2008 | 4/17/2008 | 4/22/2008 | 4/30/2008 | 5/1/2008 | 5/3/2008 | 5/4/2008 | 5/5/2008 | 5/8/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 |         |
| Station Name     |      | W17       | W17       | W17      | W17       | W17      | W17       | W17       | W17       | W17       | W17      | W17      | W17      | W17      | W17      | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17      | W17       | W17       | W17       |         |
| Sample Class     |      | P         | P         | M        | P         | P        | P         | P         | P         | P         | P        | P        | P        | P        | P        | M         | P         | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         |         |
| Ag-T             | mg/L | 0.00002   | <0.00001  | 0.00022  | <0.00001  | 0.00024  | 0.00001   | 0.00002   | <0.0001   | 0.0003    | <0.0001  |          | <0.0001  | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.00005 | <0.00001  | <0.00001  | <0.00001  |         |
| Al-T             | mg/L | 0.061     | 0.22      | 0.036    | 0.012     | 0.012    | 0.014     | 0.074     | 0.02      | 1.14      | 0.06     |          | 0.06     | 0.03     | 0.03     | 0.05      | 0.05      | 0.04      | 0.03      | 0.02      | 0.02      | 0.02      | 0.02      | 0.03     | 0.05      | 0.02      | 0.02      |         |
| As-T             | mg/L | 0.0005    | 0.0008    | 0.0008   | 0.0005    | 0.0005   | 0.0006    | 0.0009    | 0.001     | 0.0034    | 0.0014   |          | 0.0011   | 0.0009   | 0.0005   | 0.001     | 0.001     | 0.0017    | <0.0002   | 0.001     | <0.0002   | 0.0003    | <0.0002   | 0.0005   | 0.0004    | 0.0005    | 0.0004    |         |
| Ba-T             | mg/L | 0.119     | 0.126     | 0.121    | 0.114     | 0.118    | 0.123     | 0.128     | 0.133     | 0.092     | 0.118    |          | 0.11     | 0.094    | 0.093    | 0.082     | 0.082     | 0.085     | 0.078     | 0.076     | 0.078     | 0.067     | 0.066     | 0.075    | 0.08      | 0.072     | 0.076     |         |
| Be-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.00004  | 0.00005   | <0.00004 |          | <0.00004 | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.00004  |         |
| Bi-T             | mg/L | <0.0005   | <0.0005   | <0.0005  | <0.0005   | <0.0005  | <0.0005   | <0.0005   |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |         |
| B-T              | mg/L | 0.03      | 0.031     | 0.031    | 0.032     | 0.036    | 0.032     | 0.03      | 0.024     | 0.022     | 0.029    |          | 0.019    | 0.016    | 0.02     | 0.026     | 0.026     | 0.029     | 0.019     | 0.019     | 0.02      | 0.021     | 0.022     | 0.021    | 0.025     | 0.023     | 0.026     |         |
| Ca-T             | mg/L | 83.8      | 84.6      | 84.6     | 83.5      | 83.2     | 89.6      | 96.2      | 91        | 13.1      | 68.6     |          | 73.3     | 67.9     | 65.3     | 70.1      | 70.1      | 72        | 64.7      | 61        | 68.1      | 58.6      | 54.9      | 67.7     | 80.5      | 66.1      | 71.9      |         |
| Cd-T             | mg/L | 0.00004   | 0.00003   | 0.00004  | 0.00001   | 0.00002  | 0.00002   | 0.00004   | <0.00007  | 0.00008   | <0.00007 |          | 0.0001   | <0.00007 | <0.00007 | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007  | <0.00007 | <0.00008  | <0.00008  | <0.00008  |         |
| CN-T             | mg/L |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |         |
| Co-T             | mg/L | 0.0005    | 0.0008    | 0.0004   | 0.0003    | 0.0003   | 0.0003    | 0.0005    | 0.0005    | 0.00102   | 0.00112  |          | 0.00165  | 0.00158  | 0.0013   | 0.00139   | 0.00139   | 0.00138   | 0.00118   | 0.00106   | 0.001     | 0.00077   | 0.00074   | 0.00074  | 0.00072   | 0.00054   | 0.0006    |         |
| Cr-T             | mg/L | <0.0005   | 0.0007    | 0.0009   | <0.0005   | <0.0005  | <0.0005   | 0.0028    | <0.0005   | 0.0014    | 0.002    |          | <0.0005  | <0.0005  | <0.0005  | <0.0005   | <0.0005   | <0.0005   | 0.0031    | 0.0011    | 0.0011    | 0.0014    | 0.0012    | 0.0021   | 0.0015    | 0.0007    | 0.004     |         |
| Cu-T             | mg/L | 0.023     | 0.027     | 0.019    | 0.014     | 0.014    | 0.019     | 0.028     | 0.022     | 0.185     | 0.022    |          | 0.023    | 0.022    | 0.023    | 0.029     | 0.029     | 0.028     | 0.024     | 0.02      | 0.023     | 0.021     | 0.021     | 0.022    | 0.024     | 0.018     | 0.02      |         |
| Fe-T             | mg/L | 0.1       | 0.5       | <0.1     | <0.1      | <0.1     | <0.1      | 0.1       | 0.06      | 2.12      | 0.1      |          | 0.14     | 0.07     | 0.08     | 0.15      | 0.15      | 0.15      | 0.15      | 0.13      | 0.13      | 0.1       | 0.1       | 0.07     | 0.13      | 0.07      | 0.06      |         |
| Hg-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.00001  | 0.00002   | 0.00002  |          | 0.00002  | 0.00002  | 0.00001  | 0.00002   | 0.00002   | 0.00002   | <0.00001  | <0.00001  | 0.00001   | 0.00001   | 0.00001   | <0.01    | <0.01     | <0.01     | <0.00001  |         |
| K-T              | mg/L | 3.4       | 3.6       | 3.8      | 3.4       | 3.7      | 3.7       | 3.7       | 3.67      | 4.17      | 2.78     |          | 3        | 3.11     | 3.04     | 3.5       | 3.5       | 3.91      | 3.16      | 3.28      | 3.6       | 3.33      | 3.13      | 4.02     | 4.76      | 3.93      | 4.31      |         |
| Li-T             | mg/L | 0.002     | 0.002     | 0.002    | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.001     | 0.002    |          | 0.002    | 0.001    | 0.001    | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     |         |
| Mg-T             | mg/L | 23.6      | 23.7      | 23.8     | 23.4      | 24       | 25.8      | 27.4      | 26.2      | 4.25      | 21.7     |          | 20.9     | 19.1     | 17.8     | 19.5      | 19.5      | 19.9      | 17.1      | 16.3      | 18.6      | 15.8      | 15        | 18.2     | 21.5      | 18        | 19.4      |         |
| Mn-T             | mg/L | 0.342     | 0.493     | 0.261    | 0.195     | 0.199    | 0.206     | 0.368     | 0.363     | 0.172     | 1.55     |          | 2.78     | 2.23     | 1.92     | 1.78      | 1.78      | 1.85      | 1.33      | 1.22      | 1.18      | 0.841     | 0.765     | 0.834    | 0.826     | 0.609     | 0.534     |         |
| Mo-T             | mg/L | 0.008     | 0.008     | 0.007    | 0.007     | 0.007    | 0.01      | 0.017     | 0.018     | 0.00568   | 0.0229   |          | 0.0214   | 0.0169   | 0.0144   | 0.014     | 0.014     | 0.0136    | 0.0125    | 0.0119    | 0.012     | 0.0105    | 0.0104    | 0.0111   | 0.0114    | 0.00948   | 0.0101    |         |
| Na-T             | mg/L | 19.2      | 19.8      | 20.9     | 20.9      | 21.8     | 22.4      | 22.6      | 21.2      | 6.3       | 18.3     |          | 19.2     | 17.8     | 16.4     | 19.1      | 19.1      | 19.2      | 16.7      | 17.3      | 18        | 15.8      | 14.9      | 18.1     | 20.6      | 18.3      | 19.5      |         |
| Ni-T             | mg/L | 0.0053    | 0.0052    | 0.006    | 0.0036    | 0.0038   | 0.0036    | 0.0063    | 0.006     | 0.017     | 0.009    |          | 0.01     | 0.009    | 0.009    | 0.011     | 0.011     | 0.011     | 0.009     | 0.009     | 0.008     | 0.006     | 0.006     | 0.007    | 0.006     | 0.006     | 0.006     |         |
| N-TKN            | mg/L | 0.48      | 0.32      | 0.12     | 0.2       | 0.34     | 0.6       | 0.79      | 0.79      |           | 1.04     |          | 0.82     | 0.86     | 0.89     |           |           | 0.86      |           |           | 0.85      | 0.85      | 0.84      | 0.93     | 0.85      | 0.75      | 0.78      |         |
| Pb-T             | mg/L | 0.0002    | 0.0006    | 0.0003   | 0.0001    | 0.0001   | 0.0002    | 0.0002    | <0.0001   | 0.0008    | 0.0001   |          | 0.0001   | <0.0001  | 0.0002   | <0.0001   | <0.0001   | <0.0001   | 0.0003    | 0.0003    | 0.0003    | <0.0001   | 0.0002    | <0.0001  | <0.0001   | 0.0001    | <0.0001   |         |
| P-PO4-T          | mg/L | 0.07      | 0.02      | 0.04     | 0.04      | 0.08     | <0.05     | <0.05     | <0.05     |           | <0.05    |          | <0.05    | <0.05    | <0.05    |           |           | <0.05     |           |           | <0.05     | <0.05     | <0.05     | 0.05     | 0.04      | 0.07      | <0.05     |         |
| P-T              | mg/L | <0.05     | <0.05     | <0.05    | <0.05     |          |           |           | 0.01      | 0.07      | 0.02     |          | 0.02     | 0.02     | 0.02     | 0.03      | 0.03      | 0.04      | 0.02      | 0.02      | 0.03      | 0.02      | 0.02      | <0.05    | <0.05     | <0.05     | 0.02      |         |
| P-TRP (Ortho)    | mg/L |           |           |          |           | 0.04     | 0.03      | 0.07      | 0.08      |           | 0.1      |          | 0.11     | 0.09     | 0.05     |           |           | 0.08      |           |           | 0.07      | 0.07      | 0.07      |          |           |           | 0.06      |         |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  |          | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   |         |
| Se-T             | mg/L | 0.0008    | 0.0007    | 0.0006   | 0.0008    | 0.0004   | 0.0005    | 0.0005    | <0.0006   | <0.0006   | 0.0014   |          | <0.0006  | <0.0006  | <0.0006  | 0.0014    | 0.0014    | 0.0008    | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006  | <0.0006   | <0.0006   | <0.0006   |         |
| Si-T             | mg/L | 6.3       | 6.6       | 5.79     | 5.16      | 5.48     | 5.88      | 6.2       | 3.46      | 2.37      | 3.6      |          | 3.28     | 3.23     | 3.1      | 3.54      | 3.54      | 3.74      | 3.1       | 2.99      | 2.88      | 2.75      | 2.7       | 3.1      | 6.17      | 5.25      | 5.88      |         |
| Sn-T             | mg/L | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    | <0.0001   | <0.0001   | <0.0001  |          | <0.0001  | <0.0001  | 0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |         |
| Sr-T             | mg/L | 0.662     | 0.584     | 0.632    | 0.659     | 0.68     | 0.675     | 0.7       | 0.667     | 0.184     | 0.559    |          | 0.552    | 0.498    | 0.478    | 0.51      | 0.51      | 0.494     | 0.47      | 0.444     | 0.477     | 0.418     | 0.404     | 0.461    | 0.53      | 0.461     | 0.502     |         |
| S-T              | mg/L | 15.3      | 15.6      | 17.5     | 18.6      | 17.2     | 17.1      | 15.2      |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |         |
| Te-T             | mg/L |           |           |          |           |          |           |           | 0.0003    | <0.0001   | <0.0001  |          | <0.0001  | <0.0001  | 0.0002   | <0.0001   | <0.0001   | 0.0001    | 0.0002    | <0.0001   | 0.0001    | 0.0001    | 0.0002    | 0.0002   | 0.0002    | <0.0001   | <0.0001   | <0.0001 |
| Th-T             | mg/L |           |           |          |           |          |           |           | <0.0001   | 0.0003    | <0.0001  |          | <0.0001  | 0.0001   | 0.0001   | 0.0001    | 0.0001    | 0.0002    | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   |         |
| Ti-T             | mg/L | 0.004     | 0.0115    | 0.0025   | 0.0014    | 0.0019   | 0.0011    | 0.0036    | 0.0015    | 0.0379    | 0.0027   |          | 0.0059   | 0.002    | 0.0015   | 0.0028    | 0.0028    | 0.0017    | 0.0015    | 0.0018    | 0.0011    | 0.0038    | 0.0099    | 0.0013   | 0.0034    | 0.0011    | 0.0012    |         |
| Tl-T             | mg/L | <0.00005  | <0.00005  | <0.00005 | <0.00005  | <0.00005 | <0.00005  | <0.00005  | 0.00005   | 0.00002   | 0.00001  |          | <0.00001 | <0.00001 | 0.00002  | 0.00002   | 0.00002   | 0.00002   | <0.00001  | 0.00002   | 0.00002   | <0.00001  | <0.00001  | <0.00001 | 0.00002   | <0.00001  | <0.00001  |         |
| U-T              | mg/L | 0.0052    | 0.0052    | 0.0054   | 0.0054    | 0.0054   | 0.0059    | 0.0063    | 0.0064    | 0.0006    | 0.0054   |          | 0.0049   | 0.0043   | 0.0039   | 0.0036    | 0.0036    | 0.0037    | 0.0034    | 0.0035    | 0.0033    | 0.0029    | 0.0029    | 0.0031   | 0.0036    | 0.0029    | 0.003     |         |
| V-T              | mg/L | 0.0011    | 0.0017    | 0.001    | 0.0007    | 0.0007   | 0.0008    | 0.001     | 0.00064   | 0.00489   | 0.0019   |          | 0.00102  | 0.00102  | 0.00089  | 0.00119   | 0.00119   | 0.00122   | 0.00177   | 0.00102   | 0.00108   | 0.00113   | 0.00108   | 0.00124  | 0.00119   | 0.001     | 0.00166   |         |
| Zn-T             | mg/L | 0.06      | 0.058     | 0.051    | 0.049     | 0.045    | 0.048     | 0.055     | 0.033     | 0.017     | 0.03     |          | 0.034    | 0.016    | 0.026    | 0.024     | 0.024     | 0.021     | 0.02      | 0.023     | 0.018     | 0.018     | 0.02      | 0.013    | 0.023     | 0.024     | 0.024     |         |
| Zr-T             | mg/L | <0.001    | <0.001    | <0.001   | <0.001    | <0.001   | <0.001    | <0.001    | 0.0004    | 0.0002    | 0.0005   |          | 0.0004   | 0.0005   | 0.0005   | 0.0005    | 0.0005    | 0.0006    | 0.0005    | 0.0005    | 0.0005    | 0.        |           |          |           |           |           |         |

Appendix Table A.13: Water quality at station W17

| Sampling Session |          | 1094163   | 1095134   | 1098035  | 1103811   | 1105954  | 1108275   | 1110212   | 1112527   | 1115047   | 1115047  | 1115474  | 1116116  | 1117314  | 1118493  | 1119091   | 1119086   | 1120081   | 1120759   | 1120929   | 1122127   | 1124049   | 1124027   | 1125778  | 1127472   | 1129098   | 1131174   |
|------------------|----------|-----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|
| Smpl Date        |          | 2/13/2008 | 2/20/2008 | 3/3/2008 | 3/26/2008 | 4/3/2008 | 4/10/2008 | 4/17/2008 | 4/22/2008 | 4/30/2008 | 5/1/2008 | 5/3/2008 | 5/4/2008 | 5/5/2008 | 5/8/2008 | 5/11/2008 | 5/11/2008 | 5/13/2008 | 5/15/2008 | 5/18/2008 | 5/20/2008 | 5/27/2008 | 5/29/2008 | 6/5/2008 | 6/11/2008 | 6/17/2008 | 6/25/2008 |
| Station Name     |          | W17       | W17       | W17      | W17       | W17      | W17       | W17       | W17       | W17       | W17      | W17      | W17      | W17      | W17      | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17      | W17       | W17       | W17       |
| Sample Class     |          | P         | P         | M        | P         | P        | P         | P         | P         | P         | P        | P        | P        | P        | P        | M         | P         | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         |
| Sb-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.0009   | 0.001    |          | 0.0009   | 0.0007    | 0.0007    | 0.0007    | 0.0007    | 0.0007    | 0.0007    | 0.0007    | 0.0012    | 0.0015   | 0.0008    | 0.001     | 0.0007    |
| S-D              | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Se-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | <0.0006  | 0.0034   |          | 0.005    | 0.0027    | 0.0027    | <0.0006   | <0.0006   | <0.0006   | <0.0006   | <0.0006   | 0.0009    | <0.0006  | <0.0006   | 0.0028    | 0.0023    |
| Si-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 3        | 3.5      |          | 3.81     | 3.76      |           | 2.73      | 3.19      | 3.08      | 2.64      | 2.83      | 2.83      |          |           |           | 5.53      |
| Sn-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | <0.004   | <0.004   |          | <0.004   | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.004    | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           |
| Sr-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.538    | 0.598    |          | 0.576    | 0.512     | 0.512     | 0.403     | 0.491     | 0.464     | 0.478     | 0.45      | 0.44      | 0.459    | 0.467     | 0.466     | 0.467     |
| Te-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | <0.0001  | <0.0001  |          | <0.0001  | 0.0001    | 0.0001    | <0.0001   | <0.0001   | 0.0003    | <0.0001   | <0.0001   | <0.0001   | 0.0005   | <0.0001   | 0.0004    | 0.0001    |
| Th-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | <0.0001  | <0.0001  |          | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   |           |
| Ti-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.0006   | 0.0011   |          | 0.0008   | 0.0007    | 0.0007    | 0.0006    | 0.0008    | 0.0009    | 0.0006    | 0.0006    | 0.0009    | 0.0019   | 0.0007    | 0.0005    | 0.0016    |
| Tl-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | <0.00001 | <0.00001 |          | 0.00002  | 0.00002   | 0.00002   | 0.00002   | 0.00001   | <0.00001  | 0.00002   | <0.00001  | <0.00001  | <0.00001 | <0.00001  | 0.00002   | <0.00001  |
| U-D              | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.005    | 0.0047   |          | 0.0037   | 0.0036    | 0.0036    | 0.0036    | 0.0034    | 0.0033    | 0.0033    | 0.0033    | 0.0033    | 0.003    | 0.003     | 0.0031    | 0.0031    |
| V-D              | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.00082  | 0.00201  |          | 0.002    | 0.00202   | 0.00202   | 0.0008    | 0.00126   | 0.00151   | 0.00117   | 0.0011    | 0.00102   | 0.00122  | 0.00102   | 0.00153   | 0.00176   |
| Zn-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.021    | 0.015    |          | 0.02     | 0.021     | 0.021     | 0.015     | 0.016     | 0.027     | 0.02      | 0.015     | 0.016     | 0.02     | 0.017     | 0.022     | 0.018     |
| Zr-D             | mg/L     |           |           |          |           |          |           |           |           |           |          | 0.0004   | 0.0005   |          | 0.0006   | 0.0006    | 0.0006    | 0.0004    | 0.0006    | 0.0005    | 0.0005    | 0.001     | 0.001     | 0.0011   | 0.0011    | 0.0012    | 0.0011    |
| Alk-Bicrb        | mg/L     | 358       | 360       | 361      | 356       | 378      | 406       | 433       | 438       |           | 459      |          | 424      | 358      | 340      | 319       | 319       | 316       | 312       | 310       | 310       | 300       | 290       | 300      | 300       | 300       | 310       |
| Alk-Carb         | mg/L     | <6        | <6        | <6       | <6        | <6       | <6        | <6        | <6        |           | <6       |          | <6       | <6       | <6       | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6       | <6        | <6        | <6        |
| Alk-OH           | mg/L     | <5        | <5        | <5       | <5        | <5       | <5        | <5        | <5        |           | <5       |          | <5       | <5       | <5       | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5       | <5        | <5        | <5        |
| Alk-P            | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Alk-T            | mg/L     | 294       | 295       | 296      | 292       | 310      | 333       | 355       | 359       |           | 376      |          | 348      | 293      | 279      | 261       | 261       | 259       | 256       | 253       | 253       | 244       | 242       | 245      | 249       | 246       | 252       |
| Bromine          | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| C-TIC            | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| C-TOC            | mg/L     |           | 10.5      | 12.4     | 12.4      | 11       | 12.4      | 13.2      |           | 46.1      | 17.5     |          |          |          |          | 20        | 20        | 18.7      | 19.7      | 18.4      | 18.9      | 18.9      | 18.8      | 17.4     | 17.6      | 17.1      | 15        |
| Chloride         | mg/L     | 6.66      | 6.84      | 7.27     | 6.76      | 5.72     | 5.53      | 7.76      | 7.86      |           | 0.05     |          | 7.36     | 6.04     | 5.77     | 5.56      | 5.56      | 5.08      | 0.22      | 0.2       | 4.45      | 4.51      | 4.55      | 4.32     | 4.44      | 4.2       | 4.24      |
| Colour           | TCU      | 28        | 26        | 26       | 24        | 25       | 27        | 29        | 28        |           | 52       |          | 44       | 50       | 57       | 70        | 70        | 120       | 100       | 120       | 70        | 110       | 110       | 58       | 90        | 60        | 57        |
| Cond-F           | µS/cm    |           |           |          |           |          | 633       |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Cond-L           | µS/cm    | 629       | 632       | 589      | 594       | 659      |           | 730       | 677       |           | 670      |          | 676      | 570      | 569      | 536       | 536       | 504       | 528       | 510       | 516       | 449       | 475       | 471      | 466       | 495       | 496       |
| Discharge        | L/s      |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Fluoride         | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Hard-D           | mg/L     |           |           |          |           | 307      |           |           |           |           |          | 264      |          |          | 285      | 263       |           | 198       | 237       | 230       | 233       | 234       | 228       |          |           |           |           |
| Hard-T           | mg/L     | 306       | 309       | 310      | 305       |          | 330       | 353       |           |           |          |          |          |          | 236      |           |           |           |           |           |           |           |           | 244      |           |           |           |
| IB               | %        |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Ammonia          | mg/L     | 0.06      | 0.06      | <0.05    | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     |           | <0.05    |          | <0.05    | <0.05    | <0.05    |           |           | 0.05      | 0.034     | 0.037     | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     | <0.05     | <0.05     |
| Ammonium         | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| N-NO2            | mg/L     | <0.02     | <0.02     | <0.02    | <0.02     | <0.02    | <0.02     | <0.02     | <0.02     |           | <0.2     |          | <0.02    | <0.02    | <0.02    | <0.02     | <0.02     | <0.02     | <0.02     | <0.02     | <0.02     | <0.01     | <0.01     | <0.01    | <0.01     | <0.01     | <0.01     |
| NO2+NO3          | mg/L     | 0.81      | 0.77      | 1.21     | 1.08      | 0.55     | 0.24      | 0.13      | 0.1       |           | 0.12     |          | 0.12     | 0.16     | 0.18     |           |           | 0.12      |           |           | 0.14      | 0.18      | 0.2       | 0.22     | 0.2       | 0.21      | 0.14      |
| N-NO3            | mg/L     | 0.73      | 0.77      | 0.9      | 0.79      | 0.35     | 0.19      | 0.11      | 0.1       | 1.35      | 0.12     |          | 0.16     | 0.13     | 0.14     | 0.16      | 0.16      | 0.12      | 0.13      | 0.14      | 0.18      | 0.16      | 0.19      | 0.2      | 0.21      | 0.19      | 0.13      |
| pH-F             | pH units |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| pH-L             | pH units | 7.9       | 7.93      | 7.93     | 8.06      | 8.14     | 8.24      | 8.14      | 8.09      |           | 8.07     |          | 8.04     | 8        | 7.96     | 7.99      | 7.99      | 8.08      | 8.03      | 8.05      | 8.17      | 8.02      | 8.18      | 8.17     | 8.02      | 8.02      | 8.15      |
| Radium - 226     |          |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| SO4-D            | mg/L     | 38.9      | 41.9      | 46.8     | 51.8      | 53.7     | 50.8      | 45.9      | 43.4      |           | 34.6     |          | 33.7     | 28.2     | 26.6     | 24.9      | 24.9      | 23.6      | 23.6      | 23.7      | 24        | 26.6      | 26.9      | 24.9     | 26.3      | 25.1      | 23.9      |
| SO4-T            | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Sulphide         | mg/L     |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| TDS              | mg/L     | 402       | 398       | 436      | 424       | 440      | 454       | 468       | 492       |           | 468      |          | 456      | 404      | 348      | 372       | 372       | 340       | 346       | 350       | 362       | 340       | 332       | 348      | 306       | 328       | 424       |
| Temp-F           | C        |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| Temp-obs-pH      | C        |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |
| TSS              | mg/L     | <2        | 6         | <2       | <2        | <3       | <2        | 4         | <2        |           | 3        |          | 4        | 4        | <2       | <2        | <2        | <2        | <2        | <2        | <2        | <2        | <2        | <2       | 3         | <2        | <2        |
| Turb             | NTU      | 0.4       | 1.7       | 0.2      | 0.2       | 0.3      | 0.2       | 0.5       | 0.2       |           | 2.3      |          | 1.2      | 0.7      | 0.6      | 0.7       | 0.7       | 0.8       | 0.8       | 0.9       | 0.9       | 0.7       | 0.8       | 0.5      | 0.6       | 0.7       | 0.7       |
| Turb-F           | NTU      |           |           |          |           |          |           |           |           |           |          |          |          |          |          |           |           |           |           |           |           |           |           |          |           |           |           |

Appendix Table A.13: Water quality at station W17

| Sampling Session |      | 1132803  | 1133503  | 1137485   | 1139590   | 1140646  | 1141650   | 1143971   | 1145121   | 1160286   | 1163994    | 1171319    | 1178181    | 1183214   | 1188818   | 1199519  | 1199519   | 1203967   | 1205490  | 1205474  | 1210568   | 1216919  | 1216919  | 1219588  | 1221849   | 1221849   |        |
|------------------|------|----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|----------|-----------|-----------|----------|----------|-----------|----------|----------|----------|-----------|-----------|--------|
| Smpl Date        |      | 7/3/2008 | 7/8/2008 | 7/22/2008 | 7/31/2008 | 8/6/2008 | 8/12/2008 | 8/21/2008 | 8/25/2008 | 10/8/2008 | 10/17/2008 | 10/29/2008 | 11/18/2008 | 12/5/2008 | 1/15/2009 | 3/6/2009 | 3/14/2009 | 3/20/2009 | 4/5/2009 | 4/6/2009 | 4/14/2009 | 5/1/2009 | 5/2/2009 | 5/9/2009 | 5/18/2009 | 5/20/2009 |        |
| Station Name     |      | W17      | W17      | W17       | W17       | W17      | W17       | W17       | W17       | W17       | W17        | W17        | W17        | W17       | W17       | W17      | W17       | W17       | W17      | W17      | W17       | W17      | W17      | W17      | W17       |           |        |
| Sample Class     |      | P        | P        | P         | P         | M        | P         | P         | P         | P         | P          | P          | P          | P         | P         | P        | P         | P         | P        | P        | P         | P        | P        | P        | P         |           |        |
| Ag-T             | mg/L | 0.00004  | <0.00001 | <0.00001  | <0.00001  | 0.00001  | 0.00012   | <0.00001  | <0.00001  | 0.00001   | <0.00001   | <0.00001   | 0.00003    | <0.00001  | 0.00009   | <0.00001 | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001 | <0.00001 | 0.00003  | <0.00001  | <0.00001  |        |
| Al-T             | mg/L | 0.059    | 0.02     | 0.027     | 0.02      | 0.029    | 0.02      | 0.05      | 0.902     | 0.338     | 0.135      | 0.04       | 0.04       | 0.021     | 0.174     | 0.518    | 0.326     | 0.068     | 0.007    | 0.011    | 0.444     | 0.056    | 0.154    | 0.774    | 0.017     | 0.016     |        |
| As-T             | mg/L | 0.0007   | 0.0009   | 0.0009    | 0.001     | 0.001    | 0.001     | 0.0012    | 0.0013    | 0.0008    | 0.0007     | 0.0006     | 0.0006     | 0.0007    | 0.0005    | 0.0006   | 0.0006    | 0.0005    | 0.0005   | 0.0005   | 0.0005    | 0.0006   | 0.0005   | 0.0006   | 0.0007    | 0.0004    | 0.0005 |
| Ba-T             | mg/L | 0.083    | 0.075    | 0.081     | 0.076     | 0.078    | 0.068     | 0.081     | 0.098     | 0.119     | 0.117      | 0.098      | 0.095      | 0.096     | 0.092     | 0.117    | 0.112     | 0.106     | 0.097    | 0.096    | 0.104     | 0.083    | 0.088    | 0.099    | 0.079     | 0.08      |        |
| Be-T             | mg/L | <0.0001  | <0.00004 | <0.0001   | <0.00004  | <0.0001  | <0.00004  | <0.00004  | 0.00004   | <0.00004  | <0.00004   | <0.00004   | <0.0001    | <0.00004  | <0.0001   | 0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.00004  | <0.00004 | <0.00004 | <0.0001  | <0.00004  | <0.00004  |        |
| Bi-T             | mg/L | <0.0005  |          | <0.0005   |           | <0.0005  |           |           |           | <0.0001   | <0.0001    | <0.0001    | <0.0005    | <0.0001   | <0.0005   | <0.0001  | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001  | <0.0001  | <0.0005  | <0.0001   | <0.0001   |        |
| B-T              | mg/L | 0.025    | 0.022    | 0.029     | 0.022     | 0.029    | 0.026     | 0.026     | 0.03      | 0.025     | 0.028      | 0.023      | 0.029      | 0.016     | 0.027     | 0.022    | 0.023     | 0.028     | 0.024    | 0.024    | 0.021     | 0.021    | 0.021    | 0.029    | 0.021     | 0.024     |        |
| Ca-T             | mg/L | 67.1     | 77.3     | 72        | 76.7      | 70.2     | 75        | 77.3      | 56        | 74.3      | 67.3       | 77.7       | 69.9       | 69.9      | 65.1      |          |           | 78.8      | 73       | 72.7     | 61.2      | 66.7     | 68.9     | 61.3     | 70.6      | 69.7      |        |
| Cd-T             | mg/L | 0.00006  | <0.00008 | 0.00002   | <0.00008  | 0.00006  | <0.00008  | 0.00014   | 0.00007   | 0.00005   | 0.00007    | 0.00003    | 0.00003    | 0.00001   | 0.00002   | 0.00002  | 0.00002   | 0.00003   | 0.00002  | 0.00002  | 0.00003   | 0.00002  | 0.00003  | 0.00004  | 0.00002   | <0.00001  |        |
| CN-T             | mg/L |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |        |
| Co-T             | mg/L | 0.0006   | 0.00072  | 0.0009    | 0.00085   | 0.0009   | 0.00086   | 0.00106   | 0.00122   | 0.00158   | 0.00085    | 0.00052    | 0.0004     | 0.00029   | 0.0004    | 0.00063  | 0.00053   | 0.00026   | 0.00023  | 0.00023  | 0.0006    | 0.00021  | 0.00032  | 0.0009   | 0.00025   | 0.00026   |        |
| Cr-T             | mg/L | 0.0014   | 0.0014   | <0.0005   | 0.0008    | 0.0008   | 0.0029    | 0.0027    | 0.0024    | 0.0011    | 0.0006     | <0.0004    | <0.0005    | 0.001     | 0.0009    | 0.0008   | 0.0007    | 0.0005    | 0.0007   | 0.0009   | 0.0005    | 0.0016   | 0.0008   | 0.0012   | 0.0012    | 0.0006    |        |
| Cu-T             | mg/L | 0.02     | 0.018    | 0.016     | 0.014     | 0.016    | 0.013     | 0.022     | 0.076     | 0.04      | 0.026      | 0.017      | 0.015      | 0.014     | 0.014     | 0.038    | 0.028     | 0.011     | 0.008    | 0.008    | 0.061     | 0.012    | 0.017    | 0.048    | 0.01      | 0.011     |        |
| Fe-T             | mg/L | 0.1      | 0.08     | 0.08      | 0.13      | 0.09     | 0.1       | 0.15      | 1.61      | 0.64      | 0.28       | 0.12       | 0.08       | 0.07      | 0.21      |          |           | 0.1       | 0.01     | 0.02     | 0.6       | 0.08     | 0.4      | 0.9      | 0.02      | <0.01     |        |
| Hg-T             | mg/L | <0.0001  | <0.00001 | <0.0001   | <0.00001  | <0.0001  | 0.00001   | 0.00001   | 0.00001   | <0.00001  | <0.00001   | 0.00001    | <0.0001    | <0.00001  | <0.0001   | <0.00001 | <0.00001  | <0.00001  | <0.00001 | <0.00001 | 0.00001   | <0.00001 | <0.00001 | <0.0001  | <0.00001  | <0.00001  |        |
| K-T              | mg/L | 4        | 4.56     | 4.1       | 4.34      | 4        | 4.33      | 4.52      | 6.26      | 4.4       | 4.1        | 4.7        | 3.9        | 3.8       | 3.6       |          |           | 4.3       | 4.2      | 4.1      | 3.7       | 4        | 4.3      | 3.9      | 4.2       | 4.2       |        |
| Li-T             | mg/L | 0.002    | 0.002    | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.003     | 0.002     | 0.001      | 0.002      | 0.002      | 0.001     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002    | 0.002    | 0.002    | 0.002     | 0.002     |        |
| Mg-T             | mg/L | 19       | 20.8     | 19.5      | 20.4      | 19.1     | 20.4      | 21.2      | 13.2      | 21        | 18.8       | 21.8       | 18.9       | 19.8      | 18.5      |          |           | 25        | 24       | 23.8     | 18.7      | 20.8     | 20.7     | 17.2     | 19.5      | 19.2      |        |
| Mn-T             | mg/L | 0.481    | 0.651    | 0.945     | 0.996     | 1.13     | 1.34      | 1.69      | 0.738     | 3.23      | 1.49       | 0.883      | 0.643      | 0.491     | 0.254     | 0.497    | 0.647     | 0.392     | 0.456    | 0.46     | 0.913     | 0.325    | 0.41     | 0.972    | 0.202     | 0.246     |        |
| Mo-T             | mg/L | 0.012    | 0.0107   | 0.012     | 0.0104    | 0.01     | 0.00979   | 0.00997   | 0.00757   | 0.0102    | 0.00924    | 0.00825    | 0.008      | 0.00683   | 0.006     | 0.00648  | 0.00699   | 0.00731   | 0.00719  | 0.00747  | 0.00727   | 0.00559  | 0.00538  | 0.008    | 0.00772   | 0.00812   |        |
| Na-T             | mg/L | 18.8     | 18.3     | 19.3      | 20.2      | 18.7     | 20.1      | 21.4      | 17.6      |           | 17         | 20.6       | 18         | 17.3      | 17.5      |          |           | 22.8      | 23.6     | 23.6     | 16.4      | 19.6     | 21.1     | 18.4     | 19.6      | 19.5      |        |
| Ni-T             | mg/L | 0.0069   | 0.007    | 0.0062    | 0.007     | 0.0068   | 0.006     | 0.007     | 0.008     | 0.007     | 0.005      | 0.004      | 0.0037     | 0.003     | 0.0034    | 0.003    | 0.003     | 0.003     | 0.003    | 0.003    | 0.002     | 0.002    | 0.011    | 0.0018   | 0.002     | 0.002     |        |
| N-TKN            | mg/L | 0.78     | 0.74     | 0.9       | 0.79      | 0.84     | 0.8       | 0.93      |           | 0.71      | 0.56       | 0.6        | 0.59       | 0.68      | 0.52      | 0.47     | 0.41      | 0.37      | 0.45     |          |           |          |          | 0.33     | 0.38      | 0.36      |        |
| Pb-T             | mg/L | <0.0001  | <0.0001  | 0.0001    | 0.0002    | <0.0001  | 0.0001    | 0.0002    | 0.0005    | 0.0004    | 0.0006     | 0.0001     | 0.0001     | 0.0003    | 0.0001    | 0.0003   | 0.0002    | 0.0002    | 0.0001   | 0.0001   | 0.0003    | 0.0001   | 0.0002   | 0.0002   | 0.0002    | <0.0001   |        |
| P-PO4-T          | mg/L | <0.05    | <0.05    | <0.05     | <0.05     |          | 0.05      | <0.05     |           | <0.05     | <0.05      | <0.05      | <0.05      | <0.05     | 0.05      | 0.04     | 0.04      | 0.04      | 0.04     |          |           |          |          | 0.04     | 0.03      | 0.03      |        |
| P-T              | mg/L |          | 0.03     |           | 0.02      | <0.05    | 0.04      | 0.04      | 0.11      | 0.021     | 0.016      | 0.015      |            | 0.017     | <0.05     | 0.06     | <0.05     | <0.05     | <0.05    | <0.01    | 0.042     | 0.028    | 0.039    | <0.05    | <0.05     | <0.05     |        |
| P-TRP (Ortho)    | mg/L | 0.06     | 0.06     | 0.07      | 0.08      | 0.07     | 0.07      | 0.06      |           | 0.07      | 0.06       | 0.09       | 0.11       | 0.05      |           |          |           |           |          |          |           |          |          |          |           |           |        |
| Sb-T             | mg/L | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002    | <0.0002   | <0.0002   | <0.0002  | <0.0002   | 0.0002    | <0.0002  | <0.0002  | <0.0002   | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   |        |
| Se-T             | mg/L | 0.0009   | <0.0006  | 0.0004    | <0.0006   | 0.0008   | <0.0006   | <0.0006   | 0.0007    | 0.001     | 0.0009     | 0.001      | 0.0011     | 0.0017    | 0.0017    | <0.0006  | <0.0006   | <0.0006   | 0.0007   | 0.001    | <0.0006   | <0.0006  | <0.0006  | 0.0011   | <0.0006   | <0.0006   |        |
| Si-T             | mg/L | 6.46     | 6.1      | 6.76      | 6.93      | 6.81     | 7.81      | 8.35      | 6.66      | 7.83      | 6.44       | 7.32       | 5.85       | 5.92      | 5.29      |          |           | 6.54      | 6.16     | 6.11     | 5.62      | 5.86     | 6.11     | 5.86     | 5.44      | 5.41      |        |
| Sn-T             | mg/L | <0.001   | <0.0001  | <0.001    | <0.0001   | <0.001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0004     | <0.0001    | <0.001     | <0.0001   | <0.001    | <0.0001  | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001  | <0.0001  | <0.001   | <0.0001   | <0.0001   |        |
| Sr-T             | mg/L | 0.53     | 0.534    | 0.529     | 0.55      | 0.554    | 0.505     | 0.568     | 0.358     | 0.564     | 0.556      | 0.52       | 0.528      | 0.491     | 0.555     | 0.608    | 0.646     | 0.693     | 0.634    | 0.644    | 0.639     | 0.529    | 0.523    | 0.57     | 0.539     | 0.565     |        |
| S-T              | mg/L | 7        |          | 5.1       |           | 4.3      |           |           |           |           |            |            | 25         |           | 25.6      |          |           | 30.2      | 28.9     | 28.6     | 22.8      | 23.5     | 25.9     | 20.9     | 20.4      | 20.2      |        |
| Te-T             | mg/L |          | <0.0001  |           | <0.0001   |          | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |            | <0.0001   |           | <0.0001  | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001  | <0.0001  |          | <0.0001   | <0.0001   |        |
| Th-T             | mg/L |          | <0.0001  |           | <0.0001   |          | <0.0001   | <0.0001   | 0.0003    | 0.0005    | <0.0001    | <0.0001    |            | <0.0001   |           | <0.0001  | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001  | <0.0001  |          | <0.0001   | <0.0001   |        |
| Ti-T             | mg/L | 0.0045   | 0.0013   | 0.0014    | 0.0027    | 0.0017   | 0.0017    | 0.0034    | 0.0512    | 0.0196    | 0.0073     | 0.0048     | 0.0027     | 0.0016    | 0.0061    | 0.034    | 0.0228    | 0.0048    | 0.001    | 0.0012   | 0.025     | 0.0026   | 0.0098   | 0.0427   | 0.0013    | 0.0011    |        |
| Tl-T             | mg/L | <0.00005 | <0.00001 | <0.00005  | <0.00001  | <0.00005 | <0.00001  | <0.00001  | 0.00002   | 0.00003   | 0.00001    | <0.00001   | <0.00005   | 0.00001   | <0.00005  | 0.00001  | 0.00001   | <0.00001  | <0.00001 | <0.00001 | 0.00001   | <0.00001 | <0.00001 | <0.00005 | <0.00001  | <0.00001  |        |
| U-T              | mg/L | 0.0035   | 0.0031   | 0.0032    | 0.0028    | 0.0028   | 0.0026    | 0.0027    | 0.0016    | 0.0032    | 0.0037     | 0.003      | 0.0031     | 0.0028    | 0.0038    | 0.0039   | 0.0042    | 0.0042    | 0.0037   | 0.0037   | 0.0036    | 0.0029   | 0.0028   | 0.003    | 0.003     | 0.003     |        |
| V-T              | mg/L | 0.0013   | 0.00132  | 0.0016    | 0.00143   | 0.0017   | 0.0021    | 0.0024    | 0.00552   | 0.0027    | 0.00144    | 0.00103    | 0.001      | 0.00066   | 0.0013    | 0.0022   | 0.0015    | 0.00055   | 0.00052  | 0.00044  | 0.00139   | 0.00061  | 0.00113  | 0.0033   | 0.00041   | 0.00042   |        |
| Zn-T             | mg/L | 0.024    | 0.02     | 0.021     | 0.013     | 0.034    | 0.011     | 0.023     | 0.012     | 0.14      | 0.049      | 0.023      | 0.016      | 0.013     | 0.016     | 0.029    | 0.06      | 0.032     | 0.009    | 0.013    | 0.011     | 0.006    | 0.01     | 0.006    | 0.005     | 0.004     |        |
| Zr-T             | mg/L | <0.001   | 0.0015   | <0.001    | 0.0007    | <0.001   | 0.0008    | 0.0009    | 0.0007    | 0.0007    | 0.0004     | 0.0004     | <0.001     | 0.0003    | <0.001    | 0.0003   | 0.0003    | 0.0003    | 0.0002   | 0.0003   | 0.0003    | 0.0003   | 0.0004   | <0.001   | 0.0003    | 0.0003    |        |
| Ag-D             | mg/L | <0.      |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |        |

Appendix Table A.13: Water quality at station W17

| Sampling Session |          | 1132803  | 1133503  | 1137485   | 1139590   | 1140646  | 1141650   | 1143971   | 1145121   | 1160286   | 1163994    | 1171319    | 1178181    | 1183214   | 1188818   | 1199519  | 1199519   | 1203967   | 1205490  | 1205474  | 1210568   | 1216919  | 1216919  | 1219588  | 1221849   | 1221849   |
|------------------|----------|----------|----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|----------|-----------|-----------|----------|----------|-----------|----------|----------|----------|-----------|-----------|
| Smpl Date        |          | 7/3/2008 | 7/8/2008 | 7/22/2008 | 7/31/2008 | 8/6/2008 | 8/12/2008 | 8/21/2008 | 8/25/2008 | 10/8/2008 | 10/17/2008 | 10/29/2008 | 11/18/2008 | 12/5/2008 | 1/15/2009 | 3/6/2009 | 3/14/2009 | 3/20/2009 | 4/5/2009 | 4/6/2009 | 4/14/2009 | 5/1/2009 | 5/2/2009 | 5/9/2009 | 5/18/2009 | 5/20/2009 |
| Station Name     |          | W17      | W17      | W17       | W17       | W17      | W17       | W17       | W17       | W17       | W17        | W17        | W17        | W17       | W17       | W17      | W17       | W17       | W17      | W17      | W17       | W17      | W17      | W17      | W17       |           |
| Sample Class     |          | P        | P        | P         | P         | M        | P         | P         | P         | P         | P          | P          | P          | P         | P         | P        | P         | P         | P        | P        | P         | P        | P        | P        | P         |           |
| Sb-D             | mg/L     | 0.0009   | 0.0009   | 0.0013    | 0.0007    | 0.0009   | 0.0008    | 0.001     |           | 0.0003    | 0.0009     | 0.0009     |            | 0.001     | 0.0006    |          | 0.0011    | 0.0024    | 0.0006   |          | 0.0009    |          |          | 0.0009   | 0.0009    | 0.0007    |
| S-D              | mg/L     | 7.4      |          | 5         |           | 4.7      |           |           |           |           |            |            |            | 24.3      | 26.2      |          | 25.5      | 29.6      | 30.4     |          | 21.8      |          |          | 20       | 18.3      | 18.6      |
| Se-D             | mg/L     | 0.0003   | 0.0029   | 0.0003    | 0.0019    | 0.001    | 0.0011    | 0.0008    |           | 0.0013    | 0.0015     | 0.0022     |            | 0.0021    | 0.0016    |          | 0.0009    | <0.0006   | 0.0008   |          | <0.0006   |          |          | 0.0006   | <0.0006   | <0.0006   |
| Si-D             | mg/L     | 6.54     | 6.37     | 6.97      | 6.98      | 7.22     | 7.8       | 7.33      |           | 6.41      | 6.42       | 6.73       |            | 5.82      | 6.06      |          | 5.56      | 6.34      | 5.82     |          | 5.48      |          |          | 5.37     | 5.43      | 5.46      |
| Sn-D             | mg/L     | <0.001   | <0.0001  | <0.001    | <0.0001   | <0.001   | <0.0001   | <0.0001   |           | 0.0007    | 0.0004     | <0.0001    |            | <0.0001   | <0.001    |          | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   |          |          | <0.001   | <0.0001   | <0.0001   |
| Sr-D             | mg/L     | 0.542    | 0.531    | 0.518     | 0.544     | 0.518    | 0.513     | 0.5       |           | 0.569     | 0.526      | 0.554      |            | 0.526     | 0.569     |          | 0.639     | 0.608     | 0.576    |          | 0.618     |          |          | 0.478    | 0.517     | 0.497     |
| Te-D             | mg/L     |          | <0.0001  |           | <0.0001   |          | <0.0001   | <0.0001   |           | <0.0001   | <0.0001    | <0.0001    |            | <0.0001   |           |          | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   |          |          |          | <0.0001   | <0.0001   |
| Th-D             | mg/L     |          | <0.0001  |           | <0.0001   |          | <0.0001   | <0.0001   |           | <0.0001   | <0.0001    | <0.0001    |            | <0.0001   |           |          | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   |          |          |          | <0.0001   | <0.0001   |
| Ti-D             | mg/L     | 0.0011   | 0.001    | 0.0006    | 0.0011    | 0.0007   | 0.001     | 0.0015    |           | 0.0012    | 0.0019     | 0.0014     |            | 0.0005    | 0.0021    |          | 0.0007    | 0.0006    | 0.0006   |          | 0.0012    |          |          | 0.0012   | 0.0011    | 0.0008    |
| Tl-D             | mg/L     | <0.00005 | <0.00001 | <0.00005  | <0.00001  | <0.00005 | 0.00002   | <0.00001  |           | 0.00006   | 0.00008    | <0.00001   |            | <0.00001  | <0.00005  |          | 0.00002   | <0.00001  | <0.00001 |          | <0.00001  |          |          | <0.00005 | <0.00001  | <0.00001  |
| U-D              | mg/L     | 0.0034   | 0.0031   | 0.003     | 0.0027    | 0.0028   | 0.0027    | 0.0024    |           | 0.0031    | 0.0033     | 0.0033     |            | 0.0027    | 0.004     |          | 0.0036    | 0.0035    | 0.0034   |          | 0.0036    |          |          | 0.0029   | 0.0029    | 0.0026    |
| V-D              | mg/L     | 0.0012   | 0.00148  | 0.0015    | 0.00152   | 0.0018   | 0.00211   | 0.00169   |           | 0.00173   | 0.00099    | 0.00119    |            | 0.0007    | 0.0011    |          | 0.00038   | 0.00038   | 0.00044  |          | <0.00004  |          |          | 0.0004   | 0.00044   | 0.00032   |
| Zn-D             | mg/L     | 0.021    | 0.013    | 0.018     | 0.013     | 0.012    | 0.017     | 0.014     |           | 0.017     | 0.019      | 0.015      |            | 0.006     | 0.019     |          | 0.041     | 0.027     | 0.004    |          | 0.003     |          |          | 0.004    | 0.002     | 0.001     |
| Zr-D             | mg/L     |          | 0.0015   |           | 0.0008    |          | 0.0008    | 0.0008    |           | 0.0005    | 0.0004     | 0.0004     |            | 0.0002    |           |          | 0.0003    | 0.0002    | 0.0002   |          | 0.0002    |          |          |          | 0.0002    | 0.0002    |
| Alk-Bicrb        | mg/L     | 330      | 340      | 340       | 360       | 350      | 320       | 350       |           | 280       | 260        | 250        | 250        | 240       | 230       | 250      | 260       | 260       | 260      |          |           |          |          | 234      | 220       | 220       |
| Alk-Carb         | mg/L     | <6       | <6       | <6        | <6        | <6       | <6        | <6        |           | <6        | <6         | <6         | <6         | <6        | <6        | <6       | <6        | <6        | <6       |          |           |          |          | <6       | <6        | <6        |
| Alk-OH           | mg/L     | <5       | <5       | <5        | <5        | <5       | <5        | <5        |           | <5        | <5         | <5         | <5         | <5        | <5        | <5       | <5        | <5        | <5       |          |           |          |          | <5       | <5        | <5        |
| Alk-P            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Alk-T            | mg/L     | 272      | 278      | 276       | 296       | 285      | 259       | 286       |           | 228       | 210        | 203        | 203        | 195       | 190       | 206      | 210       | 209       | 215      |          |           |          |          | 192      | 183       | 185       |
| Bromine          | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| C-TIC            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| C-TOC            | mg/L     | 16.8     | 16.6     | 16.8      | 15.8      | 16.6     | 16.2      | 16.5      |           | 15.1      |            | 13.4       |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Chloride         | mg/L     | 4.87     | 5.28     | 5.27      | 5.31      | 5.44     | 5.68      | 5.81      |           | 4.5       | 4.39       | 4.21       | 3.91       | 3.96      | 3.5       | 3.7      | 3.8       | 4.67      | 4.2      |          |           |          |          | 3.9      | 4.29      | 4.46      |
| Colour           | TCU      | 44       | 54       | 45        | 48        | 56       | 51        | 45        |           | 39        | 36         | 32         | 27         | 21        | 33        | 16       | 17        | 17        | 18       |          |           |          |          | 26       | 22        | 9         |
| Cond-F           | µS/cm    |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Cond-L           | µS/cm    | 519      | 521      | 511       | 537       | 504      | 525       | 520       |           | 500       | 521        | 511        | 525        | 527       | 522       | 559      | 570       | 555       | 565      |          |           | 500      | 467      | 480      | 478       |           |
| Discharge        | L/s      |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Fluoride         | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Hard-D           | mg/L     | 260      |          | 262       |           | 260      |           |           |           |           |            | 276        |            |           | 240       |          | 248       | 305       | 268      |          | 249       |          |          | 216      | 236       | 238       |
| Hard-T           | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| IB               | %        |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Ammonia          | mg/L     | <0.05    | <0.05    | <0.05     | <0.05     | <0.05    | <0.05     | 0.06      |           | 0.23      | 0.07       | <0.05      | 0.08       | <0.05     |           |          |           |           |          |          |           |          |          |          |           |           |
| Ammonium         | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           | <0.05     | <0.05    | <0.05     | <0.05     | <0.05    |          |           | 0.02     | <0.05    | <0.05    | <0.05     |           |
| N-NO2            | mg/L     | <0.01    | <0.01    | <0.01     | <0.01     | <0.01    | <0.01     | <0.01     |           | <0.01     | <0.01      |            |            |           |           |          |           |           |          |          |           |          |          | <0.005   |           |           |
| NO2+NO3          | mg/L     | 0.1      | 0.1      | <0.1      | 0.16      | 0.15     | 0.15      | 0.14      |           | 0.58      | 1.01       | 1.1        | 1.23       | 1.42      | 1.62      | 0.3      | 0.3       | 0.38      | 0.14     |          |           |          |          | 0.63     | 0.56      | 0.57      |
| N-NO3            | mg/L     | 0.1      | 0.1      | 0.12      | 0.14      | 0.13     | 0.14      | 0.15      |           | 0.55      | 1.05       |            |            |           |           |          |           |           |          |          |           | 0.83     | 0.63     |          |           |           |
| pH-F             | pH units |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| pH-L             | pH units | 8.11     | 8.14     | 8.04      | 7.9       | 8.06     | 8.1       | 8.16      |           | 8.01      | 7.95       | 7.93       | 8.06       | 7.92      | 7.87      | 7.9      | 7.86      | 7.85      | 7.85     |          |           | 7.98     | 7.96     | 7.91     | 7.87      |           |
| Radium - 226     |          |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| SO4-D            | mg/L     | 20.8     | 19.9     | 13.6      | 12.4      | 11.4     | 10.6      | 10.2      |           | 55.5      | 65         | 66.2       | 70.5       | 70.7      | 78.7      | 86.6     | 86.8      | 86.1      | 82.6     |          |           |          |          | 59.7     | 59.6      |           |
| SO4-T            | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Sulphide         | mg/L     |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| TDS              | mg/L     | 352      | 366      | 366       | 352       | 346      | 350       | 386       |           | 350       | 392        | 360        | 386        | 410       | 412       | 380      | 388       | 388       | 398      |          |           |          |          | 330      | 326       | 332       |
| Temp-F           | C        |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| Temp-obs-pH      | C        |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |
| TSS              | mg/L     | <2       | <2       | <2        | <5        | <2       | <3        | <2        |           | <2        | 3          | 2          | <2         | <2        | 8         | 9        | 12        | 267       | <2       |          |           |          | 3        | <2       | <2        |           |
| Turb             | NTU      | 0.6      | 0.7      | 0.6       | 0.6       | 1        | 0.7       | 0.8       |           | 0.5       | <0.1       | 0.4        | 0.8        | <0.1      | 0.5       | 0.2      | 0.6       | 0.3       | 0.2      |          |           |          |          | 1.5      | 0.1       | 0.1       |
| Turb-F           | NTU      |          |          |           |           |          |           |           |           |           |            |            |            |           |           |          |           |           |          |          |           |          |          |          |           |           |

Appendix Table A.13: Water quality at station W17

| Sampling Session |      | 1224045   | 1224045   | 1227387  | 1227008  | 1227791   | 1231771   | A933193   | A933193   | A936189   | 1235620   | A938109   | 1242427   | 1247177   | 1245933   | 1249351  | 1249284  | A950216   | 1251597   | 1253867   | 1265042    | 1272306    | 1274409   | 1277030   | 1280024    | 1282386    |
|------------------|------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|------------|------------|-----------|-----------|------------|------------|
| Smpl Date        |      | 5/27/2009 | 5/27/2009 | 6/3/2009 | 6/9/2009 | 6/11/2009 | 6/17/2009 | 6/26/2009 | 6/29/2009 | 7/11/2009 | 7/13/2009 | 7/21/2009 | 8/11/2009 | 8/18/2009 | 8/25/2009 | 9/1/2009 | 9/7/2009 | 9/12/2009 | 9/17/2009 | 9/23/2009 | 10/19/2009 | 10/27/2009 | 11/5/2009 | 11/9/2009 | 11/16/2009 | 11/25/2009 |
| Station Name     |      | W17       | W17       | W17      | W17      | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17      | W17      | W17       | W17       | W17       | W17        | W17        | W17       | W17       | W17        |            |
| Sample Class     |      | M         | P         | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P          | P          | P         | P         | P          |            |
| Ag-T             | mg/L | <0.00001  | <0.00001  | <0.00001 | 0.00007  | <0.00001  | 0.00018   | 0.00002   | <0.00002  |           | 0.0002    | <0.00002  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00002  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | <0.00001  | <0.00001   |            |
| Al-T             | mg/L | 0.02      | 0.012     | 0.02     | 0.13     | 0.167     | 0.094     | 0.012     | 0.015     |           | 0.008     | 0.01      | 0.046     | 0.028     | 0.044     | 0.049    | 0.06     | 0.199     | 0.008     | 0.153     | <0.005     | 0.008      | 0.085     | <0.005    | 0.013      | 0.022      |
| As-T             | mg/L | 0.0005    | 0.0004    | 0.0005   | 0.0004   | 0.0004    | 0.0005    | 0.0005    | 0.0004    |           | 0.0004    | 0.0004    | 0.0007    | 0.0005    | 0.0008    | 0.0009   | 0.0008   | 0.0004    | 0.0005    | 0.0006    | 0.0005     | 0.0004     | 0.0004    | 0.0007    | 0.0007     | 0.0004     |
| Ba-T             | mg/L | 0.08      | 0.078     | 0.069    | 0.068    | 0.053     | 0.073     | 0.081     | 0.076     |           | 0.071     | 0.078     | 0.071     | 0.077     | 0.088     | 0.086    | 0.09     | 0.084     | 0.082     | 0.09      | 0.081      | 0.083      | 0.093     | 0.092     | 0.094      | 0.094      |
| Be-T             | mg/L | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.0001   | <0.0001   |           | <0.00004  | <0.0001   | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.0001   | <0.00004  | <0.00004  | <0.00004   | <0.00004   | <0.00004  | <0.00004  | <0.00004   | <0.00004   |
| Bi-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.001    | <0.001    |           | <0.0001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001   | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001    | <0.001    | <0.001     | <0.001     |
| B-T              | mg/L | 0.022     | 0.023     | 0.027    | 0.022    | 0.029     | 0.024     | <0.05     | <0.05     |           | 0.022     | <0.05     | 0.03      | 0.028     | 0.028     | 0.032    | 0.028    | <0.05     | 0.025     | 0.027     | 0.026      | 0.034      | 0.033     | 0.033     | 0.03       | 0.032      |
| Ca-T             | mg/L | 58.9      | 59.2      | 60.8     | 59.1     | 53.2      | 57.1      | 63.8      | 58.5      |           | 56.8      | 61.1      | 61.8      | 56.3      | 57.6      | 56.5     | 64.7     | 58.4      | 65.8      | 63.5      | 60.4       | 68.2       | 70.7      | 75.5      | 71         | 70.2       |
| Cd-T             | mg/L | 0.00076   | 0.00002   | 0.00003  | 0.00004  | 0.00001   | 0.00002   | 0.00002   | 0.00002   |           | <0.00001  | 0.00002   | 0.00001   | <0.00001  | 0.00003   | 0.00002  | 0.00002  | 0.00005   | <0.00001  | 0.00005   | <0.00001   | 0.00001    | 0.00003   | 0.00001   | 0.00002    | 0.00113    |
| CN-T             | mg/L |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Co-T             | mg/L | 0.00022   | 0.00018   | 0.0002   | 0.00028  | 0.00028   | 0.00022   | <0.0005   | <0.0005   |           | 0.00015   | <0.0005   | 0.00023   | 0.00017   | 0.00014   | 0.00018  | 0.00026  | <0.0005   | 0.00017   | 0.00042   | 0.00017    | 0.00013    | 0.00029   | 0.00021   | 0.0002     | 0.0002     |
| Cr-T             | mg/L | 0.0009    | 0.0005    | 0.0017   | 0.0006   | 0.0006    | <0.0004   | <0.001    | <0.001    |           | 0.0004    | <0.001    | 0.0007    | 0.0006    | <0.0004   | 0.0008   | 0.0009   | 0.006     | 0.0008    | 0.0011    | <0.0004    | <0.0004    | <0.0004   | <0.0004   | <0.0004    | 0.0004     |
| Cu-T             | mg/L | 0.012     | 0.012     | 0.009    | 0.034    | 0.037     | 0.018     | 0.0107    | 0.0113    |           | 0.01      | 0.0097    | 0.012     | 0.009     | 0.008     | 0.008    | 0.01     | 0.0144    | 0.005     | 0.014     | 0.004      | 0.004      | 0.01      | 0.004     | 0.005      | 0.008      |
| Fe-T             | mg/L | 0.02      | 0.02      | 0.03     | 0.91     | 1.3       | 0.13      | 0.024     | 0.026     |           | <0.01     | 0.016     | 0.04      | 0.014     | 0.01      | <0.01    | 0.081    | 0.143     | <0.01     | 0.239     | <0.010     | <0.010     | 0.071     | <0.01     | <0.01      | <0.01      |
| Hg-T             | mg/L | <0.00001  | <0.00001  | <0.00001 | <0.00001 |           | 0.00001   | 0.00004   | <0.00002  |           | <0.00001  | <0.00002  |           | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00002  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001  | <0.00001  | <0.00001   | <0.00001   |
| K-T              | mg/L | 3.8       | 3.8       | 3.8      | 4.8      | 5.4       | 3.9       | 4.27      | 3.96      |           | 4         | 3.88      | 3.8       | 3.5       | 3.7       | 3.9      | 4.2      | 3.86      | 4.2       | 4.4       | 4.1        | 4.5        | 4.4       | 4.5       | 4.4        | 4.2        |
| Li-T             | mg/L | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002     | <0.005    | <0.005    |           | 0.001     | <0.005    | 0.002     | 0.002     | 0.002     | 0.002    | 0.002    | <0.005    | 0.002     | 0.002     | 0.002      | 0.002      | 0.002     | 0.002     | 0.002      | 0.002      |
| Mg-T             | mg/L | 16.9      | 17        | 17.6     | 16.8     | 15.3      | 16.3      | 17.8      | 16.4      |           | 17.3      | 16.5      | 19        | 16.6      | 17.2      | 16.9     | 19       | 16.9      | 19.5      | 18.3      | 18.2       | 20.6       | 22        | 22.9      | 22         | 22.2       |
| Mn-T             | mg/L | 0.201     | 0.183     | 0.164    | 0.339    | 0.626     | 0.165     | 0.127     | 0.161     |           | 0.233     | 0.275     | 0.297     | 0.384     | 0.342     | 0.327    | 0.594    | 0.259     | 0.242     | 0.947     | 0.148      | 0.18       | 0.457     | 0.253     | 0.238      | 0.254      |
| Mo-T             | mg/L | 0.00857   | 0.00851   | 0.00743  | 0.00889  | 0.00765   | 0.00788   | 0.008     | 0.008     |           | 0.0078    | 0.009     | 0.0085    | 0.0075    | 0.0074    | 0.0084   | 0.0072   | 0.007     | 0.0062    | 0.006     | 0.006      | 0.0061     | 0.0061    | 0.0062    | 0.0061     | 0.0062     |
| Na-T             | mg/L | 17.8      | 18        | 19       | 20       | 17.4      | 17.5      | 18.2      | 16.8      |           | 18.4      | 15.6      | 17.9      | 17.4      | 18.2      | 17.2     | 19.9     | 16.5      | 20.4      | 19.1      | 17.5       | 19.9       | 19.3      | 22.9      | 19.6       | 20.3       |
| Ni-T             | mg/L | 0.002     | 0.002     | 0.002    | 0.002    | 0.002     | 0.002     | 0.002     | 0.002     |           | 0.002     | 0.002     | 0.003     | 0.002     | 0.002     | 0.004    | 0.002    | 0.002     | 0.002     | 0.002     | 0.002      | 0.003      | 0.003     | 0.003     | 0.002      | 0.003      |
| N-TKN            | mg/L | 0.3       | 0.36      | 0.41     |          | 0.34      | 0.58      |           |           |           | 0.25      |           | 0.3       | 0.33      | 0.37      | 0.34     | 0.11     |           | 0.29      | 0.74      | 0.36       | 0.34       | 0.48      | 0.51      | 0.78       | 0.2        |
| Pb-T             | mg/L | 0.0002    | 0.0002    | 0.0001   | 0.0001   | 0.0001    | 0.0002    | <0.0002   | <0.0002   |           | <0.0001   | <0.0002   | 0.0061    | 0.0003    | <0.0001   | 0.0004   | 0.0004   | 0.0006    | 0.0003    | 0.0006    | <0.0001    | <0.0001    | 0.0001    | <0.0001   | <0.0001    | 0.0004     |
| P-PO4-T          | mg/L | 0.02      | 0.02      | 0.03     |          | 0.03      | 0.03      |           |           |           | 0.04      |           | 0.02      | 0.05      | 0.03      | 0.05     | 0.03     |           | 0.06      | 0.04      | 0.04       | 0.04       | 0.06      | 0.03      | 0.07       | 0.03       |
| P-T              | mg/L | <0.05     | <0.05     | <0.05    | 0.03     | <0.05     | 0.031     |           |           |           | <0.01     |           | <0.01     | 0.029     | <0.01     | 0.018    | <0.01    |           | <0.01     | <0.05     | <0.05      | <0.05      | <0.05     | <0.05     | 0.07       | 0.07       |
| P-TRP (Ortho)    | mg/L |           |           |          |          |           | <0.05     | <0.005    |           |           | <0.05     |           | <0.05     | <0.05     | <0.05     | <0.05    | <0.05    |           | <0.05     |           |            |            |           |           |            |            |
| Sb-T             | mg/L | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0005   | <0.0005   |           | <0.0002   | <0.0005   | <0.0002   | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0005   | <0.0002   | <0.0002   | <0.0002    | <0.0002    | <0.0002   | <0.0002   | <0.0002    | <0.0002    |
| Se-T             | mg/L | 0.0008    | 0.0008    | 0.0008   | 0.0012   | 0.0012    | 0.0006    | 0.0009    | 0.0008    |           | <0.0006   | 0.0006    | <0.0006   | <0.0006   | <0.0006   | <0.0006  | 0.0008   | <0.0006   | <0.0006   | <0.0006   | 0.0011     | 0.001      | 0.001     | 0.0009    | 0.0012     | 0.0012     |
| Si-T             | mg/L | 5.14      | 5.19      | 5.3      | 5.29     | 4.86      | 5.24      | 6.1       | 6.25      |           | 5.44      | 6.77      | 6.21      | 5.62      | 5.71      | 5.52     | 6.33     | 6.28      | 6.11      | 6.1       | 5.18       | 5.73       | 5.87      | 6.4       | 5.64       | 5.54       |
| Sn-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | 0.0001   | <0.0001   | <0.0001   | <0.005    | <0.005    |           | <0.0001   | <0.005    | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.005    | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | <0.0001   | <0.0001    | <0.0001    |
| Sr-T             | mg/L | 0.553     | 0.544     | 0.516    | 0.544    | 0.557     | 0.511     | 0.513     | 0.48      |           | 0.51      | 0.525     | 0.532     | 0.507     | 0.54      | 0.532    | 0.53     | 0.475     | 0.523     | 0.516     | 0.539      | 0.585      | 0.656     | 0.64      | 0.643      | 0.682      |
| S-T              | mg/L | 18.6      | 18.7      | 18.4     | 18.4     | 18.3      | 16.4      | 19        | 18        |           | 18.1      | 24        | 17.9      | 16.5      | 17.4      | 15       | 19.4     | 19        | 19        | 19.1      | 20.1       | 24.3       | 24.5      | 28        | 26.4       | 26.8       |
| Te-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   |           |           |           | <0.0001   |           | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |           | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001   | <0.0001   | <0.0001    | <0.0001    |
| Th-T             | mg/L | <0.0001   | <0.0001   | <0.0001  | 0.0003   | <0.0001   | 0.0001    |           |           |           | <0.0001   |           | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004  |           | <0.0004   | <0.0004   | <0.0004    | <0.0004    | <0.0004   | <0.0004   | <0.0004    | <0.0004    |
| Ti-T             | mg/L | 0.0013    | 0.0019    | 0.0014   | 0.0089   | 0.0108    | 0.006     | <0.005    | <0.005    |           | 0.0006    | <0.005    | 0.0028    | 0.0006    | 0.0009    | 0.0012   | 0.0032   | 0.005     | 0.0005    | 0.008     |            |            |           |           |            |            |
| Tl-T             | mg/L | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00005  | <0.00005  |           | <0.00001  | <0.00005  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00005  | <0.00001  | 0.0001    | <0.00001   | <0.00001   | <0.00001  | <0.00001  | <0.00001   | <0.00001   |
| U-T              | mg/L | 0.0027    | 0.0027    | 0.0024   | 0.0021   | 0.002     | 0.0021    | 0.0025    | 0.0023    |           | 0.0022    | 0.0025    | 0.0027    | 0.0018    | 0.0018    | 0.0019   | 0.002    | 0.002     | 0.0019    | 0.002     | 0.0017     | 0.0019     | 0.0021    | 0.0019    | 0.0021     | 0.0022     |
| V-T              | mg/L | 0.00056   | 0.00061   | 0.00051  | 0.00193  | 0.00235   | 0.00068   | <0.005    | <0.005    |           | 0.00035   | <0.005    | 0.0006    | 0.0004    | 0.0004    | 0.0005   | 0.0006   | <0.005    | 0.0004    | 0.001     | 0.0003     | 0.0003     | 0.0006    | 0.0003    | 0.0004     | 0.0004     |
| Zn-T             | mg/L | 0.009     | 0.008     | 0.005    | 0.011    | 0.003     | 0.001     | <0.005    | <0.005    |           | 0.006     | <0.005    | 0.007     | 0.003     | 0.005     | 0.006    | 0.007    | 0.012     | 0.009     | 0.003     | 0.003      | 0.002      | 0.004     | 0.002     | 0.002      | 0.008      |
| Zr-T             | mg/L | 0.0003    | 0.0003    | 0.0003   | 0.0006   | 0.0003    | 0.0003    | <0.0005   | <0.0005   |           | 0.0002    | <0.0005   | 0.0003    | 0.0002    | 0.0002    | 0.0002   | 0.0002   | <0.0005   | 0.0002    | 0.0002    | 0.0002     | 0.0005     | 0.0003    | 0.0002    | 0.0012     | 0.0002     |
| Ag-D             | mg/L | <0.00001  | <0.00001  | <0.00001 |          | <0.00001  | <0.00001  | <0.       |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |

Appendix Table A.13: Water quality at station W17

| Sampling Session |          | 1224045   | 1224045   | 1227387  | 1227008  | 1227791   | 1231771   | A933193   | A933193   | A936189   | 1235620   | A938109   | 1242427   | 1247177   | 1245933   | 1249351  | 1249284  | A950216   | 1251597   | 1253867   | 1265042    | 1272306    | 1274409   | 1277030   | 1280024    | 1282386    |
|------------------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|------------|------------|-----------|-----------|------------|------------|
| Smpl Date        |          | 5/27/2009 | 5/27/2009 | 6/3/2009 | 6/9/2009 | 6/11/2009 | 6/17/2009 | 6/26/2009 | 6/29/2009 | 7/11/2009 | 7/13/2009 | 7/21/2009 | 8/11/2009 | 8/18/2009 | 8/25/2009 | 9/1/2009 | 9/7/2009 | 9/12/2009 | 9/17/2009 | 9/23/2009 | 10/19/2009 | 10/27/2009 | 11/5/2009 | 11/9/2009 | 11/16/2009 | 11/25/2009 |
| Station Name     |          | W17       | W17       | W17      | W17      | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17       | W17      | W17      | W17       | W17       | W17       | W17        | W17        | W17       | W17       | W17        | W17        |
| Sample Class     |          | M         | P         | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        | P         | P         | P         | P          | P          | P         | P         | P          | P          |
| Sb-D             | mg/L     | 0.0009    | 0.0009    | 0.0009   |          | 0.001     | <0.0002   | <0.0005   |           |           |           |           | <0.0002   | <0.0002   | 0.0008    | 0.0012   | 0.0017   |           |           | 0.0002    | 0.0008     |            | 0.0008    | 0.0012    |            |            |
| S-D              | mg/L     | 17.8      | 17.7      | 17       |          | 16.6      | 16.1      | 19        |           |           |           |           | 21.3      | 18.2      | 17.3      | 18.2     | 17.2     |           |           | 19.6      | 19.6       |            | 22.8      | 26.1      |            |            |
| Se-D             | mg/L     | 0.0008    | 0.0008    | 0.0006   |          | 0.0006    | 0.0011    | 0.0008    |           |           |           |           | 0.0009    | <0.0006   | <0.0006   | 0.0015   | <0.0006  |           |           | 0.0012    | 0.001      |            | 0.0009    | 0.0008    |            |            |
| Si-D             | mg/L     | 4.97      | 4.92      | 4.96     |          | 4.88      | 4.88      | 6.39      |           |           |           |           | 5.82      | 5.62      | 5.54      | 5.86     | 5.99     |           |           | 5.67      | 5.01       |            | 5.14      | 5.88      |            |            |
| Sn-D             | mg/L     | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   | <0.0001   | <0.005    |           |           |           |           | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |           |           | <0.0001   | <0.0001    |            | <0.0001   | <0.0001   |            |            |
| Sr-D             | mg/L     | 0.482     | 0.45      | 0.505    |          | 0.496     | 0.512     | 0.472     |           |           |           |           | 0.457     | 0.536     | 0.515     | 0.589    | 0.511    |           |           | 0.537     | 0.547      |            | 0.604     | 0.6       |            |            |
| Te-D             | mg/L     | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   | <0.0001   |           |           |           |           |           | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  |           |           | <0.0001   | <0.0001    |            | <0.0001   | <0.0001   |            |            |
| Th-D             | mg/L     | <0.0001   | <0.0001   | <0.0001  |          | <0.0001   | <0.0001   |           |           |           |           |           | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004  |           |           | <0.0004   | <0.0004    |            | <0.0004   | <0.0004   |            |            |
| Ti-D             | mg/L     | 0.0011    | 0.0013    | 0.0016   |          | 0.0009    | 0.0007    | <0.005    |           |           |           |           | 0.0006    | 0.0004    | 0.0006    | 0.0006   | 0.0008   |           |           | 0.0006    | <0.01      |            | <0.01     | <0.01     |            |            |
| Tl-D             | mg/L     | <0.00001  | <0.00001  | <0.00001 |          | <0.00001  | <0.00001  | <0.00005  |           |           |           |           | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001 |           |           | <0.00001  | <0.00001   |            | <0.00001  | <0.00001  |            |            |
| U-D              | mg/L     | 0.0026    | 0.0024    | 0.0023   |          | 0.0021    | 0.0016    | 0.0023    |           |           |           |           | 0.0024    | 0.0022    | 0.0021    | 0.0018   | 0.002    |           |           | 0.002     | 0.0016     |            | 0.002     | 0.0018    |            |            |
| V-D              | mg/L     | 0.00033   | 0.00038   | 0.00038  |          | 0.00041   | 0.00035   | <0.005    |           |           |           |           | 0.0003    | 0.0005    | 0.0005    | 0.0007   | 0.0004   |           |           | 0.0004    | 0.0003     |            | 0.0003    | 0.0003    |            |            |
| Zn-D             | mg/L     | 0.003     | 0.006     | 0.006    |          | 0.002     | <0.001    | <0.005    |           |           |           |           | <0.001    | <0.001    | 0.002     | <0.001   | 0.004    |           |           | <0.001    | 0.006      |            | 0.002     | 0.002     |            |            |
| Zr-D             | mg/L     | <0.0001   | <0.0001   | 0.0002   |          | 0.0002    | 0.0002    | <0.0005   |           |           |           |           | 0.0002    | 0.0003    | 0.0002    | 0.0004   | 0.0002   |           |           | 0.0002    | 0.0001     |            | 0.0002    | <0.0001   |            |            |
| Alk-Bicrb        | mg/L     | 220       | 220       | 220      |          | 190       | 220       |           |           |           | 230       |           | 250       | 220       | 210       | 200      | 210      |           | 180       | 190       | 180        | 190        | 190       | 190       | 200        | 190        |
| Alk-Carb         | mg/L     | <6        | <6        | <6       |          | <6        | <6        |           |           |           | <6        |           | <6        | <6        | <6        | <6       | <6       |           | <6        | <6        | <6         | <6         | <6        | <6        | <6         | <6         |
| Alk-OH           | mg/L     | <5        | <5        | <5       |          | <5        | <5        |           |           |           | <5        |           | <5        | <5        | <5        | <5       | <5       |           | <5        | <5        | <5         | <5         | <5        | <5        | <5         | <5         |
| Alk-P            | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Alk-T            | mg/L     | 183       | 182       | 180      |          | 160       | 180       |           |           |           | 186       |           | 205       | 179       | 172       | 169      | 174      |           | 151       | 156       | 147        | 156        | 158       | 156       | 160        | 157        |
| Bromine          | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| C-TIC            | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| C-TOC            | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Chloride         | mg/L     | 3         | 2.94      | 3.7      |          | 3.9       | 4.31      |           |           |           | 4.08      |           | 6.6       | 12.1      | 13.4      | 16.3     | 17.6     |           | 23.6      | 25        | 23.9       | 25.4       | 9.91      | 23.6      | 22.9       | 23.3       |
| Colour           | TCU      | 28        | 25        | 30       |          | 32        | 35        |           |           |           | 33        |           | 25        |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Cond-F           | µS/cm    |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Cond-L           | µS/cm    | 478       | 476       | 470      |          | 441       | 464       | 466       |           |           | 464       |           | 485       | 478       | 471       | 484      | 505      |           | 503       | 517       | 515        | 510        | 519       | 576       | 577        | 552        |
| Discharge        | L/s      |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Fluoride         | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Hard-D           | mg/L     | 210       | 209       | 209      |          | 206       | 201       | 213       |           |           | 213       |           | 211       | 207       | 210       | 221      | 229      |           | 229       | 235       | 221        | 232        | 235       | 260       | 247        | 261        |
| Hard-T           | mg/L     |           |           |          |          |           |           | 233       | 214       |           |           | 220       |           |           |           |          |          | 215       |           |           |            |            |           |           |            |            |
| IB               | %        |           |           |          |          |           | 118       |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Ammonia          | mg/L     |           |           |          |          |           |           | 0.019     |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Ammonium         | mg/L     | <0.05     | <0.05     | <0.05    |          | 0.09      | <0.05     |           |           |           | <0.05     |           | <0.05     | 0.05      | 0.07      | <0.05    | <0.05    |           | <0.05     | <0.05     | <0.05      | <0.05      | <0.05     | <0.05     | <0.05      | <0.05      |
| N-NO2            | mg/L     |           |           |          |          |           |           | <0.005    |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| NO2+NO3          | mg/L     | 0.58      | 0.57      | 0.58     |          | 1.39      | 0.71      | 0.77      |           |           | 0.54      |           | 0.79      | 1.78      | 2.1       | 2.31     | 2.34     |           | 3.45      | 3.89      | 4.56       | 4.64       | 4.62      | 4.76      | 5.3        | 5.82       |
| N-NO3            | mg/L     |           |           |          |          |           |           | 0.77      |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| pH-F             | pH units |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| pH-L             | pH units | 8.02      | 8.05      | 8.09     |          | 7.96      | 7.99      | 8.1       |           |           | 8.01      |           | 8.18      | 7.83      | 7.94      | 7.87     | 7.87     |           | 7.87      | 7.95      | 7.88       | 7.81       | 7.78      | 7.92      | 7.86       | 7.96       |
| Radium - 226     |          |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| SO4-D            | mg/L     | 57.2      | 57        | 55.1     |          | 56.2      | 48.2      |           |           |           | 45.9      |           | 63.9      | 54.7      | 51.9      | 54.7     | 51.7     |           | 59.6      | 58.7      | 58.6       | 64.3       | 68.4      | 78.3      | 107        | 80.7       |
| SO4-T            | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Sulphide         | mg/L     |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| TDS              | mg/L     | 306       | 306       | 314      |          | 296       | 306       | 280       |           |           | 312       |           | 348       | 356       | 282       | 312      | 332      |           | 360       | 324       | 366        | 384        | 384       | 364       | 420        | 394        |
| Temp-F           | C        |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| Temp-obs-pH      | C        |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |
| TSS              | mg/L     | <2        | 4         | <5       |          | 4         | <2        | <4        |           | 4         | <2        |           | <2        | 5         | <2        | <5       | 4        |           | <3        | 5         | <2         | <2         | <3        | <3        | <3         | <3         |
| Turb             | NTU      | 0.5       | 0.2       | 0.2      |          | 5.3       | 2.5       | 0.9       |           |           | 0.3       |           | 0.2       | 0.8       | 0.5       | 0.5      | 0.4      |           | 0.2       | 1.1       | 0.3        | 0.3        | 0.8       | <0.1      | 0.1        | 0.3        |
| Turb-F           | NTU      |           |           |          |          |           |           |           |           |           |           |           |           |           |           |          |          |           |           |           |            |            |           |           |            |            |

Appendix Table A.13: Water quality at station W17

| Sampling Session |      | 1284423   | 1285899   | 1287161    | 1293017  | 1289800  | 1290613   | 1292344   |
|------------------|------|-----------|-----------|------------|----------|----------|-----------|-----------|
| Smpl Date        |      | 12/2/2009 | 12/9/2009 | 12/15/2009 | 1/1/2010 | 1/5/2010 | 1/12/2010 | 1/19/2010 |
| Station Name     |      | W17       | W17       | W17        | W17      | W17      | W17       | W17       |
| Sample Class     |      | P         | P         | P          | P        | P        | P         | P         |
| Ag-T             | mg/L | <0.00001  | <0.00001  | <0.00001   | <0.00001 | <0.00001 | <0.00001  | <0.00001  |
| Al-T             | mg/L | 0.02      | 0.095     | 0.059      | 0.041    | 0.012    | 0.074     | 0.008     |
| As-T             | mg/L | 0.0005    | 0.0004    | 0.0003     | 0.0004   | 0.0004   | 0.0006    | 0.0005    |
| Ba-T             | mg/L | 0.099     | 0.119     | 0.096      | 0.106    | 0.11     | 0.152     | 0.104     |
| Be-T             | mg/L | <0.00004  | <0.00004  | <0.00004   | <0.00004 | <0.00004 | <0.00004  | <0.00004  |
| Bi-T             | mg/L | <0.001    | <0.001    | <0.001     | <0.001   | <0.001   | <0.001    | <0.001    |
| B-T              | mg/L | 0.03      | 0.043     | 0.028      | 0.03     | 0.03     | 0.03      | 0.032     |
| Ca-T             | mg/L | 71.7      | 65.7      | 68.3       | 74.4     | 73       | 78.2      | 71        |
| Cd-T             | mg/L | <0.00001  | 0.00005   | <0.00001   | 0.00004  | 0.00391  | 0.0728    | 0.00017   |
| CN-T             | mg/L |           |           |            |          |          |           |           |
| Co-T             | mg/L | 0.00018   | 0.00043   | 0.00018    | 0.00026  | 0.00023  | 0.00033   | 0.00018   |
| Cr-T             | mg/L | <0.0004   | <0.0004   | 0.0005     | 0.0008   | 0.0005   | 0.0008    | <0.0004   |
| Cu-T             | mg/L | 0.004     | 0.012     | 0.006      | 0.01     | 0.005    | 0.008     | 0.004     |
| Fe-T             | mg/L | <0.01     | 0.074     | 0.096      | 0.05     | <0.01    | 0.054     | <0.01     |
| Hg-T             | mg/L | <0.00001  | <0.00001  | <0.00001   | <0.00001 | <0.00001 | <0.00001  | <0.00001  |
| K-T              | mg/L | 4.5       | 4.2       | 4.3        | 4.5      | 4.2      | 4.3       | 4.1       |
| Li-T             | mg/L | 0.002     | 0.002     | 0.002      | 0.002    | 0.002    | 0.002     | 0.002     |
| Mg-T             | mg/L | 23.2      | 21        | 22         | 24.8     | 23.8     | 24.2      | 23.5      |
| Mn-T             | mg/L | 0.255     | 1.43      | 0.27       | 0.618    | 0.409    | 0.56      | 0.411     |
| Mo-T             | mg/L | 0.0065    | 0.0065    | 0.0058     | 0.0061   | 0.0062   | 0.0061    | 0.006     |
| Na-T             | mg/L | 21.6      | 18.9      | 18.1       | 21.5     | 20.8     | 21.4      | 20.3      |
| Ni-T             | mg/L | 0.002     | 0.003     | 0.002      | 0.003    | 0.003    | 0.004     | 0.002     |
| N-TKN            | mg/L | <0.06     | <0.06     | 0.12       | 0.61     | <0.06    | <0.06     | 0.67      |
| Pb-T             | mg/L | <0.0001   | 0.0001    | 0.0001     | 0.0002   | 0.0003   | 0.0057    | <0.0001   |
| P-PO4-T          | mg/L | 0.06      | 0.05      | 0.05       | 0.05     | 0.04     | 0.05      | 0.07      |
| P-T              | mg/L | 0.05      | <0.05     | 0.06       | <0.05    | <0.05    | <0.05     | 0.05      |
| P-TRP (Ortho)    | mg/L |           |           |            |          |          |           |           |
| Sb-T             | mg/L | <0.0002   | 0.0002    | 0.0059     | 0.0002   | 0.0002   | 0.0003    | <0.0002   |
| Se-T             | mg/L | 0.001     | 0.0011    | 0.001      | 0.0009   | 0.0014   | 0.001     | <0.0006   |
| Si-T             | mg/L | 5.79      | 5.27      | 5.15       | 5.38     | 5.13     | 5.24      | 4.86      |
| Sn-T             | mg/L | <0.0001   | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   |
| Sr-T             | mg/L | 0.708     | 0.764     | 0.68       | 0.741    | 0.776    | 0.765     | 0.741     |
| S-T              | mg/L | 28.2      | 28.5      | 26.3       | 33.8     | 30.4     | 30.5      | 27        |
| Te-T             | mg/L | <0.0001   | <0.0001   | <0.0001    | <0.0001  | <0.0001  | <0.0001   | <0.0001   |
| Th-T             | mg/L | <0.0004   | <0.0004   | <0.0004    | <0.0004  | <0.0004  | <0.0004   | <0.0004   |
| Ti-T             | mg/L |           |           |            |          |          |           |           |
| Tl-T             | mg/L | <0.00001  | 0.00001   | <0.00001   | <0.00001 | <0.00001 | <0.00001  | <0.00001  |
| U-T              | mg/L | 0.0023    | 0.0024    | 0.0024     | 0.0025   | 0.0026   | 0.0027    | 0.0028    |
| V-T              | mg/L | 0.0005    | 0.0009    | 0.0005     | 0.0006   | 0.0005   | 0.0006    | 0.0003    |
| Zn-T             | mg/L | 0.004     | 0.004     | 0.005      | 0.006    | 0.004    | 0.019     | 0.003     |
| Zr-T             | mg/L | 0.0001    | 0.0002    | 0.0002     | 0.0002   | 0.0001   | 0.0001    | 0.0001    |
| Ag-D             | mg/L |           |           |            | <0.00001 | <0.00001 |           |           |
| Al-D             | mg/L |           |           |            | 0.015    | 0.059    |           |           |
| As-D             | mg/L |           |           |            | 0.0004   | 0.0005   |           |           |
| Ba-D             | mg/L |           |           |            | 0.101    | 0.102    |           |           |
| B-D              | mg/L |           |           |            | 0.029    | 0.028    |           |           |
| Be-D             | mg/L |           |           |            | <0.00004 | <0.00004 |           |           |
| Bi-D             | mg/L |           |           |            | <0.001   | <0.001   |           |           |
| Ca-D             | mg/L |           |           |            | 67.7     | 71.3     |           |           |
| Cd-D             | mg/L |           |           |            | 0.00002  | 0.00113  |           |           |
| C-DOC            | mg/L |           |           |            |          |          |           |           |
| Co-D             | mg/L |           |           |            | 0.00027  | 0.00036  |           |           |
| Cr-D             | mg/L |           |           |            | 0.0008   | 0.0006   |           |           |
| Cu-D             | mg/L |           |           |            | 0.006    | 0.019    |           |           |
| Fe-D             | mg/L |           |           |            | 0.02     | 0.08     |           |           |
| Hg-D             | mg/L |           |           |            | <0.00001 | <0.00001 |           |           |
| K-D              | mg/L |           |           |            | 3.9      | 4.5      |           |           |
| Li-D             | mg/L |           |           |            | 0.002    | 0.002    |           |           |
| Mg-D             | mg/L |           |           |            | 22.5     | 22.6     |           |           |
| Mn-D             | mg/L |           |           |            | 0.506    | 0.369    |           |           |
| Mo-D             | mg/L |           |           |            | 0.0053   | 0.0064   |           |           |
| Na-D             | mg/L |           |           |            | 18.5     | 20.4     |           |           |
| Ni-D             | mg/L |           |           |            | 0.002    | 0.003    |           |           |
| O-DO             | mg/L |           |           |            |          |          |           |           |
| Pb-D             | mg/L |           |           |            | 0.0003   | 0.0008   |           |           |
| P-D              | mg/L |           |           |            | 0.02     | 0.08     |           |           |
| P-TDP            | mg/L |           |           |            |          |          |           |           |

Appendix Table A.13: Water quality at station W17

| Sampling Session |          | 1284423   | 1285899   | 1287161    | 1293017  | 1289800  | 1290613   | 1292344   |
|------------------|----------|-----------|-----------|------------|----------|----------|-----------|-----------|
| Smpl Date        |          | 12/2/2009 | 12/9/2009 | 12/15/2009 | 1/1/2010 | 1/5/2010 | 1/12/2010 | 1/19/2010 |
| Station Name     |          | W17       | W17       | W17        | W17      | W17      | W17       | W17       |
| Sample Class     |          | P         | P         | P          | P        | P        | P         | P         |
| Sb-D             | mg/L     |           |           |            | 0.0009   | 0.0056   |           |           |
| S-D              | mg/L     |           |           |            | 28.8     | 28.7     |           |           |
| Se-D             | mg/L     |           |           |            | 0.0008   | 0.0014   |           |           |
| Si-D             | mg/L     |           |           |            | 4.82     | 4.86     |           |           |
| Sn-D             | mg/L     |           |           |            | <0.0001  | <0.0001  |           |           |
| Sr-D             | mg/L     |           |           |            | 0.719    | 0.729    |           |           |
| Te-D             | mg/L     |           |           |            | <0.0001  | <0.0001  |           |           |
| Th-D             | mg/L     |           |           |            | <0.0004  | <0.0004  |           |           |
| Ti-D             | mg/L     |           |           |            | <0.01    | <0.01    |           |           |
| Tl-D             | mg/L     |           |           |            | <0.00001 | <0.00001 |           |           |
| U-D              | mg/L     |           |           |            | 0.0024   | 0.0024   |           |           |
| V-D              | mg/L     |           |           |            | 0.0005   | 0.0006   |           |           |
| Zn-D             | mg/L     |           |           |            | 0.002    | 0.021    |           |           |
| Zr-D             | mg/L     |           |           |            | 0.0001   | 0.0001   |           |           |
| Alk-Bicrb        | mg/L     | 200       | 200       | 210        | 210      | 210      | 210       | 220       |
| Alk-Carb         | mg/L     | <6        | <6        | <6         | <6       | <6       | <6        | <6        |
| Alk-OH           | mg/L     | <5        | <5        | <5         | <5       | <5       | <5        | <5        |
| Alk-P            | mg/L     |           |           |            |          |          |           |           |
| Alk-T            | mg/L     | 161       | 169       | 171        | 173      | 172      | 174       | 177       |
| Bromine          | mg/L     |           |           |            |          |          |           |           |
| C-TIC            | mg/L     |           |           |            |          |          |           |           |
| C-TOC            | mg/L     |           |           |            |          |          |           |           |
| Chloride         | mg/L     | 22        | 21        | 21         | 20.6     | 20.5     | 20.2      | 18.8      |
| Colour           | TCU      |           |           |            |          |          |           |           |
| Cond-F           | µS/cm    |           |           |            |          |          |           |           |
| Cond-L           | µS/cm    | 580       | 594       | 608        | 622      | 636      | 600       | 589       |
| Discharge        | L/s      |           |           |            |          |          |           |           |
| Fluoride         | mg/L     |           |           |            |          |          |           |           |
| Hard-D           | mg/L     | 254       | 260       | 254        | 262      | 271      | 297       | 276       |
| Hard-T           | mg/L     |           |           |            |          |          |           |           |
| IB               | %        |           |           |            |          |          |           |           |
| Ammonia          | mg/L     |           |           |            |          |          |           |           |
| Ammonium         | mg/L     | <0.05     | <0.05     | <0.05      | <0.05    | <0.05    | <0.05     | <0.05     |
| N-NO2            | mg/L     |           |           |            |          |          |           |           |
| NO2+NO3          | mg/L     | 5.92      | 6.32      | 6.39       | 6.72     | 6.76     | 6.68      | 6.69      |
| N-NO3            | mg/L     |           |           |            |          |          |           |           |
| pH-F             | pH units |           |           |            |          |          |           |           |
| pH-L             | pH units | 8.04      | 8.26      | 7.97       | 7.85     | 8        | 8.02      | 7.94      |
| Radium - 226     |          |           |           |            |          |          |           |           |
| SO4-D            | mg/L     | 79.5      | 80.8      | 80.3       | 86.3     | 86.2     | 95        | 92        |
| SO4-T            | mg/L     |           |           |            |          |          |           |           |
| Sulphide         | mg/L     |           |           |            |          |          |           |           |
| TDS              | mg/L     | 426       | 412       | 352        | 396      | 394      | 402       | 408       |
| Temp-F           | C        |           |           |            |          |          |           |           |
| Temp-obs-pH      | C        |           |           |            |          |          |           |           |
| TSS              | mg/L     | <2        | <5        | <5         | 6        | <5       | <2        | <5        |
| Turb             | NTU      | 0.3       | 0.2       | <0.1       | 0.1      | <0.1     | 0.3       | 0.5       |
| Turb-F           | NTU      |           |           |            |          |          |           |           |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 1216919<br>5/1/2009<br>W17EOP<br>P | 1216919<br>5/2/2009<br>W17EOP<br>P | 1219588<br>5/9/2009<br>W17EOP<br>P | 1221849<br>5/20/2009<br>W17EOP<br>P | 1224045<br>5/27/2009<br>W17EOP<br>P | 1227387<br>6/3/2009<br>W17EOP<br>P | 1231771<br>6/17/2009<br>W17EOP<br>P | 39991<br>6/27/2009<br>W17EOP<br>M | 39992<br>6/28/2009<br>W17EOP<br>M | 39993<br>6/29/2009<br>W17EOP<br>P | 39994<br>6/30/2009<br>W17EOP<br>M | A934681<br>6/30/2009<br>W17EOP<br>P | 39995<br>7/1/2009<br>W17EOP<br>P | 39996<br>7/2/2009<br>W17EOP<br>P | 39997<br>7/3/2009<br>W17EOP<br>P | A934681<br>7/4/2009<br>W17EOP<br>P | A934681<br>7/5/2009<br>W17EOP<br>P | A934681<br>7/6/2009<br>W17EOP<br>P | 40001<br>7/7/2009<br>W17EOP<br>M | 40002<br>7/8/2009<br>W17EOP<br>M | A936189<br>7/8/2009<br>W17EOP<br>P | 40003<br>7/9/2009<br>W17EOP<br>M | A936189<br>7/9/2009<br>W17EOP<br>P | 40004<br>7/10/2009<br>W17EOP<br>M | A936189<br>7/10/2009<br>W17EOP<br>P | 40005<br>7/11/2009<br>W17EOP<br>M |  |
|---------------------------------------------------------------|------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|--|
| Ag-T                                                          | mg/L | <0.00001                           | <0.00001                           | 0.00002                            | <0.00001                            | <0.00001                            | <0.00001                           | 0.00021                             |                                   |                                   | <0.00002                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00002                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Al-T                                                          | mg/L | 0.074                              | 0.093                              | 0.12                               | 0.037                               | 0.032                               | 0.013                              | 0.065                               |                                   |                                   | 0.174                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.163                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| As-T                                                          | mg/L | 0.0004                             | 0.0005                             | 0.0005                             | 0.0005                              | 0.0004                              | 0.0005                             | 0.0004                              |                                   |                                   | 0.0005                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ba-T                                                          | mg/L | 0.086                              | 0.085                              | 0.081                              | 0.078                               | 0.076                               | 0.072                              | 0.072                               |                                   |                                   | 0.085                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.087                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Be-T                                                          | mg/L | <0.00004                           | <0.00004                           | <0.0001                            | <0.00004                            | <0.00004                            | <0.00004                           | <0.00004                            |                                   |                                   | <0.0001                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0001                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Bi-T                                                          | mg/L | <0.0001                            | <0.0001                            | <0.0005                            | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   | <0.001                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.001                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| B-T                                                           | mg/L | 0.021                              | 0.022                              | 0.026                              | 0.022                               | 0.018                               | 0.027                              | 0.024                               |                                   |                                   | <0.05                             |                                   |                                     |                                  |                                  |                                  |                                    | <0.05                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ca-T                                                          | mg/L | 67.7                               | 68.3                               | 61.4                               | 69.2                                | 60.1                                | 61.8                               | 57.4                                |                                   |                                   | 52.6                              |                                   |                                     |                                  |                                  |                                  |                                    | 52.2                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cd-T                                                          | mg/L | 0.00006                            | 0.00003                            | 0.00003                            | <0.00001                            | 0.00444                             | 0.00002                            | 0.00002                             |                                   |                                   | 0.00008                           |                                   |                                     |                                  |                                  |                                  |                                    | 0.00007                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| CN-T                                                          | mg/L |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Co-T                                                          | mg/L | 0.00021                            | 0.0003                             | 0.0002                             | 0.00025                             | 0.00022                             | 0.00016                            | 0.00018                             |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cr-T                                                          | mg/L | 0.0014                             | 0.0019                             | 0.0018                             | 0.001                               | 0.0011                              | 0.0015                             | 0.0005                              |                                   |                                   | 0.001                             |                                   |                                     |                                  |                                  |                                  |                                    | <0.001                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cu-T                                                          | mg/L | 0.013                              | 0.014                              | 0.017                              | 0.011                               | 0.013                               | 0.01                               | 0.015                               |                                   |                                   | 0.0899                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0817                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Fe-T                                                          | mg/L | 0.1                                | 0.26                               | 0.16                               | 0.06                                | 0.03                                | 0.02                               | 0.08                                |                                   |                                   | 0.44                              |                                   |                                     |                                  |                                  |                                  |                                    | 0.347                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Hg-T                                                          | mg/L | <0.00001                           | <0.00001                           | <0.0001                            | <0.00001                            | <0.00001                            | <0.00001                           | 0.00001                             |                                   |                                   | <0.00002                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00002                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| K-T                                                           | mg/L | 4                                  | 4.1                                | 3.8                                | 4.2                                 | 3.8                                 | 3.8                                | 3.8                                 |                                   |                                   | 6.67                              |                                   |                                     |                                  |                                  |                                  |                                    | 5.93                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Li-T                                                          | mg/L | 0.002                              | 0.002                              | 0.002                              | 0.002                               | 0.001                               | 0.002                              | 0.002                               |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mg-T                                                          | mg/L | 21.1                               | 20.6                               | 17.3                               | 19                                  | 17.3                                | 17.9                               | 16.4                                |                                   |                                   | 15.2                              |                                   |                                     |                                  |                                  |                                  |                                    | 14.4                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mn-T                                                          | mg/L | 0.318                              | 0.331                              | 0.27                               | 0.275                               | 0.163                               | 0.171                              | 0.145                               |                                   |                                   | 0.167                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.218                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mo-T                                                          | mg/L | 0.00565                            | 0.00538                            | 0.008                              | 0.00798                             | 0.008                               | 0.00744                            | 0.00777                             |                                   |                                   | 0.013                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.012                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Na-T                                                          | mg/L | 19.9                               | 20                                 | 18.4                               | 20.1                                | 18.7                                | 18.8                               | 17.3                                |                                   |                                   | 16.9                              |                                   |                                     |                                  |                                  |                                  |                                    | 15.4                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ni-T                                                          | mg/L | 0.002                              | 0.004                              | 0.0024                             | 0.004                               | 0.002                               | 0.002                              | 0.002                               |                                   |                                   | 0.002                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.002                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| N-TKN                                                         | mg/L |                                    |                                    | 0.3                                | 0.41                                | 0.33                                | 0.43                               |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Pb-T                                                          | mg/L | 0.0003                             | 0.0002                             | 0.0001                             | <0.0001                             | 0.0002                              | 0.0001                             | <0.0001                             |                                   |                                   | 0.0022                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| P-PO4-T                                                       | mg/L |                                    |                                    | 0.05                               | 0.03                                | 0.02                                | 0.03                               |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| P-T                                                           | mg/L | 0.027                              | 0.023                              | <0.05                              | <0.05                               | <0.05                               | <0.05                              | 0.015                               |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| P-TRP (Ortho)                                                 | mg/L |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | <0.005                            |                                   | <0.005                              |                                  |                                  |                                  | <0.005                             | <0.005                             | <0.005                             |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Sb-T                                                          | mg/L | <0.0002                            | <0.0002                            | <0.0002                            | <0.0002                             | <0.0002                             | <0.0002                            | <0.0002                             |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Se-T                                                          | mg/L | <0.0006                            | <0.0006                            | 0.0007                             | <0.0006                             | 0.0009                              | <0.0006                            | 0.0007                              |                                   |                                   | 0.0028                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0022                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Si-T                                                          | mg/L | 5.89                               | 5.9                                | 4.56                               | 5.41                                | 5.2                                 | 5.35                               | 5.23                                |                                   |                                   | 5.38                              |                                   |                                     |                                  |                                  |                                  |                                    | 4.86                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Sn-T                                                          | mg/L | <0.0001                            | <0.0001                            | <0.001                             | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Sr-T                                                          | mg/L | 0.523                              | 0.517                              | 0.545                              | 0.555                               | 0.512                               | 0.54                               | 0.514                               |                                   |                                   | 0.599                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.617                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| S-T                                                           | mg/L | 24.2                               | 25.1                               | 21.1                               | 20.1                                | 18.6                                | 18.7                               | 16.9                                |                                   |                                   | 19                                |                                   |                                     |                                  |                                  |                                  |                                    | 25                                 |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Te-T                                                          | mg/L | <0.0001                            | <0.0001                            |                                    | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Th-T                                                          | mg/L | <0.0001                            | <0.0001                            |                                    | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ti-T                                                          | mg/L | 0.0045                             | 0.0073                             | 0.0076                             | 0.0027                              | 0.0023                              | 0.0012                             | 0.0034                              |                                   |                                   | 0.007                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.009                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Tl-T                                                          | mg/L | <0.00001                           | <0.00001                           | <0.00005                           | <0.00001                            | <0.00001                            | <0.00001                           | <0.00001                            |                                   |                                   | <0.00005                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00005                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| U-T                                                           | mg/L | 0.0029                             | 0.0029                             | 0.003                              | 0.0029                              | 0.0027                              | 0.0025                             | 0.0022                              |                                   |                                   | 0.0012                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0013                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| V-T                                                           | mg/L | 0.0006                             | 0.00092                            | 0.001                              | 0.00054                             | 0.00055                             | 0.00051                            | 0.00055                             |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Zn-T                                                          | mg/L | 0.01                               | 0.007                              | 0.015                              | 0.022                               | 0.015                               | 0.007                              | 0.005                               |                                   |                                   | 0.008                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.006                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Zr-T                                                          | mg/L | 0.0003                             | 0.0003                             | <0.001                             | 0.0003                              | 0.0003                              | 0.0003                             | 0.0004                              |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ag-D                                                          | mg/L |                                    | <0.00001                           | <0.00001                           | <0.00001                            | <0.00001                            | <0.00001                           | <0.00001                            |                                   |                                   | <0.00002                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00002                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Al-D                                                          | mg/L |                                    | 0.019                              | 0.009                              | 0.008                               | 0.01                                | 0.02                               | 0.015                               |                                   |                                   | 0.056                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.043                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| As-D                                                          | mg/L |                                    | 0.0006                             | 0.0004                             | 0.0004                              | 0.0004                              | 0.0004                             | 0.0004                              |                                   |                                   | 0.0005                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0004                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ba-D                                                          | mg/L |                                    | 0.075                              | 0.073                              | 0.068                               | 0.069                               | 0.068                              | 0.069                               |                                   |                                   | 0.071                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.077                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| B-D                                                           | mg/L |                                    | 0.023                              | 0.024                              | 0.021                               | 0.019                               | 0.024                              | 0.022                               |                                   |                                   | <0.05                             |                                   |                                     |                                  |                                  |                                  |                                    | <0.05                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Be-D                                                          | mg/L |                                    | <0.00004                           | <0.0001                            | <0.00004                            | <0.00004                            | <0.00004                           | <0.00004                            |                                   |                                   | <0.0001                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0001                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Bi-D                                                          | mg/L |                                    | <0.0001                            | <0.0005                            | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   | <0.001                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.001                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ca-D                                                          | mg/L |                                    | 67.1                               | 58                                 | 66.6                                | 56.8                                | 58                                 | 55.6                                |                                   |                                   | 47.3                              |                                   |                                     |                                  |                                  |                                  |                                    | 52.6                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cd-D                                                          | mg/L |                                    | 0.00002                            | 0.00001                            | 0.00001                             | 0.00244                             | 0.00139                            | 0.0001                              |                                   |                                   | 0.00004                           |                                   |                                     |                                  |                                  |                                  |                                    | 0.00007                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| C-DOC                                                         | mg/L |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | 15.6                              |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Co-D                                                          | mg/L |                                    | 0.00018                            | 0.0002                             | 0.00017                             | 0.00017                             | 0.00016                            | 0.00014                             |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cr-D                                                          | mg/L |                                    | 0.0009                             | 0.0005                             | 0.0008                              | <0.0004                             | 0.0015                             | <0.0004                             |                                   |                                   | <0.001                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.001                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Cu-D                                                          | mg/L |                                    | 0.012                              | 0.011                              | 0.009                               | 0.01                                | 0.017                              | 0.013                               |                                   |                                   | 0.0714                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0699                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Fe-D                                                          | mg/L |                                    | 0.15                               | <0.01                              | 0.02                                | 0.01                                | 0.05                               | 0.03                                |                                   |                                   | 0.2                               |                                   |                                     |                                  |                                  |                                  |                                    | 0.162                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Hg-D                                                          | mg/L |                                    | <0.00001                           | <0.0001                            | <0.00001                            | <0.00001                            | <0.00001                           | <0.00001                            |                                   |                                   | <0.00002                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00002                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| K-D                                                           | mg/L |                                    | 4.2                                | 3.7                                | 3.9                                 | 3.7                                 | 3.6                                | 3.7                                 |                                   |                                   | 5.92                              |                                   |                                     |                                  |                                  |                                  |                                    | 5.9                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Li-D                                                          | mg/L |                                    | 0.001                              | 0.002                              | 0.002                               | 0.002                               | 0.002                              | 0.002                               |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mg-D                                                          | mg/L |                                    | 20                                 | 17.3                               | 18.2                                | 16.3                                | 16.5                               | 15.9                                |                                   |                                   | 13.8                              |                                   |                                     |                                  |                                  |                                  |                                    | 13.6                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mn-D                                                          | mg/L |                                    | 0.237                              | 0.193                              | 0.158                               | 0.134                               | 0.158                              | 0.121                               |                                   |                                   | 0.134                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.18                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Mo-D                                                          | mg/L |                                    | 0.00471                            | 0.008                              | 0.0068                              | 0.00719                             | 0.00691                            | 0.0071                              |                                   |                                   | 0.012                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.011                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Na-D                                                          | mg/L |                                    | 20                                 | 18.3                               | 19.4                                | 19                                  | 17.3                               | 16.8                                |                                   |                                   | 15.5                              |                                   |                                     |                                  |                                  |                                  |                                    | 15.6                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| Ni-D                                                          | mg/L |                                    | 0.002                              | 0.0019                             | 0.002                               | 0.002                               | 0.002                              | 0.002                               |                                   |                                   | 0.001                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.001                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |
| O-DO                                                          | mg/L |                                    |                                    |                                    |                                     |                                     |                                    |                                     | 108.2                             | 94                                | 98                                | 93.1                              |                                     | 96.9                             | 96.6                             | 94                               | 93.1                               | 92.8                               | 100.3                              | 93.4                             | 94.8                             |                                    | 109.9                            |                                    | 96.5                              |                                     | 98.6                              |  |
| Pb-D                                                          | mg/L |                                    | 0.0003                             | 0.0001                             | <0.0001                             | 0.0002                              | 0.0002                             | <0.0001                             |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |  |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | 1216919<br>5/1/2009<br>W17EOP<br>P | 1216919<br>5/2/2009<br>W17EOP<br>P | 1219588<br>5/9/2009<br>W17EOP<br>P | 1221849<br>5/20/2009<br>W17EOP<br>P | 1224045<br>5/27/2009<br>W17EOP<br>P | 1227387<br>6/3/2009<br>W17EOP<br>P | 1231771<br>6/17/2009<br>W17EOP<br>P | 39991<br>6/27/2009<br>W17EOP<br>M | 39992<br>6/28/2009<br>W17EOP<br>M | 39993<br>6/29/2009<br>W17EOP<br>P | 39994<br>6/30/2009<br>W17EOP<br>M | A934681<br>6/30/2009<br>W17EOP<br>P | 39995<br>7/1/2009<br>W17EOP<br>P | 39996<br>7/2/2009<br>W17EOP<br>P | 39997<br>7/3/2009<br>W17EOP<br>P | A934681<br>7/4/2009<br>W17EOP<br>P | A934681<br>7/5/2009<br>W17EOP<br>P | A934681<br>7/6/2009<br>W17EOP<br>P | 40001<br>7/7/2009<br>W17EOP<br>M | 40002<br>7/8/2009<br>W17EOP<br>M | A936189<br>7/8/2009<br>W17EOP<br>P | 40003<br>7/9/2009<br>W17EOP<br>M | A936189<br>7/9/2009<br>W17EOP<br>P | 40004<br>7/10/2009<br>W17EOP<br>M | A936189<br>7/10/2009<br>W17EOP<br>P | 40005<br>7/11/2009<br>W17EOP<br>M |
|---------------------------------------------------------------|----------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------|------------------------------------|------------------------------------|----------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| Sb-D                                                          | mg/L     |                                    | 0.0008                             | 0.0008                             | 0.0008                              | 0.0008                              | 0.0007                             | <0.0002                             |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| S-D                                                           | mg/L     |                                    | 25.2                               | 20.2                               | 18.7                                | 17.6                                | 17.1                               | 16.7                                |                                   |                                   | 18                                |                                   |                                     |                                  |                                  |                                  |                                    | 18                                 |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Se-D                                                          | mg/L     |                                    | 0.0006                             | 0.0006                             | <0.0006                             | 0.0007                              | <0.0006                            | 0.0011                              |                                   |                                   | 0.0023                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0022                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Si-D                                                          | mg/L     |                                    | 5.6                                | 5.35                               | 5.56                                | 4.94                                | 4.95                               | 4.96                                |                                   |                                   | 4.5                               |                                   |                                     |                                  |                                  |                                  |                                    | 4.26                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Sn-D                                                          | mg/L     |                                    | <0.0001                            | <0.001                             | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Sr-D                                                          | mg/L     |                                    | 0.493                              | 0.49                               | 0.479                               | 0.467                               | 0.495                              | 0.509                               |                                   |                                   | 0.546                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.568                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Te-D                                                          | mg/L     |                                    | <0.0001                            |                                    | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Th-D                                                          | mg/L     |                                    | <0.0001                            |                                    | <0.0001                             | <0.0001                             | <0.0001                            | <0.0001                             |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Ti-D                                                          | mg/L     |                                    | 0.0015                             | 0.001                              | 0.0008                              | 0.001                               | 0.0013                             | 0.0011                              |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Tl-D                                                          | mg/L     |                                    | <0.00001                           | <0.00005                           | <0.00001                            | <0.00001                            | <0.00001                           | <0.00001                            |                                   |                                   | <0.00005                          |                                   |                                     |                                  |                                  |                                  |                                    | <0.00005                           |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| U-D                                                           | mg/L     |                                    | 0.0028                             | 0.0028                             | 0.0026                              | 0.0024                              | 0.0024                             | 0.0017                              |                                   |                                   | 0.0011                            |                                   |                                     |                                  |                                  |                                  |                                    | 0.0012                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| V-D                                                           | mg/L     |                                    | 0.00058                            | 0.0005                             | 0.00039                             | 0.00043                             | 0.00044                            | 0.00039                             |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Zn-D                                                          | mg/L     |                                    | 0.01                               | 0.007                              | 0.014                               | 0.013                               | 0.007                              | 0.004                               |                                   |                                   | <0.005                            |                                   |                                     |                                  |                                  |                                  |                                    | <0.005                             |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Zr-D                                                          | mg/L     |                                    | 0.0003                             |                                    | 0.0002                              | <0.0001                             | 0.0002                             | 0.0002                              |                                   |                                   | <0.0005                           |                                   |                                     |                                  |                                  |                                  |                                    | <0.0005                            |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Alk-Bicrb                                                     | mg/L     |                                    | 200                                | 245                                | 220                                 | 220                                 | 220                                |                                     |                                   |                                   | 160                               |                                   |                                     |                                  |                                  |                                  |                                    | 180                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Alk-Carb                                                      | mg/L     |                                    | <6                                 | <6                                 | <6                                  | <6                                  | <6                                 |                                     |                                   |                                   | <0.5                              |                                   |                                     |                                  |                                  |                                  |                                    | <0.5                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Alk-OH                                                        | mg/L     |                                    | <5                                 | <5                                 | <5                                  | <5                                  | <5                                 |                                     |                                   |                                   | <0.5                              |                                   |                                     |                                  |                                  |                                  |                                    | <0.5                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Alk-P                                                         | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | <0.5                              |                                   |                                     |                                  |                                  |                                  |                                    | <0.5                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Alk-T                                                         | mg/L     |                                    | 167                                | 201                                | 184                                 | 184                                 | 180                                |                                     |                                   |                                   | 130                               |                                   |                                     |                                  |                                  |                                  |                                    | 150                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Bromine                                                       | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | <0.4                              |                                   |                                     |                                  |                                  |                                  |                                    | <0.4                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| C-TIC                                                         | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| C-TOC                                                         | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Chloride                                                      | mg/L     |                                    | 4.64                               | 4                                  | 4.4                                 | 3                                   | 3.9                                |                                     |                                   |                                   | 3.2                               |                                   |                                     |                                  |                                  |                                  |                                    | 3.6                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Colour                                                        | TCU      |                                    | <20                                | 25                                 | 22                                  | 27                                  | 29                                 |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Cond-F                                                        | µS/cm    |                                    |                                    |                                    |                                     |                                     |                                    |                                     | 258                               | 356                               | 342                               | 371                               |                                     | 419                              | 419                              | 405                              | 430                                | 439                                | 417                                | 446                              | 454                              |                                    | 420                              |                                    | 455                               |                                     | 451                               |
| Cond-L                                                        | µS/cm    |                                    | 506                                | 468                                | 476                                 | 476                                 | 477                                |                                     |                                   |                                   | 409                               |                                   |                                     | 418                              | 387                              | 423                              |                                    | 424                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Discharge                                                     | L/s      |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Fluoride                                                      | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | 0.49                              |                                   |                                     |                                  |                                  |                                  |                                    | 0.47                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Hard-D                                                        | mg/L     |                                    | 250                                | 216                                | 241                                 | 209                                 | 212                                | 204                                 |                                   |                                   | 175                               |                                   |                                     |                                  |                                  |                                  |                                    | 187                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Hard-T                                                        | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | 194                               |                                   |                                     |                                  |                                  |                                  |                                    | 190                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| IB                                                            | %        |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Ammonia                                                       | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   | 0.048                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.088                              |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Ammonium                                                      | mg/L     |                                    | 0.03                               | <0.05                              | <0.05                               | <0.05                               | <0.05                              |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| N-NO2                                                         | mg/L     |                                    |                                    | <0.005                             |                                     |                                     |                                    |                                     |                                   |                                   | 0.068                             |                                   |                                     |                                  |                                  |                                  |                                    | 0.06                               |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| NO2+NO3                                                       | mg/L     |                                    |                                    | 0.57                               | 0.58                                | 0.58                                | 0.56                               |                                     |                                   |                                   | 3.38                              |                                   |                                     |                                  |                                  |                                  |                                    | 3.4                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| N-NO3                                                         | mg/L     |                                    |                                    | 0.57                               |                                     |                                     |                                    |                                     |                                   |                                   | 3.31                              |                                   |                                     |                                  |                                  |                                  |                                    | 3.3                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| pH-F                                                          | pH units |                                    |                                    |                                    |                                     |                                     |                                    |                                     | 8.08                              | 8.1                               | 8.05                              | 8.1                               |                                     | 8.06                             | 8.13                             | 8.04                             | 8.12                               | 8.06                               | 7.99                               | 8.15                             | 7.9                              |                                    | 8.12                             |                                    | 8.05                              |                                     | 8.07                              |
| pH-L                                                          | pH units |                                    | 8                                  | 8.07                               | 7.97                                | 8.09                                | 8.12                               |                                     |                                   |                                   | 8.2                               |                                   |                                     | 8.2                              | 8.2                              | 8.2                              |                                    | 8.1                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Radium - 226                                                  |          |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| SO4-D                                                         | mg/L     |                                    | 72.6                               |                                    | 59.9                                | 57.5                                | 55.6                               |                                     |                                   |                                   | 47                                |                                   |                                     |                                  |                                  |                                  |                                    | 49                                 |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| SO4-T                                                         | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Sulphide                                                      | mg/L     |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| TDS                                                           | mg/L     |                                    | 364                                | 368                                | 342                                 | 318                                 | 308                                |                                     |                                   |                                   | 280                               |                                   |                                     | 260                              | 270                              | 270                              |                                    | 270                                |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Temp-F                                                        | C        |                                    |                                    |                                    |                                     |                                     |                                    |                                     | 14.61                             | 15.92                             | 16.08                             | 14.81                             |                                     | 15.88                            | 16.82                            | 16.84                            | 16.31                              | 16.48                              | 9.31                               | 17.25                            | 16.4                             |                                    | 6.11                             |                                    | 16.79                             |                                     | 16.15                             |
| Temp-obs-pH                                                   | C        |                                    |                                    |                                    |                                     |                                     |                                    |                                     |                                   |                                   |                                   |                                   |                                     |                                  |                                  |                                  |                                    |                                    |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| TSS                                                           | mg/L     |                                    | <5                                 | <3                                 | 5                                   | 2                                   | <5                                 |                                     |                                   |                                   | <4                                |                                   |                                     | <4                               | 15                               | <4                               |                                    | <4                                 |                                    |                                  |                                  | 4                                  |                                  | 9                                  |                                   | 7                                   |                                   |
| Turb                                                          | NTU      |                                    | 1.7                                | 1                                  | 0.2                                 | <0.1                                | 0.2                                |                                     |                                   |                                   | 2.5                               |                                   |                                     | 2.7                              | 6.6                              | 4.3                              |                                    | 5                                  |                                    |                                  |                                  |                                    |                                  |                                    |                                   |                                     |                                   |
| Turb-F                                                        | NTU      |                                    |                                    |                                    |                                     |                                     |                                    |                                     | 6.9                               | 6.2                               | 4                                 | 4.9                               |                                     | 3.9                              | 5                                | 12.7                             | 12                                 | 2.7                                | 5.5                                | 4.1                              | 2.7                              |                                    | 10.7                             |                                    | 6.2                               |                                     | 3                                 |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | A936189<br>7/11/2009<br>W17EOP<br>P | 40006<br>7/12/2009<br>W17EOP<br>M | A936189<br>7/12/2009<br>W17EOP<br>P | 40007<br>7/13/2009<br>W17EOP<br>M | 40008<br>7/14/2009<br>W17EOP<br>M | 40009<br>7/15/2009<br>W17EOP<br>P | 40010<br>7/16/2009<br>W17EOP<br>P | 40011<br>7/17/2009<br>W17EOP<br>P | 40012<br>7/18/2009<br>W17EOP<br>P | A938109<br>7/19/2009<br>W17EOP<br>P | 40015<br>7/21/2009<br>W17EOP<br>P | A938824<br>7/22/2009<br>W17EOP<br>M | A938824<br>7/22/2009<br>W17EOP<br>P | 40017<br>7/23/2009<br>W17EOP<br>M | 40018<br>7/24/2009<br>W17EOP<br>M | A938824<br>7/24/2009<br>W17EOP<br>P | 40019<br>7/25/2009<br>W17EOP<br>M | A938824<br>7/25/2009<br>W17EOP<br>P | A939770<br>7/26/2009<br>W17EOP<br>M | A939770<br>7/26/2009<br>W17EOP<br>P | A939770<br>7/27/2009<br>W17EOP<br>P | 40022<br>7/28/2009<br>W17EOP<br>M | 40024<br>7/30/2009<br>W17EOP<br>P | A940612<br>8/1/2009<br>W17EOP<br>P | 40026<br>8/1/2009<br>W17EOP<br>M | A940612<br>8/2/2009<br>W17EOP<br>P |  |
|---------------------------------------------------------------|------|-------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|----------------------------------|------------------------------------|--|
| Ag-T                                                          | mg/L |                                     |                                   | <0.00002                            |                                   |                                   |                                   | <0.00002                          | 0.00002                           | 0.00002                           | <0.00002                            |                                   |                                     |                                     |                                   |                                   |                                     | <0.00002                          |                                     |                                     |                                     |                                     |                                   |                                   | <0.00002                           |                                  |                                    |  |
| Al-T                                                          | mg/L |                                     |                                   | 0.199                               |                                   |                                   |                                   | 0.204                             | 0.403                             | 1.67                              | 1.2                                 |                                   |                                     |                                     |                                   |                                   |                                     | 0.782                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.31                             |                                    |  |
| As-T                                                          | mg/L |                                     |                                   | 0.0006                              |                                   |                                   |                                   | 0.0004                            | 0.0006                            | 0.0021                            | 0.0013                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.001                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.0005                           |                                    |  |
| Ba-T                                                          | mg/L |                                     |                                   | 0.092                               |                                   |                                   |                                   | 0.089                             | 0.101                             | 0.176                             | 0.157                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.117                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.109                            |                                    |  |
| Be-T                                                          | mg/L |                                     |                                   | <0.0001                             |                                   |                                   |                                   | <0.0001                           | <0.0001                           | <0.0001                           | <0.0001                             |                                   |                                     |                                     |                                   |                                   |                                     | <0.0001                           |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.0001                          |                                    |  |
| Bi-T                                                          | mg/L |                                     |                                   | <0.001                              |                                   |                                   |                                   | <0.001                            | <0.001                            | <0.001                            | <0.001                              |                                   |                                     |                                     |                                   |                                   |                                     | <0.001                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.001                           |                                    |  |
| B-T                                                           | mg/L |                                     |                                   | <0.05                               |                                   |                                   |                                   | <0.05                             | <0.05                             | <0.05                             | <0.05                               |                                   |                                     |                                     |                                   |                                   |                                     | <0.05                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.05                            |                                    |  |
| Ca-T                                                          | mg/L |                                     |                                   | 52.5                                |                                   |                                   |                                   | 50.5                              | 54.5                              | 36.4                              | 36.1                                |                                   |                                     |                                     |                                   |                                   |                                     | 53.1                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 53                               |                                    |  |
| Cd-T                                                          | mg/L |                                     |                                   | 0.00007                             |                                   |                                   |                                   | 0.00007                           | 0.00014                           | 0.00012                           | 0.00008                             |                                   |                                     |                                     |                                   |                                   |                                     | 0.00008                           |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.00007                          |                                    |  |
| CN-T                                                          | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| Co-T                                                          | mg/L |                                     |                                   | <0.0005                             |                                   |                                   |                                   | <0.0005                           | 0.0006                            | 0.0015                            | 0.0007                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.0006                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.0005                          |                                    |  |
| Cr-T                                                          | mg/L |                                     |                                   | <0.001                              |                                   |                                   |                                   | <0.001                            | <0.001                            | 0.004                             | 0.002                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.001                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.001                           |                                    |  |
| Cu-T                                                          | mg/L |                                     |                                   | 0.0868                              |                                   |                                   |                                   | 0.096                             | 0.126                             | 0.0892                            | 0.0533                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.0627                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.0565                           |                                    |  |
| Fe-T                                                          | mg/L |                                     |                                   | 0.425                               |                                   |                                   |                                   | 0.423                             | 0.751                             | 2.74                              | 1.27                                |                                   |                                     |                                     |                                   |                                   |                                     | 0.867                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.473                            |                                    |  |
| Hg-T                                                          | mg/L |                                     |                                   | <0.00002                            |                                   |                                   |                                   | 0.00013                           | 0.00006                           | 0.00002                           | <0.00002                            |                                   |                                     |                                     |                                   |                                   |                                     | <0.00002                          |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.00003                          |                                    |  |
| K-T                                                           | mg/L |                                     |                                   | 5.76                                |                                   |                                   |                                   | 6.19                              | 6.68                              | 3.42                              | 3.39                                |                                   |                                     |                                     |                                   |                                   |                                     | 4.87                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 5.99                             |                                    |  |
| Li-T                                                          | mg/L |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     | <0.005                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |  |
| Mg-T                                                          | mg/L |                                     |                                   | 15.6                                |                                   |                                   |                                   | 14.6                              | 15.6                              | 9.74                              | 8.42                                |                                   |                                     |                                     |                                   |                                   |                                     | 14.2                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 15.5                             |                                    |  |
| Mn-T                                                          | mg/L |                                     |                                   | 0.385                               |                                   |                                   |                                   | 0.442                             | 0.559                             | 0.207                             | 0.149                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.325                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.567                            |                                    |  |
| Mo-T                                                          | mg/L |                                     |                                   | 0.012                               |                                   |                                   |                                   | 0.012                             | 0.013                             | 0.017                             | 0.017                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.014                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.014                            |                                    |  |
| Na-T                                                          | mg/L |                                     |                                   | 15.9                                |                                   |                                   |                                   | 15.9                              | 17.2                              | 9.92                              | 9.12                                |                                   |                                     |                                     |                                   |                                   |                                     | 14.8                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 17.2                             |                                    |  |
| Ni-T                                                          | mg/L |                                     |                                   | 0.002                               |                                   |                                   |                                   | 0.002                             | 0.002                             | 0.003                             | 0.002                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.003                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.002                            |                                    |  |
| N-TKN                                                         | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| Pb-T                                                          | mg/L |                                     |                                   | 0.002                               |                                   |                                   |                                   | 0.0006                            | 0.0011                            | 0.0066                            | 0.0022                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.001                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.0019                           |                                    |  |
| P-PO4-T                                                       | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| P-T                                                           | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| P-TRP (Ortho)                                                 | mg/L |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     | <0.005                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |  |
| Sb-T                                                          | mg/L |                                     |                                   | 0.001                               |                                   |                                   |                                   | <0.0005                           | <0.0005                           | 0.001                             | 0.001                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.0005                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.0005                          |                                    |  |
| Se-T                                                          | mg/L |                                     |                                   | 0.002                               |                                   |                                   |                                   | 0.002                             | 0.0021                            | 0.0024                            | 0.0023                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.0018                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.002                            |                                    |  |
| Si-T                                                          | mg/L |                                     |                                   | 5.41                                |                                   |                                   |                                   | 5.22                              | 5.78                              | 6.12                              | 5.98                                |                                   |                                     |                                     |                                   |                                   |                                     | 7.05                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 5.08                             |                                    |  |
| Sn-T                                                          | mg/L |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     | <0.005                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |  |
| Sr-T                                                          | mg/L |                                     |                                   | 0.606                               |                                   |                                   |                                   | 0.591                             | 0.638                             | 0.641                             | 0.654                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.58                              |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.634                            |                                    |  |
| S-T                                                           | mg/L |                                     |                                   | 19                                  |                                   |                                   |                                   | 18                                | 23                                | 14                                | 17                                  |                                   |                                     |                                     |                                   |                                   |                                     | 19                                |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 22                               |                                    |  |
| Te-T                                                          | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| Th-T                                                          | mg/L |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |
| Ti-T                                                          | mg/L |                                     |                                   | 0.007                               |                                   |                                   |                                   | 0.013                             | 0.015                             | 0.055                             | 0.055                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.035                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.013                            |                                    |  |
| Tl-T                                                          | mg/L |                                     |                                   | <0.00005                            |                                   |                                   |                                   | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                            |                                   |                                     |                                     |                                   |                                   |                                     | <0.00005                          |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.00005                         |                                    |  |
| U-T                                                           | mg/L |                                     |                                   | 0.0013                              |                                   |                                   |                                   | 0.0013                            | 0.0015                            | 0.0014                            | 0.0013                              |                                   |                                     |                                     |                                   |                                   |                                     | 0.0017                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.0011                           |                                    |  |
| V-T                                                           | mg/L |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | 0.005                             | 0.005                               |                                   |                                     |                                     |                                   |                                   |                                     | <0.005                            |                                     |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |  |
| Zn-T                                                          | mg/L |                                     |                                   | 0.013                               |                                   |                                   |                                   | 0.006                             | 0.01                              | 0.014                             | 0.008                               |                                   |                                     |                                     |                                   |                                   |                                     | 0.016                             |                                     |                                     |                                     |                                     |                                   |                                   |                                    | 0.006                            |                                    |  |
| Zr-T                                                          | mg/L |                                     |                                   | <0.0005                             |                                   |                                   |                                   | <0.0005                           | <0.0005                           | 0.0                               |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |  |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | A936189<br>7/11/2009<br>W17EOP<br>P | 40006<br>7/12/2009<br>W17EOP<br>M | A936189<br>7/12/2009<br>W17EOP<br>P | 40007<br>7/13/2009<br>W17EOP<br>M | 40008<br>7/14/2009<br>W17EOP<br>M | 40009<br>7/15/2009<br>W17EOP<br>P | 40010<br>7/16/2009<br>W17EOP<br>P | 40011<br>7/17/2009<br>W17EOP<br>P | 40012<br>7/18/2009<br>W17EOP<br>P | A938109<br>7/19/2009<br>W17EOP<br>P | 40015<br>7/21/2009<br>W17EOP<br>P | A938824<br>7/22/2009<br>W17EOP<br>M | A938824<br>7/22/2009<br>W17EOP<br>P | 40017<br>7/23/2009<br>W17EOP<br>M | 40018<br>7/24/2009<br>W17EOP<br>M | A938824<br>7/24/2009<br>W17EOP<br>P | 40019<br>7/25/2009<br>W17EOP<br>M | A938824<br>7/25/2009<br>W17EOP<br>P | A939770<br>7/26/2009<br>W17EOP<br>M | A939770<br>7/26/2009<br>W17EOP<br>P | A939770<br>7/27/2009<br>W17EOP<br>P | 40022<br>7/28/2009<br>W17EOP<br>M | 40024<br>7/30/2009<br>W17EOP<br>P | A940612<br>8/1/2009<br>W17EOP<br>P | 40026<br>8/1/2009<br>W17EOP<br>M | A940612<br>8/2/2009<br>W17EOP<br>P |     |
|---------------------------------------------------------------|----------|-------------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|----------------------------------|------------------------------------|-----|
| Sb-D                                                          | mg/L     |                                     |                                   | 0.0006                              |                                   |                                   |                                   | <0.0005                           | <0.0005                           | 0.0009                            | 0.0009                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.0006                              |                                     |                                     |                                     |                                   |                                   |                                    | <0.0005                          |                                    |     |
| S-D                                                           | mg/L     |                                     |                                   | 19                                  |                                   |                                   |                                   | 19                                | 19                                | 14                                | 15                                  |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 18                                  |                                     |                                     |                                     |                                   |                                   |                                    | 19                               |                                    |     |
| Se-D                                                          | mg/L     |                                     |                                   | 0.0021                              |                                   |                                   |                                   | 0.002                             | 0.0021                            | 0.0023                            | 0.0023                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.002                               |                                     |                                     |                                     |                                   |                                   |                                    | 0.0022                           |                                    |     |
| Si-D                                                          | mg/L     |                                     |                                   | 5.17                                |                                   |                                   |                                   | 4.84                              | 5.07                              | 2.84                              | 2.73                                |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 4.48                                |                                     |                                     |                                     |                                   |                                   |                                    | 4.48                             |                                    |     |
| Sn-D                                                          | mg/L     |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.005                              |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |     |
| Sr-D                                                          | mg/L     |                                     |                                   | 0.609                               |                                   |                                   |                                   | 0.577                             | 0.571                             | 0.591                             | 0.606                               |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.592                               |                                     |                                     |                                     |                                   |                                   |                                    | 0.623                            |                                    |     |
| Te-D                                                          | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Th-D                                                          | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Ti-D                                                          | mg/L     |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | 0.012                             | 0.008                               |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.005                              |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |     |
| Tl-D                                                          | mg/L     |                                     |                                   | <0.00005                            |                                   |                                   |                                   | <0.00005                          | <0.00005                          | <0.00005                          | <0.00005                            |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.00005                            |                                     |                                     |                                     |                                   |                                   |                                    | <0.00005                         |                                    |     |
| U-D                                                           | mg/L     |                                     |                                   | 0.0013                              |                                   |                                   |                                   | 0.0013                            | 0.0013                            | 0.0012                            | 0.0011                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.0013                              |                                     |                                     |                                     |                                   |                                   |                                    | 0.0012                           |                                    |     |
| V-D                                                           | mg/L     |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.005                              |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |     |
| Zn-D                                                          | mg/L     |                                     |                                   | <0.005                              |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.005                              |                                     |                                     |                                     |                                   |                                   |                                    | <0.005                           |                                    |     |
| Zr-D                                                          | mg/L     |                                     |                                   | <0.0005                             |                                   |                                   |                                   | <0.0005                           | <0.0005                           | 0.0008                            | 0.0006                              |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.0005                             |                                     |                                     |                                     |                                   |                                   |                                    | <0.0005                          |                                    |     |
| Alk-Bicrb                                                     | mg/L     |                                     |                                   | 200                                 |                                   |                                   |                                   | 180                               | 180                               | 88                                |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 160                                 |                                     |                                     |                                     |                                   |                                   |                                    | 180                              |                                    |     |
| Alk-Carb                                                      | mg/L     |                                     |                                   | <0.5                                |                                   |                                   |                                   | <0.5                              | <0.5                              | <0.5                              |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.5                                |                                     |                                     |                                     |                                   |                                   |                                    | <0.5                             |                                    |     |
| Alk-OH                                                        | mg/L     |                                     |                                   | <0.5                                |                                   |                                   |                                   | <0.5                              | <0.5                              | <0.5                              |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.5                                |                                     |                                     |                                     |                                   |                                   |                                    | <0.5                             |                                    |     |
| Alk-P                                                         | mg/L     |                                     |                                   | <0.5                                |                                   |                                   |                                   | <0.5                              | <0.5                              | <0.5                              |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.5                                |                                     |                                     |                                     |                                   |                                   |                                    | <0.5                             |                                    |     |
| Alk-T                                                         | mg/L     |                                     |                                   | 160                                 |                                   |                                   |                                   | 150                               | 150                               | 72                                |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 130                                 |                                     |                                     |                                     |                                   |                                   |                                    | 150                              |                                    |     |
| Bromine                                                       | mg/L     |                                     |                                   | <0.4                                |                                   |                                   |                                   | <0.4                              | <0.4                              | <0.4                              |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | <0.4                                |                                     |                                     |                                     |                                   |                                   |                                    | <0.4                             |                                    |     |
| C-TIC                                                         | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| C-TOC                                                         | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Chloride                                                      | mg/L     |                                     |                                   | 3.6                                 |                                   |                                   |                                   | 3.4                               | 3.6                               | 8.2                               |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 7.3                                 |                                     |                                     |                                     |                                   |                                   |                                    | 7.4                              |                                    |     |
| Colour                                                        | TCU      |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Cond-F                                                        | µS/cm    |                                     | 448                               |                                     | 445                               | 440                               | 431                               | 428                               | 311                               | 333                               |                                     | 319                               | 319                                 |                                     | 319                               | 376                               |                                     | 385                               |                                     |                                     | 389                                 | 324                                 | 302                               | 360                               |                                    | 447                              |                                    |     |
| Cond-L                                                        | µS/cm    |                                     |                                   | 444                                 |                                   |                                   | 423                               | 424                               | 423                               | 312                               |                                     |                                   | 314                                 | 314                                 |                                   |                                   | 380                                 |                                   | 397                                 | 315                                 | 384                                 | 316                                 |                                   | 351                               | 435                                |                                  |                                    | 431 |
| Discharge                                                     | L/s      |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Fluoride                                                      | mg/L     |                                     |                                   | 0.47                                |                                   |                                   |                                   | 0.51                              | 0.52                              | 0.36                              |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.43                                |                                     |                                     |                                     |                                   |                                   |                                    | 0.45                             |                                    |     |
| Hard-D                                                        | mg/L     |                                     |                                   | 191                                 |                                   |                                   |                                   | 182                               | 182                               | 120                               | 121                                 |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 160                                 |                                     |                                     |                                     |                                   |                                   |                                    | 202                              |                                    |     |
| Hard-T                                                        | mg/L     |                                     |                                   | 195                                 |                                   |                                   |                                   | 186                               | 200                               | 131                               | 125                                 |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 191                                 |                                     |                                     |                                     |                                   |                                   |                                    | 196                              |                                    |     |
| IB                                                            | %        |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Ammonia                                                       | mg/L     |                                     |                                   | 0.154                               |                                   |                                   |                                   | 0.223                             | 0.205                             | 0.98                              | 0.95                                |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.463                               |                                     |                                     |                                     |                                   |                                   |                                    | 0.354                            |                                    |     |
| Ammonium                                                      | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| N-NO2                                                         | mg/L     |                                     |                                   | 0.081                               |                                   |                                   |                                   | 0.065                             | 0.077                             | 0.196                             | 0.079                               |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 0.068                               |                                     |                                     |                                     |                                   |                                   |                                    | 0.097                            |                                    |     |
| NO2+NO3                                                       | mg/L     |                                     |                                   | 3.4                                 |                                   |                                   |                                   | 2.9                               | 2.8                               | 6.5                               | 6.2                                 |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 4                                   |                                     |                                     |                                     |                                   |                                   |                                    | 2.5                              |                                    |     |
| N-NO3                                                         | mg/L     |                                     |                                   | 3.3                                 |                                   |                                   |                                   | 2.9                               | 2.7                               | 6.4                               |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 3.9                                 |                                     |                                     |                                     |                                   |                                   |                                    | 2.5                              |                                    |     |
| pH-F                                                          | pH units |                                     | 8.12                              |                                     | 8.08                              | 8.08                              | 8.06                              | 8.2                               | 8.1                               | 8.29                              |                                     | 8.52                              | 8.23                                |                                     | 8.56                              | 8.24                              |                                     | 8.31                              |                                     |                                     | 8.26                                | 8.3                                 | 7.71                              | 7.67                              |                                    | 7.81                             |                                    |     |
| pH-L                                                          | pH units |                                     |                                   | 8.2                                 |                                   |                                   | 8.1                               | 8.1                               | 8                                 | 7.9                               |                                     |                                   | 7.9                                 | 7.9                                 |                                   |                                   | 8.1                                 |                                   | 8                                   | 8                                   | 8.1                                 | 7.9                                 |                                   | 7.7                               | 8.1                                |                                  | 8                                  |     |
| Radium - 226                                                  |          |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| SO4-D                                                         | mg/L     |                                     |                                   | 45                                  |                                   |                                   |                                   | 53                                | 53                                | 41                                |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   | 51                                  |                                     |                                     |                                     |                                   |                                   |                                    | 48                               |                                    |     |
| SO4-T                                                         | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| Sulphide                                                      | mg/L     |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| TDS                                                           | mg/L     |                                     |                                   | 300                                 |                                   |                                   | 250                               | 260                               | 260                               | 200                               |                                     |                                   | 210                                 | 200                                 |                                   |                                   | 250                                 |                                   | 270                                 | 220                                 | 240                                 | 210                                 |                                   | 220                               | 220                                |                                  | 290                                |     |
| Temp-F                                                        | C        |                                     | 14.4                              |                                     | 13.6                              | 12.6                              | 10.93                             | 10.17                             | 10.14                             | 12.58                             |                                     | 14.14                             | 14.18                               |                                     | 13.35                             | 13.78                             |                                     | 13.05                             |                                     |                                     | 13.67                               | 13.31                               | 12.31                             | 11.83                             |                                    | 16.4                             |                                    |     |
| Temp-obs-pH                                                   | C        |                                     |                                   |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                     |                                   |                                     |                                     |                                   |                                   |                                     |                                   |                                     |                                     |                                     |                                     |                                   |                                   |                                    |                                  |                                    |     |
| TSS                                                           | mg/L     | <4                                  |                                   | <4                                  |                                   |                                   | 10                                | 10                                | 10                                | 120                               |                                     |                                   | 24                                  | 46                                  |                                   |                                   | 24                                  |                                   | 19                                  | 43                                  | 23                                  | 38                                  |                                   | 29                                | 5                                  |                                  | 5                                  |     |
| Turb                                                          | NTU      |                                     |                                   | 4                                   |                                   |                                   | 8.5                               | 7.2                               | 7.4                               | 74.4                              |                                     |                                   | 33.8                                | 33.7                                |                                   |                                   | 16.8                                |                                   | 22.5                                | 80.1                                | 19.4                                | 66.7                                |                                   | 30.3                              | 3.3                                |                                  | 4.9                                |     |
| Turb-F                                                        | NTU      |                                     | 2                                 |                                     | 3.9                               | 6.1                               | 6.9                               | 6.9                               | 9.9                               | 41.4                              |                                     | 32.8                              | 38                                  |                                     | 44                                | 27.9                              |                                     | 29.2                              |                                     |                                     | 28.4                                | 62.5                                | 74.4                              | 35.2                              |                                    | 4.7                              |                                    |     |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 40027<br>8/2/2009<br>W17EOP<br>M | 40028<br>8/3/2009<br>W17EOP<br>M | 40029<br>8/4/2009<br>W17EOP<br>P | 40030<br>8/5/2009<br>W17EOP<br>P | A943004<br>8/12/2009<br>W17EOP<br>P | 40039<br>8/14/2009<br>W17EOP<br>P | 40040<br>8/15/2009<br>W17EOP<br>P | 40041<br>8/16/2009<br>W17EOP<br>P | 40042<br>8/17/2009<br>W17EOP<br>P | 40043<br>8/18/2009<br>W17EOP<br>P | 40044<br>8/19/2009<br>W17EOP<br>P | 40045<br>8/20/2009<br>W17EOP<br>P | 40046<br>8/21/2009<br>W17EOP<br>P | 40047<br>8/22/2009<br>W17EOP<br>P | 40048<br>8/23/2009<br>W17EOP<br>P | 40049<br>8/24/2009<br>W17EOP<br>P | 40050<br>8/25/2009<br>W17EOP<br>P | 40051<br>8/26/2009<br>W17EOP<br>P | 40052<br>8/27/2009<br>W17EOP<br>P | 40053<br>8/28/2009<br>W17EOP<br>P | 40054<br>8/29/2009<br>W17EOP<br>P | 40055<br>8/30/2009<br>W17EOP<br>P | 40056<br>8/31/2009<br>W17EOP<br>P | 40057<br>9/1/2009<br>W17EOP<br>P | 40058<br>9/2/2009<br>W17EOP<br>P | 40059<br>9/3/2009<br>W17EOP<br>P |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Ag-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.00002                            |                                   | <0.00002                          |                                   |                                   |                                   | <0.00002                          |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                  |                                  |                                  |
| Al-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.251                               |                                   | 0.363                             |                                   |                                   |                                   | 0.336                             |                                   |                                   | 0.821                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.637                             |                                   |                                  |                                  |                                  |
| As-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.0005                              |                                   | 0.0006                            |                                   |                                   |                                   | 0.0007                            |                                   |                                   | 0.0008                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                  |                                  |                                  |
| Ba-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.094                               |                                   | 0.131                             |                                   |                                   |                                   | 0.136                             |                                   |                                   | 0.138                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.158                             |                                   |                                  |                                  |                                  |
| Be-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.0001                             |                                   | <0.0001                           |                                   |                                   |                                   | <0.0001                           |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                  |                                  |                                  |
| Bi-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.001                              |                                   | <0.001                            |                                   |                                   |                                   | <0.001                            |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                  |                                  |                                  |
| B-T                                                           | mg/L |                                  |                                  |                                  |                                  | <0.05                               |                                   | <0.05                             |                                   |                                   |                                   | <0.05                             |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                  |                                  |                                  |
| Ca-T                                                          | mg/L |                                  |                                  |                                  |                                  | 65.1                                |                                   | 44.7                              |                                   |                                   |                                   | 45.3                              |                                   |                                   | 47.7                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 54.1                              |                                   |                                  |                                  |                                  |
| Cd-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.00018                             |                                   | 0.0002                            |                                   |                                   |                                   | 0.00002                           |                                   |                                   | 0.00014                           |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.00003                           |                                   |                                  |                                  |                                  |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| Co-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.0005                             |                                   | <0.0005                           |                                   |                                   |                                   | <0.0005                           |                                   |                                   | 0.0007                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                  |                                  |                                  |
| Cr-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.002                               |                                   | <0.001                            |                                   |                                   |                                   | <0.001                            |                                   |                                   | 0.002                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                  |                                  |                                  |
| Cu-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.0348                              |                                   | 0.0266                            |                                   |                                   |                                   | 0.0196                            |                                   |                                   | 0.0438                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0181                            |                                   |                                  |                                  |                                  |
| Fe-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.344                               |                                   | 0.319                             |                                   |                                   |                                   | 0.309                             |                                   |                                   | 1.01                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.159                             |                                   |                                  |                                  |                                  |
| Hg-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.00002                            |                                   | <0.00002                          |                                   |                                   |                                   | <0.00002                          |                                   |                                   | 0.00003                           |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                  |                                  |                                  |
| K-T                                                           | mg/L |                                  |                                  |                                  |                                  | 4.03                                |                                   | 3.89                              |                                   |                                   |                                   | 3.81                              |                                   |                                   | 4.05                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 3.95                              |                                   |                                  |                                  |                                  |
| Li-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.005                              |                                   | <0.005                            |                                   |                                   |                                   | <0.005                            |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                  |                                  |                                  |
| Mg-T                                                          | mg/L |                                  |                                  |                                  |                                  | 19.6                                |                                   | 11.3                              |                                   |                                   |                                   | 11.9                              |                                   |                                   | 12.9                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 14.6                              |                                   |                                  |                                  |                                  |
| Mn-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.458                               |                                   | 0.3                               |                                   |                                   |                                   | 0.268                             |                                   |                                   | 0.32                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.321                             |                                   |                                  |                                  |                                  |
| Mo-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.008                               |                                   | 0.016                             |                                   |                                   |                                   | 0.016                             |                                   |                                   | 0.016                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.016                             |                                   |                                  |                                  |                                  |
| Na-T                                                          | mg/L |                                  |                                  |                                  |                                  | 18.5                                |                                   | 14.5                              |                                   |                                   |                                   | 14.9                              |                                   |                                   | 15.4                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 20.9                              |                                   |                                  |                                  |                                  |
| Ni-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.004                               |                                   | 0.001                             |                                   |                                   |                                   | 0.001                             |                                   |                                   | 0.002                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.001                             |                                   |                                  |                                  |                                  |
| N-TKN                                                         | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| Pb-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.0063                              |                                   | 0.0009                            |                                   |                                   |                                   | 0.0003                            |                                   |                                   | 0.0011                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0007                            |                                   |                                  |                                  |                                  |
| P-PO4-T                                                       | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| P-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  |                                  |                                  | <0.005                              |                                   | <0.005                            |                                   |                                   |                                   | <0.005                            | <0.005                            | <0.005                            | <0.005                            | <0.005                            | <0.005                            |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                  |                                  |                                  |
| Sb-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.0005                             |                                   | 0.0007                            |                                   |                                   |                                   | 0.0008                            |                                   |                                   | 0.0008                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0009                            |                                   |                                  |                                  |                                  |
| Se-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.0008                              |                                   | 0.002                             |                                   |                                   |                                   | 0.0022                            |                                   |                                   | 0.002                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0021                            |                                   |                                  |                                  |                                  |
| Si-T                                                          | mg/L |                                  |                                  |                                  |                                  | 6.89                                |                                   | 3.62                              |                                   |                                   |                                   | 4                                 |                                   |                                   | 4.68                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 3.76                              |                                   |                                  |                                  |                                  |
| Sn-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.005                              |                                   | <0.005                            |                                   |                                   |                                   | <0.005                            |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                  |                                  |                                  |
| Sr-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.546                               |                                   | 0.653                             |                                   |                                   |                                   | 0.688                             |                                   |                                   | 0.683                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.767                             |                                   |                                  |                                  |                                  |
| S-T                                                           | mg/L |                                  |                                  |                                  |                                  | 21                                  |                                   | 25                                |                                   |                                   |                                   | 22                                |                                   |                                   | 21                                |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 22                                |                                   |                                  |                                  |                                  |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                     |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                  |                                  |                                  |
| Ti-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.01                                |                                   | 0.011                             |                                   |                                   |                                   | 0.008                             |                                   |                                   | 0.026                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                  |                                  |                                  |
| Tl-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.00005                            |                                   | <0.00005                          |                                   |                                   |                                   | <0.00005                          |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                  |                                  |                                  |
| U-T                                                           | mg/L |                                  |                                  |                                  |                                  | 0.0027                              |                                   | 0.0005                            |                                   |                                   |                                   | 0.0005                            |                                   |                                   | 0.0006                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                  |                                  |                                  |
| V-T                                                           | mg/L |                                  |                                  |                                  |                                  | <0.005                              |                                   | <0.005                            |                                   |                                   |                                   | <0.005                            |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                  |                                  |                                  |
| Zn-T                                                          | mg/L |                                  |                                  |                                  |                                  | 0.013                               |                                   | 0.005                             |                                   |                                   |                                   | <0.005                            |                                   |                                   | 0.007                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.008                             |                                   |                                  |                                  |                                  |
| Zr-T                                                          | mg/L |                                  |                                  |                                  |                                  | <0.0005                             |                                   | <0.0005                           |                                   |                                   |                                   | <0.0005                           |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                  |                                  |                                  |
| Ag-D                                                          | mg/L |                                  |                                  |                                  |                                  | <0.00002                            |                                   | <0.00002                          |                                   |                                   |                                   | <0.00002                          |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                  |                                  |                                  |
| Al-D                                                          | mg/L |                                  |                                  |                                  |                                  | 0.008                               |                                   | 0.056                             |                                   |                                   |                                   | 0.071                             |                                   |                                   | 0.051                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.088                             |                                   |                                  |                                  |                                  |
| As-D                                                          | mg/L |                                  |                                  |                                  |                                  | 0.0004                              |                                   | 0.0005                            |                                   |                                   |                                   | 0.0005                            |                                   |                                   | 0.0005                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                  |                                  |                                  |
| Ba-D                                                          | mg/L |                                  |                                  |                                  |                                  | 0.078                               |                                   | 0.116                             |                                   |                                   |                                   | 0.121                             |                                   |                                   | 0.125                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 0.139                             |                                   |                                  |                                  |                                  |
| B-D                                                           | mg/L |                                  |                                  |                                  |                                  | <0.05                               |                                   | <0.05                             |                                   |                                   |                                   | <0.05                             |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                  |                                  |                                  |
| Be-D                                                          | mg/L |                                  |                                  |                                  |                                  | <0.0001                             |                                   | <0.0001                           |                                   |                                   |                                   | <0.0001                           |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                  |                                  |                                  |
| Bi-D                                                          | mg/L |                                  |                                  |                                  |                                  | <0.001                              |                                   | <0.001                            |                                   |                                   |                                   | <0.001                            |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                  |                                  |                                  |
| Ca-D                                                          | mg/L |                                  |                                  |                                  |                                  | 59.1                                |                                   | 44.3                              |                                   |                                   |                                   | 45.4                              |                                   |                                   | 46.4                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   | 48.1                              |                                   |                                  |                                  |                                  |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session |          | 40027    | 40028    | 40029    | 40030    | A943004   | 40039     | 40040     | 40041     | 40042     | 40043     | 40044     | 40045     | 40046     | 40047     | 40048     | 40049     | 40050     | 40051     | 40052     | 40053     | 40054     | 40055     | 40056     | 40057    | 40058    | 40059    |
|------------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| Smpl Date        |          | 8/2/2009 | 8/3/2009 | 8/4/2009 | 8/5/2009 | 8/12/2009 | 8/14/2009 | 8/15/2009 | 8/16/2009 | 8/17/2009 | 8/18/2009 | 8/19/2009 | 8/20/2009 | 8/21/2009 | 8/22/2009 | 8/23/2009 | 8/24/2009 | 8/25/2009 | 8/26/2009 | 8/27/2009 | 8/28/2009 | 8/29/2009 | 8/30/2009 | 8/31/2009 | 9/1/2009 | 9/2/2009 | 9/3/2009 |
| Station Name     |          | W17EOP   | W17EOP   | W17EOP   | W17EOP   | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP   | W17EOP   |          |
| Sample Class     |          | M        | M        | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P        | P        |          |
| Sb-D             | mg/L     |          |          |          |          | <0.0005   |           | 0.0007    |           |           |           | 0.0008    |           |           | 0.0008    |           |           |           |           |           |           |           | 0.0008    |           |          |          |          |
| S-D              | mg/L     |          |          |          |          | 21        |           | 17        |           |           |           | 19        |           |           | 20        |           |           |           |           |           |           |           | 22        |           |          |          |          |
| Se-D             | mg/L     |          |          |          |          | 0.0006    |           | 0.002     |           |           |           | 0.002     |           |           | 0.002     |           |           |           |           |           |           |           | 0.0019    |           |          |          |          |
| Si-D             | mg/L     |          |          |          |          | 6.55      |           | 3.16      |           |           |           | 3.38      |           |           | 3.37      |           |           |           |           |           |           |           | 3.3       |           |          |          |          |
| Sn-D             | mg/L     |          |          |          |          | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |
| Sr-D             | mg/L     |          |          |          |          | 0.504     |           | 0.633     |           |           |           | 0.639     |           |           | 0.652     |           |           |           |           |           |           |           | 0.685     |           |          |          |          |
| Te-D             | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Th-D             | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Ti-D             | mg/L     |          |          |          |          | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |
| Tl-D             | mg/L     |          |          |          |          | <0.00005  |           | <0.00005  |           |           |           | <0.00005  |           |           | <0.00005  |           |           |           |           |           |           |           | <0.00005  |           |          |          |          |
| U-D              | mg/L     |          |          |          |          | 0.0025    |           | 0.0006    |           |           |           | 0.0005    |           |           | 0.0005    |           |           |           |           |           |           |           | 0.0002    |           |          |          |          |
| V-D              | mg/L     |          |          |          |          | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |
| Zn-D             | mg/L     |          |          |          |          | <0.005    |           | <0.005    |           |           |           | <0.005    |           |           | <0.005    |           |           |           |           |           |           |           | <0.005    |           |          |          |          |
| Zr-D             | mg/L     |          |          |          |          | <0.0005   |           | <0.0005   |           |           |           | <0.0005   |           |           | <0.0005   |           |           |           |           |           |           |           | <0.0005   |           |          |          |          |
| Alk-Bicrb        | mg/L     |          |          |          |          | 230       |           | 120       |           |           |           | 120       | 120       | 120       | 120       | 120       | 110       |           |           |           |           |           | 98        |           |          |          |          |
| Alk-Carb         | mg/L     |          |          |          |          | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |
| Alk-OH           | mg/L     |          |          |          |          | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |
| Alk-P            | mg/L     |          |          |          |          | <0.5      |           | <0.5      |           |           |           | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      | <0.5      |           |           |           |           |           | <0.5      |           |          |          |          |
| Alk-T            | mg/L     |          |          |          |          | 190       |           | 96        |           |           |           | 96        | 96        | 96        | 97        | 95        | 90        |           |           |           |           |           | 81        |           |          |          |          |
| Bromine          | mg/L     |          |          |          |          | <0.4      |           | <0.4      |           |           |           | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      | <0.4      |           |           |           |           |           | <0.4      |           |          |          |          |
| C-TIC            | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| C-TOC            | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Chloride         | mg/L     |          |          |          |          | 7.3       |           | 18        |           |           |           | 18        | 18        | 18        | 19        | 19        | 21        |           |           |           |           |           | 31        |           |          |          |          |
| Colour           | TCU      |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Cond-F           | µS/cm    | 408      | 439      | 432      | 427      |           | 408       | 406       | 406       | 406       | 408       | 402       | 405       | 402       | 410       | 413       | 407       | 409       | 414       | 416       | 421       | 423       | 428       | 429       | 432      | 433      | 435      |
| Cond-L           | µS/cm    |          |          | 435      | 427      | 487       | 403       | 401       | 404       | 403       | 407       | 401       | 402       | 400       | 410       | 411       | 414       | 414       | 407       | 430       | 422       | 429       | 429       | 431       | 434      | 438      | 438      |
| Discharge        | L/s      |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Fluoride         | mg/L     |          |          |          |          | 0.48      |           | 0.28      |           |           |           | 0.23      | 0.25      | 0.25      | 0.26      | 0.24      | 0.22      |           |           |           |           |           | 0.19      |           |          |          |          |
| Hard-D           | mg/L     |          |          |          |          | 220       |           | 158       |           |           |           | 162       |           |           | 164       |           |           |           |           |           |           |           | 174       |           |          |          |          |
| Hard-T           | mg/L     |          |          |          |          | 243       |           | 158       |           |           |           | 162       |           |           | 172       |           |           |           |           |           |           |           | 195       |           |          |          |          |
| IB               | %        |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Ammonia          | mg/L     |          |          |          |          | 0.041     |           | 0.42      |           |           |           | 0.267     | 0.27      | 0.329     | 0.346     | 0.324     | 0.327     |           |           |           |           |           | 0.336     |           |          |          |          |
| Ammonium         | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| N-NO2            | mg/L     |          |          |          |          | 0.012     |           | 0.171     |           |           |           | 0.235     | 0.215     | 0.217     | 0.231     | 0.237     | 0.249     |           |           |           |           |           | 0.34      |           |          |          |          |
| NO2+NO3          | mg/L     |          |          |          |          | 1.01      |           | 5.7       |           |           |           | 6.1       | 5.7       | 6.1       | 6.1       | 5.9       | 5.5       |           |           |           |           |           | 7.4       |           |          |          |          |
| N-NO3            | mg/L     |          |          |          |          | 1         |           | 5.5       |           |           |           | 5.8       | 5.5       | 5.8       | 5.9       | 5.7       | 5.2       |           |           |           |           |           | 7         |           |          |          |          |
| pH-F             | pH units | 8.1      | 7.93     | 7.93     | 7.99     |           | 7.91      | 7.82      | 7.77      | 7.83      | 7.75      | 7.84      | 7.97      | 7.79      | 7.93      | 7.9       | 7.82      | 7.7       | 7.82      | 7.69      | 7.8       | 7.66      | 7.77      | 7.77      | 7.82     | 7.82     | 7.85     |
| pH-L             | pH units |          |          | 8.1      | 8        | 8.2       | 8         | 8         | 8         | 8         | 8.1       | 7.9       | 8         | 8         | 8         | 8.1       | 8         | 7.9       | 7.2       | 7.9       | 7.8       | 7.7       | 7.9       | 7.9       | 7.8      | 7.8      | 7.9      |
| Radium - 226     |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| SO4-D            | mg/L     |          |          |          |          | 48        |           | 48        |           |           |           | 44        | 43        | 42        | 46        | 43        | 42        |           |           |           |           |           | 52        |           |          |          |          |
| SO4-T            | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| Sulphide         | mg/L     |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| TDS              | mg/L     |          |          | 270      | 260      | 310       | 260       | 240       | 260       | 260       | 260       | 230       | 250       | 260       | 240       | 220       | 220       | 270       | 280       | 270       | 260       | 280       | 270       | 270       | 260      | 270      | 270      |
| Temp-F           | C        | 9.71     | 13.22    | 13.49    | 13.73    |           | 13.46     | 13.42     | 13.29     | 13.04     | 12.9      | 12.89     | 12.5      | 12.63     | 12.54     | 12.44     | 12.47     | 12.22     | 12.43     | 11.92     | 11.96     | 11.72     | 12.07     | 11.64     | 11.88    | 11.66    | 11.44    |
| Temp-obs-pH      | C        |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |
| TSS              | mg/L     |          |          | 4        | 5        | 31        | 6         | 16        | 6         | 30        | 18        | 17        | 27        | 10        | 15        | 13        | 8         | 8         | 5         | <4        | 33        | 6         | 7         | 5         | 5        | <4       | <4       |
| Turb             | NTU      |          |          | 2.7      | 4.1      | 9.3       | 4.5       | 5.2       | 3.2       | 8         | 6.2       | 13.1      | 16.8      | 10.9      | 6.3       | 11.5      | 7.5       | 6.3       | 6.2       | 5.6       | 18        | 6.1       | 6.8       | 5.1       | 5.1      | 3.5      | 2.9      |
| Turb-F           | NTU      | 2.2      | 5.7      | 3.4      | 4        |           | 6.6       | 12.2      | 4.1       | 3.4       | 3         | 4.1       | 5.4       | 12.9      | 9.1       | 8.4       | 5.8       | 10.8      | 4.6       | 11        | 11.6      | 9.5       | 9.7       | 6.5       | 6.7      | 4.2      | 3.8      |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 40060<br>9/4/2009<br>W17EOP<br>P | 40061<br>9/5/2009<br>W17EOP<br>P | 40062<br>9/6/2009<br>W17EOP<br>P | 40063<br>9/7/2009<br>W17EOP<br>P | 40064<br>9/8/2009<br>W17EOP<br>P | 40065<br>9/9/2009<br>W17EOP<br>P | 40066<br>9/10/2009<br>W17EOP<br>P | 40067<br>9/11/2009<br>W17EOP<br>P | 40068<br>9/12/2009<br>W17EOP<br>P | 40069<br>9/13/2009<br>W17EOP<br>P | 40070<br>9/14/2009<br>W17EOP<br>P | 40071<br>9/15/2009<br>W17EOP<br>P | 40072<br>9/16/2009<br>W17EOP<br>P | 40073<br>9/17/2009<br>W17EOP<br>P | 40074<br>9/18/2009<br>W17EOP<br>P | 40075<br>9/19/2009<br>W17EOP<br>P | 40076<br>9/20/2009<br>W17EOP<br>P | 40077<br>9/21/2009<br>W17EOP<br>P | 40078<br>9/22/2009<br>W17EOP<br>P | 40079<br>9/23/2009<br>W17EOP<br>P | 40080<br>9/24/2009<br>W17EOP<br>P | 40081<br>9/25/2009<br>W17EOP<br>P | 40082<br>9/26/2009<br>W17EOP<br>P | 40083<br>9/27/2009<br>W17EOP<br>P | 40084<br>9/28/2009<br>W17EOP<br>P | 40085<br>9/29/2009<br>W17EOP<br>P |  |
|---------------------------------------------------------------|------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
| Ag-T                                                          | mg/L |                                  |                                  | <0.00002                         |                                  |                                  |                                  |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |  |
| Al-T                                                          | mg/L |                                  |                                  | 0.332                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.277                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.31                              |                                   |                                   |                                   |                                   |                                   | 0.332                             |                                   |                                   |                                   |  |
| As-T                                                          | mg/L |                                  |                                  | 0.0004                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                   |                                   |  |
| Ba-T                                                          | mg/L |                                  |                                  | 0.149                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.13                              |                                   |                                   |                                   |                                   |                                   |                                   | 0.135                             |                                   |                                   |                                   |                                   |                                   | 0.155                             |                                   |                                   |                                   |  |
| Be-T                                                          | mg/L |                                  |                                  | <0.0001                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |  |
| Bi-T                                                          | mg/L |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |  |
| B-T                                                           | mg/L |                                  |                                  | <0.05                            |                                  |                                  |                                  |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |  |
| Ca-T                                                          | mg/L |                                  |                                  | 50.8                             |                                  |                                  |                                  |                                   |                                   |                                   | 54.9                              |                                   |                                   |                                   |                                   |                                   |                                   | 61.2                              |                                   |                                   |                                   |                                   |                                   | 58.9                              |                                   |                                   |                                   |  |
| Cd-T                                                          | mg/L |                                  |                                  | 0.00004                          |                                  |                                  |                                  |                                   |                                   |                                   | 0.00004                           |                                   |                                   |                                   |                                   |                                   |                                   | 0.00019                           |                                   |                                   |                                   |                                   |                                   | 0.00004                           |                                   |                                   |                                   |  |
| CN-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Co-T                                                          | mg/L |                                  |                                  | <0.0005                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |  |
| Cr-T                                                          | mg/L |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |  |
| Cu-T                                                          | mg/L |                                  |                                  | 0.0099                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0065                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0066                            |                                   |                                   |                                   |                                   |                                   | 0.0171                            |                                   |                                   |                                   |  |
| Fe-T                                                          | mg/L |                                  |                                  | 0.128                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.06                              |                                   |                                   |                                   |                                   |                                   |                                   | 0.043                             |                                   |                                   |                                   |                                   |                                   | 0.052                             |                                   |                                   |                                   |  |
| Hg-T                                                          | mg/L |                                  |                                  | <0.00002                         |                                  |                                  |                                  |                                   |                                   |                                   | 0.00002                           |                                   |                                   |                                   |                                   |                                   |                                   | 0.00004                           |                                   |                                   |                                   |                                   |                                   | 0.00003                           |                                   |                                   |                                   |  |
| K-T                                                           | mg/L |                                  |                                  | 3.61                             |                                  |                                  |                                  |                                   |                                   |                                   | 3.77                              |                                   |                                   |                                   |                                   |                                   |                                   | 4.19                              |                                   |                                   |                                   |                                   |                                   | 3.55                              |                                   |                                   |                                   |  |
| Li-T                                                          | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |  |
| Mg-T                                                          | mg/L |                                  |                                  | 12.6                             |                                  |                                  |                                  |                                   |                                   |                                   | 14.6                              |                                   |                                   |                                   |                                   |                                   |                                   | 16.6                              |                                   |                                   |                                   |                                   |                                   | 14.5                              |                                   |                                   |                                   |  |
| Mn-T                                                          | mg/L |                                  |                                  | 0.315                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.289                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.292                             |                                   |                                   |                                   |                                   |                                   | 0.359                             |                                   |                                   |                                   |  |
| Mo-T                                                          | mg/L |                                  |                                  | 0.016                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.013                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.014                             |                                   |                                   |                                   |                                   |                                   | 0.019                             |                                   |                                   |                                   |  |
| Na-T                                                          | mg/L |                                  |                                  | 18.9                             |                                  |                                  |                                  |                                   |                                   |                                   | 18.1                              |                                   |                                   |                                   |                                   |                                   |                                   | 20.1                              |                                   |                                   |                                   |                                   |                                   | 20.2                              |                                   |                                   |                                   |  |
| Ni-T                                                          | mg/L |                                  |                                  | 0.001                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.001                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.002                             |                                   |                                   |                                   |                                   |                                   | 0.001                             |                                   |                                   |                                   |  |
| N-TKN                                                         | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Pb-T                                                          | mg/L |                                  |                                  | 0.0005                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.0002                           |                                   |                                   |                                   |                                   |                                   | 0.0008                            |                                   |                                   |                                   |  |
| P-PO4-T                                                       | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| P-T                                                           | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| P-TRP (Ortho)                                                 | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |  |
| Sb-T                                                          | mg/L |                                  |                                  | 0.0009                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0006                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0006                            |                                   |                                   |                                   |                                   |                                   | 0.001                             |                                   |                                   |                                   |  |
| Se-T                                                          | mg/L |                                  |                                  | 0.002                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.0017                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0018                            |                                   |                                   |                                   |                                   |                                   | 0.0023                            |                                   |                                   |                                   |  |
| Si-T                                                          | mg/L |                                  |                                  | 3.39                             |                                  |                                  |                                  |                                   |                                   |                                   | 4.48                              |                                   |                                   |                                   |                                   |                                   |                                   | 4.77                              |                                   |                                   |                                   |                                   |                                   | 3.65                              |                                   |                                   |                                   |  |
| Sn-T                                                          | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |  |
| Sr-T                                                          | mg/L |                                  |                                  | 0.736                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.684                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.661                             |                                   |                                   |                                   |                                   |                                   | 0.821                             |                                   |                                   |                                   |  |
| S-T                                                           | mg/L |                                  |                                  | 26                               |                                  |                                  |                                  |                                   |                                   |                                   | 19                                |                                   |                                   |                                   |                                   |                                   |                                   | 30                                |                                   |                                   |                                   |                                   |                                   | 31                                |                                   |                                   |                                   |  |
| Te-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Th-T                                                          | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Ti-T                                                          | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |  |
| Tl-T                                                          | mg/L |                                  |                                  | <0.00005                         |                                  |                                  |                                  |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |  |
| U-T                                                           | mg/L |                                  |                                  | 0.0002                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0008                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0007                            |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                   |                                   |  |
| V-T                                                           | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |  |
| Zn-T                                                          | mg/L |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.007                             |                                   |                                   |                                   |                                   |                                   | 0.008                             |                                   |                                   |                                   |  |
| Zr-T                                                          | mg/L |                                  |                                  | <0.0005                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |  |
| Ag-D                                                          | mg/L |                                  |                                  | <0.00002                         |                                  |                                  |                                  |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |  |
| Al-D                                                          | mg/L |                                  |                                  | 0.057                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.052                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.061                             |                                   |                                   |                                   |                                   |                                   | 0.032                             |                                   |                                   |                                   |  |
| As-D                                                          | mg/L |                                  |                                  | 0.0004                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |  |
| Ba-D                                                          | mg/L |                                  |                                  | 0.14                             |                                  |                                  |                                  |                                   |                                   |                                   | 0.114                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.125                             |                                   |                                   |                                   |                                   |                                   | 0.143                             |                                   |                                   |                                   |  |
| B-D                                                           | mg/L |                                  |                                  | <0.05                            |                                  |                                  |                                  |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |  |
| Be-D                                                          | mg/L |                                  |                                  | <0.0001                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |  |
| Bi-D                                                          | mg/L |                                  |                                  | <0.001                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |  |
| Ca-D                                                          | mg/L |                                  |                                  | 45.6                             |                                  |                                  |                                  |                                   |                                   |                                   | 56.8                              |                                   |                                   |                                   |                                   |                                   |                                   | 56.4                              |                                   |                                   |                                   |                                   |                                   | 51.2                              |                                   |                                   |                                   |  |
| Cd-D                                                          | mg/L |                                  |                                  | 0.00001                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.00001                          |                                   |                                   |                                   |                                   |                                   |                                   | 0.00032                           |                                   |                                   |                                   |                                   |                                   | 0.00002                           |                                   |                                   |                                   |  |
| C-DOC                                                         | mg/L |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | 40060<br>9/4/2009<br>W17EOP<br>P | 40061<br>9/5/2009<br>W17EOP<br>P | 40062<br>9/6/2009<br>W17EOP<br>P | 40063<br>9/7/2009<br>W17EOP<br>P | 40064<br>9/8/2009<br>W17EOP<br>P | 40065<br>9/9/2009<br>W17EOP<br>P | 40066<br>9/10/2009<br>W17EOP<br>P | 40067<br>9/11/2009<br>W17EOP<br>P | 40068<br>9/12/2009<br>W17EOP<br>P | 40069<br>9/13/2009<br>W17EOP<br>P | 40070<br>9/14/2009<br>W17EOP<br>P | 40071<br>9/15/2009<br>W17EOP<br>P | 40072<br>9/16/2009<br>W17EOP<br>P | 40073<br>9/17/2009<br>W17EOP<br>P | 40074<br>9/18/2009<br>W17EOP<br>P | 40075<br>9/19/2009<br>W17EOP<br>P | 40076<br>9/20/2009<br>W17EOP<br>P | 40077<br>9/21/2009<br>W17EOP<br>P | 40078<br>9/22/2009<br>W17EOP<br>P | 40079<br>9/23/2009<br>W17EOP<br>P | 40080<br>9/24/2009<br>W17EOP<br>P | 40081<br>9/25/2009<br>W17EOP<br>P | 40082<br>9/26/2009<br>W17EOP<br>P | 40083<br>9/27/2009<br>W17EOP<br>P | 40084<br>9/28/2009<br>W17EOP<br>P | 40085<br>9/29/2009<br>W17EOP<br>P |  |
|---------------------------------------------------------------|----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--|
| Sb-D                                                          | mg/L     |                                  |                                  | 0.0009                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0005                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0007                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0008                            |                                   |                                   |  |
| S-D                                                           | mg/L     |                                  |                                  | 20                               |                                  |                                  |                                  |                                   |                                   |                                   | 21                                |                                   |                                   |                                   |                                   |                                   |                                   | 23                                |                                   |                                   |                                   |                                   |                                   |                                   | 25                                |                                   |                                   |  |
| Se-D                                                          | mg/L     |                                  |                                  | 0.0019                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0016                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0021                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0022                            |                                   |                                   |  |
| Si-D                                                          | mg/L     |                                  |                                  | 3.07                             |                                  |                                  |                                  |                                   |                                   |                                   | 4.34                              |                                   |                                   |                                   |                                   |                                   |                                   | 3.73                              |                                   |                                   |                                   |                                   |                                   |                                   | 3.23                              |                                   |                                   |  |
| Sn-D                                                          | mg/L     |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |  |
| Sr-D                                                          | mg/L     |                                  |                                  | 0.694                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.627                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.716                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.791                             |                                   |                                   |  |
| Te-D                                                          | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Th-D                                                          | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Ti-D                                                          | mg/L     |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |  |
| Tl-D                                                          | mg/L     |                                  |                                  | <0.00005                         |                                  |                                  |                                  |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                   |  |
| U-D                                                           | mg/L     |                                  |                                  | 0.0002                           |                                  |                                  |                                  |                                   |                                   |                                   | 0.0009                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0007                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.0003                            |                                   |                                   |  |
| V-D                                                           | mg/L     |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |  |
| Zn-D                                                          | mg/L     |                                  |                                  | <0.005                           |                                  |                                  |                                  |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                   | 0.008                             |                                   |                                   |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |  |
| Zr-D                                                          | mg/L     |                                  |                                  | <0.0005                          |                                  |                                  |                                  |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |  |
| Alk-Bicrb                                                     | mg/L     |                                  |                                  | 94                               |                                  |                                  |                                  |                                   |                                   |                                   | 130                               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Alk-Carb                                                      | mg/L     |                                  |                                  | <0.5                             |                                  |                                  |                                  |                                   |                                   |                                   | <0.5                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Alk-OH                                                        | mg/L     |                                  |                                  | <0.5                             |                                  |                                  |                                  |                                   |                                   |                                   | <0.5                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Alk-P                                                         | mg/L     |                                  |                                  | <0.5                             |                                  |                                  |                                  |                                   |                                   |                                   | <0.5                              |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Alk-T                                                         | mg/L     |                                  |                                  | 77                               |                                  |                                  |                                  |                                   |                                   |                                   | 110                               |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Bromine                                                       | mg/L     |                                  |                                  | <0.4                             |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| C-TIC                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| C-TOC                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Chloride                                                      | mg/L     |                                  |                                  | 32                               |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Colour                                                        | TCU      |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Cond-F                                                        | µS/cm    | 437                              | 435                              | 434                              | 435                              | 437                              | 438                              | 439                               | 441                               | 451                               | 446                               | 450                               | 456                               | 451                               | 452                               | 461                               | 457                               | 460                               | 451                               | 462                               | 465                               | 455                               | 465                               | 454                               | 456                               | 465                               | 479                               |  |
| Cond-L                                                        | µS/cm    | 438                              | 439                              | 439                              | 436                              | 438                              | 441                              | 441                               | 445                               | 461                               | 463                               | 473                               | 465                               | 470                               | 469                               | 472                               | 476                               | 478                               | 465                               | 462                               | 469                               | 457                               | 477                               | 465                               | 464                               | 467                               | 481                               |  |
| Discharge                                                     | L/s      |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Fluoride                                                      | mg/L     |                                  |                                  | 0.19                             |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Hard-D                                                        | mg/L     |                                  |                                  | 161                              |                                  |                                  |                                  |                                   |                                   |                                   | 203                               |                                   |                                   |                                   |                                   |                                   |                                   | 199                               |                                   |                                   |                                   |                                   |                                   |                                   | 180                               |                                   |                                   |  |
| Hard-T                                                        | mg/L     |                                  |                                  | 179                              |                                  |                                  |                                  |                                   |                                   |                                   | 197                               |                                   |                                   |                                   |                                   |                                   |                                   | 221                               |                                   |                                   |                                   |                                   |                                   |                                   | 207                               |                                   |                                   |  |
| IB                                                            | %        |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Ammonia                                                       | mg/L     |                                  |                                  | 0.343                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.165                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.122                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.16                              |                                   |                                   |  |
| Ammonium                                                      | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| N-NO2                                                         | mg/L     |                                  |                                  | 0.396                            |                                  |                                  |                                  |                                   |                                   |                                   | 0.24                              |                                   |                                   |                                   |                                   |                                   |                                   | 0.232                             |                                   |                                   |                                   |                                   |                                   |                                   | 0.199                             |                                   |                                   |  |
| NO2+NO3                                                       | mg/L     |                                  |                                  | 7.6                              |                                  |                                  |                                  |                                   |                                   |                                   | 6                                 |                                   |                                   |                                   |                                   |                                   |                                   | 7.3                               |                                   |                                   |                                   |                                   |                                   |                                   | 8.8                               |                                   |                                   |  |
| N-NO3                                                         | mg/L     |                                  |                                  | 7.2                              |                                  |                                  |                                  |                                   |                                   |                                   | 5.8                               |                                   |                                   |                                   |                                   |                                   |                                   | 7.1                               |                                   |                                   |                                   |                                   |                                   |                                   | 8.6                               |                                   |                                   |  |
| pH-F                                                          | pH units | 7.87                             | 7.85                             | 7.9                              | 7.81                             | 8.06                             | 8.11                             | 8.04                              | 8.04                              | 8.1                               | 8.11                              | 8.03                              | 8.06                              | 8.1                               | 8.05                              | 8.2                               | 8.03                              | 8.13                              | 8.12                              | 8.17                              | 8.12                              | 8.02                              | 8.08                              | 8.05                              | 7.99                              | 8.04                              | 8.18                              |  |
| pH-L                                                          | pH units | 7.8                              | 7.9                              | 7.8                              | 7.8                              | 7.8                              | 7.8                              | 7.8                               | 7.8                               | 7.9                               | 7.9                               | 7.9                               | 7.9                               | 7.9                               | 7.8                               | 7.7                               | 7.9                               | 7.9                               | 7.8                               | 7.8                               | 7.8                               | 7.7                               | 7.8                               | 7.8                               | 7.8                               | 7.9                               | 8                                 |  |
| Radium - 226                                                  |          |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| SO4-D                                                         | mg/L     |                                  |                                  | 54                               |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| SO4-T                                                         | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| Sulphide                                                      | mg/L     |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| TDS                                                           | mg/L     | 270                              | 270                              | 280                              | 260                              | 280                              | 280                              | 280                               | 290                               | 310                               | 290                               | 290                               | 310                               | 290                               | 300                               | 290                               | 260                               | 260                               | 310                               | 290                               | 270                               | 290                               | 290                               | 290                               | 330                               | 250                               | 300                               |  |
| Temp-F                                                        | C        | 11.08                            | 11.5                             | 11.15                            | 11.3                             | 11.35                            | 10.87                            | 10.56                             | 10.49                             | 9.45                              | 10.22                             | 9.86                              | 9.43                              | 10.06                             | 9.93                              | 8.97                              | 9.06                              | 8.89                              | 8.86                              | 8.72                              | 8.17                              | 8.72                              | 7.93                              | 8.53                              | 8.2                               | 7.28                              | 6.55                              |  |
| Temp-obs-pH                                                   | C        |                                  |                                  |                                  |                                  |                                  |                                  |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |  |
| TSS                                                           | mg/L     | <4                               | 4                                | 5                                | 5                                | 5                                | 6                                | 4                                 | 6                                 | <4                                | <4                                | 6                                 | <4                                | <4                                | <4                                | <4                                | <4                                | <4                                | <4                                | <4                                | <4                                | 5                                 | <4                                | <4                                | 4                                 | <4                                | 4                                 |  |
| Turb                                                          | NTU      | 3.6                              | 3.3                              | 5.9                              | 4.8                              | 5.2                              | 4                                | 2.4                               | 3.4                               | 1.5                               | 1.5                               | 2                                 | 0.9                               | 1.4                               | 1.8                               | 2                                 | 1.3                               | 1.5                               | 1.4                               | 2.2                               | 1.9                               | 3                                 | 2.2                               | 1.7                               | 2.2                               | 2                                 | 2.5                               |  |
| Turb-F                                                        | NTU      | 1.8                              | 2.5                              | 5.6                              | 4.1                              | 4.2                              | 4.4                              | 5.8                               | 4.7                               | 5.5                               | 2.8                               | 3.8                               | 2.1                               | 2.9                               | 4.4                               | 0.8                               | 0.3                               | 2.2                               | 0.6                               | 1                                 | 0.7                               | 2                                 | 0.6                               | 0.6                               | 1                                 | 0.2                               | 3.4                               |  |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 40086<br>9/30/2009<br>W17EOP<br>P | 40087<br>10/1/2009<br>W17EOP<br>P | 40088<br>10/2/2009<br>W17EOP<br>P | 40089<br>10/3/2009<br>W17EOP<br>P | 40090<br>10/4/2009<br>W17EOP<br>P | 40091<br>10/5/2009<br>W17EOP<br>P | 40092<br>10/6/2009<br>W17EOP<br>P | 40093<br>10/7/2009<br>W17EOP<br>P | 40094<br>10/8/2009<br>W17EOP<br>P | 40095<br>10/9/2009<br>W17EOP<br>P | 40096<br>10/10/2009<br>W17EOP<br>P | 40097<br>10/11/2009<br>W17EOP<br>P | 40098<br>10/12/2009<br>W17EOP<br>P | 40099<br>10/13/2009<br>W17EOP<br>P | 40100<br>10/14/2009<br>W17EOP<br>P | 40101<br>10/15/2009<br>W17EOP<br>P | 40102<br>10/16/2009<br>W17EOP<br>P | 40103<br>10/17/2009<br>W17EOP<br>P | 40104<br>10/18/2009<br>W17EOP<br>P | 40105<br>10/19/2009<br>W17EOP<br>P | 40106<br>10/20/2009<br>W17EOP<br>P | 40107<br>10/21/2009<br>W17EOP<br>P | 40108<br>10/22/2009<br>W17EOP<br>P | 40109<br>10/23/2009<br>W17EOP<br>P |
|---------------------------------------------------------------|------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Ag-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                    | <0.00002                           |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| Al-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.275                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.201                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.148                              |                                    |                                    |                                    |
| As-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0003                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0003                             |                                    |                                    |                                    |
| Ba-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.154                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.148                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.149                              |                                    |                                    |                                    |
| Be-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0001                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0001                            |                                    |                                    |                                    |
| Bi-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.001                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| B-T                                                           | mg/L |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                    | <0.05                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.05                              |                                    |                                    |                                    |
| Ca-T                                                          | mg/L |                                   |                                   |                                   |                                   | 57.1                              |                                   |                                   |                                   |                                   |                                   |                                    | 54                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 63                                 |                                    |                                    |                                    |
| Cd-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.00004                           |                                   |                                   |                                   |                                   |                                   |                                    | 0.00009                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.00004                            |                                    |                                    |                                    |
| CN-T                                                          | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Co-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0005                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Cr-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.001                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Cu-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0055                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0041                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0117                             |                                    |                                    |                                    |
| Fe-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.034                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.033                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.095                              |                                    |                                    |                                    |
| Hg-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                    | 0.00003                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| K-T                                                           | mg/L |                                   |                                   |                                   |                                   | 3.49                              |                                   |                                   |                                   |                                   |                                   |                                    | 3.36                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 3.83                               |                                    |                                    |                                    |
| Li-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Mg-T                                                          | mg/L |                                   |                                   |                                   |                                   | 13.5                              |                                   |                                   |                                   |                                   |                                   |                                    | 13.1                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 14.8                               |                                    |                                    |                                    |
| Mn-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.342                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.339                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.372                              |                                    |                                    |                                    |
| Mo-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.02                              |                                   |                                   |                                   |                                   |                                   |                                    | 0.019                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.021                              |                                    |                                    |                                    |
| Na-T                                                          | mg/L |                                   |                                   |                                   |                                   | 17.7                              |                                   |                                   |                                   |                                   |                                   |                                    | 16.6                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 17.8                               |                                    |                                    |                                    |
| Ni-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.001                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.001                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| N-TKN                                                         | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Pb-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.0002                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0002                            |                                    |                                    |                                    |
| P-PO4-T                                                       | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-T                                                           | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-TRP (Ortho)                                                 | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Sb-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0009                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0007                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0009                             |                                    |                                    |                                    |
| Se-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0023                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0023                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0024                             |                                    |                                    |                                    |
| Si-T                                                          | mg/L |                                   |                                   |                                   |                                   | 3.29                              |                                   |                                   |                                   |                                   |                                   |                                    | 3.48                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 3.61                               |                                    |                                    |                                    |
| Sn-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Sr-T                                                          | mg/L |                                   |                                   |                                   |                                   | 0.854                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.881                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.971                              |                                    |                                    |                                    |
| S-T                                                           | mg/L |                                   |                                   |                                   |                                   | 30                                |                                   |                                   |                                   |                                   |                                   |                                    | 22                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 28                                 |                                    |                                    |                                    |
| Te-T                                                          | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Th-T                                                          | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Ti-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Tl-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.00005                          |                                   |                                   |                                   |                                   |                                   |                                    | <0.00005                           |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.00005                           |                                    |                                    |                                    |
| U-T                                                           | mg/L |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0003                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0005                             |                                    |                                    |                                    |
| V-T                                                           | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Zn-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.006                              |                                    |                                    |                                    |
| Zr-T                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0005                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Ag-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                    | <0.00002                           |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| Al-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.049                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.03                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.029                              |                                    |                                    |                                    |
| As-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0004                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0003                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0003                             |                                    |                                    |                                    |
| Ba-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.14                              |                                   |                                   |                                   |                                   |                                   |                                    | 0.137                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.142                              |                                    |                                    |                                    |
| B-D                                                           | mg/L |                                   |                                   |                                   |                                   | <0.05                             |                                   |                                   |                                   |                                   |                                   |                                    | <0.05                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.05                              |                                    |                                    |                                    |
| Be-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0001                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0001                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0001                            |                                    |                                    |                                    |
| Bi-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.001                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Ca-D                                                          | mg/L |                                   |                                   |                                   |                                   | 52.2                              |                                   |                                   |                                   |                                   |                                   |                                    | 54.4                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 60.6                               |                                    |                                    |                                    |
| Cd-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.00003                           |                                   |                                   |                                   |                                   |                                   |                                    | 0.00002                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.00002                            |                                    |                                    |                                    |
| C-DOC                                                         | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Co-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0005                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0005                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Cr-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.001                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.001                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Cu-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.0015                            |                                   |                                   |                                   |                                   |                                   |                                    | 0.0012                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.0025                             |                                    |                                    |                                    |
| Fe-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.007                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.008                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.007                              |                                    |                                    |                                    |
| Hg-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.00002                          |                                   |                                   |                                   |                                   |                                   |                                    | <0.00002                           |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.00009                            |                                    |                                    |                                    |
| K-D                                                           | mg/L |                                   |                                   |                                   |                                   | 3.33                              |                                   |                                   |                                   |                                   |                                   |                                    | 3.33                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 3.72                               |                                    |                                    |                                    |
| Li-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.005                            |                                   |                                   |                                   |                                   |                                   |                                    | <0.005                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Mg-D                                                          | mg/L |                                   |                                   |                                   |                                   | 12.8                              |                                   |                                   |                                   |                                   |                                   |                                    | 12.9                               |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 14.1                               |                                    |                                    |                                    |
| Mn-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.322                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.335                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.349                              |                                    |                                    |                                    |
| Mo-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.019                             |                                   |                                   |                                   |                                   |                                   |                                    | 0.019                              |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 0.019                              |                                    |                                    |                                    |
| Na-D                                                          | mg/L |                                   |                                   |                                   |                                   | 16.9                              |                                   |                                   |                                   |                                   |                                   |                                    | 17                                 |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | 18.5                               |                                    |                                    |                                    |
| Ni-D                                                          | mg/L |                                   |                                   |                                   |                                   | 0.001                             |                                   |                                   |                                   |                                   |                                   |                                    | <0.001                             |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| O-DO                                                          | mg/L | 40.7                              |                                   | 96.2                              | 109                               | 102                               | 103.2                             | 107                               | 111.8                             | 110                               | 113.2                             | 94.4                               | 96.3                               |                                    | 120.4                              | 124.8                              | 129                                | 138.8                              | 143.1                              | 147.4                              | 144.9                              | 137.1                              | 124.4                              | 114.6                              | 112                                |
| Pb-D                                                          | mg/L |                                   |                                   |                                   |                                   | <0.0002                           |                                   |                                   |                                   |                                   |                                   |                                    | <0.0002                            |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    | <0.0002                            |                                    |                                    |                                    |
| P-D                                                           | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-TDP                                                         | mg/L |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |                                    |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session |          | 40086     | 40087     | 40088     | 40089     | 40090     | 40091     | 40092     | 40093     | 40094     | 40095     | 40096      | 40097      | 40098      | 40099      | 40100      | 40101      | 40102      | 40103      | 40104      | 40105      | 40106      | 40107      | 40108      | 40109      |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Smpl Date        |          | 9/30/2009 | 10/1/2009 | 10/2/2009 | 10/3/2009 | 10/4/2009 | 10/5/2009 | 10/6/2009 | 10/7/2009 | 10/8/2009 | 10/9/2009 | 10/10/2009 | 10/11/2009 | 10/12/2009 | 10/13/2009 | 10/14/2009 | 10/15/2009 | 10/16/2009 | 10/17/2009 | 10/18/2009 | 10/19/2009 | 10/20/2009 | 10/21/2009 | 10/22/2009 | 10/23/2009 |
| Station Name     |          | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP    | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     | W17EOP     |
| Sample Class     |          | P         | P         | P         | P         | P         | P         | P         | P         | P         | P         | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          | P          |
| Sb-D             | mg/L     |           |           |           |           | 0.0009    |           |           |           |           |           |            | 0.0008     |            |            |            |            |            |            |            |            | 0.0008     |            |            |            |
| S-D              | mg/L     |           |           |           |           | 26        |           |           |           |           |           |            | 24         |            |            |            |            |            |            |            |            | 27         |            |            |            |
| Se-D             | mg/L     |           |           |           |           | 0.0024    |           |           |           |           |           |            | 0.0023     |            |            |            |            |            |            |            |            | 0.0025     |            |            |            |
| Si-D             | mg/L     |           |           |           |           | 3.01      |           |           |           |           |           |            | 3.11       |            |            |            |            |            |            |            |            | 3.17       |            |            |            |
| Sn-D             | mg/L     |           |           |           |           | <0.005    |           |           |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Sr-D             | mg/L     |           |           |           |           | 0.856     |           |           |           |           |           |            | 0.864      |            |            |            |            |            |            |            |            | 0.975      |            |            |            |
| Te-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Th-D             | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Ti-D             | mg/L     |           |           |           |           | <0.005    |           |           |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Tl-D             | mg/L     |           |           |           |           | <0.00005  |           |           |           |           |           |            | <0.00005   |            |            |            |            |            |            |            |            | <0.00005   |            |            |            |
| U-D              | mg/L     |           |           |           |           | 0.0004    |           |           |           |           |           |            | 0.0003     |            |            |            |            |            |            |            |            | 0.0005     |            |            |            |
| V-D              | mg/L     |           |           |           |           | <0.005    |           |           |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Zn-D             | mg/L     |           |           |           |           | <0.005    |           |           |           |           |           |            | <0.005     |            |            |            |            |            |            |            |            | <0.005     |            |            |            |
| Zr-D             | mg/L     |           |           |           |           | <0.0005   |           |           |           |           |           |            | <0.0005    |            |            |            |            |            |            |            |            | <0.0005    |            |            |            |
| Alk-Bicrb        | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | 120        |            |            |            |
| Alk-Carb         | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |
| Alk-OH           | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |
| Alk-P            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | <0.5       |            |            |            |
| Alk-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | 100        |            |            |            |
| Bromine          | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | 1.7        |            |            |            |
| C-TIC            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| C-TOC            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Chloride         | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Colour           | TCU      |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Cond-F           | µS/cm    | 490       | 495       | 494       | 491       | 493       | 495       | 492       | 500       | 503       | 501       | 508        | 507        | 509        | 511        | 519        | 520        | 519        | 526        | 530        | 535        | 518        | 524        | 516        | 518        |
| Cond-L           | µS/cm    | 472       | 496       | 490       | 486       | 477       | 481       | 481       | 495       | 501       | 491       | 502        | 493        | 493        | 496        | 505        | 510        | 512        | 513        | 517        | 505        | 509        | 501        | 487        | 505        |
| Discharge        | L/s      |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Fluoride         | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            | 0.3        |            |            |            |
| Hard-D           | mg/L     |           |           |           |           | 183       |           |           |           |           |           |            | 189        |            |            |            |            |            |            |            |            | 209        |            |            |            |
| Hard-T           | mg/L     |           |           |           |           | 198       |           |           |           |           |           |            | 189        |            |            |            |            |            |            |            |            | 218        |            |            |            |
| IB               | %        |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Ammonia          | mg/L     |           |           |           |           | 0.163     |           |           |           |           |           |            | 0.211      |            |            |            |            |            |            |            |            | 0.292      |            |            |            |
| Ammonium         | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| N-NO2            | mg/L     |           |           |           |           | 0.119     |           |           |           |           |           |            | 0.122      |            |            |            |            |            |            |            |            | 0.115      |            |            |            |
| NO2+NO3          | mg/L     |           |           |           |           | 8.7       |           |           |           |           |           |            | 9.1        |            |            |            |            |            |            |            |            | 9.9        |            |            |            |
| N-NO3            | mg/L     |           |           |           |           | 8.5       |           |           |           |           |           |            | 9          |            |            |            |            |            |            |            |            | 9.8        |            |            |            |
| pH-F             | pH units | 7.92      | 7.84      | 7.79      | 7.8       | 7.85      | 7.91      | 7.89      | 7.78      | 7.88      | 7.82      | 7.82       | 7.96       | 8.05       | 7.99       | 7.98       | 8          | 7.65       | 7.85       | 7.92       | 7.89       | 7.95       | 7.85       | 7.83       | 7.87       |
| pH-L             | pH units | 7.9       | 8.1       | 8         | 7.9       | 7.9       | 7.8       | 7.9       | 8         | 8         | 7.9       | 8          | 7.9        | 7.8        | 7.8        | 7.9        | 7.9        | 8          | 8          | 8          | 7.8        | 7.9        | 7.7        | 8          | 7.9        |
| Radium - 226     |          |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| SO4-D            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| SO4-T            | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| Sulphide         | mg/L     |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| TDS              | mg/L     | 320       | 320       | 290       | 280       | 300       | 320       | 330       | 320       | 350       | 310       | 320        | 310        | 310        | 290        | 260        | 280        | 280        | 270        | 270        | 250        | 270        | 300        | 280        | 280        |
| Temp-F           | C        | 5.89      | 5.51      | 5.52      | 5.66      | 5.52      | 5.45      | 5         | 4.74      | 4.54      | 4.6       | 4.08       | 3.85       | 3.64       | 3.14       | 2.98       | 3.08       | 3.07       | 2.85       | 2.95       | 2.85       | 2.87       | 2.88       | 2.9        | 3.01       |
| Temp-obs-pH      | C        |           |           |           |           |           |           |           |           |           |           |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
| TSS              | mg/L     | 5         | <4        | <4        | <4        | <4        | <4        | 7         | <4        | <4        | <4        | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         | <4         |
| Turb             | NTU      | 3.9       | 2.1       | 1.4       | 2.8       | 1.9       | 1.7       | 1.2       | 1         | 1.4       | 1.3       | 0.8        | 0.8        | 1.5        | 2          | 2.1        | 1.7        | 1.7        | 2.2        | 2.5        | 2.9        | 1.1        | 2.1        | 2.2        | 2.1        |
| Turb-F           | NTU      | 4.4       | 2.4       | 1.8       | 3.3       | 2.1       | 2.3       | 2.4       | 1.8       | 1.9       | 2.1       | 1.7        | 1.2        | 1.5        | 1.7        | 2.3        | 3.8        | 3.1        | 3.1        | 3.3        | 2.9        | 2.6        | 2.4        | 2.3        | 2.4        |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |      | 40110<br>10/24/2009<br>W17EOP<br>P | 40111<br>10/25/2009<br>W17EOP<br>M | 40112<br>10/26/2009<br>W17EOP<br>P | 40113<br>10/27/2009<br>W17EOP<br>P | 40114<br>10/28/2009<br>W17EOP<br>P | 40115<br>10/29/2009<br>W17EOP<br>P | 40116<br>10/30/2009<br>W17EOP<br>P |
|---------------------------------------------------------------|------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Ag-T                                                          | mg/L |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| Al-T                                                          | mg/L |                                    |                                    |                                    | 0.119                              |                                    |                                    |                                    |
| As-T                                                          | mg/L |                                    |                                    |                                    | 0.0003                             |                                    |                                    |                                    |
| Ba-T                                                          | mg/L |                                    |                                    |                                    | 0.147                              |                                    |                                    |                                    |
| Be-T                                                          | mg/L |                                    |                                    |                                    | <0.0001                            |                                    |                                    |                                    |
| Bi-T                                                          | mg/L |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| B-T                                                           | mg/L |                                    |                                    |                                    | <0.05                              |                                    |                                    |                                    |
| Ca-T                                                          | mg/L |                                    |                                    |                                    | 66.5                               |                                    |                                    |                                    |
| Cd-T                                                          | mg/L |                                    |                                    |                                    | 0.00006                            |                                    |                                    |                                    |
| CN-T                                                          | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Co-T                                                          | mg/L |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Cr-T                                                          | mg/L |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Cu-T                                                          | mg/L |                                    |                                    |                                    | 0.0133                             |                                    |                                    |                                    |
| Fe-T                                                          | mg/L |                                    |                                    |                                    | 0.098                              |                                    |                                    |                                    |
| Hg-T                                                          | mg/L |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| K-T                                                           | mg/L |                                    |                                    |                                    | 4.23                               |                                    |                                    |                                    |
| Li-T                                                          | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Mg-T                                                          | mg/L |                                    |                                    |                                    | 17                                 |                                    |                                    |                                    |
| Mn-T                                                          | mg/L |                                    |                                    |                                    | 0.371                              |                                    |                                    |                                    |
| Mo-T                                                          | mg/L |                                    |                                    |                                    | 0.019                              |                                    |                                    |                                    |
| Na-T                                                          | mg/L |                                    |                                    |                                    | 21.3                               |                                    |                                    |                                    |
| Ni-T                                                          | mg/L |                                    |                                    |                                    | 0.001                              |                                    |                                    |                                    |
| N-TKN                                                         | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Pb-T                                                          | mg/L |                                    |                                    |                                    | <0.0002                            |                                    |                                    |                                    |
| P-PO4-T                                                       | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-T                                                           | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-TRP (Ortho)                                                 | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Sb-T                                                          | mg/L |                                    |                                    |                                    | 0.0008                             |                                    |                                    |                                    |
| Se-T                                                          | mg/L |                                    |                                    |                                    | 0.0025                             |                                    |                                    |                                    |
| Si-T                                                          | mg/L |                                    |                                    |                                    | 3.88                               |                                    |                                    |                                    |
| Sn-T                                                          | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Sr-T                                                          | mg/L |                                    |                                    |                                    | 0.946                              |                                    |                                    |                                    |
| S-T                                                           | mg/L |                                    |                                    |                                    | 30                                 |                                    |                                    |                                    |
| Te-T                                                          | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Th-T                                                          | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Ti-T                                                          | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Tl-T                                                          | mg/L |                                    |                                    |                                    | <0.00005                           |                                    |                                    |                                    |
| U-T                                                           | mg/L |                                    |                                    |                                    | 0.0007                             |                                    |                                    |                                    |
| V-T                                                           | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Zn-T                                                          | mg/L |                                    |                                    |                                    | 0.008                              |                                    |                                    |                                    |
| Zr-T                                                          | mg/L |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Ag-D                                                          | mg/L |                                    |                                    |                                    | <0.00002                           |                                    |                                    |                                    |
| Al-D                                                          | mg/L |                                    |                                    |                                    | 0.017                              |                                    |                                    |                                    |
| As-D                                                          | mg/L |                                    |                                    |                                    | 0.0003                             |                                    |                                    |                                    |
| Ba-D                                                          | mg/L |                                    |                                    |                                    | 0.133                              |                                    |                                    |                                    |
| B-D                                                           | mg/L |                                    |                                    |                                    | <0.05                              |                                    |                                    |                                    |
| Be-D                                                          | mg/L |                                    |                                    |                                    | <0.0001                            |                                    |                                    |                                    |
| Bi-D                                                          | mg/L |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Ca-D                                                          | mg/L |                                    |                                    |                                    | 62.5                               |                                    |                                    |                                    |
| Cd-D                                                          | mg/L |                                    |                                    |                                    | 0.00003                            |                                    |                                    |                                    |
| C-DOC                                                         | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Co-D                                                          | mg/L |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Cr-D                                                          | mg/L |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| Cu-D                                                          | mg/L |                                    |                                    |                                    | 0.0027                             |                                    |                                    |                                    |
| Fe-D                                                          | mg/L |                                    |                                    |                                    | 0.019                              |                                    |                                    |                                    |
| Hg-D                                                          | mg/L |                                    |                                    |                                    | 0.00007                            |                                    |                                    |                                    |
| K-D                                                           | mg/L |                                    |                                    |                                    | 3.87                               |                                    |                                    |                                    |
| Li-D                                                          | mg/L |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Mg-D                                                          | mg/L |                                    |                                    |                                    | 14.3                               |                                    |                                    |                                    |
| Mn-D                                                          | mg/L |                                    |                                    |                                    | 0.345                              |                                    |                                    |                                    |
| Mo-D                                                          | mg/L |                                    |                                    |                                    | 0.019                              |                                    |                                    |                                    |
| Na-D                                                          | mg/L |                                    |                                    |                                    | 18.4                               |                                    |                                    |                                    |
| Ni-D                                                          | mg/L |                                    |                                    |                                    | <0.001                             |                                    |                                    |                                    |
| O-DO                                                          | mg/L | 101.1                              | 89                                 | 77.7                               | 76.9                               | 79.5                               | 83.2                               | 85.2                               |
| Pb-D                                                          | mg/L |                                    |                                    |                                    | <0.0002                            |                                    |                                    |                                    |
| P-D                                                           | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| P-TDP                                                         | mg/L |                                    |                                    |                                    |                                    |                                    |                                    |                                    |

Appendix Table A.14: Water quality at station W17EOP

| Sampling Session<br>Smpl Date<br>Station Name<br>Sample Class |          | 40110<br>10/24/2009<br>W17EOP<br>P | 40111<br>10/25/2009<br>W17EOP<br>M | 40112<br>10/26/2009<br>W17EOP<br>P | 40113<br>10/27/2009<br>W17EOP<br>P | 40114<br>10/28/2009<br>W17EOP<br>P | 40115<br>10/29/2009<br>W17EOP<br>P | 40116<br>10/30/2009<br>W17EOP<br>P |
|---------------------------------------------------------------|----------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Sb-D                                                          | mg/L     |                                    |                                    |                                    | 0.0007                             |                                    |                                    |                                    |
| S-D                                                           | mg/L     |                                    |                                    |                                    | 26                                 |                                    |                                    |                                    |
| Se-D                                                          | mg/L     |                                    |                                    |                                    | 0.0024                             |                                    |                                    |                                    |
| Si-D                                                          | mg/L     |                                    |                                    |                                    | 3.67                               |                                    |                                    |                                    |
| Sn-D                                                          | mg/L     |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Sr-D                                                          | mg/L     |                                    |                                    |                                    | 0.873                              |                                    |                                    |                                    |
| Te-D                                                          | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Th-D                                                          | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Ti-D                                                          | mg/L     |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Tl-D                                                          | mg/L     |                                    |                                    |                                    | <0.00005                           |                                    |                                    |                                    |
| U-D                                                           | mg/L     |                                    |                                    |                                    | 0.0006                             |                                    |                                    |                                    |
| V-D                                                           | mg/L     |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Zn-D                                                          | mg/L     |                                    |                                    |                                    | <0.005                             |                                    |                                    |                                    |
| Zr-D                                                          | mg/L     |                                    |                                    |                                    | <0.0005                            |                                    |                                    |                                    |
| Alk-Bicrb                                                     | mg/L     |                                    |                                    |                                    | 130                                |                                    |                                    |                                    |
| Alk-Carb                                                      | mg/L     |                                    |                                    |                                    | <0.5                               |                                    |                                    |                                    |
| Alk-OH                                                        | mg/L     |                                    |                                    |                                    | <0.5                               |                                    |                                    |                                    |
| Alk-P                                                         | mg/L     |                                    |                                    |                                    | <0.5                               |                                    |                                    |                                    |
| Alk-T                                                         | mg/L     |                                    |                                    |                                    | 110                                |                                    |                                    |                                    |
| Bromine                                                       | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| C-TIC                                                         | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| C-TOC                                                         | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Chloride                                                      | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Colour                                                        | TCU      |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Cond-F                                                        | µS/cm    | 520                                | 521                                | 523                                | 526                                | 526                                | 530                                | 527                                |
| Cond-L                                                        | µS/cm    | 509                                |                                    | 513                                | 516                                | 511                                | 511                                | 501                                |
| Discharge                                                     | L/s      |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Fluoride                                                      | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Hard-D                                                        | mg/L     |                                    |                                    |                                    | 215                                |                                    |                                    |                                    |
| Hard-T                                                        | mg/L     |                                    |                                    |                                    | 236                                |                                    |                                    |                                    |
| IB                                                            | %        |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Ammonia                                                       | mg/L     |                                    |                                    |                                    | 0.285                              |                                    |                                    |                                    |
| Ammonium                                                      | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| N-NO2                                                         | mg/L     |                                    |                                    |                                    | 0.102                              |                                    |                                    |                                    |
| NO2+NO3                                                       | mg/L     |                                    |                                    |                                    | 9.4                                |                                    |                                    |                                    |
| N-NO3                                                         | mg/L     |                                    |                                    |                                    | 9.3                                |                                    |                                    |                                    |
| pH-F                                                          | pH units | 7.94                               | 8.05                               | 7.6                                | 7.42                               | 7.79                               | 8.01                               | 8                                  |
| pH-L                                                          | pH units | 7.9                                |                                    | 7.9                                | 7.9                                | 8                                  | 8                                  | 8                                  |
| Radium - 226                                                  |          |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| SO4-D                                                         | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| SO4-T                                                         | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| Sulphide                                                      | mg/L     |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| TDS                                                           | mg/L     | 290                                |                                    | 300                                | 280                                | 300                                | 310                                | 310                                |
| Temp-F                                                        | C        | 2.67                               | 2.82                               | 2.74                               | 2.51                               | 2.53                               | 2.3                                | 1.9                                |
| Temp-obs-pH                                                   | C        |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
| TSS                                                           | mg/L     | <4                                 |                                    | <4                                 | <4                                 | <4                                 | <4                                 | <4                                 |
| Turb                                                          | NTU      | 1.9                                |                                    | 2.2                                | 2.5                                | 1.8                                | 2.5                                | 2.5                                |
| Turb-F                                                        | NTU      | 2.4                                | 2.3                                | 2.4                                | 2.7                                | 2.1                                | 2.5                                | 1.4                                |

Appendix Table A.15: Water quality data at station W50

| Sampling Session |      | 1145121   | 1145121   | 1146370   | 1205490  | 1205474  | 1216919  | 1219588  | 1221849   | 1224045   | 1227387  | 1233572  | 1227791   | 1231771   | 1233572   | 1235620   | 1240206   | 1242427   | 1247177   | 1245933   | 1249284  | 1251597   | 1253867   | 1260561   | 1262295    | 1265042    | 1272306    |
|------------------|------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|------------|
| Smpl Date        |      | 8/25/2008 | 8/26/2008 | 8/29/2008 | 4/5/2009 | 4/6/2009 | 5/2/2009 | 5/9/2009 | 5/18/2009 | 5/27/2009 | 6/3/2009 | 6/7/2009 | 6/11/2009 | 6/20/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/11/2009 | 8/18/2009 | 8/25/2009 | 9/7/2009 | 9/17/2009 | 9/23/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 | 10/27/2009 |
| Station Name     |      | W50       | W50       | W50       | W50      | W50      | W50      | W50      | W50       | W50       | W50      | W50      | W50       | W50       | W50       | W50       | W50       | W50       | W50       | W50       | W50      | W50       | W50       | W50       | W50        | W50        | W50        |
| Sample Class     |      | P         | P         | P         | P        | P        | P        | P        | P         | P         | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         | P          | P          | P          |
| Ag-T             | mg/L | <0.00001  | <0.00001  |           | <0.00001 | <0.00001 | 0.00001  | 0.00006  | <0.00001  | <0.00001  | <0.00001 | 0.00011  | <0.00001  | 0.00006   | 0.00022   | 0.00037   | <0.00001  | 0.00001   | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001   |
| Al-T             | mg/L | 0.498     | 0.607     |           | 0.008    | 0.018    | 0.169    | 0.086    | 0.024     | 0.084     | 0.036    | 0.15     | 0.121     | 0.018     | 0.038     | 0.2       | 1.11      | 0.027     | 0.202     | 0.323     | 0.252    | 0.405     | 0.428     | 0.356     | 0.616      | 0.126      | 0.116      |
| As-T             | mg/L | 0.0012    | 0.0013    |           | 0.0004   | 0.0004   | 0.0005   | 0.0005   | 0.0004    | 0.0004    | 0.0004   | 0.0006   | 0.0004    | 0.0005    | 0.0006    | 0.0005    | 0.0022    | 0.0008    | 0.0007    | 0.0007    | 0.0009   | 0.0005    | 0.0005    | 0.0003    | 0.0008     | 0.0004     | 0.0004     |
| Ba-T             | mg/L | 0.096     | 0.094     |           | 0.094    | 0.094    | 0.087    | 0.076    | 0.08      | 0.087     | 0.069    | 0.082    | 0.055     | 0.069     | 0.07      | 0.083     | 0.165     | 0.073     | 0.111     | 0.133     | 0.143    | 0.14      | 0.128     | 0.14      | 0.143      | 0.134      | 0.133      |
| Be-T             | mg/L | <0.00004  | <0.00004  |           | <0.00004 | <0.00004 | <0.00004 | <0.0001  | <0.00004  | <0.00004  | <0.00004 | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004  | 0.00009   | <0.00004  | <0.00004  | <0.00004  | <0.00004 | <0.00004  | <0.00004  | <0.00004  | <0.00004   | <0.00004   | <0.00004   |
| Bi-T             | mg/L |           |           |           | <0.0001  | <0.0001  | <0.0001  | <0.0005  | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.001    | <0.001    | <0.001    | <0.001    | <0.001   | <0.001    | <0.001    | <0.001    | <0.001     | <0.001     | <0.001     |
| B-T              | mg/L | 0.024     | 0.024     |           | 0.024    | 0.024    | 0.022    | 0.027    | 0.022     | 0.02      | 0.028    | 0.03     | 0.028     | 0.024     | 0.027     | 0.028     | 0.029     | 0.034     | 0.026     | 0.028     | 0.031    | 0.028     | 0.029     | 0.044     | 0.032      | 0.032      | 0.041      |
| Ca-T             | mg/L | 48.9      | 49        |           | 73.6     | 71.5     | 68.7     | 60.9     | 70.5      | 61.2      | 61       | 54.5     | 54        | 57.2      | 60.5      | 50.1      | 39.6      | 61        | 41.7      | 44.4      | 51       | 52.8      | 53.4      | 56.9      | 56.6       | 54.9       | 58.8       |
| Cd-T             | mg/L | 0.00006   | 0.00006   |           | 0.00002  | 0.00002  | 0.00004  | 0.00002  | 0.00002   | 0.0185    | 0.00001  | 0.00004  | 0.00002   | 0.00001   | 0.00001   | 0.00004   | 0.00006   | 0.00003   | 0.00007   | 0.00001   | 0.00002  | 0.00001   | 0.00005   | 0.00022   | 0.00002    | 0.00002    | 0.00003    |
| CN-T             | mg/L |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Co-T             | mg/L | 0.00099   | 0.00099   |           | 0.00022  | 0.00021  | 0.00039  | 0.0002   | 0.00027   | 0.00019   | 0.00047  | 0.00027  | 0.00022   | 0.00014   | 0.00022   | 0.00042   | 0.00104   | 0.00018   | 0.00025   | 0.00023   | 0.00029  | 0.00027   | 0.00025   | 0.00038   | 0.00048    | 0.00031    | 0.00027    |
| Cr-T             | mg/L | 0.0017    | 0.0021    |           | 0.0005   | 0.0005   | 0.0021   | 0.0018   | 0.0014    | <0.0004   | 0.0059   | 0.0006   | 0.0007    | 0.0004    | 0.0006    | 0.0008    | 0.0022    | 0.0008    | 0.0008    | 0.0008    | 0.0008   | 0.0008    | 0.0008    | 0.001     | <0.0004    | 0.0008     | <0.0004    |
| Cu-T             | mg/L | 0.058     | 0.066     |           | 0.008    | 0.012    | 0.019    | 0.015    | 0.014     | 0.015     | 0.011    | 0.093    | 0.033     | 0.011     | 0.016     | 0.087     | 0.073     | 0.011     | 0.016     | 0.013     | 0.008    | 0.005     | 0.006     | 0.009     | 0.017      | 0.013      | 0.01       |
| Fe-T             | mg/L | 1.12      | 1.3       |           | 0.02     | 0.04     | 0.41     | 0.1      | 0.03      | 0.1       | 0.21     | 0.36     | 1.03      | 0.02      | 0.06      | 0.45      | 1.94      | 0.013     | 0.147     | 0.114     | 0.087    | 0.038     | 0.031     | 0.157     | 0.324      | 0.081      | 0.042      |
| Hg-T             | mg/L | <0.00001  | 0.00001   |           | <0.00001 | <0.00001 | <0.00001 | <0.0001  | <0.00001  | <0.00001  | <0.00001 | 0.00001  |           | 0.00001   | <0.00001  | <0.00001  | <0.00001  |           | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   | <0.00001   |
| K-T              | mg/L | 7.48      | 7.15      |           | 4.1      | 4.1      | 4.3      | 3.8      | 4.2       | 4         | 3.8      | 6.2      | 3.7       | 4.1       | 6.2       | 3.3       | 3.8       | 3.6       | 3.4       | 3.7       | 3.4      | 3.6       | 3.3       | 3.6       | 3.9        | 4.2        |            |
| Li-T             | mg/L | 0.003     | 0.003     |           | 0.002    | 0.002    | 0.002    | 0.002    | 0.002     | 0.001     | 0.002    | 0.003    | 0.002     | 0.002     | 0.005     | 0.003     | 0.002     | 0.002     | 0.002     | 0.002     | 0.002    | 0.002     | 0.002     | 0.002     | 0.002      | 0.002      | 0.002      |
| Mg-T             | mg/L | 13.1      | 12.6      |           | 24.2     | 23.4     | 20.7     | 17.2     | 19.6      | 17.3      | 17.5     | 16.4     | 15.4      | 16.4      | 18        | 15.2      | 10.8      | 18.6      | 11.4      | 12.1      | 13.2     | 13.8      | 13.6      | 14.4      | 14.7       | 14.7       | 15.4       |
| Mn-T             | mg/L | 0.666     | 0.563     |           | 0.392    | 0.401    | 0.304    | 0.2      | 0.168     | 0.135     | 0.109    | 0.262    | 0.482     | 0.101     | 0.128     | 0.399     | 0.2       | 0.283     | 0.259     | 0.281     | 0.309    | 0.317     | 0.28      | 0.352     | 0.407      | 0.365      | 0.382      |
| Mo-T             | mg/L | 0.00743   | 0.00726   |           | 0.0073   | 0.00721  | 0.0057   | 0.008    | 0.0078    | 0.0081    | 0.00786  | 0.0104   | 0.00757   | 0.00743   | 0.00711   | 0.0108    | 0.0128    | 0.0081    | 0.0134    | 0.0131    | 0.0148   | 0.0151    | 0.0149    | 0.0165    | 0.0172     | 0.0163     | 0.0171     |
| Na-T             | mg/L | 16.9      | 16.7      |           | 22       | 23.3     | 19.9     | 18.2     | 19.2      | 18.9      | 18.5     | 17.8     | 16.9      | 17.6      | 18.3      | 17        | 11.6      | 18.1      | 14.7      | 17        | 19.8     | 20.5      | 20.2      | 19.7      | 19.1       | 18.2       | 19.8       |
| Ni-T             | mg/L | 0.006     | 0.006     |           | 0.003    | 0.003    | 0.005    | 0.0024   | 0.002     | 0.002     | 0.018    | 0.002    | 0.002     | 0.002     | 0.002     | 0.003     | 0.004     | 0.003     | 0.001     | 0.001     | 0.001    | 0.001     | 0.001     | 0.002     | 0.002      | 0.002      | 0.002      |
| N-TKN            | mg/L |           |           |           | 0.49     |          | 0.52     | 0.31     | 0.36      | 0.33      | 0.34     | 0.52     | 0.39      | 0.54      | 0.27      | 0.34      | 1.93      | 0.3       | 0.97      | 0.73      | 0.57     | 0.4       | 1.34      | 0.63      | 0.41       | 0.34       | 0.58       |
| Pb-T             | mg/L | 0.0004    | 0.0004    |           | <0.0001  | 0.0001   | 0.0002   | <0.0001  | 0.0002    | 0.0003    | <0.0001  | 0.0006   | <0.0001   | 0.0002    | 0.0008    | 0.0006    | 0.0021    | 0.0003    | 0.0006    | 0.0006    | 0.0006   | 0.0005    | 0.0007    | 0.0012    | 0.0004     | 0.0004     | 0.0001     |
| P-PO4-T          | mg/L |           |           |           | 0.04     |          | 0.04     | 0.04     | 0.03      | 0.02      | 0.03     | 0.03     | 0.03      | 0.03      | 0.04      | 0.03      | 0.02      | 0.02      | 0.03      | 0.02      | 0.02     | 0.04      | 0.02      | 0.04      | 0.03       | 0.03       | 0.03       |
| P-T              | mg/L | 0.06      | 0.07      |           | <0.05    | <0.01    | <0.05    | <0.05    | <0.05     | <0.05     | <0.05    | 0.02     | <0.05     | <0.01     | <0.01     | 0.021     | 0.061     | 0.01      | 0.016     | <0.01     | <0.01    | <0.01     | <0.05     | <0.05     | <0.05      | <0.05      | <0.05      |
| P-TRP (Ortho)    | mg/L |           |           |           |          |          |          |          |           |           |          | <0.05    |           | <0.05     | <0.05     | <0.05     | 0.05      | <0.05     | <0.05     | <0.05     | <0.05    | <0.05     |           |           |            |            |            |
| Sb-T             | mg/L | <0.0002   | <0.0002   |           | <0.0002  | <0.0002  | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002  | <0.0002  | <0.0002   | <0.0002   | <0.0002   | <0.0002   | 0.0007    | <0.0002   | 0.0006    | 0.0005    | 0.0007   | 0.0007    | 0.0006    | 0.0006    | 0.0006     | 0.0005     | 0.0006     |
| Se-T             | mg/L | 0.0007    | 0.0006    |           | <0.0006  | 0.0007   | <0.0006  | 0.001    | <0.0006   | 0.0008    | <0.0006  | 0.0018   | 0.0011    | <0.0006   | 0.0006    | 0.0012    | 0.002     | <0.0006   | 0.0008    | <0.0006   | 0.0009   | 0.0009    | 0.0011    | 0.002     | 0.0019     | 0.0021     | 0.0023     |
| Si-T             | mg/L | 5.64      | 5.86      |           | 6.14     | 6.05     | 6.02     | 5.06     | 5.35      | 5.22      | 5.31     | 4.84     | 4.82      | 5.13      | 5.7       | 4.56      | 5.21      | 6.18      | 3.25      | 3.34      | 3.43     | 3.28      | 3.33      | 3.3       | 3.62       | 3.45       | 3.49       |
| Sn-T             | mg/L | <0.0001   | <0.0001   |           | <0.0001  | <0.0001  | <0.0001  | <0.001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    |
| Sr-T             | mg/L | 0.371     | 0.352     |           | 0.644    | 0.643    | 0.541    | 0.557    | 0.548     | 0.533     | 0.518    | 0.619    | 0.548     | 0.503     | 0.521     | 0.602     | 0.674     | 0.522     | 0.649     | 0.684     | 0.731    | 0.761     | 0.744     | 0.858     | 0.93       | 0.884      | 0.955      |
| S-T              | mg/L |           |           |           | 28.9     | 28.1     | 25.5     | 20.9     | 20.5      | 18.6      | 18.4     | 20.1     | 17.8      | 16.6      | 19.2      | 18        | 16.2      | 19.2      | 15.6      | 17.4      | 20.1     | 21.2      | 21.3      | 22.3      | 23.5       | 21.9       | 25         |
| Te-T             | mg/L | <0.0001   | <0.0001   |           | <0.0001  | <0.0001  | <0.0001  |          | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | 0.0001    | <0.0001   | <0.0001    | <0.0001    | <0.0001    |
| Th-T             | mg/L | <0.0001   | <0.0001   |           | <0.0001  | <0.0001  | <0.0001  |          | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0004   | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    | <0.0004    |
| Ti-T             | mg/L | 0.0288    | 0.0394    |           | 0.0009   | 0.002    | 0.0096   | 0.0056   | 0.0018    | 0.0045    | 0.0026   | 0.0086   | 0.01      | 0.0011    | 0.0025    | 0.0098    | 0.0424    | 0.0015    | 0.0036    | 0.0027    | 0.0031   | 0.001     | 0.0014    | 0.0045    |            |            |            |
| Tl-T             | mg/L | 0.00003   | 0.00002   |           | <0.00001 | <0.00001 | <0.00001 | <0.00005 | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | 0.00001   | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | 0.00014   | <0.00001  | <0.00001   | <0.00001   | <0.00001   |
| U-T              | mg/L | 0.0012    | 0.0012    |           | 0.0037   | 0.0036   | 0.003    | 0.003    | 0.0032    | 0.0027    | 0.0025   | 0.0013   | 0.0019    | 0.0021    | 0.0023    | 0.0012    | 0.0015    | 0.0025    | 0.0004    | 0.0004    | <0.0004  | <0.0004   | 0.0006    | 0.0005    | 0.0005     | 0.0006     | 0.0006     |
| V-T              | mg/L | 0.00398   | 0.0043    |           | 0.0005   | 0.00047  | 0.00093  | 0.0008   | 0.0005    | 0.00065   | 0.00042  | 0.00117  | 0.00198   | 0.00042   | 0.00058   | 0.00118   | 0.0051    | 0.0006    | 0.001     | 0.0009    | 0.0007   | 0.0007    | 0.001     | 0.0012    | 0.0008     | 0.0007     |            |
| Zn-T             | mg/L | 0.009     | 0.008     |           | 0.022    | 0.016    | 0.018    | 0.009    | 0.008     | 0.022     | 0.012    | 0.007    | 0.008     | 0.003     | 0.006     | 0.014     | 0.        |           |           |           |          |           |           |           |            |            |            |

Appendix Table A.15: Water quality data at station W50

| Sampling Session |          | 1145121   | 1145121   | 1146370   | 1205490  | 1205474  | 1216919  | 1219588  | 1221849   | 1224045   | 1227387  | 1233572  | 1227791   | 1231771   | 1233572   | 1235620   | 1240206   | 1242427   | 1247177   | 1245933   | 1249284  | 1251597   | 1253867   | 1260561   | 1262295    | 1265042    | 1272306    |
|------------------|----------|-----------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|------------|------------|------------|
| Smpl Date        |          | 8/25/2008 | 8/26/2008 | 8/29/2008 | 4/5/2009 | 4/6/2009 | 5/2/2009 | 5/9/2009 | 5/18/2009 | 5/27/2009 | 6/3/2009 | 6/7/2009 | 6/11/2009 | 6/20/2009 | 6/29/2009 | 7/13/2009 | 7/27/2009 | 8/11/2009 | 8/18/2009 | 8/25/2009 | 9/7/2009 | 9/17/2009 | 9/23/2009 | 10/5/2009 | 10/12/2009 | 10/19/2009 | 10/27/2009 |
| Station Name     |          | W50       | W50       | W50       | W50      | W50      | W50      | W50      | W50       | W50       | W50      | W50      | W50       | W50       | W50       | W50       | W50       | W50       | W50       | W50       | W50      | W50       | W50       | W50       | W50        | W50        | W50        |
| Sample Class     |          | P         | P         | P         | P        | P        | P        | P        | P         | P         | P        | P        | P         | P         | P         | P         | P         | P         | P         | P         | P        | P         | P         | P         | P          | P          | P          |
| P-TDP            | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Sb-D             | mg/L     |           |           |           | 0.0007   |          | 0.001    | 0.0009   | 0.0007    | 0.0009    | 0.0011   | 0.0011   | 0.001     | 0.0012    | 0.001     | 0.0075    | 0.0017    | <0.0002   | 0.0015    | 0.0014    | 0.0021   | 0.0015    | 0.001     | 0.001     | 0.0007     | 0.0013     | 0.0007     |
| S-D              | mg/L     |           |           |           | 30.1     |          | 24.4     | 20.3     | 18.4      | 17.6      | 16.3     | 19.4     | 17        | 16.7      | 19.5      | 15.8      | 15.5      | 20.8      | 17.7      | 17.5      | 18.2     | 23.4      | 21.5      | 25        | 22         | 21.8       | 23.4       |
| Se-D             | mg/L     |           |           |           | 0.0008   |          | 0.0007   | 0.0006   | <0.0006   | <0.0006   | 0.0007   | 0.0018   | 0.001     | 0.001     | 0.0006    | <0.0006   | 0.0017    | 0.0007    | 0.0012    | 0.001     | 0.0016   | 0.0015    | 0.0016    | 0.0022    | 0.0021     | 0.0022     | 0.0024     |
| Si-D             | mg/L     |           |           |           | 5.8      |          | 5.67     | 5.33     | 5.33      | 4.87      | 4.78     | 4.48     | 4.41      | 5.16      | 5.62      | 4.28      | 2.9       | 5.78      | 3.24      | 3.08      | 3.15     | 3.22      | 3.02      | 3.08      | 2.88       | 3.27       | 3.15       |
| Sn-D             | mg/L     |           |           |           | <0.0001  |          | <0.0001  | <0.001   | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | 0.0003   | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | <0.0001    |
| Sr-D             | mg/L     |           |           |           | 0.549    |          | 0.493    | 0.474    | 0.496     | 0.482     | 0.497    | 0.606    | 0.512     | 0.472     | 0.529     | 0.614     | 0.634     | 0.48      | 0.598     | 0.648     | 0.724    | 0.78      | 0.8       | 0.854     | 0.89       | 0.9        | 0.882      |
| Te-D             | mg/L     |           |           |           | <0.0001  |          | <0.0001  |          | <0.0001   | <0.0001   | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    |            |
| Th-D             | mg/L     |           |           |           | <0.0001  |          | <0.0001  |          | <0.0001   | 0.0004    | <0.0001  | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001   | <0.0004   | <0.0004   | <0.0004   | <0.0004   | <0.0004  | <0.0004   | <0.0004   | <0.0004   | <0.0004    | <0.0004    |            |
| Ti-D             | mg/L     |           |           |           | 0.002    |          | 0.0026   | 0.0013   | 0.002     | 0.0009    | 0.0011   | 0.0026   | 0.0017    | 0.0005    | 0.0007    | 0.005     | 0.0054    | 0.0006    | 0.0006    | 0.0005    | 0.0014   | 0.0007    | 0.0004    | 0.0004    | <0.01      | <0.01      | <0.01      |
| Tl-D             | mg/L     |           |           |           | <0.00001 |          | <0.00001 | <0.00005 | <0.00001  | <0.00001  | <0.00001 | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001  | <0.00001 | <0.00001  | <0.00001  | <0.00001  | <0.00001   | <0.00001   |            |
| U-D              | mg/L     |           |           |           | 0.0031   |          | 0.0029   | 0.003    | 0.0028    | 0.0026    | 0.0023   | 0.0012   | 0.0018    | 0.0014    | 0.0023    | 0.0012    | 0.0014    | 0.0022    | 0.0005    | 0.0004    | <0.0004  | <0.0004   | <0.0004   | 0.0004    | 0.0004     | 0.0006     | 0.0006     |
| V-D              | mg/L     |           |           |           | 0.00044  |          | 0.00083  | 0.0005   | 0.00037   | 0.00038   | 0.00042  | 0.00068  | 0.00065   | 0.00084   | 0.00039   | 0.00046   | 0.0019    | 0.0004    | 0.0007    | 0.0007    | 0.0007   | 0.0006    | 0.0006    | 0.0006    | 0.0005     | 0.0008     | 0.0006     |
| Zn-D             | mg/L     |           |           |           | 0.018    |          | 0.006    | 0.007    | 0.004     | 0.007     | 0.009    | 0.005    | 0.006     | <0.001    | 0.006     | 0.011     | 0.005     | 0.004     | 0.003     | 0.003     | 0.005    | 0.006     | 0.002     | 0.001     | 0.001      | 0.005      | 0.004      |
| Zr-D             | mg/L     |           |           |           | 0.0002   |          | 0.0003   |          | 0.0002    | <0.0001   | 0.0002   | 0.0002   | 0.0002    | 0.001     | 0.0002    | 0.0002    | 0.0006    | 0.0002    | <0.0001   | <0.0001   | <0.0001  | <0.0001   | <0.0001   | <0.0001   | <0.0001    | <0.0001    | 0.0002     |
| Alk-Bicrb        | mg/L     |           |           | 190       | 260      |          | 230      | 233      | 220       | 220       | 220      | 180      | 190       | 220       | 220       | 190       | 90        | 240       | 100       | 100       | 100      | 100       | 100       | 100       | 100        | 100        | 120        |
| Alk-Carb         | mg/L     |           |           | <6        | <6       |          | <6       | <6       | <6        | <6        | <6       | <6       | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6        | <6       | <6        | <6        | <6        | <6         | <6         |            |
| Alk-OH           | mg/L     |           |           | <5        | <5       |          | <5       | <5       | <5        | <5        | <5       | <5       | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5        | <5       | <5        | <5        | <5        | <5         | <5         |            |
| Alk-P            | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Alk-T            | mg/L     |           |           | 159       | 216      |          | 188      | 191      | 184       | 182       | 180      | 150      | 157       | 182       | 184       | 154       | 72        | 196       | 96        | 91        | 82       | 78        | 86        | 90        | 90         | 99         | 102        |
| Bromine          | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| C-TIC            | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| C-TOC            | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Chloride         | mg/L     |           |           | 3.52      | 4.2      |          | 4.85     | 4        | 4.53      | 3.04      | 3.8      | 3.81     | 3.7       | 4.38      | 4.64      | 3.44      | 8.84      | 6.59      | 17.6      | 24.2      | 30.9     | 31        | 31.1      | 33.8      | 40.5       | 25.1       | 24.9       |
| Colour           | TCU      |           |           | 100       | 19       |          | <20      | 20       | 31        | 28        | 31       | 100      | 32        | 32        | 32        | 110       | >60       | <5        |           |           |          |           |           |           |            |            |            |
| Cond-F           | µS/cm    |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Cond-L           | µS/cm    |           |           | 374       | 582      |          | 511      | 467      | 482       | 479       | 474      | 434      | 438       | 467       | 466       | 430       | 321       | 487       | 390       | 403       | 442      | 445       | 456       | 478       | 476        | 484        | 468        |
| Discharge        | L/s      |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Fluoride         | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Hard-D           | mg/L     |           |           |           | 266      |          | 252      | 216      | 237       | 210       | 205      | 198      | 189       | 211       | 225       | 197       | 130       | 212       | 155       | 157       | 172      | 186       | 186       | 200       | 184        | 190        | 193        |
| Hard-T           | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| IB               | %        |           |           |           |          |          |          |          |           |           |          |          | 122       |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Ammonia          | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Ammonium         | mg/L     |           |           |           | <0.05    |          | <0.05    | <0.05    | <0.05     | <0.05     | <0.05    | 0.14     | 0.09      | <0.05     | <0.05     | 0.18      | 0.93      | <0.05     | 0.35      | 0.35      | 0.33     | 0.23      | 0.18      | 0.15      | 0.2        | 0.24       | 0.27       |
| N-NO2            | mg/L     |           |           | 0.05      |          |          |          | <0.005   |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| NO2+NO3          | mg/L     |           |           |           | 0.13     |          | 0.82     | 0.6      | 0.54      | 0.58      | 0.6      | 3.59     | 1.42      | 0.76      | 0.9       | 3.31      | 6.28      | 0.76      | 5.9       | 6.58      | 7.46     | 8.28      | 8.12      | 8.77      | 9.37       | 9.02       | 9.43       |
| N-NO3            | mg/L     |           |           | 0.16      |          |          |          | 0.6      |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| pH-F             | pH units |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| pH-L             | pH units |           |           | 7.96      | 8.04     |          | 7.93     | 8.1      | 8.03      | 8.14      | 8.15     | 7.96     | 8.08      | 8.15      | 8.04      | 8.02      | 7.87      | 8.06      | 7.71      | 7.7       | 7.54     | 7.66      | 7.74      | 7.69      | 7.76       | 7.77       | 7.66       |
| Radium - 226     |          |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| SO4-D            | mg/L     |           |           | 33.3      | 82.3     |          | 72.4     |          | 60.5      | 56.8      | 54.8     | 58.1     | 55.4      | 50.1      | 58.4      | 47.4      | 46.6      | 62.3      | 53.1      | 52.6      | 54.5     | 70.2      | 64.5      | 75        | 66.1       | 65.5       | 70.2       |
| SO4-T            | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Sulphide         | mg/L     |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| TDS              | mg/L     |           |           | 284       | 402      |          | 360      | 324      | 338       | 310       | 308      | 310      | 308       | 272       | 318       | 524       | 234       | 348       | 280       | 248       | 320      | 328       | 312       | 328       | 334        | 304        | 342        |
| Temp-F           | C        |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |
| Temp-obs-pH      | C        |           |           |           |          |          |          |          |           |           |          |          |           |           |           |           |           |           |           |           |          |           |           |           |            |            |            |

## **APPENDIX B**

### **Data Quality Assessment**

## APPENDIX B: DATA QUALITY ASSESSMENT

|             |                                       |          |
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## B1.0 INTRODUCTION

Data Quality Assessment (DQA) was conducted on water quality data collected by the Minto Mine from 2005 to 2009. The objective of DQA is to define the overall quality of the data presented in the report, and, by extension, the confidence with which the data can be used to derive conclusions.

### B1.1 Background

A variety of factors can influence the chemical and biological measurements made in an environmental study and thus affect the accuracy and/or precision of the data. Inconsistencies in sampling or laboratory methods, use of instruments that are inadequately calibrated or which cannot measure to the desired level of accuracy or precision, and contamination of samples in the field or laboratory are just some of the potential factors that can lead to the reporting of data that do not accurately reflect actual environmental conditions. Depending on the magnitude of the problem, inaccuracy or imprecision have the potential to affect the reliability of any conclusions made from the data. Therefore, it is important to ensure that monitoring programs incorporate appropriate steps to control the non-natural sources of data variability (i.e., minimize the variability that does not reflect natural spatial and temporal variability in the environment) and thus assure the quality of the data.

Data quality as a concept is meaningful only when it relates to the intended use of the data. That is, one must know the context in which the data will be interpreted in order to establish a relevant basis for judging whether or not the data set is adequate. DQA involves comparison of actual field and laboratory measurement performance to data quality objectives (DQOs) established for a particular study, such as evaluation of method detection limits, blank sample data, data precision (based on field and laboratory duplicate samples), and data accuracy (based on matrix spike recoveries and/or analysis of standards or certified reference materials). While this DQA report acknowledges all the quality assurance/quality control (QA/QC) conducted by the laboratories during chemical analysis (Table B.1), the focus of the report is on the QA/QC results associated with field data (i.e., field blanks and field duplicate samples).

DQOs were established that reflect reasonable and achievable performance expectations (Table B.2). Monitoring programs involving a large number of samples and analytes usually result in some results that exceed the DQOs. This is particularly so for multi-element scans (e.g., ICP scans for metals) since the analytical conditions are not necessarily optimal for every element included in the scan. Generally, scan results may

be considered acceptable if no more than 20% of the parameters fail to meet the DQOs. Overall, the intent of comparing data to DQOs was not to reject any measurement that did not meet the DQO, but to ensure that any questionable data received more scrutiny to determine what effect, if any, this had on interpretation of results within the context of this project.

### B1.2 Types of Quality Control Samples

Several types of quality control (QC) samples were assessed based on samples collected (or prepared) in the field and laboratory. These samples, and a description of each, include the following:

- **Blanks** are samples of de-ionized water and/or appropriate reagent(s) that are handled and analyzed the same way as regular samples. These samples will reflect any contamination of samples occurring in the field (in the case of field or trip blanks) or the laboratory (in the case of laboratory or method blanks). Analyte concentrations should be non-detectable although a data quality objective of twice the method detection limit allows for slight “noise” around the detection limit.
- **Field Duplicates** are replicate samples collected from a randomly selected field station using identical collection and handling methods that are then analyzed separately in the laboratory. The duplicate samples are handled and analyzed in an identical manner in the laboratory. The data from field replicate samples reflect natural variability, as well as the variability associated with sample collection methods, and therefore provide a measure of field precision.
- **Laboratory Duplicates** are replicate sub-samples created in the laboratory from randomly selected field samples which are sub-sampled and then analyzed independently using identical analytical methods. The laboratory duplicate sample results reflect any variability introduced during laboratory sample handling and analysis and thus provide a measure of laboratory precision.
- **Spike Recovery Samples** are created in the laboratory by adding a known amount/concentration of a given analyte (or mixture of analytes) to a randomly selected test sample previously divided to create two sub-samples. The spiked and regular sub-samples are then analyzed in an identical manner. The spike recovery represents the difference between the measured spike amount (total amount in spiked sample minus amount in original sample) relative to the known spike amount (as a percentage). Two types of spike recovery samples are

commonly analyzed. Spiked blanks (or blank spikes) are created using laboratory control materials whereas matrix spikes are created using field-collected samples. The analysis of spiked samples provides an indication of the accuracy of analytical results.

- **Certified Reference Materials and QC Standards** are samples containing known chemical concentrations that are processed and analyzed along with batches of environmental samples. The sample results are then compared to target results to provide a measure of analytical accuracy. The results are reported as the percent of the known amount that was recovered in the analysis.

## B2.0 WATER SAMPLES

### B2.1 Laboratory Data Quality

Five different laboratories were used from 2005 to 2009 to analyze the Minto Mine's water samples: ALS Laboratory Group, Norwest Labs, Bodycote, Exova and Maxxam Analytics. Each laboratory conducts in-house data quality assessments. However, both the type and quantity of quality control data reported varied substantially among laboratories. Based on consideration of all data from the five labs, method detection limits (MDL), laboratory blanks, certified reference material recovery, laboratory spike recovery, and laboratory duplicate precision mostly met laboratory data quality objectives (Tables B.1 and B.2). Accordingly, data were approved by the laboratories for release to the client. Any deviations from the laboratory's own data quality objectives were considered minor by the associated laboratory and were characterized as not severe enough to negatively impact quality of the data reported.

### B2.2 Field Data Quality

For the most part, field blank samples that were analyzed contained very low or non-detectable analyte concentrations (Tables B.3 to B.4). In Minto Creek field blanks, there appeared to be a small number of parameters with concentrations >2X the detection limit in more than one sample, including total arsenic in July and August 2009, total chromium in March 2008, total sodium throughout 2006-2009 samples, total lead in August and October 2009, and total zinc throughout 2006-2009 samples. More significantly, total zinc was detected in all blanks at concentrations similar to those obtained in actual station water samples (0.002 to 0.017 mg/L; Table B.3). This may be indicative of contaminated blank water, contaminated reagents, or actual field contamination. Further inquiry into this matter indicated that Access Consulting Ltd. is not certain about the origin of the deionized water used for field blanks, when they conducted the sampling in 2008. Based on field blank and trip blank comparisons (Table B.5), field blank deionized water likely originated from Bodycote after March 2008, as detections in field and lab blanks during that period are complimentary (especially Nov. 18, 2008). Minto Mine took over water sampling in 2009 from Access. The certainty of where the deionized water originated during this sampling period is also under question. Comparisons of field and trip blanks during 2009 did not give a clear indication of whether the water used for field blanks came from the same laboratory that provided the trip blanks, as there was very little comparability between detection patterns (Table B.5). Regardless of the source of

contamination, the results suggest that zinc data should be interpreted with caution (i.e., in consideration of potential sample contamination).

Trip blanks (provided to the Minto Mine by the respective analytical laboratory) consistently had concentrations of total arsenic, total boron, total sodium, and total zinc that were greater than 2X the method detection limit (Table B.4). Since trip blanks are from the laboratory and not opened by the field crew, these detections and elevated concentrations, suggest some contamination of the blank water or the sampling jars.

In some instances trip and field blanks were collected on the same day, allowing an examination of the relationship between field and laboratory blanks. In about half of the cases, the detected concentrations were 2 times or less the MDL (Table B.5). However, in the other half of the cases, the detected concentrations were >2 times the MDL, and in these instances, were generally at these higher concentrations in both the trip and the field blanks. Therefore, these results suggest that the contamination of the trip and field blanks is a result of contaminated deionized water from a laboratory. Since the origin of the deionized water is presently uncertain for samples collected in 2009, It is recommended that if the mine has any stored deionized water used for field blanks or stored trip blanks, it should be sent back to the lab for testing and discarded. A new, chemically-verified supply of deionized water should be obtained from the appropriate lab. Three laboratories were used for analysis during these specific sampling dates: Bodycote, Exova and Maxxam. It should be determined by Minto Mine who supplied their deionized water for field blanks and discussed with the laboratory directly on how to rectify this problem in future sampling.

Twelve sets of duplicate/replicate water samples were collected in the field at the Minto Mine and showed fair agreement in analyte concentrations (Tables B.6 and B.7). Although a number of analytes did not achieve the DQO (sometimes by >100% RPD), the absolute differences in concentration between duplicate/replicate samples were low, particularly considering that concentrations were approaching the corresponding MDLs (i.e., within 10x the MDL). The highest RPD values were found for Station W3 on November 23, 2006 and October 30, 2007, Station W7 on June 5, 2007 (Table B.6), and Stations W2, W3 and W7 on April 22, 2008 and June 3, 2008 (Table B.7). April, October and November sampling dates were during ice cover for all these years at these locations, and flow was very low. These conditions could contribute to high variability in field duplicates/replicates, as sediment-bound metals could contaminate the water sample with varied degree of sediments contributing to the low field precision. As well, there were generally low flow conditions in June of all years, possibly contributing to high

field variability for the same reason. Other high RPDs that do not fall on these aforementioned dates are likely a result of taking triplicates, increasing both the time over which samples are taken and the possibility of increased variation. Overall, field precision is of only fair quality, likely due to river conditions at the time of sampling (i.e., ice cover, low flow). Accordingly, it is recommended that the Minto Mine consider whether their sampling protocols could be modified to minimize site disturbance and associated imprecision detected in replicate sampling.

## **B3.0 DATA QUALITY STATEMENT**

Compilation and review of the quality control data of the five analytical laboratories used by the Minto Mine for water quality analysis indicated that the analytical laboratories judged their performance to be acceptable and adequate to serve the project objectives. Examination of field quality control data (field blanks, trip blanks and field replicates) indicated some problems with the de-ionized water used for field and trip blanks. This issue needs to be further examined to determine and eliminate the source of contaminated blank water. Contamination was particularly evident for zinc and should be considered in the interpretation of zinc concentrations. There were also some instances of poor field precision (high percent difference between replicates), likely related to presence of ice and low river flow at the time of sampling, and it may be necessary to use a peristaltic pump during these conditions to avoid contamination of the water sample by sediment-bound metals. These will need to be addressed for future sampling events if data quality is to be improved.

**Table B.1: Summary of laboratory quality control data from 2005-2009, Minto Mine.**

| Lab Report # | Lab Name | Date of Sample            | Blank | Calibration Check | Certified Reference Material | Laboratory Duplicate | Control Sample | Matrix Spike | Spiked Blank |
|--------------|----------|---------------------------|-------|-------------------|------------------------------|----------------------|----------------|--------------|--------------|
| V8704        | ALS      | 27-May-05                 |       |                   |                              | ✓                    |                |              |              |
| W1112        | ALS      | 30-Jun-05                 |       |                   |                              | ✓                    |                |              |              |
| W2395        | ALS      | 29-Jul-05                 |       |                   |                              | ✓                    |                |              |              |
| W3891        | ALS      | 29,30-Aug-05              |       |                   |                              | ✓                    |                |              |              |
| W5412        | ALS      | 28-Sep-05                 |       |                   |                              | ✓                    |                |              |              |
| W6215        | ALS      | 15-Oct-05                 |       |                   |                              | ✓                    |                |              |              |
| X2868        | ALS      | 2-Mar-06                  |       |                   |                              |                      |                |              |              |
| X4277        | ALS      | 5,6,7-Apr-06              |       |                   |                              |                      |                |              |              |
| X4465        | ALS      | 8,9,10,11-Apr-06          |       |                   |                              | ✓                    |                |              |              |
| X4756        | ALS      | 12-16-Apr-06              |       |                   |                              | ✓                    |                |              |              |
| X4757        | ALS      | 17-Apr-06                 |       |                   |                              |                      |                |              |              |
| X4949        | ALS      | 18-24-April-06            |       |                   |                              | ✓                    |                |              |              |
| X5294        | ALS      | 25-Apr-06-1-May-06        |       |                   |                              | ✓                    |                |              |              |
| X5513        | ALS      | 1,2,3,5,6,8-May-06        |       |                   |                              | ✓                    |                |              |              |
| X5825        | ALS      | 10,14-May-06              |       |                   |                              | ✓                    |                |              |              |
| X6214        | ALS      | 17,20,23-May-06           |       |                   |                              | ✓                    |                |              |              |
| X6722        | ALS      | 26,27,29-May-06, 2-Jun-06 |       |                   |                              | ✓                    |                |              |              |
| X7055        | ALS      | 7,8-Jun-06                |       |                   |                              | ✓                    |                |              |              |
| 471653       | Norwest  | 15-Jun-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| X7378        | ALS      | 15-Jun-06                 |       |                   |                              | ✓                    |                |              |              |
| X7777        | ALS      | 23-Jun-06                 |       |                   |                              | ✓                    |                |              |              |
| 474498       | Norwest  | 28-Jun-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 476632       | Norwest  | 7-Jul-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 478164       | Norwest  | 12-Jul-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 480181       | Norwest  | 20-Jul-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 481600       | Norwest  | 26-Jul-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 483040       | Norwest  | 2-Aug-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 484766       | Norwest  | 10-Aug-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 486819       | Norwest  | 18-Aug-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 488570       | Norwest  | 23,25-Aug-06              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 489693       | Norwest  | 30-Aug-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 491298       | Norwest  | 6-Sep-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 493181       | Norwest  | 13-Sep-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 494850       | Norwest  | 20-Sep-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 497216       | Norwest  | 28,29-Sep-06              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 498491       | Norwest  | 4-Oct-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 500496       | Norwest  | 12-Oct-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 501893       | Norwest  | 18-Oct-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 504059       | Norwest  | 28-Oct-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 505318       | Norwest  | 1-Nov-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 506969       | Norwest  | 9-Nov-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 508461       | Norwest  | 16-Nov-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 509930       | Norwest  | 22,23-Nov-06              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 511159       | Norwest  | 26,30-Nov-06              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 512593       | Norwest  | 6-Dec-06                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 513929       | Norwest  | 13-Dec-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 515808       | Norwest  | 19,20-Dec-06              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 516487       | Norwest  | 28-Dec-06                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 517502       | Norwest  | 4-Jan-07                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 517551       | Norwest  | 4-Jan-07                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 518783       | Norwest  | 10-Jan-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 518772       | Norwest  | 10-Jan-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 519696       | Norwest  | 16-Jan-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 522913       | Norwest  | 30-Jan-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 524760       | Norwest  | 7-Feb-07                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 526511       | Norwest  | 15-Feb-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |

**Table B.1: Summary of laboratory quality control data from 2005-2009, Minto Mine.**

| Lab Report # | Lab Name | Date of Sample                    | Blank | Calibration Check | Certified Reference Material | Laboratory Duplicate | Control Sample | Matrix Spike | Spiked Blank |
|--------------|----------|-----------------------------------|-------|-------------------|------------------------------|----------------------|----------------|--------------|--------------|
| 527791       | Norwest  | 22-Feb-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 534575       | Norwest  | 23-Mar-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 537902       | Norwest  | 3-Apr-07                          | ✓     |                   |                              | ✓                    | ✓              |              |              |
| 539635       | Bodycote | 17-Apr-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 542608       | Bodycote | 26,27-Apr-07                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 545252       | Bodycote | 5 - 11-May-07                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 547080       | Bodycote | 13 - 20-May-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 554586       | Bodycote | 13 - 21-May-07 and 20-Jun-07      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 548456       | Bodycote | 22 - 25-May-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 550006       | Bodycote | 23,26,29 - 31-May-07              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 550649       | Bodycote | 5-Jun-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 550672       | Bodycote | 5-Jun-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 552903       | Bodycote | 13-Jun-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 556896       | Bodycote | 21 - 28-Jun-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 556584       | Bodycote | 27-Jun-07                         | ✓     |                   |                              | ✓                    | ✓              |              |              |
| 557805       | Bodycote | 29,30-Jun-07 and 1,2,3,4,5-Jul-07 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 559389       | Bodycote | 6,7,8,9-Jul-07 and 11-Jul-07      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 562760       | Bodycote | 12,19 - 25-Jul-07                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 561063       | Bodycote | 13,14,15,16,17,18-Jul-07          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 563145       | Bodycote | 27-Jul-07                         | ✓     |                   |                              | ✓                    | ✓              |              |              |
| 564330       | Bodycote | 30-Jul-07 and 1-Aug-07            | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 566219       | Bodycote | 3,4,8,9-Aug-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 566212       | Exova    | 9-Aug-07                          |       |                   |                              |                      |                |              |              |
| 567410       | Bodycote | 15-Aug-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 569398       | Bodycote | 24-Aug-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 570653       | Bodycote | 29-Aug-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 572351       | Bodycote | 6-Sep-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 573648       | Bodycote | 11-Sep-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 574988       | Bodycote | 17,18-Sep-07                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 576645       | Bodycote | 25-Sep-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 578674       | Bodycote | 3-Oct-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 582057       | Bodycote | 3,16,17-Oct-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 580457       | Bodycote | 10 - 11-Oct-07                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 583059       | Bodycote | 22,23-Oct-07                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 584857       | Bodycote | 30-Oct-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 586827       | Bodycote | 8-Nov-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 586844       | Bodycote | 8-Nov-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 587536       | Bodycote | 13-Nov-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 589299       | Bodycote | 20-Nov-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 594308       | Bodycote | 27-Nov-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 590262       | Bodycote | 27-Nov-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 591729       | Bodycote | 6-Dec-07                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 592495       | Bodycote | 11-Dec-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 593931       | Bodycote | 18-Dec-07                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 594937       | Bodycote | 3-Jan-08                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 596106       | Bodycote | 9-Jan-08                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 597411       | Bodycote | 15,16-Jan-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 664968       | Bodycote | 17,18,20-Jan-08                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 598412       | Bodycote | 22-Jan-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 600879       | Bodycote | 22-Jan-08 and 7-Feb-08            | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 599459       | Bodycote | 30-Jan-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 602246       | Bodycote | 13-Feb-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 603095       | Bodycote | 20-Feb-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 604711       | Bodycote | 27-Feb-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 605542       | Bodycote | 3-Mar-08                          | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 607660       | Bodycote | 14-Mar-08                         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |

**Table B.1: Summary of laboratory quality control data from 2005-2009, Minto Mine.**

| Lab Report # | Lab Name | Date of Sample                 | Blank | Calibration Check | Certified Reference Material | Laboratory Duplicate | Control Sample | Matrix Spike | Spiked Blank |
|--------------|----------|--------------------------------|-------|-------------------|------------------------------|----------------------|----------------|--------------|--------------|
| 608897       | Bodycote | 19,20-Mar-08                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 609929       | Bodycote | 26-Mar-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 610151       | Bodycote | 26-Mar-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 611551       | Bodycote | 3-Apr-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 612764       | Bodycote | 10-Apr-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 613881       | Bodycote | 17-Apr-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 615014       | Bodycote | 22-Apr-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 615027       | Bodycote | 22-Apr-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 616456       | Bodycote | 30-Apr-08 and 1-May-08         | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 616665       | Bodycote | 3-May-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 616991       | Bodycote | 4-May-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 617643       | Bodycote | 5-May-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 617987       | Bodycote | 7,8-May-08                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 618535       | Bodycote | 9,11-May-08                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 619230       | Bodycote | 13-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 619708       | Bodycote | 15-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 619815       | Bodycote | 18-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 620694       | Bodycote | 20-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 620707       | Bodycote | 20-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 622088       | Bodycote | 27-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 622076       | Bodycote | 29-May-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 623493       | Bodycote | 5-Jun-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 624684       | Bodycote | 11-Jun-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 626055       | Bodycote | 17-Jun-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 627682       | Bodycote | 25-Jun-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 627896       | Bodycote | 26-Jun-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 629067       | Bodycote | 3-Jul-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 629636       | Bodycote | 8-Jul-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 630228       | Bodycote | 9-Jul-08                       | ✓     | -                 | -                            | ✓                    | ✓              |              |              |
| 631200       | Bodycote | 15-Jul-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 632899       | Bodycote | 22,23-Jul-08                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 633050       | Bodycote | 25-Jul-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 634552       | Bodycote | 30,31-Jul-08                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 635415       | Bodycote | 6-Aug-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 635423       | Bodycote | 7-Aug-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 635436       | Bodycote | 7-Aug-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 636210       | Bodycote | 12-Aug-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 638003       | Bodycote | 21-Aug-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 638918       | Bodycote | 25,26-Aug-08                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 639794       | Bodycote | 27 - 31-Aug-08                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 640701       | Bodycote | 1,3-Sep-08                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 642414       | Bodycote | 10,11-Sep-08                   |       |                   |                              |                      |                |              |              |
| 643795       | Bodycote | 17 - 19-Sep-08                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 644761       | Bodycote | 22-Sep-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 646577       | Bodycote | 30-Sep-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 648392       | Bodycote | 8-Oct-08                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 650001       | Bodycote | 17-Oct-08                      |       |                   |                              |                      |                |              |              |
| 653024       | Bodycote | 24,27 - 29-Oct-08              |       |                   |                              |                      |                |              |              |
| 656868       | Bodycote | 18-Nov-08                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 653024       | Bodycote | 24,27 - 29-Nov-08              |       |                   |                              |                      |                |              |              |
| 664995       | Bodycote | 24-Dec-08 and 2,9,15-Jan-09    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 664968       | Bodycote | 17-Jan-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 667243       | Bodycote | 20,28-Jan-09 and 2-Feb-09      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 669414       | Bodycote | 15-Feb-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 672185       | Bodycote | 19,26 - 28-Feb-09 and Mar 6-09 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 673163       | Exova    | 6,11,14-Mar-09                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |

**Table B.1: Summary of laboratory quality control data from 2005-2009, Minto Mine.**

| Lab Report # | Lab Name | Date of Sample                  | Blank | Calibration Check | Certified Reference Material | Laboratory Duplicate | Control Sample | Matrix Spike | Spiked Blank |
|--------------|----------|---------------------------------|-------|-------------------|------------------------------|----------------------|----------------|--------------|--------------|
| 675682       | Exova    | 20,24,31-Mar-09                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 676378       | Exova    | 5-Apr-09                        | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 676369       | Exova    | 6-Apr-09                        | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 678502       | Bodycote | 14,17-Apr-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 680125       | Exova    | 20 - 22-Apr-09                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 680674       | Bodycote | 30-Apr-09                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 680903       | Bodycote | 1,2-May-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 682089       | Bodycote | 4,6,9,10-May-09                 | ✓     |                   |                              | ✓                    | ✓              |              |              |
| 681376       | Bodycote | 5-May-09                        | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 685154       | Exova    | 27,28-May-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 687086       | Exova    | 8,9-Jun-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 688589       | Bodycote | 9,15,16-Jun-09                  | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 687426       | Exova    | 10,11-Jun-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 690235       | Exova    | 17,18,20,22-Jun-09              | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 691431       | Exova    | 29-Jun-09 and 6,7-Jul-09        | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A933435      | Maxxam   | 30-Jun-09                       | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A934213      | Maxxam   | 1-Jul-09                        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A934208      | Maxxam   | 2-Jul-09                        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A934681      | Maxxam   | 3,4,5,6-Jul-09                  | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A934691      | Maxxam   | 5-Jul-09                        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A934663      | Maxxam   | 6-Jul-09                        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A935109      | Maxxam   | 8-Jul-09                        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 692757       | Exova    | 8,13-Jul-09                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A936189      | Maxxam   | 8,9,10,11,12-Jul-09             | ✓     | ✓                 |                              | ✓                    |                |              | ✓            |
| A935711      | Maxxam   | 12-Jul-09                       | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A935987      | Maxxam   | 13-Jul-09                       | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A936556      | Maxxam   | 13,15-Jul-09                    | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A937508      | Maxxam   | 16,17,18,19-Jul-09              | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A938109      | Maxxam   | 19,21-Jul-09                    | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A938824      | Maxxam   | 22,24,25-Jul-09                 | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A939370      | Maxxam   | 26-Jul-09                       | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A933193      | Maxxam   | 26,28,29-Jul-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A939770      | Maxxam   | 26,27,29-Jul-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 695297       | Exova    | 28-Jul-09                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A941232      | Maxxam   | 29-Jul-09 and 4,5-Aug-09        | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A940615      | Maxxam   | 30,31-Jul-09 and 1-Aug-09       | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A940612      | Maxxam   | 1,2,3-Aug-09                    | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A941234      | Maxxam   | 4-Aug-09                        | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| 697143       | Exova    | 5,6-Aug-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 697477       | Exova    | 11-Aug-09                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A944191      | Maxxam   | 11,12,14,15,16,17,18-Aug-09     | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A943004      | Maxxam   | 12-Aug-09                       | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| 700625       | Exova    | 18,19,31-Aug-09                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A945675      | Maxxam   | 19,20,21-Aug-09                 | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A945683      | Maxxam   | 22,23,24-Aug-09                 | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| 700112       | Exova    | 25-Aug-09                       | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A947522      | Maxxam   | 25,26,27,28,30-Aug-09           | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A947745      | Maxxam   | 29,30-Aug-09                    | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| A949838      | Maxxam   | 31-Aug-09 and 1,2,3,4,5-Sept-09 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 701222       | Exova    | 1,3-Sep-09                      | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A949832      | Maxxam   | 6-Sep-09                        | ✓     | ✓                 |                              | ✓                    |                | ✓            | ✓            |
| 702306       | Exova    | 7-Sep-09                        | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A950216      | Maxxam   | 7,8,9,10,11,12-Sep-09           | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A950868      | Maxxam   | 12,13-Sep-09                    | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A952063      | Maxxam   | 14,15,16,17,18-Sep-09           | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 703712       | Exova    | 17,18-Sep-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |

**Table B.1: Summary of laboratory quality control data from 2005-2009, Minto Mine.**

| Lab Report # | Lab Name | Date of Sample               | Blank | Calibration Check | Certified Reference Material | Laboratory Duplicate | Control Sample | Matrix Spike | Spiked Blank |
|--------------|----------|------------------------------|-------|-------------------|------------------------------|----------------------|----------------|--------------|--------------|
| A952332      | Maxxam   | 19,20-Sep-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 704901       | Exova    | 21,23-Sep-09                 | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A953640      | Maxxam   | 21,22,23,24,25-Sep-09        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A954266      | Maxxam   | 26,27-Sep-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A955555      | Maxxam   | 28,29,30-Sep-09 and 1-Oct-09 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 707557       | Exova    | 30-Sep-09 and 5,7,8-Oct-09   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A958642      | Maxxam   | 12,13,14,15-Oct-09           | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A959468      | Maxxam   | 16,17,18,19,20-Oct-09        | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A956249      | Maxxam   | 2,3,4-Oct-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A957641      | Maxxam   | 5,6,7,8,9,10,11-Oct-09       | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 708381       | Exova    | 12-Oct-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 709505       | Exova    | 19-Oct-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A961135      | Maxxam   | 21,22,23,24-Oct-09           | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A961124      | Maxxam   | 25-Oct-09                    | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| A961098      | Maxxam   | 26,27-Oct-09                 | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 711678       | Exova    | 27-Oct-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| A962836      | Maxxam   | 28,29,30-Oct-09              | ✓     |                   |                              | ✓                    |                | ✓            | ✓            |
| 712418       | Exova    | 5,6-Nov-09                   | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 713315       | Exova    | 9-Nov-09                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 714470       | Exova    | 16-Nov-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 715514       | Exova    | 25-Nov-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 716814       | Exova    | 2-Dec-09                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 717874       | Exova    | 9-Dec-09                     | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |
| 718858       | Exova    | 15-Dec-09                    | ✓     | ✓                 | ✓                            | ✓                    | ✓              |              |              |

**Table B.2: Data quality objectives for environmental sample:**

| Quality Control Measure       | Quality Control Sample Type                            | Study Component                                                                                                                |
|-------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|                               |                                                        | Water Quality                                                                                                                  |
| Laboratory DQO                |                                                        |                                                                                                                                |
| Method Detection Limits (MDL) | Comparison actual MDL versus target MDL                | MDL for each parameter should be at least as low as applicable guidelines, ideally $\leq 1/10$ th guideline value <sup>a</sup> |
| Blank Analysis                | Laboratory Blank                                       | $\leq$ two-times the laboratory MDL                                                                                            |
| Laboratory Precision          | Laboratory Duplicates                                  | varies from $\leq 10\%$ to $\leq 30\%$ RPD <sup>c</sup>                                                                        |
| Accuracy                      | Recovery of Blank Spikes                               | varies from 80-120% to 90-110% <sup>c</sup>                                                                                    |
|                               | Recovery of Matrix Spikes                              | 80-120%                                                                                                                        |
|                               | Recovery of Certified Reference Material, QC Standards | 90-110%                                                                                                                        |
| Field DQO                     |                                                        |                                                                                                                                |
| Blank Analysis                | Field Blank                                            | $\leq$ two-times the laboratory MDL                                                                                            |
| Field Precision               | Field Duplicates                                       | $\leq 25\%$ RPD <sup>b</sup>                                                                                                   |

<sup>a</sup> or below predictions, if applicable and no guideline exists for the substance.

<sup>b</sup> RPD - Relative Percent Difference

<sup>c</sup> varies by laboratory and/or by parameter

**Table B.3: Minto field blank results by sample date.**

| Analyte   | Units | 07/Jul/2006 | 12/Jul/2006 | 02/Aug/2006 | 29/Sep/2006 | 04/Oct/2006 | 12/Oct/2006 | 07/Feb/2007 | 29/Aug/2007 | 03/Oct/2007 | 30/Jan/2008 | 20/Feb/2008 | 14/Mar/2008 | 26/Mar/2008 | 03/Apr/2008 | 07/Aug/2008 | 18/Nov/2008 | 10/Dec/2008 | 17/Dec/2008 | 20/Mar/2009 | 05/May/2009 | 30/Jul/2009 | 05/Aug/2009 | 18/Aug/2009 | 07/Oct/2009 | 19/Oct/2009 |
|-----------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|           |       | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Norwest     | Norwest     | Exova       | Bodycote    | Maxxam      | Exova       | Exova       | Exova       |
| Ag-D      | mg/L  | <0.0001     | <0.0001     | 0.0001      | <0.0001     | <0.0002     | <0.0001     | 0.0002      | <0.0001     | <0.0001     | <0.0001     | <0.00001    | <0.00002    | <0.00001    | 0.00011     |             | 0.00002     | <0.00001    | <0.00001    | <0.00001    |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    |
| Al-D      | mg/L  |             |             |             | <0.005      |             | <0.005      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Alk-Bicrb | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <5          |             |             |             |             |             |             |             |             |             |
| Alk-Carb  | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <6          |             |             |             |             |             |             |             |             |             |
| Alk-OH    | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <5          |             |             |             |             |             |             |             |             |             |
| Alk-P     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Alk-T     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <5          |             |             |             |             |             |             |             |             |             |
| Al-T      | mg/L  | <0.005      | <0.005      | <0.005      |             | <0.01       |             | <0.005      | <0.005      | <0.005      | 0.01        | <0.005      | <0.01       | <0.005      | <0.005      |             | 0.005       | <0.005      | 0.023       | <0.005      |             | <0.005      | 0.008       | <0.005      | <0.005      | <0.005      |
| As-D      | mg/L  |             |             |             | <0.0002     |             | <0.0002     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| As-T      | mg/L  | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0004     | <0.0001     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0004     | <0.0002     | <0.0002     |             | <0.0002     | <0.0002     | <0.0002     | <0.0002     |             | 0.0041      | 0.002       | 0.0006      | 0.0003      | <0.0002     |
| Ba-D      | mg/L  |             |             |             | <0.001      |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Ba-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | 0.001       | <0.002      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| B-D       | mg/L  |             |             |             | 0.014       |             | 0.016       |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Be-D      | mg/L  |             |             |             | <0.0001     |             | <0.0001     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Be-T      | mg/L  | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0002     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0002     | <0.0001     | <0.0001     |             | <0.0001     | <0.00004    | <0.0001     | <0.00004    |             | <0.00004    | <0.00004    | <0.00004    | <0.00004    | <0.00004    |
| Bi-D      | mg/L  |             |             |             | <0.0005     |             | <0.0005     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Bi-T      | mg/L  | <0.0005     | <0.0005     | <0.0005     |             | <0.001      |             | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.001      | <0.0005     | <0.0005     |             | <0.0005     | <0.0001     | <0.0005     | <0.0001     |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Bromine   | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| B-T       | mg/L  | 0.015       | 0.015       | 0.017       |             | 0.02        |             | 0.019       | 0.016       | <0.002      | 0.002       | 0.021       | 0.004       | <0.002      | <0.002      |             | <0.002      | <0.005      | <0.002      | <0.005      |             | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      |
| Ca-D      | mg/L  |             |             |             | 0.3         |             | <0.2        |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Ca-T      | mg/L  | <0.2        | <0.2        | <0.2        |             | <0.4        |             | <0.2        | 0.2         | <0.2        | <0.2        | 0.3         | <0.2        | <0.2        | <0.2        |             | <0.2        | <0.05       | <0.2        | <0.05       |             | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Cd-D      | mg/L  |             |             |             | <0.00001    |             | <0.00001    |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| C-DOC     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cd-T      | mg/L  | <0.00001    | <0.00001    | <0.00001    |             | <0.00002    |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00002    | <0.00001    | <0.00001    |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    |
| Chloride  | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | 0.02        |             |             |             |             |             |             |             |             |             |
| CN-T      | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Co-D      | mg/L  |             |             |             | <0.0001     |             | <0.0001     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Colour    | TCU   |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <5          |             |             |             |             |             |             |             |             |             |
| Cond-F    | µS/cm |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cond-L    | µS/cm |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | 2           |             |             |             |             |             |             |             |             |             |
| Co-T      | mg/L  | <0.0001     | <0.0001     | <0.0001     |             | <0.0002     |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0002     | <0.0001     | <0.0001     |             | <0.0001     | <0.00002    | <0.0001     | <0.00002    |             | <0.00002    | <0.00002    | <0.00002    | <0.00002    | <0.00002    |
| Cr-D      | mg/L  |             |             |             | <0.0005     |             | <0.0005     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cr-T      | mg/L  | <0.0005     | <0.0005     | <0.0005     |             | <0.001      |             | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.0005     | 0.002       | 0.0011      | 0.0009      |             | <0.0005     | <0.0004     | <0.0005     | <0.0004     |             | 0.0006      | 0.0007      | 0.0007      | 0.0009      | <0.0004     |
| C-TIC     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| C-TOC     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cu-D      | mg/L  |             |             |             | <0.001      |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cu-T      | mg/L  | <0.001      | <0.001      | <0.001      |             | <0.002      |             | 0.006       | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Discharge | L/s   |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Fe-D      | mg/L  |             |             |             | <0.01       |             | <0.01       |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Fe-T      | mg/L  | <0.1        | <0.1        | <0.1        |             | <0.2        |             | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        |             | <0.05       | <0.01       | <0.05       | <0.01       |             | <0.01       | 0.026       | <0.01       | <0.01       | <0.01       |
| Fluoride  | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Hard-D    | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Hard-T    | mg/L  |             |             |             |             |             |             |             | 1           | <0.9        | <0.9        | 0.9         | <0.9        | <0.9        | <0.9        |             |             |             | <0.9        |             |             |             |             |             |             |             |
| Hg-D      | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Hg-T      | mg/L  |             |             |             |             |             |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |             | <0.0001     | <0.00001    | <0.00001    | <0.00001    |             | <0.00001    |             | <0.00001    | <0.00001    | <0.00001    |
| IB        | %     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| K-D       | mg/L  |             |             |             | <0.4        |             | <0.4        |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| K-T       | mg/L  | <0.4        | <0.4        | <0.4        |             | <0.8        |             | <0.4        | <0.4        | <0.4        | <0.4        | <0.4        | <0.4        | <0.4        | <0.4        |             | <0.4        | <0.1        | <0.4        | <0.1        |             | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        |
| Li-D      | mg/L  |             |             |             | <0.001      |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Li-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.1        | <0.002      | <0.1        | <0.001      | <0.001      | 0.004       | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Mg-D      | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Mg-T      | mg/L  | <0.1        | <0.1        | <0.1        |             | <0.2        |             | <0.1        | 0.1         | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        |             | <0.1        | <0.05       | <0.1        | <0.05       |             | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Mn-D      | mg/L  |             |             |             | <0.005      |             | <0.005      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Mn-T      | mg/L  | <0.005      | <0.005      | <0.005      | <0.005      | <0.01       | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      |             | <0.005      | <0.0001     | <0.005      | <0.0001     |             | <0.0002     | 0.0004      | <0.0002     | <0.0002     | <0.0002     |
| Mo-D      | mg/L  |             |             |             | <0.001      |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Mo-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      |             | <0.001      | 0.00004     | <0.001      | <0.00002    |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Na-D      | mg/L  |             |             |             | 1           |             | 1           |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Na-T      | mg/L  | 1.1         | 1           | 1           |             | 1           |             | 0.8         | 1.3         | <0.4        | <0.4        | 2           | 0.5         | 0.5         | 0.6         |             | <0.4        | <0.02       | 0.6         | 1.16        |             | <0.02       | <0.02       | 0.02        | <0.02       | 0.03        |
| Ni-D      | mg/L  |             |             |             | <0.0005     |             | <0.0005     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Ni-T      | mg/L  | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.001      | <0.0005     | 0.0007      | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.001      | <0.0005     | <0.0005     |             | <0.0005     | <0.001      | <0.0005     | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Ammonia   | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <0.01       |             |             |             |             |             |
| Ammonium  | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| N-NO2     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| NO2+NO3   | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             | <0.1        |             |             |             |             |             |             |             |             |             |             |             |             |
| N-NO3     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| N-TKN     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| O-DO      | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |

Table B.3: Minto field blank results by sample date.

| Analyte     | Units | 07/Jul/2006 | 12/Jul/2006 | 02/Aug/2006 | 29/Sep/2006 | 04/Oct/2006 | 12/Oct/2006 | 07/Feb/2007 | 29/Aug/2007 | 03/Oct/2007 | 30/Jan/2008 | 20/Feb/2008 | 14/Mar/2008 | 26/Mar/2008 | 03/Apr/2008 | 07/Aug/2008 | 18/Nov/2008 | 10/Dec/2008 | 17/Dec/2008 | 20/Mar/2009 | 05/May/2009 | 30/Jul/2009 | 05/Aug/2009 | 18/Aug/2009 | 07/Oct/2009 | 19/Oct/2009 |
|-------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|             |       | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Norwest     | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Norwest     | Norwest     | Exova       | Bodycote    | Maxxam      | Exova       | Exova       | Exova       | Exova       |
| Se-D        | mg/L  |             |             |             | <0.0002     |             | <0.0002     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Se-T        | mg/L  | <0.0002     | <0.0002     | <0.0002     |             | <0.0004     |             | 0.0003      | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0004     | <0.0002     | <0.0002     |             | <0.0002     | <0.0006     | <0.0002     | <0.0006     |             | <0.0006     | <0.0006     | <0.0006     | <0.0006     | <0.0006     |
| Si-D        | mg/L  |             |             |             | 0.07        |             | <0.05       |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Si-T        | mg/L  | 0.06        | <0.05       | <0.05       |             | <0.1        |             | <0.05       | <0.05       | 0.07        | <0.05       | 0.17        | 0.08        | 0.08        | 0.1         |             | 0.2         | <0.05       | <0.05       | 0.06        |             | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Sn-D        | mg/L  |             |             |             | <0.001      |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Sn-T        | mg/L  | <0.001      | <0.001      | <0.001      |             | <0.002      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      |             | <0.001      | 0.0002      | <0.001      | <0.0001     |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| SO4-D       | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |             |             |
| SO4-T       | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Sr-D        | mg/L  |             |             |             | 0.002       |             | <0.001      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Sr-T        | mg/L  | <0.001      | <0.001      | <0.001      |             | <0.002      |             | <0.001      | 0.002       | 0.001       | <0.001      | 0.004       | <0.002      | <0.001      | <0.001      |             | <0.001      | <0.001      | 0.002       | <0.001      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| S-T         | mg/L  | <0.3        | <0.3        | <0.3        |             | <0.6        |             | <0.3        | <0.3        | <0.3        | <0.3        | <0.3        | <0.3        | <0.3        | <0.3        |             | <0.3        | <0.3        | <0.3        | 0.2         |             | <0.1        | <0.1        | <0.1        | 0.6         | <0.1        |
| Sulphide    | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| TDS         | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | 20          |             |             |             |             |             |             |             |             |             |
| Te-D        | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Temp-F      | C     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Temp-obs-pH | C     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Te-T        | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <0.0001     |             | <0.0001     |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Th-D        | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Th-T        | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <0.0001     |             | <0.0001     |             | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| Ti-D        | mg/L  |             |             |             | <0.0005     |             | <0.0005     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Ti-T        | mg/L  | <0.0005     | <0.0005     | <0.0005     |             | <0.001      |             | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.001      | <0.0005     | <0.0005     |             | <0.0005     | <0.0001     | <0.0005     | <0.0001     |             | <0.0004     | 0.0004      | <0.0004     | <0.0004     |             |
| Ti-D        | mg/L  |             |             |             | <0.00005    |             | <0.00005    |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Ti-T        | mg/L  | <0.00005    | <0.00005    | <0.00005    |             | <0.0001     |             | <0.00005    | <0.00005    | <0.00005    | <0.00005    | <0.00005    | <0.0001     | <0.00005    | <0.00005    |             | <0.00005    | <0.00001    | <0.00005    | <0.00001    |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    |
| TSS         | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | <2          |             |             |             |             |             |             |             |             |
| Turb        | NTU   |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             | 0.4         |             |             |             |             |             |             |             |             |             |
| Turb-F      | NTU   |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| U-D         | mg/L  |             |             |             | <0.0005     |             | <0.0005     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| U-T         | mg/L  | <0.0005     | <0.0005     | <0.0005     |             | <0.001      |             | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.0005     | <0.001      | <0.0005     | <0.0005     |             | <0.0005     | <0.0004     | <0.0005     | <0.0004     |             | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| V-D         | mg/L  |             |             |             | <0.0001     |             | <0.0001     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| V-T         | mg/L  | <0.0001     | <0.0001     | <0.0001     |             | <0.0002     |             | 0.0002      | <0.0001     | <0.0001     | 0.0001      | 0.0002      | <0.0002     | <0.0001     | <0.0001     |             | <0.0001     | <0.00004    | 0.0001      | <0.00004    |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Zn-D        | mg/L  |             |             |             | 0.004       |             | 0.003       |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Zn-T        | mg/L  | 0.002       | 0.004       | 0.003       |             | 0.002       |             | 0.004       | 0.01        | 0.004       | 0.006       | 0.009       | 0.01        | 0.005       | 0.006       |             | 0.006       | 0.001       | 0.004       | 0.003       |             | 0.017       | 0.003       | 0.008       | 0.005       | 0.004       |
| Zr-D        | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Zr-T        | mg/L  | <0.001      | <0.001      | <0.001      |             | <0.002      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.002      | <0.001      | <0.001      |             | <0.001      | <0.0001     | <0.001      | <0.0001     |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |

Table B.4: Minto trip blank results by sample date.

| Analyte   | Units | 05/Jun/2007 | 30/Jan/2008 | 14/Mar/2008 | 20/Mar/2008 | 07/Aug/2008 | 18/Nov/2008 | 20/Mar/2009 | 17/Apr/2009 | 28/Jun/2009 | 30/Jul/2009 | 05/Aug/2009 | 11/Aug/2009 | 18/Aug/2009 | 07/Sep/2009 | 21/Sep/2009 | 05/Oct/2009 |
|-----------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|           |       | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Exova       | Bodycote    | Maxxam      | Maxxam      | Exova       | Maxxam      | Exova       | Exova       | Exova       | Exova       |
| Ag-D      | mg/L  |             |             |             |             |             |             |             |             | <0.00002    |             |             |             |             |             |             |             |
| Ag-T      | mg/L  | <0.0001     | <0.0001     | <0.00001    | <0.001      |             | 0.00002     | <0.00001    | <0.00001    | <0.00002    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    |
| Al-D      | mg/L  |             |             |             |             |             |             |             |             | <0.003      |             |             |             |             |             |             |             |
| Alk-Bicrb | mg/L  |             |             |             |             |             | <5          |             |             | 0.7         |             |             |             |             |             |             |             |
| Alk-Carb  | mg/L  |             |             |             |             |             | <6          |             |             | <0.5        |             |             |             |             |             |             |             |
| Alk-OH    | mg/L  |             |             |             |             |             | <5          |             |             | <0.5        |             |             |             |             |             |             |             |
| Alk-P     | mg/L  |             |             |             |             |             |             |             |             | <0.5        |             |             |             |             |             |             |             |
| Alk-T     | mg/L  |             |             |             |             |             | <5          |             |             | 0.6         |             |             |             |             |             |             |             |
| Al-T      | mg/L  | <0.005      | <0.005      | <0.005      | <0.1        |             | 0.006       | <0.005      | <0.005      | <0.003      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      | <0.005      |
| As-D      | mg/L  |             |             |             |             |             |             |             |             | <0.0001     |             |             |             |             |             |             |             |
| As-T      | mg/L  | <0.0002     | <0.0002     | <0.0002     | <0.001      |             | <0.0002     | 0.0004      | <0.0002     | <0.0001     | 0.0035      | 0.0012      | 0.002       | 0.0005      | 0.0011      | 0.0009      | <0.0002     |
| Ba-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Ba-T      | mg/L  | <0.001      | <0.001      | 0.004       | <0.005      |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| B-D       | mg/L  |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |
| Be-D      | mg/L  |             |             |             |             |             |             |             |             | <0.0001     |             |             |             |             |             |             |             |
| Be-T      | mg/L  | <0.0001     | <0.0001     | <0.0001     | <0.00020    |             | <0.0001     | <0.00004    | <0.00004    | <0.0001     | <0.00004    | <0.00004    | <0.00004    | <0.00004    | <0.00004    | <0.00004    | <0.00004    |
| Bi-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Bi-T      | mg/L  | <0.0005     | <0.0005     | <0.0005     |             |             | <0.0005     | <0.0001     | <0.0001     | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Bromine   | mg/L  |             |             |             |             |             |             |             |             | <0.4        |             |             |             |             |             |             |             |
| B-T       | mg/L  | 0.004       | <0.002      | <0.002      | <0.02       |             | <0.002      | <0.005      | <0.005      | <0.05       | 0.009       | 0.018       | 0.017       | 0.008       | 0.011       | 0.01        | 0.017       |
| Ca-D      | mg/L  |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |
| Ca-T      | mg/L  | 0.2         | <0.2        | <0.2        | 0.52        |             | <0.2        | 0.05        | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Cd-D      | mg/L  |             |             |             |             |             |             |             |             | <0.00001    |             |             |             |             |             |             |             |
| C-DOC     | mg/L  |             |             |             |             |             |             |             |             | <0.5        |             |             |             |             |             |             |             |
| Cd-T      | mg/L  | <0.00001    | <0.00001    | <0.00001    | <0.0004     |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | 0.00003     | <0.00001    |
| Chloride  | mg/L  |             |             |             |             |             | <0.02       |             |             | <0.5        |             |             |             |             |             |             |             |
| CN-T      | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Co-D      | mg/L  |             |             |             |             |             |             |             |             | <0.0005     |             |             |             |             |             |             |             |
| Colour    | TCU   |             |             |             |             |             | <5          |             |             |             |             |             |             |             |             |             |             |
| Cond-F    | µS/cm |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cond-L    | µS/cm |             |             |             |             |             | 1           |             |             | 1           |             |             |             |             |             |             |             |
| Co-T      | mg/L  | <0.0001     | <0.0001     | <0.0001     | <0.0001     |             | <0.0001     | <0.00002    | <0.00002    | <0.0005     | <0.00002    | <0.00002    | <0.00002    | <0.00002    | <0.00002    | <0.00002    | <0.00002    |
| Cr-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Cr-T      | mg/L  | <0.0005     | <0.0005     | 0.0011      | <0.002      |             | <0.0005     | 0.0007      | <0.0004     | <0.001      | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| C-TIC     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| C-TOC     | mg/L  |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Cu-D      | mg/L  |             |             |             |             |             |             |             |             | <0.0002     |             |             |             |             |             |             |             |
| Cu-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.005      |             | <0.001      | <0.001      | <0.001      | 0.0005      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Discharge | L/s   |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Fe-D      | mg/L  |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Fe-T      | mg/L  | <0.1        | <0.1        | <0.1        | 0.05        |             | <0.05       | <0.01       | <0.01       | <0.005      | <0.01       | 0.01        | <0.01       | <0.01       | 0.013       | <0.01       | <0.01       |
| Fluoride  | mg/L  |             |             |             |             |             |             |             |             | <0.01       |             |             |             |             |             |             |             |
| Hard-D    | mg/L  |             |             |             |             |             |             |             |             | <0.5        |             |             |             |             |             |             |             |
| Hard-T    | mg/L  | 0.6         | <0.9        | <0.9        | 1           |             |             |             |             | <0.5        |             |             |             |             |             |             |             |
| Hg-D      | mg/L  |             |             |             |             |             |             |             |             | <0.00002    |             |             |             |             |             |             |             |
| Hg-T      | mg/L  | <0.0001     | <0.0001     | <0.0001     | <0.00001    |             | <0.0001     | <0.00001    | <0.00001    | <0.00002    | <0.00001    |             |             | <0.00001    | <0.00001    | <0.00001    | <0.00001    |
| IB        | %     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| K-D       | mg/L  |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |
| K-T       | mg/L  | <0.4        | <0.4        | <0.4        | <0.2        |             | <0.4        | <0.1        | <0.1        | <0.05       | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        |
| Li-D      | mg/L  |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Li-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.005      |             | <0.001      | <0.001      | <0.001      | <0.005      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| Mg-D      | mg/L  |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |
| Mg-T      | mg/L  | <0.1        | <0.1        | <0.1        | <0.2        |             | <0.1        | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Mn-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Mn-T      | mg/L  | <0.005      | <0.005      | <0.005      | 0.003       |             | <0.005      | 0.0004      | <0.0001     | <0.001      | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     |
| Mo-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Mo-T      | mg/L  | <0.001      | <0.001      | <0.001      | <0.0001     |             | <0.001      | <0.00002    | <0.00002    | <0.001      | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Na-D      | mg/L  |             |             |             |             |             |             |             |             | <0.05       |             |             |             |             |             |             |             |
| Na-T      | mg/L  | <0.4        | <0.4        | 0.7         | 1           |             | <0.4        | 1.54        | 0.73        | <0.05       | 0.26        | 0.27        | 0.56        | 0.25        | 0.3         | 0.31        | 0.23        |
| Ni-D      | mg/L  |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Ni-T      | mg/L  | <0.0005     | <0.0005     | <0.0005     | <0.005      |             | <0.0005     | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |

Table B.4: Minto trip blank results by sample date.

| Analyte       | Units    | 05/Jun/2007 | 30/Jan/2008 | 14/Mar/2008 | 20/Mar/2008 | 07/Aug/2008 | 18/Nov/2008 | 20/Mar/2009 | 17/Apr/2009 | 28/Jun/2009 | 30/Jul/2009 | 05/Aug/2009 | 11/Aug/2009 | 18/Aug/2009 | 07/Sep/2009 | 21/Sep/2009 | 05/Oct/2009 |
|---------------|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|               |          | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Bodycote    | Exova       | Bodycote    | Maxxam      | Maxxam      | Exova       | Maxxam      | Exova       | Exova       | Exova       | Exova       |
| Ammonia       | mg/L     | <0.05       |             |             |             | <0.05       |             |             |             | 0.011       |             |             |             |             |             |             |             |
| Ammonium      | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| N-NO2         | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| NO2+NO3       | mg/L     | <0.1        |             |             |             |             |             |             |             | <0.02       |             |             |             |             |             |             |             |
| N-NO3         | mg/L     |             |             |             |             |             |             |             |             | <0.02       |             |             |             |             |             |             |             |
| N-TKN         | mg/L     | <0.06       |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| O-DO          | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Pb-D          | mg/L     |             |             |             |             |             |             |             |             | <0.0002     |             |             |             |             |             |             |             |
| Pb-T          | mg/L     | <0.0001     | <0.0001     | <0.0001     | <0.0005     |             | <0.0001     | 0.0001      | <0.0001     | <0.0002     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | 0.0002      | <0.0001     |
| P-D           | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| pH-F          | pH units |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| pH-L          | pH units |             |             |             |             |             | 5.66        |             |             | 6.2         |             |             |             |             |             |             |             |
| P-PO4-T       | mg/L     | <0.01       |             |             |             | <0.05       |             |             |             |             |             |             |             |             |             |             |             |
| P-T           | mg/L     | <0.05       |             |             | <0.05       |             |             | <0.01       | <0.01       |             | <0.01       | <0.01       | <0.01       | <0.01       | <0.01       | <0.010      | <0.01       |
| P-TDP         | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| P-TRP (Ortho) | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Radium - 226  |          |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Sb-D          | mg/L     |             |             |             |             |             |             |             |             | <0.0005     |             |             |             |             |             |             |             |
| Sb-T          | mg/L     | <0.0002     | <0.0002     | <0.0002     | <0.001      |             | <0.0002     | <0.0002     | <0.0002     | <0.0005     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     | <0.0002     |
| S-D           | mg/L     |             |             |             |             |             |             |             |             | <3          |             |             |             |             |             |             |             |
| Se-D          | mg/L     |             |             |             |             |             |             |             |             | <0.0001     |             |             |             |             |             |             |             |
| Se-T          | mg/L     | <0.0002     | <0.0002     | <0.0002     | <0.003      |             | <0.0002     | <0.0006     | <0.0006     | <0.0001     | <0.0006     | <0.0006     | <0.0006     | <0.0006     | <0.0006     | <0.0006     | <0.0006     |
| Si-D          | mg/L     |             |             |             |             |             |             |             |             | <0.1        |             |             |             |             |             |             |             |
| Si-T          | mg/L     | <0.05       | <0.05       | <0.05       | 0.08        |             | 0.1         | 0.06        | <0.05       | <0.1        | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       | <0.05       |
| Sn-D          | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Sn-T          | mg/L     | <0.001      | <0.001      | <0.001      | <0.004      |             | <0.001      | <0.0001     | <0.0001     | <0.005      | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| SO4-D         | mg/L     |             |             |             |             |             | <0.05       |             |             | 0.6         |             |             |             |             |             |             |             |
| SO4-T         | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Sr-D          | mg/L     |             |             |             |             |             |             |             |             | <0.001      |             |             |             |             |             |             |             |
| Sr-T          | mg/L     | 0.013       | <0.001      | <0.001      | 0.006       |             | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      | <0.001      |
| S-T           | mg/L     | <0.3        | <0.3        | <0.3        |             |             | <0.3        | 0.1         | <0.1        | <3          | <0.1        | <0.1        | 0.1         | <0.1        | <0.1        | 0.1         | <0.1        |
| Sulphide      | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| TDS           | mg/L     |             |             |             |             |             | 20          |             |             | <10         |             |             |             |             |             |             |             |
| Te-D          | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Temp-F        | C        |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Temp-obs-pH   | C        |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Te-T          | mg/L     |             |             |             | <0.0005     |             |             | <0.0001     | <0.0001     |             | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Th-D          | mg/L     |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| Th-T          | mg/L     |             |             |             | <0.0001     |             |             | <0.0001     | <0.0001     |             | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| Ti-D          | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Ti-T          | mg/L     | <0.0005     | <0.0005     | <0.0005     | <0.0005     |             | <0.0005     | <0.0001     | <0.0001     | <0.005      | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| TI-D          | mg/L     |             |             |             |             |             |             |             |             | <0.00005    |             |             |             |             |             |             |             |
| TI-T          | mg/L     | <0.00005    | <0.00005    | <0.00005    | <0.00005    |             | <0.00005    | <0.00001    | <0.00001    | <0.00005    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | <0.00001    | 0.00013     | <0.00001    |
| TSS           | mg/L     |             |             |             |             |             | <2          |             |             | <4          |             |             |             |             |             |             |             |
| Turb          | NTU      |             |             |             |             |             | 0.2         |             |             | 0.1         |             |             |             |             |             |             |             |
| Turb-F        | NTU      |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |             |
| U-D           | mg/L     |             |             |             |             |             |             |             |             | <0.0001     |             |             |             |             |             |             |             |
| U-T           | mg/L     | <0.0005     | <0.0005     | <0.0005     | <0.002      |             | <0.0005     | <0.0004     | <0.0004     | <0.0001     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     | <0.0004     |
| V-D           | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| V-T           | mg/L     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |             | <0.0001     | <0.00004    | <0.00004    | <0.005      | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |
| Zn-D          | mg/L     |             |             |             |             |             |             |             |             | <0.005      |             |             |             |             |             |             |             |
| Zn-T          | mg/L     | 0.005       | 0.004       | 0.004       | 0.03        |             | 0.003       | 0.009       | 0.01        | <0.005      | 0.003       | 0.006       | <0.001      | <0.001      | 0.002       | 0.001       | 0.001       |
| Zr-D          | mg/L     |             |             |             |             |             |             |             |             | <0.0005     |             |             |             |             |             |             |             |
| Zr-T          | mg/L     | <0.001      | <0.001      | <0.001      | <0.0005     |             | <0.001      | 0.0002      | <0.0001     | <0.0005     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     | <0.0001     |

Table B.5: Minto trip blank results compared to Minto field blank results by sample date.

|          | Trip        | Field   | Trip        | Field    | Trip        | Field   | Trip        | Field    | Trip        | Field    | Trip        | Field    | Trip        | Field    |
|----------|-------------|---------|-------------|----------|-------------|---------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|
|          | Bodycote    |         | Bodycote    |          | Bodycote    |         | Exova       |          | Maxxam      |          | Exova       |          | Exova       |          |
| Analyte  | 30/Jan/2008 |         | 14/Mar/2008 |          | 18/Nov/2008 |         | 20/Mar/2009 |          | 30/Jul/2009 |          | 05/Aug/2009 |          | 18/Aug/2009 |          |
| Ag-T     | <0.0001     | <0.0001 | <0.00001    | <0.00002 | 0.00002     | 0.00002 | <0.00001    | <0.00001 | <0.00001    | <0.00001 | <0.00001    | <0.00001 | <0.00001    | <0.00001 |
| Al-T     | <0.005      | 0.01    | <0.005      | <0.01    | 0.006       | 0.005   | <0.005      | <0.005   | <0.005      | <0.005   | <0.005      | 0.008    | <0.005      | <0.005   |
| As-T     | <0.0002     | <0.0002 | <0.0002     | <0.0004  | <0.0002     | <0.0002 | 0.0004      | <0.0002  | 0.0035      | 0.0041   | 0.0012      | 0.002    | 0.0005      | 0.0006   |
| Ba-T     | <0.001      | <0.001  | 0.004       | <0.002   | <0.001      | <0.001  | <0.001      | <0.001   | <0.001      | <0.001   | <0.001      | <0.001   | <0.001      | <0.001   |
| B-T      | <0.002      | 0.002   | <0.002      | 0.004    | <0.002      | <0.002  | <0.005      | <0.005   | 0.009       | <0.005   | 0.018       | <0.005   | 0.008       | <0.005   |
| Ca-T     | <0.2        | <0.2    | <0.2        | <0.2     | <0.2        | <0.2    | 0.05        | <0.05    | <0.05       | <0.05    | <0.05       | <0.05    | <0.05       | <0.05    |
| Chloride |             |         |             |          | <0.02       | 0.02    |             |          |             |          |             |          |             |          |
| Cond-L   |             |         |             |          | 1           | 2       |             |          |             |          |             |          |             |          |
| Cr-T     | <0.0005     | <0.0005 | 0.0011      | 0.002    | <0.0005     | <0.0005 | 0.0007      | <0.0004  | <0.0004     | 0.0006   | <0.0004     | 0.0007   | <0.0004     | 0.0007   |
| Fe-T     | <0.1        | <0.1    | <0.1        | <0.1     | <0.05       | <0.05   | <0.01       | <0.01    | <0.01       | <0.01    | 0.01        | 0.026    | <0.01       | <0.01    |
| Mn-T     | <0.005      | <0.005  | <0.005      | <0.005   | <0.005      | <0.005  | 0.0004      | <0.0001  | <0.0002     | <0.0002  | <0.0002     | 0.0004   | <0.0002     | <0.0002  |
| Na-T     | <0.4        | <0.4    | 0.7         | 0.5      | <0.4        | <0.4    | 1.54        | 1.16     | 0.26        | <0.02    | 0.27        | <0.02    | 0.25        | 0.02     |
| Pb-T     | <0.0001     | <0.0001 | <0.0001     | <0.0002  | <0.0001     | <0.0001 | 0.0001      | 0.0002   | <0.0001     | 0.0002   | <0.0001     | 0.0004   | <0.0001     | 0.0008   |
| pH-L     |             |         |             |          | 5.66        | 5.96    |             |          |             |          |             |          |             |          |
| Si-T     | <0.05       | <0.05   | <0.05       | 0.08     | 0.1         | 0.2     | 0.06        | 0.06     | <0.05       | <0.05    | <0.05       | <0.05    | <0.05       | <0.05    |
| S-T      | <0.3        | <0.3    | <0.3        | <0.3     | <0.3        | <0.3    | 0.1         | 0.2      | <0.1        | <0.1     | <0.1        | <0.1     | <0.1        | <0.1     |
| TDS      |             |         |             |          | 20          | 20      |             |          |             |          |             |          |             |          |
| Ti-T     | <0.0005     | <0.0005 | <0.0005     | <0.001   | <0.0005     | <0.0005 | <0.0001     | <0.0001  | <0.0004     | <0.0004  | <0.0004     | 0.0004   | <0.0004     | <0.0004  |
| Turb     |             |         |             |          | 0.2         | 0.4     |             |          |             |          |             |          |             |          |
| V-T      | <0.0001     | 0.0001  | <0.0001     | <0.0002  | <0.0001     | <0.0001 | <0.00004    | <0.00004 | <0.0001     | <0.0001  | <0.0001     | <0.0001  | <0.0001     | <0.0001  |
| Zn-T     | 0.004       | 0.006   | 0.004       | 0.01     | 0.003       | 0.006   | 0.009       | 0.003    | 0.003       | 0.017    | 0.006       | 0.003    | <0.001      | 0.008    |
| Zr-T     | <0.001      | <0.001  | <0.001      | <0.002   | <0.001      | <0.001  | 0.0002      | <0.0001  | <0.0001     | <0.0001  | <0.0001     | <0.0001  | <0.0001     | <0.0001  |

|  |                                   |
|--|-----------------------------------|
|  | Concentration detected at <2X MDL |
|  | Concentration detected at >2X MDL |

**Table B.6: Field duplicate results for water sample analysis, Minto Mine 2006 and 2007**

[illegible]<sup>a</sup> RPD - Relative Percent Difference

Table B.6: Field duplicate results for water sample analysis, Minto Mine 2006 and 2007

| Analyte       | Units | W7          |          |          |      |      |     |             |          |          |       |      |     | W17         |          |          |       |      |     |             |          |    |    |     |  |
|---------------|-------|-------------|----------|----------|------|------|-----|-------------|----------|----------|-------|------|-----|-------------|----------|----------|-------|------|-----|-------------|----------|----|----|-----|--|
|               |       | 24/Aug/2007 |          |          |      |      |     | 30/Oct/2007 |          |          |       |      |     | 30/Oct/2007 |          |          |       |      |     | 27/Nov/2007 |          |    |    |     |  |
|               |       | Bodycote    |          |          |      |      |     | Bodycote    |          |          |       |      |     | Bodycote    |          |          |       |      |     | Bodycote    |          |    |    |     |  |
|               |       | QD2         | QD       | P        | min  | max  | RPD | QD3         | QD2      | QD       | P     | min  | max | RPD         | QD3      | QD2      | QD    | P    | min | max         | RPD      | QD | P  | RPD |  |
| As-T          | mg/L  | <0.0001     | <0.0001  | <0.0001  | 0.0  | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | NC | NC |     |  |
| As-T          | mg/L  | 0.092       | 0.098    | 0.205    | 0.1  | 0.2  | 86  | 0.076       | 0.071    | 0.121    | 0.1   | 0.1  | 56  | 0.024       | 0.036    | 0.028    | 0.0   | 0.0  | 41  | 0.053       | 0.038    | 33 | 0  |     |  |
| As-T          | mg/L  | 0.0004      | 0.0004   | 0.0003   | 0.0  | 0.0  | 27  | <0.0002     | 0.0002   | 0.0004   | 0.0   | 0.0  | 67  | 0.0003      | 0.0007   | 0.0004   | 0.0   | 0.0  | 86  | 0.0008      | 0.0008   | 0  | 0  |     |  |
| Ba-T          | mg/L  | 0.077       | 0.074    | 0.075    | 0.1  | 0.1  | 4   | 0.074       | 0.075    | 0.076    | 0.1   | 0.1  | 3   | 0.098       | 0.1      | 0.103    | 0.1   | 0.1  | 5   | 0.112       | 0.115    | 3  | 0  |     |  |
| Be-T          | mg/L  | <0.0001     | <0.0001  | <0.0001  | 0.0  | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | NC | NC |     |  |
| Bi-T          | mg/L  | <0.0005     | <0.0005  | <0.0005  | 0.0  | 0.0  | NC  | <0.0005     | <0.0005  | <0.0005  | 0.0   | 0.0  | NC  | <0.0005     | <0.0005  | <0.0005  | 0.0   | 0.0  | NC  | <0.0005     | <0.0005  | NC | NC |     |  |
| B-T           | mg/L  | 0.006       | 0.006    | 0.006    | 0.0  | 0.0  | 0   | 0.006       | 0.006    | 0.007    | 0.0   | 0.0  | 16  | 0.036       | 0.034    | 0.037    | 0.0   | 0.0  | 8   | 0.036       | 0.034    | 6  | 0  |     |  |
| Ca-T          | mg/L  | 32.9        | 31.5     | 31.2     | 31.2 | 32.9 | 5   | 33.6        | 33       | 33.5     | 33.0  | 33.6 | 2   | 63.6        | 63.2     | 64.2     | 63.2  | 64.2 | 2   | 69.4        | 69.5     | 0  | 0  |     |  |
| Cd-T          | mg/L  | <0.00001    | <0.00001 | <0.00001 | 0.0  | 0.0  | NC  | 0.00002     | 0.00002  | 0.00004  | 0.0   | 0.0  | 75  | 0.00003     | 0.00003  | 0.00004  | 0.0   | 0.0  | 30  | 0.00002     | 0.00001  | 67 | 0  |     |  |
| CN-T          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Co-T          | mg/L  | 0.0001      | 0.0001   | 0.0002   | 0.0  | 0.0  | 75  | 0.0001      | 0.0001   | 0.0003   | 0.0   | 0.0  | 120 | 0.0002      | 0.0002   | 0.0002   | 0.0   | 0.0  | 0   | 0.0003      | 0.0002   | 40 | 0  |     |  |
| Cr-T          | mg/L  | 0.0005      | 0.0005   | 0.0008   | 0.0  | 0.0  | 50  | 0.0007      | 0.0008   | 0.0007   | 0.0   | 0.0  | 14  | <0.0005     | 0.0006   | <0.0005  | 0.0   | 0.0  | NC  | 0.0005      | <0.0005  | NC | NC |     |  |
| Cu-T          | mg/L  | 0.001       | 0.001    | 0.002    | 0.0  | 0.0  | 75  | 0.003       | 0.005    | 0.012    | 0.0   | 0.0  | 135 | 0.021       | 0.021    | 0.022    | 0.0   | 0.0  | 5   | 0.025       | 0.017    | 38 | 0  |     |  |
| Fe-T          | mg/L  | 0.2         | 0.2      | 0.2      | 0.2  | 0.2  | 0   | 0.2         | 0.2      | 0.3      | 0.2   | 0.3  | 43  | <0.1        | <0.1     | <0.1     | 0.0   | 0.0  | NC  | <0.1        | <0.1     | NC | NC |     |  |
| Hg-T          | mg/L  | <0.0001     | <0.0001  | <0.0001  | 0.0  | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | <0.0001  | NC | NC |     |  |
| K-T           | mg/L  | 1.1         | 1        | 1        | 1.0  | 1.1  | 10  | 1.1         | 1.1      | 1.6      | 1.1   | 1.6  | 39  | 3.7         | 3.6      | 3.7      | 3.6   | 3.7  | 3   | 3.9         | 3.9      | 0  | 0  |     |  |
| Li-T          | mg/L  | 0.001       | 0.001    | 0.001    | 0.0  | 0.0  | 0   | 0.001       | 0.001    | 0.001    | 0.0   | 0.0  | 0   | 0.002       | 0.002    | 0.002    | 0.0   | 0.0  | 0   | 0.002       | 0.002    | 0  | 0  |     |  |
| Mg-T          | mg/L  | 11.2        | 10.8     | 10.7     | 10.7 | 11.2 | 5   | 11.3        | 11       | 11.2     | 11.0  | 11.3 | 3   | 16.8        | 16.8     | 17       | 16.8  | 17.0 | 1   | 19.4        | 19.3     | 1  | 0  |     |  |
| Mn-T          | mg/L  | 0.031       | 0.03     | 0.033    | 0.0  | 0.0  | 10  | 0.047       | 0.046    | 0.054    | 0.0   | 0.1  | 16  | 0.094       | 0.1      | 0.097    | 0.1   | 0.1  | 6   | 0.135       | 0.134    | 1  | 0  |     |  |
| Mo-T          | mg/L  | 0.002       | 0.001    | 0.001    | 0.0  | 0.0  | 75  | 0.001       | 0.001    | 0.002    | 0.0   | 0.0  | 75  | 0.006       | 0.006    | 0.007    | 0.0   | 0.0  | 16  | 0.01        | 0.01     | 0  | 0  |     |  |
| Nb-T          | mg/L  | 8           | 7.6      | 7.9      | 7.6  | 8.0  | 5   | 7.6         | 7.7      | 8.1      | 7.6   | 8.1  | 6   | 15.8        | 15.6     | 16       | 15.6  | 16.0 | 3   | 16.8        | 16.8     | 0  | 0  |     |  |
| Ni-T          | mg/L  | 0.0014      | 0.0013   | 0.0014   | 0.0  | 0.0  | 7   | 0.0009      | 0.001    | 0.0008   | 0.0   | 0.0  | 22  | 0.0009      | 0.001    | 0.001    | 0.0   | 0.0  | 10  | 0.0023      | 0.0022   | 4  | 0  |     |  |
| N-TKN         | mg/L  | 0.24        | 0.26     | 0.3      | 0.2  | 0.3  | 23  | 0.54        | 0.46     | 0.51     | 0.5   | 0.5  | 16  | <0.06       | 0.25     | <0.06    | 0.3   | 0.3  | NC  | <0.06       | 0.71     | NC | NC |     |  |
| Pb-T          | mg/L  | <0.0001     | <0.0001  | 0.0001   | 0.0  | 0.0  | NC  | 0.0003      | 0.0005   | 0.0023   | 0.0   | 0.0  | 194 | <0.0001     | 0.0011   | <0.0001  | 0.0   | 0.0  | NC  | <0.0001     | 0.0002   | NC | NC |     |  |
| P-PO4-T       | mg/L  | 0.04        | 0.04     | 0.04     | 0.0  | 0.0  | 0   | 0.02        | 0.02     | 0.02     | <0.02 | 0.0  | 0   | <0.02       | <0.02    | <0.02    | 0.0   | 0.0  | NC  | <0.02       | 0.06     | NC | NC |     |  |
| P-T           | mg/L  | <0.05       | <0.05    | <0.05    | 0.0  | 0.0  | NC  |             |          |          | 0.0   | 0.0  | 0   | <0.02       | <0.02    | <0.02    | 0.0   | 0.0  | NC  | <0.05       | <0.05    | NC | NC |     |  |
| P-TRP (Ortho) | mg/L  |             |          |          | 0.0  | 0.0  |     | <0.01       | <0.01    | <0.01    | <0.01 | 0.0  | 0.0 | NC          | <0.01    | <0.01    | <0.01 | 0.0  | 0.0 | NC          |          |    |    |     |  |
| Sb-T          | mg/L  | <0.0002     | <0.0002  | <0.0002  | 0.0  | 0.0  | NC  | <0.0002     | <0.0002  | <0.0002  | 0.0   | 0.0  | NC  | <0.0002     | <0.0002  | <0.0002  | 0.0   | 0.0  | NC  | <0.0002     | 0.0002   | NC | NC |     |  |
| Se-T          | mg/L  | <0.0002     | <0.0002  | <0.0002  | 0.0  | 0.0  | NC  | <0.0002     | 0.0003   | 0.0007   | 0.0   | 0.0  | 80  | 0.0016      | 0.0013   | 0.0012   | 0.0   | 0.0  | 29  | 0.0007      | 0.001    | 35 | 0  |     |  |
| Si-T          | mg/L  | 5.3         | 5.92     | 5.8      | 5.8  | 5.9  | 9   | 5.97        | 5.09     | 5.94     | 5.1   | 6.0  | 15  | 5.27        | 5.28     | 5.45     | 5.3   | 5.4  | 4   | 5.3         | 5.34     | 1  | 0  |     |  |
| Sn-T          | mg/L  | <0.001      | <0.001   | <0.001   | 0.0  | 0.0  | NC  | <0.001      | <0.001   | <0.001   | 0.0   | 0.0  | NC  | <0.001      | <0.001   | <0.001   | 0.0   | 0.0  | NC  | <0.001      | <0.001   | NC | NC |     |  |
| Sr-T          | mg/L  | 0.376       | 0.34     | 0.34     | 0.3  | 0.4  | 10  | 0.385       | 0.388    | 0.395    | 0.4   | 0.4  | 3   | 0.532       | 0.525    | 0.538    | 0.5   | 0.5  | 2   | 0.527       | 0.526    | 0  | 0  |     |  |
| St-T          | mg/L  | 3.5         | 3.3      | 3.3      | 3.3  | 3.5  | 6   | 4.2         | 4.3      | 4.6      | 4.2   | 4.6  | 9   | 13.9        | 13.8     | 13.8     | 13.8  | 13.9 | 1   | 14.7        | 14.8     | 1  | 0  |     |  |
| Te-T          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Tb-T          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Ti-T          | mg/L  | <0.0005     | <0.0005  | <0.0005  | 0.0  | 0.0  | NC  | 0.0041      | 0.0043   | 0.0066   | 0.0   | 0.0  | 50  | 0.0022      | 0.0021   | 0.0026   | 0.0   | 0.0  | 22  | 0.0038      | 0.003    | 24 | 0  |     |  |
| TI-T          | mg/L  | <0.00005    | <0.00005 | <0.00005 | 0.0  | 0.0  | NC  | <0.00005    | <0.00005 | <0.00005 | 0.0   | 0.0  | NC  | <0.00005    | <0.00005 | <0.00005 | 0.0   | 0.0  | NC  | <0.00005    | <0.00005 | NC | NC |     |  |
| U-T           | mg/L  | 0.0013      | 0.0012   | 0.0012   | 0.0  | 0.0  | 8   | 0.0009      | 0.0009   | 0.0009   | 0.0   | 0.0  | 0   | 0.0029      | 0.0028   | 0.0029   | 0.0   | 0.0  | 3   | 0.0048      | 0.0047   | 2  | 0  |     |  |
| V-T           | mg/L  | 0.0012      | 0.0011   | 0.0013   | 0.0  | 0.0  | 17  | 0.0008      | 0.0008   | 0.0011   | 0.0   | 0.0  | 23  | 0.001       | 0.001    | 0.001    | 0.0   | 0.0  | 0   | 0.0009      | 0.0009   | 0  | 0  |     |  |
| Zn-T          | mg/L  | 0.005       | 0.009    | 0.01     | 0.0  | 0.0  | 48  | 0.01        | 0.011    | 0.013    | 0.0   | 0.0  | 26  | 0.007       | 0.003    | 0.006    | 0.0   | 0.0  | 75  | 0.05        | 0.05     | 0  | 0  |     |  |
| Zr-T          | mg/L  | <0.001      | <0.001   | <0.001   | 0.0  | 0.0  | NC  | <0.001      | <0.001   | <0.001   | 0.0   | 0.0  | NC  | <0.001      | <0.001   | <0.001   | 0.0   | 0.0  | NC  | <0.001      | <0.001   | NC | NC |     |  |
| Ag-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Al-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| As-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Ba-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| B-D           | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Be-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Bi-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Ca-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Cd-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| C-DOC         | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Co-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Cr-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       | 0.0  | 0.0 |             |          |    |    |     |  |
| Cu-D          | mg/L  |             |          |          | 0.0  | 0.0  |     |             |          |          | 0.0   | 0.0  |     |             |          |          |       |      |     |             |          |    |    |     |  |

Table B.7: Field duplicate results for water sample analysis, Minto Mine 2008

| Analyte | Units | W2          |          |          |         |                  |             |     |          |          |          | W3          |         |     |          |          |             |          |          |     |         |             |          |          |          |          |             |         |          |          |          |             |         |         |         |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|-------|-------------|----------|----------|---------|------------------|-------------|-----|----------|----------|----------|-------------|---------|-----|----------|----------|-------------|----------|----------|-----|---------|-------------|----------|----------|----------|----------|-------------|---------|----------|----------|----------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|         |       | 22/Apr/2008 |          |          |         |                  | 03/Jun/2008 |     |          |          |          | 07/Aug/2008 |         |     |          |          | 29/Oct/2008 |          |          |     |         | 20/Feb/2008 |          |          |          |          | 22/Apr/2008 |         |          |          |          | 03/Jun/2008 |         |         |         |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|         |       | Bodycote    |          |          |         |                  | Bodycote    |     |          |          |          | Bodycote    |         |     |          |          | Bodycote    |          |          |     |         | Bodycote    |          |          |          |          | Bodycote    |         |          |          |          | Bodycote    |         |         |         |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Q03     | Q02   | Q0          | P        | min      | max     | RPD <sup>a</sup> | Q03         | Q02 | Q0       | P        | min      | max         | RPD     | P   | Q03      | Q02      | Q0          | P        | min      | max | RPD     | P           | Q03      | Q02      | Q0       | P        | min         | max     | RPD      | Q03      | Q02      | Q0          | P       | min     | max     | RPD     |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| As-T    | mg/L  | <0.0001     | <0.0001  | <0.0001  | <0.0001 | 0                | 0           | NC  | <0.0001  | <0.0001  | <0.0001  | <0.0001     | 0       | 0   | NC       | <0.0001  | <0.0001     | <0.0001  | <0.0001  | 0   | 0       | NC          | <0.0001  | <0.0001  | <0.0001  | <0.0001  | 0           | 0       | NC       | <0.0001  | <0.0001  | <0.0001     | <0.0001 | 0       | 0       | NC      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| As-T    | mg/L  | 0.01        | 0.01     | 0.01     | 0.01    | 0.01             | 0           | 0   | <0.01    | <0.01    | 0.01     | 0.01        | 0.01    | NC  | 0.026    | 0.031    | 0.048       | 0.026    | 0.048    | 63  | 0.009   | 0.01        | 0.011    | 0.009    | 0.011    | 20       | 0.04        | 0.04    | 0        | 0.11     | 0.09     | 0.11        | 0.11    | 0.09    | 0.11    | 19      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| As-T    | mg/L  | 0.0008      | 0.0004   | 0.0009   | 0.0004  | 0.0009           | 71          | 4   | 0.0006   | 0.0007   | 0.0007   | 0.0006      | 0.0007  | 15  | 0.0002   | 0.0003   | 0.0002      | 0.0002   | 0.0003   | 43  | 0.0003  | 0.0003      | 0.0004   | 0.0003   | 0.0004   | 30       | 0.0004      | 0.0005  | 22       | 0.0007   | 0.0014   | 0.0018      | 0.0004  | 0.0004  | 0.0018  | 130     |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| As-T    | mg/L  | 0.057       | 0.055    | 0.057    | 0.055   | 0.057            | 4           | 0   | 0.046    | 0.047    | 0.047    | 0.046       | 0.047   | 2   | 0.062    | 0.066    | 0.064       | 0.062    | 0.066    | 6   | 0.05    | 0.049       | 0.052    | 0.049    | 0.052    | 6        | 0.086       | 0.096   | 2        | 0.1      | 0.095    | 0.097       | 0.102   | 0.095   | 0.102   | 7       |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Be-T    | mg/L  | <0.00004    | <0.00004 | <0.00004 | 0       | 0                | 0           | NC  | <0.00004 | <0.00004 | <0.00004 | 0.00004     | 0.00004 | 0   | NC       | <0.00004 | <0.00004    | <0.00004 | <0.00004 | 0   | 0       | NC          | <0.00004 | <0.00004 | <0.00004 | <0.00004 | 0           | 0       | NC       | <0.00004 | <0.00004 | <0.00004    | 0       | 0       | 0       | NC      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Be-T    | mg/L  | 0           | 0        | 0        | 0       | 0                | 0           | 0   | <0.0005  | <0.0005  | <0.0005  | 0           | 0       | NC  | <0.0001  | <0.0001  | <0.0001     | <0.0001  | 0        | 0   | NC      | <0.0001     | <0.0001  | <0.0001  | <0.0001  | 0        | 0           | NC      | <0.0005  | <0.0005  | <0.0005  | NC          | 0       | 0       | 0       | NC      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| B-T     | mg/L  | <0.005      | <0.005   | <0.005   | 0       | 0                | 0           | NC  | <0.005   | 0.005    | 0.006    | 0.005       | 0.006   | 18  | 0.008    | 0.007    | 0.007       | 0.007    | 0.008    | 14  | <0.005  | <0.005      | <0.005   | <0.005   | 0        | NC       | 0.02        | 0.02    | 5        | 0.015    | 0.015    | 0.016       | 0.015   | 0.015   | 0.016   | 7       |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Ca-T    | mg/L  | 40.7        | 38.7     | 42.6     | 38.7    | 42.6             | 7           | 0   | 30.9     | 31.2     | 31.2     | 30.9        | 31.2    | 1   | 41.2     | 40.7     | 40.4        | 40.4     | 41.2     | 2   | 45.1    | 45.9        | 45.9     | 45.9     | 45.9     | 45.1     | 45.9        | 45.9    | 45.9     | 45.9     | 45.9     | 45.9        | 45.9    | 45.9    | 45.9    | 45.9    | 45.9    | 45.9    | 45.9    | 45.9    |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Ca-T    | mg/L  | <0.00007    | <0.00007 | <0.00007 | 0       | 0                | 0           | NC  | <0.00007 | <0.00007 | <0.00007 | 0           | 0       | NC  | <0.00001 | <0.00001 | <0.00001    | <0.00001 | 0        | 0   | NC      | <0.00001    | <0.00001 | <0.00001 | <0.00001 | 0        | 0           | NC      | <0.00001 | <0.00001 | <0.00001 | <0.00001    | 0       | 0       | NC      |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| CN-T    | mg/L  |             |          |          |         |                  |             |     |          |          |          |             |         |     |          |          |             |          |          |     |         |             |          |          |          |          |             |         |          |          |          |             |         |         |         |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Co-T    | mg/L  | 0.00009     | 0.0001   | 0.0001   | 0.00009 | 0.0001           | 10          | 0   | 0.00008  | 0.00007  | 0.00008  | 0.00007     | 0.00008 | 13  | <0.0001  | 0.0001   | 0.0001      | 0.0001   | 0.0001   | 0   | 0.00005 | 0.00006     | 0.00007  | 0.00006  | 0.00007  | 16       | 0.0002      | 0.0002  | 0        | 0.00025  | 0.00023  | 0.00028     | 0.00023 | 0.00023 | 0.00028 | 20      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Co-T    | mg/L  | <0.0005     | <0.0005  | <0.0005  | 0       | 0                | 0           | NC  | <0.0005  | <0.0005  | <0.0005  | <0.0005     | <0.0005 | 11  | <0.0004  | <0.0004  | <0.0004     | <0.0004  | <0.0004  | 0   | <0.0005 | <0.0005     | <0.0005  | <0.0005  | <0.0005  | NC       | <0.0005     | <0.0005 | <0.0005  | <0.0005  | <0.0005  | <0.0005     | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Cr-T    | mg/L  | 0.003       | 0.003    | 0.002    | 0.002   | 0.003            | 38          | 0   | 0.001    | 0.001    | 0.005    | 0.001       | 0.005   | 171 | 0.002    | 0.002    | 0.002       | 0.002    | 0.002    | 0   | 0.005   | 0.005       | 0.005    | 0.005    | 0.005    | 0        | 0.004       | 0.004   | 0        | 0.005    | 0.004    | 0.005       | 0.004   | 0.004   | 0.005   | 22      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fe-T    | mg/L  | 0.02        | 0.03     | 0.03     | 0.02    | 0.03             | 38          | 0   | 0.1      | 0.1      | 0.12     | 0.1         | 0.12    | 19  | 0.05     | 0.06     | 0.05        | 0.05     | 0.06     | 19  | 0.09    | 0.1         | 0.08     | 0.08     | 0.1      | 22       | <0.1        | 0.1     | NC       | 0.2      | 0.18     | 0.41        | 0.2     | 0.18    | 0.41    | 93      |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fe-T    | mg/L  | <0.00001    | <0.00001 | <0.00001 | 0       | 0                | 0           | NC  | <0.00001 | <0.00001 | <0.00001 | 0           | 0       | NC  | <0.00001 | <0.00001 | <0.00001    | <0.00001 | 0        | 0   | NC      | <0.00001    | <0.00001 | <0.00001 | <0.00001 | 0        | 0           | NC      | <0.00001 | <0.00001 | <0.00001 | <0.00001    | 0       | 0       | NC      |         |         |         |         |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Li-T    | mg/L  | 2.91        | 2.87     | 3.04     | 2.87    | 3.04             | 6           | 0   | 0.001    | 0.001    | 0.001    | 0.001       | 0.001   | 0   | 0.002    | 0.002    | 0.002       | 0.002    | 0.002    | 0   | 0.002   | 0.002       | 0.002    | 0.002    | 0.002    | 60       | 0.003       | 0.002   | 40       | 0.002    | 0.002    | 0.002       | 0.002   | 0.002   | 0.002   | 0       | 0       | 0       | NC      |         |         |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Mn-T    | mg/L  | 16.7        | 16.2     | 17.6     | 16.2    | 17.6             | 8           | 0   | 10       | 10.2     | 10.2     | 10          | 10.2    | 2   | 12.7     | 12.6     | 12.5        | 12.5     | 12.7     | 2   | 14.2    | 14.3        | 14.1     | 14.1     | 14.3     | 1        | 24.4        | 23.3    | 5        | 22.2     | 21.8     | 22.5        | 21.8    | 22.5    | 3       | 24.6    | 24.3    | 24.5    | 24.3    | 24.6    | 3       |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Mn-T    | mg/L  | 0.0236      | 0.0235   | 0.0244   | 0.0235  | 0.0244           | 4           | 0   | 0.0085   | 0.0083   | 0.0076   | 0.0083      | 0.0076  | 19  | 0.018    | 0.009    | 0.01        | 0.009    | 0.018    | 60  | 0.009   | 0.009       | 0.0095   | 0.009    | 0.0095   | 5        | 0.112       | 0.104   | 4        | 0.108    | 0.112    | 0.111       | 0.108   | 0.112   | 0.111   | 0.108   | 0.112   | 0.111   | 0.108   | 0.112   | 0.111   | 0.108   | 0.112   | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 | 0.112 | 0.111 | 0.108 |

**Table B.7: Field duplicate results for water sample analysis, Minto Mine 2008**

Analyte

Units

06Aug2008

28Oct2008

29Jun2008

22Apr2008

03Jun2008

06Aug2008

28Oct2008

10Apr2008

Bodycote

Bodycote

Bodycote

Bodycote

Bodycote

Bodycote

Bodycote

Bodycote

P

Q03

Q02

Q0

min

max

RPD

P

M

RPD

P

Q03

Q02

Q0

min

max

RPD

Q03

Q02

Q0

min

max

RPD

P

Q03

Q02

Q0

min

max

RPD

P

Q03

Q02

Q0

min

max

RPD

Q0

P

RPD

As-T

mg/L

<0.0001

0.00001

0.00001

0.00001

0.00001

0.00001

0

<0.0001

<0.0001

NC

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<0.0001

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<sup>a</sup> RPD - Relative Percent Difference

## **APPENDIX C**

### **Statistical Analysis and Identification of Outliers**

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name  | W1                |                    |                          |          |       | W2                |                    |                          |          |       | W3                |                    |                          |          |       |
|---------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class  | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Ag-T          | 6                 | 0                  | -                        | -        | -     | 117               | 1                  | -                        | -        | 1     | 249               | 4                  | -                        | 2        | 2     |
| Al-T          | 6                 | 0                  | -                        | -        | -     | 118               | 4                  | 1                        | -        | 3     | 249               | 4                  | 3                        | -        | 1     |
| As-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | 1                        | -        | 2     | 249               | 3                  | -                        | -        | 3     |
| Ba-T          | 6                 | 0                  | -                        | -        | -     | 118               | 1                  | 1                        | -        | -     | 249               | 3                  | -                        | -        | 3     |
| Be-T          | 6                 | 0                  | -                        | -        | -     | 118               | 0                  | -                        | -        | -     | 249               | 3                  | -                        | 2        | 1     |
| Bi-T          | 3                 | 0                  | -                        | -        | -     | 106               | 1                  | -                        | 1        | -     | 210               | 1                  | -                        | 1        | -     |
| B-T           | 6                 | 0                  | -                        | -        | -     | 118               | 1                  | -                        | -        | 1     | 249               | 2                  | -                        | -        | 2     |
| Ca-T          | 6                 | 0                  | -                        | -        | -     | 118               | 0                  | -                        | -        | -     | 245               | 2                  | -                        | -        | 2     |
| Cd-T          | 6                 | 0                  | -                        | -        | -     | 118               | 2                  | -                        | -        | 2     | 249               | 2                  | -                        | -        | 2     |
| CN-T          | 5                 | 0                  | -                        | -        | -     | 30                | 1                  | -                        | -        | 1     | 37                | 2                  | -                        | -        | 2     |
| Co-T          | 6                 | 0                  | -                        | -        | -     | 118               | 4                  | 1                        | -        | 3     | 249               | 4                  | 2                        | -        | 2     |
| Cr-T          | 6                 | 0                  | -                        | -        | -     | 118               | 4                  | 1                        | -        | 3     | 249               | 4                  | 1                        | -        | 3     |
| Cu-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | -                        | -        | 3     | 249               | 8                  | 7                        | -        | 1     |
| Fe-T          | 6                 | 0                  | -                        | -        | -     | 118               | 4                  | 1                        | -        | 3     | 245               | 9                  | 8                        | -        | 1     |
| Hg-T          | 3                 | 0                  | -                        | -        | -     | 56                | 1                  | -                        | -        | 1     | 182               | 6                  | -                        | 4        | 2     |
| K-T           | 6                 | 0                  | -                        | -        | -     | 117               | 0                  | -                        | -        | -     | 245               | 5                  | 2                        | -        | 3     |
| Li-T          | 6                 | 0                  | -                        | -        | -     | 118               | 5                  | -                        | -        | 5     | 249               | 2                  | -                        | -        | 2     |
| Mg-T          | 6                 | 0                  | -                        | -        | -     | 118               | 1                  | -                        | -        | 1     | 245               | 5                  | -                        | -        | 5     |
| Mn-T          | 6                 | 0                  | -                        | -        | -     | 118               | 2                  | 1                        | -        | 1     | 249               | 4                  | 2                        | -        | 2     |
| Mo-T          | 6                 | 0                  | -                        | -        | -     | 117               | 1                  | -                        | -        | 1     | 249               | 2                  | -                        | -        | 2     |
| Na-T          | 6                 | 0                  | -                        | -        | -     | 116               | 0                  | -                        | -        | -     | 244               | 3                  | -                        | -        | 3     |
| Ni-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | 2                        | -        | 1     | 249               | 5                  | 3                        | -        | 2     |
| N-TKN         | 0                 | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 134               | 4                  | 2                        | -        | 2     |
| Pb-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | 1                        | -        | 2     | 249               | 5                  | -                        | -        | 5     |
| P-PO4-T       | 0                 | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 136               | 2                  | 1                        | -        | 1     |
| P-T           | 3                 | 0                  | -                        | -        | -     | 69                | 1                  | -                        | -        | 1     | 182               | 1                  | -                        | -        | 1     |
| P-TRP (Ortho) | 0                 | 0                  | -                        | -        | -     | 44                | 0                  | -                        | -        | -     | 77                | 1                  | -                        | 1        | -     |
| Sb-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | 1                        | -        | 2     | 249               | 1                  | -                        | -        | 1     |
| Se-T          | 6                 | 0                  | -                        | -        | -     | 117               | 1                  | -                        | -        | 1     | 249               | 4                  | 1                        | 1        | 2     |
| Si-T          | 3                 | 0                  | -                        | -        | -     | 114               | 2                  | 1                        | -        | 1     | 242               | 5                  | -                        | -        | 5     |
| Sn-T          | 6                 | 0                  | -                        | -        | -     | 117               | 0                  | -                        | -        | -     | 249               | 1                  | -                        | 1        | -     |
| Sr-T          | 3                 | 0                  | -                        | -        | -     | 114               | 0                  | -                        | -        | -     | 246               | 3                  | -                        | -        | 3     |
| S-T           | 0                 | 0                  | -                        | -        | -     | 59                | 0                  | -                        | -        | -     | 150               | 4                  | -                        | -        | 4     |
| Te-T          | 0                 | 0                  | -                        | -        | -     | 17                | 0                  | -                        | -        | -     | 72                | 1                  | -                        | -        | 1     |
| Th-T          | 0                 | 0                  | -                        | -        | -     | 17                | 0                  | -                        | -        | -     | 72                | 2                  | 2                        | -        | -     |
| Ti-T          | 6                 | 0                  | -                        | -        | -     | 118               | 3                  | 1                        | -        | 2     | 238               | 5                  | 3                        | -        | 2     |
| Tl-T          | 6                 | 0                  | -                        | -        | -     | 117               | 5                  | -                        | 5        | -     | 249               | 1                  | -                        | 1        | -     |
| U-T           | 6                 | 0                  | -                        | -        | -     | 118               | 1                  | -                        | -        | 1     | 249               | 2                  | -                        | -        | 2     |
| V-T           | 6                 | 0                  | -                        | -        | -     | 117               | 4                  | 1                        | -        | 3     | 249               | 5                  | -                        | 4        | 1     |
| Zn-T          | 6                 | 0                  | -                        | -        | -     | 118               | 1                  | -                        | -        | 1     | 249               | 7                  | -                        | -        | 7     |
| Zr-T          | 0                 | 0                  | -                        | -        | -     | 70                | 3                  | -                        | 3        | -     | 200               | 2                  | -                        | 1        | 1     |
| Ag-D          | 6                 | 0                  | -                        | -        | -     | 78                | 3                  | -                        | 3        | -     | 195               | 13                 | -                        | 13       | -     |
| Al-D          | 6                 | 0                  | -                        | -        | -     | 79                | 1                  | -                        | -        | 1     | 195               | 6                  | 2                        | -        | 4     |
| As-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 4                  | -                        | -        | 4     |
| Ba-D          | 6                 | 0                  | -                        | -        | -     | 79                | 0                  | -                        | -        | -     | 195               | 1                  | -                        | -        | 1     |
| B-D           | 6                 | 0                  | -                        | -        | -     | 78                | 3                  | -                        | 3        | -     | 195               | 4                  | -                        | 3        | 1     |
| Be-D          | 6                 | 0                  | -                        | -        | -     | 78                | 3                  | -                        | 3        | -     | 195               | 4                  | -                        | 3        | 1     |
| Bi-D          | 3                 | 0                  | -                        | -        | -     | 67                | 1                  | -                        | -        | 1     | 161               | 2                  | -                        | -        | 2     |
| Ca-D          | 6                 | 0                  | -                        | -        | -     | 79                | 0                  | -                        | -        | -     | 190               | 1                  | -                        | -        | 1     |
| Cd-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 2                  | -                        | -        | 2     |
| C-DOC         | 0                 | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     | 58                | 1                  | -                        | -        | 1     |
| Co-D          | 6                 | 0                  | -                        | -        | -     | 78                | 0                  | -                        | -        | -     | 195               | 6                  | 4                        | -        | 2     |
| Cr-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 4                  | -                        | -        | 4     |
| Cu-D          | 6                 | 0                  | -                        | -        | -     | 78                | 2                  | -                        | -        | 2     | 195               | 3                  | -                        | -        | 3     |
| Fe-D          | 6                 | 0                  | -                        | -        | -     | 78                | 2                  | -                        | -        | 2     | 195               | 6                  | 4                        | -        | 2     |
| Hg-D          | 3                 | 0                  | -                        | -        | -     | 49                | 0                  | -                        | -        | -     | 159               | 4                  | -                        | 4        | -     |
| K-D           | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 190               | 7                  | 4                        | -        | 3     |
| Li-D          | 6                 | 0                  | -                        | -        | -     | 78                | 0                  | -                        | -        | -     | 195               | 3                  | -                        | -        | 3     |
| Mg-D          | 6                 | 0                  | -                        | -        | -     | 79                | 2                  | -                        | -        | 2     | 190               | 2                  | -                        | -        | 2     |
| Mn-D          | 6                 | 0                  | -                        | -        | -     | 79                | 2                  | -                        | -        | 2     | 195               | 4                  | 1                        | -        | 3     |
| Mo-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 4                  | 1                        | -        | 3     |
| Na-D          | 6                 | 0                  | -                        | -        | -     | 78                | 0                  | -                        | -        | -     | 190               | 2                  | -                        | -        | 2     |
| Ni-D          | 6                 | 0                  | -                        | -        | -     | 78                | 0                  | -                        | -        | -     | 195               | 3                  | 1                        | -        | 2     |
| O-DO          | 0                 | 0                  | -                        | -        | -     | 96                | 0                  | -                        | -        | -     | 104               | 0                  | -                        | -        | -     |
| Pb-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 3                  | -                        | 1        | 2     |
| P-D           | 3                 | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 73                | 1                  | -                        | -        | 1     |
| P-TDP         | 0                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 52                | 2                  | -                        | -        | 2     |
| Sb-D          | 6                 | 0                  | -                        | -        | -     | 78                | 2                  | -                        | -        | 2     | 195               | 3                  | 1                        | -        | 2     |
| S-D           | 0                 | 0                  | -                        | -        | -     | 57                | 0                  | -                        | -        | -     | 151               | 3                  | -                        | -        | 2     |
| Se-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 4                  | 1                        | -        | 3     |
| Si-D          | 3                 | 0                  | -                        | -        | -     | 75                | 2                  | -                        | -        | 2     | 187               | 3                  | -                        | -        | 3     |
| Sn-D          | 6                 | 0                  | -                        | -        | -     | 78                | 0                  | -                        | -        | -     | 195               | 3                  | -                        | 3        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name | W1                |                    |                          |          |       | W2                |                    |                          |          |       | W3                |                    |                          |          |       |
|--------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Sr-D         | 3                 | 0                  | -                        | -        | -     | 75                | 0                  | -                        | -        | -     | 192               | 2                  | -                        | -        | 2     |
| Te-D         | 0                 | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     | 61                | 1                  | -                        | 1        | -     |
| Th-D         | 0                 | 0                  | -                        | -        | -     | 14                | 1                  | -                        | 1        | -     | 61                | 2                  | 1                        | -        | 1     |
| Ti-D         | 6                 | 0                  | -                        | -        | -     | 79                | 0                  | -                        | -        | -     | 195               | 0                  | -                        | -        | -     |
| TI-D         | 6                 | 0                  | -                        | -        | -     | 78                | 3                  | -                        | 3        | -     | 195               | 4                  | -                        | 3        | 1     |
| U-D          | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 1                  | -                        | -        | 1     |
| V-D          | 6                 | 0                  | -                        | -        | -     | 78                | 3                  | -                        | 3        | -     | 195               | 3                  | -                        | 3        | -     |
| Zn-D         | 6                 | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     | 195               | 4                  | 2                        | -        | 2     |
| Zr-D         | 0                 | 0                  | -                        | -        | -     | 36                | 1                  | -                        | 1        | -     | 85                | 1                  | -                        | -        | 1     |
| Alk-Bicrb    | 0                 | 0                  | -                        | -        | -     | 66                | 0                  | -                        | -        | -     | 191               | 1                  | -                        | -        | 1     |
| Alk-Carb     | 6                 | 0                  | -                        | -        | -     | 104               | 0                  | -                        | -        | -     | 231               | 5                  | -                        | -        | 5     |
| Alk-OH       | 0                 | 0                  | -                        | -        | -     | 66                | 0                  | -                        | -        | -     | 191               | 0                  | -                        | -        | -     |
| Alk-P        | 0                 | 0                  | -                        | -        | -     | 20                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Alk-T        | 4                 | 0                  | -                        | -        | -     | 103               | 0                  | -                        | -        | -     | 229               | 1                  | -                        | -        | 1     |
| Bromine      | 0                 | 0                  | -                        | -        | -     | 60                | 1                  | -                        | 1        | -     | 61                | 3                  | -                        | 2        | 1     |
| C-TIC        | 0                 | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 38                | 0                  | -                        | -        | -     |
| C-TOC        | 0                 | 0                  | -                        | -        | -     | 36                | 0                  | -                        | -        | -     | 70                | 2                  | -                        | -        | 2     |
| Chloride     | 6                 | 0                  | -                        | -        | -     | 97                | 2                  | -                        | -        | 2     | 218               | 0                  | -                        | -        | -     |
| Colour       | 0                 | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 135               | 0                  | -                        | -        | -     |
| Cond-F       | 0                 | 0                  | -                        | -        | -     | 110               | 0                  | -                        | -        | -     | 118               | 0                  | -                        | -        | -     |
| Cond-L       | 6                 | 0                  | -                        | -        | -     | 192               | 0                  | -                        | -        | -     | 322               | 3                  | -                        | -        | 3     |
| Discharge    | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 119               | 0                  | -                        | -        | -     |
| Fluoride     | 0                 | 0                  | -                        | -        | -     | 60                | 0                  | -                        | -        | -     | 61                | 1                  | -                        | -        | 1     |
| Hard-D       | 0                 | 0                  | -                        | -        | -     | 60                | 0                  | -                        | -        | -     | 144               | 1                  | -                        | -        | 1     |
| Hard-T       | 5                 | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| IB           | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| Ammonia      | 6                 | 0                  | -                        | -        | -     | 94                | 1                  | -                        | -        | 1     | 182               | 7                  | 5                        | -        | 2     |
| Ammonium     | 0                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 38                | 2                  | -                        | -        | 2     |
| N-NO2        | 6                 | 0                  | -                        | -        | -     | 98                | 1                  | -                        | -        | 1     | 189               | 1                  | -                        | -        | 1     |
| NO2+NO3      | 0                 | 0                  | -                        | -        | -     | 53                | 0                  | -                        | -        | -     | 162               | 1                  | -                        | -        | 1     |
| N-NO3        | 6                 | 0                  | -                        | -        | -     | 113               | 2                  | -                        | -        | 2     | 206               | 5                  | 1                        | -        | 4     |
| pH-F         | 0                 | 0                  | -                        | -        | -     | 138               | 0                  | -                        | -        | -     | 146               | 1                  | -                        | -        | 1     |
| pH-L         | 6                 | 0                  | -                        | -        | -     | 192               | 0                  | -                        | -        | -     | 323               | 0                  | -                        | -        | -     |
| Radium - 226 | 5                 | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| SO4-D        | 4                 | 0                  | -                        | -        | -     | 98                | 0                  | -                        | -        | -     | 219               | 5                  | -                        | -        | 5     |
| SO4-T        | 6                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 42                | 1                  | -                        | -        | 1     |
| Sulphide     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| TDS          | 6                 | 0                  | -                        | -        | -     | 185               | 0                  | -                        | -        | -     | 314               | 3                  | -                        | -        | 3     |
| Temp-F       | 0                 | 0                  | -                        | -        | -     | 110               | 0                  | -                        | -        | -     | 117               | 0                  | -                        | -        | -     |
| Temp-obs-pH  | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| TSS          | 6                 | 0                  | -                        | -        | -     | 194               | 3                  | 3                        | -        | -     | 326               | 9                  | 9                        | -        | -     |
| Turb         | 0                 | 0                  | -                        | -        | -     | 128               | 1                  | 1                        | -        | -     | 256               | 7                  | 5                        | -        | 2     |
| Turb-F       | 0                 | 0                  | -                        | -        | -     | 110               | 3                  | -                        | -        | 3     | 117               | 3                  | 2                        | -        | 1     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name  | W6                |                    |                          |          |       | W7                |                    |                          |          |       | W8                |                    |                          |          |       |
|---------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class  | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Ag-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | -                        | -        | 1     | 46                | 2                  | -                        | -        | 2     |
| Al-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| As-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Ba-T          | 17                | 0                  | -                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Be-T          | 17                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Bi-T          | 13                | 0                  | -                        | -        | -     | 33                | 0                  | -                        | -        | -     | 40                | 0                  | -                        | -        | -     |
| B-T           | 17                | 0                  | -                        | -        | -     | 39                | 3                  | -                        | 3        | -     | 46                | 0                  | -                        | -        | -     |
| Ca-T          | 17                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Cd-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | -                        | -        | 1     | 46                | 1                  | -                        | -        | 1     |
| CN-T          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Cr-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 2                  | -                        | -        | 2     |
| Cu-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Fe-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Hg-T          | 10                | 0                  | -                        | -        | -     | 16                | 1                  | -                        | 1        | -     | 21                | 0                  | -                        | -        | -     |
| K-T           | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | -                        | -        | 1     | 46                | 0                  | -                        | -        | -     |
| Li-T          | 17                | 0                  | -                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Mg-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | -                        | -        | 1     | 46                | 0                  | -                        | -        | -     |
| Mn-T          | 17                | 1                  | -                        | -        | 1     | 39                | 1                  | 1                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Mo-T          | 17                | 1                  | -                        | -        | 1     | 39                | 0                  | -                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Na-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | -                        | -        | 1     | 46                | 0                  | -                        | -        | -     |
| Ni-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| N-TKN         | 8                 | 0                  | -                        | -        | -     | 15                | 1                  | -                        | -        | 1     | 17                | 0                  | -                        | -        | -     |
| Pb-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| P-PO4-T       | 8                 | 0                  | -                        | -        | -     | 15                | 1                  | 1                        | -        | -     | 18                | 0                  | -                        | -        | -     |
| P-T           | 12                | 0                  | -                        | -        | -     | 17                | 1                  | 1                        | -        | -     | 32                | 0                  | -                        | -        | -     |
| P-TRP (Ortho) | 2                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Sb-T          | 17                | 1                  | -                        | -        | 1     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Se-T          | 17                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| Si-T          | 14                | 0                  | -                        | -        | -     | 36                | 1                  | 1                        | -        | -     | 43                | 0                  | -                        | -        | -     |
| Sn-T          | 17                | 0                  | -                        | -        | -     | 39                | 1                  | -                        | 1        | -     | 46                | 1                  | -                        | 1        | -     |
| Sr-T          | 14                | 0                  | -                        | -        | -     | 36                | 0                  | -                        | -        | -     | 43                | 0                  | -                        | -        | -     |
| S-T           | 8                 | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     |
| Te-T          | 6                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 20                | 0                  | -                        | -        | -     |
| Th-T          | 6                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 20                | 1                  | -                        | -        | 1     |
| Ti-T          | 17                | 1                  | 1                        | -        | -     | 39                | 2                  | 2                        | -        | -     | 44                | 1                  | -                        | -        | 1     |
| Tl-T          | 17                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| U-T           | 17                | 1                  | 1                        | -        | -     | 39                | 0                  | -                        | -        | -     | 46                | 0                  | -                        | -        | -     |
| V-T           | 17                | 0                  | -                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 3                  | -                        | 3        | -     |
| Zn-T          | 17                | 1                  | 1                        | -        | -     | 39                | 1                  | 1                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| Zr-T          | 10                | 0                  | -                        | -        | -     | 31                | 1                  | 1                        | -        | -     | 32                | 1                  | -                        | -        | 1     |
| Ag-D          | 12                | 1                  | -                        | 1        | -     | 35                | 1                  | -                        | 1        | -     | 41                | 1                  | -                        | -        | 1     |
| Al-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 1                  | -                        | -        | 1     |
| As-D          | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 1                  | -                        | -        | 1     |
| Ba-D          | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| B-D           | 12                | 0                  | -                        | -        | -     | 35                | 3                  | -                        | 3        | -     | 41                | 0                  | -                        | -        | -     |
| Be-D          | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Bi-D          | 8                 | 0                  | -                        | -        | -     | 28                | 2                  | -                        | -        | 2     | 36                | 0                  | -                        | -        | -     |
| Ca-D          | 13                | 0                  | -                        | -        | -     | 34                | 0                  | -                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Cd-D          | 12                | 1                  | 1                        | -        | -     | 35                | 1                  | -                        | -        | 1     | 41                | 1                  | -                        | -        | 1     |
| C-DOC         | 3                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Co-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Cr-D          | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 1                  | -                        | -        | 1     |
| Cu-D          | 12                | 1                  | 1                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Fe-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Hg-D          | 7                 | 0                  | -                        | -        | -     | 14                | 1                  | -                        | 1        | -     | 21                | 0                  | -                        | -        | -     |
| K-D           | 12                | 0                  | -                        | -        | -     | 34                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| Li-D          | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 1                  | -                        | -        | 1     |
| Mg-D          | 13                | 1                  | 1                        | -        | -     | 34                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| Mn-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Mo-D          | 12                | 1                  | -                        | -        | 1     | 35                | 0                  | -                        | -        | -     | 41                | 2                  | -                        | -        | 2     |
| Na-D          | 12                | 0                  | -                        | -        | -     | 34                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| Ni-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| O-DO          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Pb-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 1                  | -                        | -        | 1     |
| P-D           | 8                 | 0                  | -                        | -        | -     | 11                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| P-TDP         | 2                 | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Sb-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     | 41                | 1                  | -                        | -        | 1     |
| S-D           | 4                 | 0                  | -                        | -        | -     | 24                | 0                  | -                        | -        | -     | 30                | 0                  | -                        | -        | -     |
| Se-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| Si-D          | 9                 | 0                  | -                        | -        | -     | 31                | 0                  | -                        | -        | -     | 38                | 0                  | -                        | -        | -     |
| Sn-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | -                        | 1        | -     | 41                | 2                  | -                        | 2        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name | W6                |                    |                          |          |       | W7                |                    |                          |          |       | W8                |                    |                          |          |       |
|--------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Sr-D         | 9                 | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     | 38                | 0                  | -                        | -        | -     |
| Te-D         | 4                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     |
| Th-D         | 4                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     |
| Ti-D         | 12                | 0                  | -                        | -        | -     | 35                | 1                  | 1                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| Tl-D         | 12                | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     | 41                | 0                  | -                        | -        | -     |
| U-D          | 12                | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| V-D          | 12                | 0                  | -                        | -        | -     | 35                | 3                  | -                        | 3        | -     | 41                | 3                  | -                        | 3        | -     |
| Zn-D         | 12                | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     | 41                | 0                  | -                        | -        | -     |
| Zr-D         | 4                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     |
| Alk-Bicrb    | 11                | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     |
| Alk-Carb     | 17                | 0                  | -                        | -        | -     | 38                | 1                  | -                        | -        | 1     | 36                | 0                  | -                        | -        | -     |
| Alk-OH       | 11                | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     |
| Alk-P        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Alk-T        | 16                | 0                  | -                        | -        | -     | 37                | 0                  | -                        | -        | -     | 40                | 0                  | -                        | -        | -     |
| Bromine      | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     |
| C-TIC        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| C-TOC        | 3                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Chloride     | 16                | 1                  | -                        | -        | 1     | 22                | 1                  | 1                        | -        | -     | 32                | 0                  | -                        | -        | -     |
| Colour       | 8                 | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Cond-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Cond-L       | 18                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 43                | 0                  | -                        | -        | -     |
| Discharge    | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Fluoride     | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     |
| Hard-D       | 8                 | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     |
| Hard-T       | 8                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     |
| IB           | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Ammonia      | 11                | 0                  | -                        | -        | -     | 34                | 1                  | -                        | -        | 1     | 20                | 0                  | -                        | -        | -     |
| Ammonium     | 4                 | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 18                | 0                  | -                        | -        | -     |
| N-NO2        | 11                | 0                  | -                        | -        | -     | 17                | 1                  | -                        | -        | 1     | 15                | 1                  | -                        | -        | 1     |
| NO2+NO3      | 8                 | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 17                | 0                  | -                        | -        | -     |
| N-NO3        | 13                | 1                  | -                        | -        | 1     | 34                | 0                  | -                        | -        | -     | 26                | 1                  | -                        | -        | 1     |
| pH-F         | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| pH-L         | 18                | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     | 43                | 0                  | -                        | -        | -     |
| Radium - 226 | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| SO4-D        | 16                | 0                  | -                        | -        | -     | 36                | 1                  | -                        | -        | 1     | 38                | 0                  | -                        | -        | -     |
| SO4-T        | 6                 | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     |
| Sulphide     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TDS          | 17                | 0                  | -                        | -        | -     | 30                | 0                  | -                        | -        | -     | 36                | 0                  | -                        | -        | -     |
| Temp-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Temp-obs-pH  | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TSS          | 17                | 0                  | -                        | -        | -     | 37                | 1                  | 1                        | -        | -     | 43                | 1                  | 1                        | -        | -     |
| Turb         | 9                 | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 18                | 0                  | -                        | -        | -     |
| Turb-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name  | W8A               |                    |                          |          |       | W10               |                    |                          |          |       | W12               |                    |                          |          |       |
|---------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class  | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Ag-T          | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 2                  | -                        | -        | 2     |
| Al-T          | 25                | 1                  | 1                        | -        | -     | 27                | 1                  | -                        | -        | 1     | 33                | 1                  | -                        | -        | 1     |
| As-T          | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Ba-T          | 25                | 1                  | 1                        | -        | -     | 27                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Be-T          | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Bi-T          | 23                | 1                  | 1                        | -        | -     | 22                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     |
| B-T           | 25                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Ca-T          | 25                | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     | 32                | 1                  | 1                        | -        | -     |
| Cd-T          | 25                | 1                  | 1                        | -        | -     | 27                | 0                  | -                        | -        | -     | 33                | 1                  | 1                        | -        | -     |
| CN-T          | 0                 | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-T          | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 1                  | -                        | -        | 1     |
| Cr-T          | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 0                  | -                        | -        | -     |
| Cu-T          | 25                | 1                  | 1                        | -        | -     | 27                | 0                  | -                        | -        | -     | 33                | 1                  | 1                        | -        | -     |
| Fe-T          | 25                | 1                  | 1                        | -        | -     | 27                | 1                  | -                        | -        | 1     | 32                | 1                  | -                        | -        | 1     |
| Hg-T          | 22                | 1                  | 1                        | -        | -     | 22                | 0                  | -                        | -        | -     | 33                | 0                  | -                        | -        | -     |
| K-T           | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 32                | 1                  | -                        | -        | 1     |
| Li-T          | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Mg-T          | 25                | 1                  | 1                        | -        | -     | 27                | 0                  | -                        | -        | -     | 32                | 1                  | 1                        | -        | -     |
| Mn-T          | 25                | 1                  | 1                        | -        | -     | 27                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Mo-T          | 25                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 0                  | -                        | -        | -     |
| Na-T          | 25                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 32                | 0                  | -                        | -        | -     |
| Ni-T          | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| N-TKN         | 21                | 1                  | 1                        | -        | -     | 19                | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     |
| Pb-T          | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 0                  | -                        | -        | -     |
| P-PO4-T       | 22                | 1                  | 1                        | -        | -     | 20                | 0                  | -                        | -        | -     | 23                | 1                  | 1                        | -        | -     |
| P-T           | 24                | 1                  | 1                        | -        | -     | 21                | 0                  | -                        | -        | -     | 23                | 1                  | 1                        | -        | -     |
| P-TRP (Ortho) | 11                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 16                | 0                  | -                        | -        | -     |
| Sb-T          | 25                | 2                  | 2                        | -        | -     | 27                | 0                  | -                        | -        | -     | 33                | 0                  | -                        | -        | -     |
| Se-T          | 25                | 0                  | -                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 1                  | -                        | -        | 1     |
| Si-T          | 25                | 1                  | 1                        | -        | -     | 24                | 0                  | -                        | -        | -     | 32                | 1                  | -                        | -        | 1     |
| Sn-T          | 25                | 1                  | -                        | 1        | -     | 28                | 1                  | -                        | 1        | -     | 33                | 2                  | -                        | 2        | -     |
| Sr-T          | 25                | 0                  | -                        | -        | -     | 24                | 0                  | -                        | -        | -     | 33                | 1                  | 1                        | -        | -     |
| S-T           | 23                | 0                  | -                        | -        | -     | 16                | 0                  | -                        | -        | -     | 20                | 1                  | 1                        | -        | -     |
| Te-T          | 23                | 1                  | 1                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 1                  | 1                        | -        | -     |
| Th-T          | 23                | 1                  | 1                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Ti-T          | 21                | 1                  | 1                        | -        | -     | 27                | 1                  | -                        | -        | 1     | 31                | 1                  | -                        | -        | 1     |
| Tl-T          | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| U-T           | 25                | 0                  | -                        | -        | -     | 28                | 1                  | -                        | -        | 1     | 33                | 1                  | -                        | -        | 1     |
| V-T           | 25                | 1                  | 1                        | -        | -     | 28                | 0                  | -                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Zn-T          | 25                | 1                  | 1                        | -        | -     | 28                | 1                  | 1                        | -        | -     | 33                | 1                  | -                        | -        | 1     |
| Zr-T          | 25                | 1                  | 1                        | -        | -     | 20                | 0                  | -                        | -        | -     | 29                | 1                  | -                        | -        | 1     |
| Ag-D          | 24                | 1                  | -                        | 1        | -     | 15                | 1                  | -                        | 1        | -     | 15                | 0                  | -                        | -        | -     |
| Al-D          | 24                | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| As-D          | 24                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Ba-D          | 24                | 0                  | -                        | -        | -     | 14                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     |
| B-D           | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Be-D          | 24                | 2                  | -                        | 2        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Bi-D          | 23                | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     | 9                 | 0                  | -                        | -        | -     |
| Ca-D          | 24                | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Cd-D          | 24                | 1                  | -                        | -        | 1     | 15                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     |
| C-DOC         | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-D          | 24                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Cr-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Cu-D          | 24                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Fe-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Hg-D          | 21                | 1                  | -                        | 1        | -     | 10                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| K-D           | 24                | 1                  | 1                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Li-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 1                  | 1                        | -        | -     |
| Mg-D          | 24                | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Mn-D          | 24                | 0                  | -                        | -        | -     | 15                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     |
| Mo-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Na-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Ni-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| O-DO          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Pb-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| P-D           | 22                | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     | 11                | 0                  | -                        | -        | -     |
| P-TDP         | 0                 | 0                  | -                        | -        | -     | 4                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Sb-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 1                  | -                        | -        | 1     |
| S-D           | 23                | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     |
| Se-D          | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Si-D          | 24                | 0                  | -                        | -        | -     | 11                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Sn-D          | 24                | 1                  | -                        | 1        | -     | 15                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name | W8A               |                    |                          |          |       | W10               |                    |                          |          |       | W12               |                    |                          |          |       |
|--------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Sr-D         | 24                | 0                  | -                        | -        | -     | 11                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Te-D         | 22                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Th-D         | 22                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Ti-D         | 24                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| TI-D         | 24                | 2                  | -                        | 2        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| U-D          | 24                | 0                  | -                        | -        | -     | 15                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     |
| V-D          | 24                | 1                  | -                        | 1        | -     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Zn-D         | 24                | 1                  | -                        | -        | 1     | 15                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     |
| Zr-D         | 23                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 12                | 0                  | -                        | -        | -     |
| Alk-Bicrb    | 23                | 0                  | -                        | -        | -     | 20                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Alk-Carb     | 23                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     |
| Alk-OH       | 23                | 0                  | -                        | -        | -     | 20                | 0                  | -                        | -        | -     | 23                | 1                  | -                        | -        | 1     |
| Alk-P        | 1                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Alk-T        | 23                | 0                  | -                        | -        | -     | 24                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Bromine      | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| C-TIC        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| C-TOC        | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Chloride     | 23                | 0                  | -                        | -        | -     | 28                | 2                  | -                        | 1        | 1     | 26                | 1                  | -                        | -        | 1     |
| Colour       | 11                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     |
| Cond-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     |
| Cond-L       | 23                | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     | 26                | 1                  | 1                        | -        | -     |
| Discharge    | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Fluoride     | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Hard-D       | 24                | 0                  | -                        | -        | -     | 12                | 0                  | -                        | -        | -     | 13                | 0                  | -                        | -        | -     |
| Hard-T       | 2                 | 0                  | -                        | -        | -     | 9                 | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     |
| IB           | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Ammonia      | 1                 | 0                  | -                        | -        | -     | 17                | 0                  | -                        | -        | -     | 16                | 0                  | -                        | -        | -     |
| Ammonium     | 21                | 0                  | -                        | -        | -     | 11                | 1                  | -                        | -        | 1     | 8                 | 0                  | -                        | -        | -     |
| N-NO2        | 2                 | 0                  | -                        | -        | -     | 16                | 0                  | -                        | -        | -     | 19                | 1                  | 1                        | -        | -     |
| NO2+NO3      | 22                | 0                  | -                        | -        | -     | 18                | 0                  | -                        | -        | -     | 21                | 1                  | 1                        | -        | -     |
| N-NO3        | 2                 | 0                  | -                        | -        | -     | 15                | 1                  | -                        | -        | 1     | 19                | 0                  | -                        | -        | -     |
| pH-F         | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     |
| pH-L         | 23                | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     | 26                | 1                  | -                        | -        | 1     |
| Radium - 226 | 0                 | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| SO4-D        | 22                | 0                  | -                        | -        | -     | 22                | 1                  | 1                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| SO4-T        | 0                 | 0                  | -                        | -        | -     | 8                 | 0                  | -                        | -        | -     | 14                | 0                  | -                        | -        | -     |
| Sulphide     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TDS          | 23                | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     | 26                | 1                  | 1                        | -        | -     |
| Temp-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     |
| Temp-obs-pH  | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TSS          | 23                | 1                  | 1                        | -        | -     | 27                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| Turb         | 23                | 1                  | 1                        | -        | -     | 20                | 1                  | 1                        | -        | -     | 26                | 1                  | 1                        | -        | -     |
| Turb-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name  | W13               |                    |                          |          |       | W15               |                    |                          |          |       | W16               |                    |                          |          |       |
|---------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class  | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Ag-T          | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | -                        | -        | 1     | 92                | 2                  | -                        | 1        | 1     |
| Al-T          | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | 1                        | -        | -     | 92                | 3                  | 3                        | -        | -     |
| As-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Ba-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Be-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Bi-T          | 27                | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     | 67                | 0                  | -                        | -        | -     |
| B-T           | 42                | 0                  | -                        | -        | -     | 26                | 1                  | -                        | -        | 1     | 92                | 0                  | -                        | -        | -     |
| Ca-T          | 42                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 91                | 1                  | -                        | -        | 1     |
| Cd-T          | 42                | 1                  | 1                        | -        | -     | 26                | 1                  | -                        | -        | 1     | 92                | 1                  | -                        | -        | 1     |
| CN-T          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 2                  | 2                        | -        | -     |
| Cr-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 3                  | 2                        | -        | 1     |
| Cu-T          | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | 1                        | -        | -     | 92                | 1                  | 1                        | -        | -     |
| Fe-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 91                | 1                  | 1                        | -        | -     |
| Hg-T          | 41                | 1                  | -                        | 1        | -     | 25                | 1                  | -                        | 1        | -     | 91                | 3                  | -                        | 3        | -     |
| K-T           | 42                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 91                | 2                  | -                        | -        | 2     |
| Li-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 2                  | 1                        | -        | 1     |
| Mg-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 91                | 1                  | -                        | -        | 1     |
| Mn-T          | 42                | 2                  | -                        | -        | 2     | 25                | 1                  | -                        | -        | 1     | 91                | 4                  | 1                        | -        | 3     |
| Mo-T          | 42                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | 1                        | -        | -     |
| Na-T          | 42                | 0                  | -                        | -        | -     | 26                | 1                  | -                        | -        | 1     | 90                | 1                  | -                        | -        | 1     |
| Ni-T          | 42                | 1                  | 1                        | -        | -     | 26                | 1                  | -                        | -        | 1     | 92                | 5                  | -                        | -        | 5     |
| N-TKN         | 54                | 0                  | -                        | -        | -     | 24                | 1                  | -                        | -        | 1     | 69                | 0                  | -                        | -        | -     |
| Pb-T          | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | 1                        | -        | -     | 92                | 3                  | 2                        | -        | 1     |
| P-PO4-T       | 56                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     | 72                | 1                  | -                        | -        | 1     |
| P-T           | 55                | 1                  | 1                        | -        | -     | 21                | 1                  | 1                        | -        | -     | 73                | 1                  | -                        | -        | 1     |
| P-TRP (Ortho) | 26                | 0                  | -                        | -        | -     | 16                | 0                  | -                        | -        | -     | 24                | 0                  | -                        | -        | -     |
| Sb-T          | 42                | 1                  | -                        | -        | 1     | 26                | 2                  | -                        | 2        | -     | 92                | 2                  | -                        | -        | 2     |
| Se-T          | 42                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Si-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 91                | 2                  | 1                        | -        | 1     |
| Sn-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Sr-T          | 42                | 0                  | -                        | -        | -     | 26                | 1                  | -                        | -        | 1     | 92                | 1                  | -                        | -        | 1     |
| S-T           | 24                | 0                  | -                        | -        | -     | 19                | 1                  | -                        | -        | 1     | 62                | 1                  | -                        | -        | 1     |
| Te-T          | 29                | 0                  | -                        | -        | -     | 17                | 1                  | -                        | -        | 1     | 37                | 2                  | -                        | -        | 2     |
| Th-T          | 29                | 0                  | -                        | -        | -     | 17                | 1                  | 1                        | -        | -     | 37                | 1                  | -                        | -        | 1     |
| Ti-T          | 36                | 1                  | -                        | -        | 1     | 25                | 1                  | 1                        | -        | -     | 88                | 2                  | 2                        | -        | -     |
| Tl-T          | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | -                        | 1        | -     | 92                | 0                  | -                        | -        | -     |
| U-T           | 42                | 2                  | 1                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| V-T           | 42                | 1                  | -                        | -        | 1     | 26                | 1                  | 1                        | -        | -     | 92                | 2                  | 2                        | -        | -     |
| Zn-T          | 42                | 2                  | -                        | -        | 2     | 26                | 1                  | 1                        | -        | -     | 92                | 1                  | -                        | -        | 1     |
| Zr-T          | 42                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 92                | 4                  | 3                        | -        | 1     |
| Ag-D          | 105               | 2                  | -                        | -        | 2     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Al-D          | 105               | 2                  | 1                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| As-D          | 105               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Ba-D          | 105               | 2                  | 1                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| B-D           | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Be-D          | 105               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Bi-D          | 87                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 17                | 0                  | -                        | -        | -     |
| Ca-D          | 103               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     |
| Cd-D          | 105               | 1                  | 1                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| C-DOC         | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 4                 | 0                  | -                        | -        | -     |
| Co-D          | 105               | 2                  | 1                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | 1                        | -        | -     |
| Cr-D          | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| Cu-D          | 136               | 3                  | 3                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Fe-D          | 105               | 1                  | 1                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Hg-D          | 100               | 1                  | -                        | 1        | -     | 7                 | 0                  | -                        | -        | -     | 38                | 1                  | -                        | -        | 1     |
| K-D           | 103               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     |
| Li-D          | 105               | 1                  | 1                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| Mg-D          | 103               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 35                | 1                  | -                        | -        | 1     |
| Mn-D          | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| Mo-D          | 105               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| Na-D          | 103               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     |
| Ni-D          | 105               | 3                  | 2                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| O-DO          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Pb-D          | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 2                  | -                        | -        | 2     |
| P-D           | 34                | 1                  | 1                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 25                | 1                  | -                        | -        | 1     |
| P-TDP         | 22                | 1                  | -                        | 1        | -     | 7                 | 0                  | -                        | -        | -     | 34                | 1                  | -                        | -        | 1     |
| Sb-D          | 105               | 2                  | -                        | -        | 2     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| S-D           | 87                | 1                  | -                        | -        | 1     | 6                 | 0                  | -                        | -        | -     | 18                | 0                  | -                        | -        | -     |
| Se-D          | 105               | 3                  | 2                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Si-D          | 103               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 35                | 0                  | -                        | -        | -     |
| Sn-D          | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name | W13               |                    |                          |          |       | W15               |                    |                          |          |       | W16               |                    |                          |          |       |
|--------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Sr-D         | 105               | 3                  | -                        | -        | 3     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Te-D         | 32                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 27                | 1                  | -                        | -        | 1     |
| Th-D         | 32                | 0                  | -                        | -        | -     | 6                 | 0                  | -                        | -        | -     | 27                | 1                  | -                        | 1        | -     |
| Ti-D         | 105               | 1                  | -                        | -        | 1     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| TI-D         | 105               | 0                  | -                        | -        | -     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| U-D          | 105               | 2                  | -                        | -        | 2     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| V-D          | 105               | 3                  | -                        | -        | 3     | 7                 | 0                  | -                        | -        | -     | 39                | 1                  | -                        | -        | 1     |
| Zn-D         | 105               | 4                  | -                        | -        | 4     | 7                 | 0                  | -                        | -        | -     | 39                | 0                  | -                        | -        | -     |
| Zr-D         | 34                | 0                  | -                        | -        | 2     | 6                 | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     |
| Alk-Bicrb    | 64                | 1                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 81                | 1                  | -                        | -        | 1     |
| Alk-Carb     | 64                | 0                  | -                        | -        | 1     | 25                | 1                  | -                        | -        | 1     | 81                | 1                  | -                        | -        | 1     |
| Alk-OH       | 64                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 81                | 0                  | -                        | -        | -     |
| Alk-P        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Alk-T        | 64                | 1                  | -                        | -        | 1     | 25                | 0                  | -                        | -        | -     | 81                | 1                  | -                        | -        | 1     |
| Bromine      | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| C-TIC        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| C-TOC        | 14                | 1                  | 1                        | -        | -     | 1                 | 0                  | -                        | -        | -     | 36                | 1                  | -                        | -        | 1     |
| Chloride     | 62                | 1                  | -                        | -        | 1     | 25                | 1                  | -                        | -        | 1     | 75                | 2                  | -                        | -        | 2     |
| Colour       | 55                | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     | 70                | 0                  | -                        | -        | -     |
| Cond-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Cond-L       | 64                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 81                | 1                  | -                        | -        | 1     |
| Discharge    | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Fluoride     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Hard-D       | 76                | 1                  | -                        | -        | 1     | 9                 | 0                  | -                        | -        | -     | 27                | 0                  | -                        | -        | -     |
| Hard-T       | 7                 | 0                  | -                        | -        | -     | 9                 | 0                  | -                        | -        | -     | 46                | 1                  | -                        | -        | 1     |
| IB           | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Ammonia      | 41                | 0                  | -                        | -        | -     | 15                | 0                  | -                        | -        | -     | 69                | 1                  | -                        | -        | 1     |
| Ammonium     | 19                | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     | 11                | 0                  | -                        | -        | -     |
| N-NO2        | 46                | 1                  | -                        | -        | 1     | 13                | 0                  | -                        | -        | -     | 74                | 2                  | -                        | -        | 2     |
| NO2+NO3      | 53                | 1                  | -                        | -        | 1     | 23                | 1                  | -                        | -        | 1     | 68                | 0                  | -                        | -        | -     |
| N-NO3        | 46                | 1                  | -                        | -        | 1     | 13                | 0                  | -                        | -        | -     | 74                | 1                  | -                        | -        | 1     |
| pH-F         | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| pH-L         | 64                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 81                | 1                  | -                        | -        | 1     |
| Radium - 226 | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| SO4-D        | 62                | 1                  | -                        | -        | 1     | 22                | 0                  | -                        | -        | -     | 78                | 1                  | -                        | -        | 1     |
| SO4-T        | 2                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| Sulphide     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| TDS          | 64                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     | 81                | 1                  | -                        | -        | 1     |
| Temp-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Temp-obs-pH  | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TSS          | 62                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     | 81                | 2                  | 2                        | -        | -     |
| Turb         | 61                | 2                  | 2                        | -        | -     | 25                | 1                  | -                        | -        | 1     | 76                | 2                  | 2                        | -        | -     |
| Turb-F       | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name  | W17               |                    |                          |          |       | W17EOP            |                    |                          |          |       | W50               |                    |                          |          |       |
|---------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class  | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Ag-T          | 105               | 4                  | -                        | -        | 4     | 29                | 1                  | -                        | -        | 1     | 25                | 1                  | -                        | -        | 1     |
| Al-T          | 105               | 3                  | -                        | -        | 3     | 29                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| As-T          | 105               | 1                  | -                        | -        | 1     | 29                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| Ba-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Be-T          | 105               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| Bi-T          | 82                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| B-T           | 105               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Ca-T          | 103               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Cd-T          | 105               | 1                  | -                        | -        | 1     | 29                | 1                  | -                        | -        | 1     | 25                | 1                  | -                        | -        | 1     |
| CN-T          | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-T          | 105               | 1                  | -                        | -        | 1     | 29                | 1                  | 1                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Cr-T          | 105               | 2                  | -                        | -        | 2     | 29                | 1                  | 1                        | -        | -     | 25                | 1                  | -                        | -        | 1     |
| Cu-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Fe-T          | 103               | 3                  | -                        | -        | 3     | 29                | 1                  | 1                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| Hg-T          | 103               | 3                  | -                        | 3        | -     | 29                | 1                  | -                        | -        | 1     | 23                | 1                  | -                        | 1        | -     |
| K-T           | 103               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Li-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | -                        | -        | 1     |
| Mg-T          | 103               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Mn-T          | 105               | 2                  | -                        | -        | 2     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Mo-T          | 105               | 2                  | -                        | -        | 2     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Na-T          | 102               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Ni-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | -                        | -        | 1     |
| N-TKN         | 89                | 0                  | -                        | -        | -     | 4                 | 0                  | -                        | -        | -     | 22                | 1                  | 1                        | -        | -     |
| Pb-T          | 105               | 3                  | -                        | -        | 3     | 29                | 2                  | 1                        | -        | 1     | 25                | 1                  | 1                        | -        | -     |
| P-PO4-T       | 88                | 0                  | -                        | -        | -     | 4                 | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| P-T           | 91                | 2                  | -                        | -        | 2     | 7                 | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| P-TRP (Ortho) | 37                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 10                | 0                  | -                        | -        | -     |
| Sb-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Se-T          | 105               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Si-T          | 103               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Sn-T          | 105               | 4                  | -                        | 4        | -     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | -                        | 1        | -     |
| Sr-T          | 105               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| S-T           | 76                | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Te-T          | 64                | 1                  | -                        | -        | 1     | 6                 | 0                  | -                        | -        | -     | 24                | 1                  | -                        | -        | 1     |
| Th-T          | 64                | 1                  | -                        | -        | 1     | 6                 | 0                  | -                        | -        | -     | 24                | 0                  | -                        | -        | -     |
| Ti-T          | 92                | 4                  | -                        | -        | 4     | 29                | 2                  | 1                        | -        | 1     | 22                | 0                  | -                        | -        | -     |
| Tl-T          | 105               | 1                  | -                        | 1        | -     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | -                        | -        | 1     |
| U-T           | 105               | 0                  | -                        | -        | -     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| V-T           | 105               | 2                  | -                        | -        | 2     | 29                | 0                  | -                        | -        | -     | 25                | 1                  | 1                        | -        | -     |
| Zn-T          | 105               | 1                  | -                        | -        | 1     | 29                | 0                  | -                        | -        | -     | 25                | 0                  | -                        | -        | -     |
| Zr-T          | 105               | 2                  | -                        | -        | 2     | 29                | 2                  | -                        | -        | 2     | 25                | 1                  | -                        | -        | 1     |
| Ag-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Al-D          | 53                | 2                  | -                        | -        | 2     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| As-D          | 53                | 2                  | -                        | -        | 2     | 28                | 1                  | 1                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Ba-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| B-D           | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Be-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Bi-D          | 31                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Ca-D          | 49                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Cd-D          | 53                | 2                  | -                        | -        | 2     | 28                | 1                  | -                        | -        | 1     | 22                | 1                  | -                        | -        | 1     |
| C-DOC         | 2                 | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Co-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Cr-D          | 53                | 1                  | -                        | -        | 1     | 28                | 1                  | -                        | -        | 1     | 22                | 0                  | -                        | -        | -     |
| Cu-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Fe-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Hg-D          | 50                | 1                  | -                        | 1        | -     | 28                | 0                  | -                        | -        | -     | 20                | 0                  | -                        | -        | -     |
| K-D           | 49                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Li-D          | 53                | 1                  | -                        | -        | 1     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Mg-D          | 49                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Mn-D          | 53                | 2                  | -                        | -        | 2     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Mo-D          | 53                | 2                  | -                        | -        | 2     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Na-D          | 49                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Ni-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| O-DO          | 0                 | 0                  | -                        | -        | -     | 101               | 1                  | -                        | -        | 1     | 0                 | 0                  | -                        | -        | -     |
| Pb-D          | 53                | 3                  | -                        | -        | 3     | 28                | 1                  | -                        | -        | 1     | 22                | 0                  | -                        | -        | -     |
| P-D           | 46                | 1                  | -                        | -        | 1     | 5                 | 0                  | -                        | -        | -     | 21                | 1                  | -                        | -        | 1     |
| P-TDP         | 26                | 1                  | -                        | 1        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Sb-D          | 53                | 1                  | -                        | -        | 1     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| S-D           | 31                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Se-D          | 53                | 1                  | -                        | -        | 1     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Si-D          | 49                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Sn-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | 1        | -     |

**Table C.1: Summary of outliers (> 3 SD of mean) for each parameter at each water quality station**

| Station Name | W17               |                    |                          |          |       | W17EOP            |                    |                          |          |       | W50               |                    |                          |          |       |
|--------------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|-------------------|--------------------|--------------------------|----------|-------|
| Sample Class | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other | number of samples | number of outliers | Assoc. with elevated TSS | High MDL | Other |
| Sr-D         | 53                | 2                  | -                        | -        | 2     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Te-D         | 45                | 2                  | -                        | -        | 2     | 5                 | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     |
| Th-D         | 45                | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     |
| Ti-D         | 53                | 0                  | -                        | -        | -     | 28                | 1                  | 1                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Tl-D         | 53                | 2                  | -                        | -        | 2     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | 1        | -     |
| U-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| V-D          | 53                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | 1                        | -        | -     |
| Zn-D         | 53                | 1                  | -                        | -        | 1     | 28                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     |
| Zr-D         | 46                | 0                  | -                        | -        | -     | 27                | 1                  | 1                        | -        | -     | 21                | 1                  | -                        | -        | 1     |
| Alk-Bicrb    | 94                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Alk-Carb     | 94                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Alk-OH       | 94                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Alk-P        | 0                 | 0                  | -                        | -        | -     | 21                | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Alk-T        | 94                | 0                  | -                        | -        | -     | 26                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Bromine      | 0                 | 0                  | -                        | -        | -     | 19                | 1                  | -                        | -        | 1     | 0                 | 0                  | -                        | -        | -     |
| C-TIC        | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| C-TOC        | 37                | 1                  | -                        | -        | 1     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Chloride     | 94                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Colour       | 75                | 0                  | -                        | -        | -     | 5                 | 0                  | -                        | -        | -     | 13                | 0                  | -                        | -        | -     |
| Cond-F       | 1                 | 0                  | -                        | -        | -     | 114               | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Cond-L       | 95                | 1                  | -                        | -        | 1     | 105               | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Discharge    | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Fluoride     | 0                 | 0                  | -                        | -        | -     | 19                | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Hard-D       | 51                | 0                  | -                        | -        | -     | 28                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| Hard-T       | 34                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| IB           | 1                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 1                 | 0                  | -                        | -        | -     |
| Ammonia      | 57                | 1                  | -                        | -        | 1     | 26                | 1                  | 1                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Ammonium     | 36                | 2                  | -                        | -        | 2     | 5                 | 0                  | -                        | -        | -     | 22                | 1                  | 1                        | -        | -     |
| N-NO2        | 59                | 1                  | -                        | -        | 1     | 27                | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| NO2+NO3      | 90                | 0                  | -                        | -        | -     | 30                | 0                  | -                        | -        | -     | 22                | 0                  | -                        | -        | -     |
| N-NO3        | 61                | 1                  | -                        | -        | 1     | 26                | 0                  | -                        | -        | -     | 2                 | 0                  | -                        | -        | -     |
| pH-F         | 0                 | 0                  | -                        | -        | -     | 114               | 2                  | -                        | -        | 2     | 0                 | 0                  | -                        | -        | -     |
| pH-L         | 96                | 1                  | -                        | -        | 1     | 105               | 0                  | -                        | -        | -     | 23                | 0                  | -                        | -        | -     |
| Radium - 226 | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| SO4-D        | 91                | 0                  | -                        | -        | -     | 22                | 1                  | -                        | -        | 1     | 22                | 0                  | -                        | -        | -     |
| SO4-T        | 2                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Sulphide     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TDS          | 94                | 0                  | -                        | -        | -     | 105               | 0                  | -                        | -        | -     | 23                | 1                  | -                        | -        | 1     |
| Temp-F       | 0                 | 0                  | -                        | -        | -     | 114               | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| Temp-obs-pH  | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     | 0                 | 0                  | -                        | -        | -     |
| TSS          | 96                | 1                  | -                        | -        | -     | 109               | 1                  | 1                        | -        | -     | 23                | 1                  | 1                        | -        | -     |
| Turb         | 95                | 1                  | -                        | -        | 1     | 105               | 3                  | 1                        | -        | 2     | 23                | 1                  | 1                        | -        | -     |
| Turb-F       | 0                 | 0                  | -                        | -        | -     | 114               | 3                  | -                        | -        | 3     | 0                 | 0                  | -                        | -        | -     |

**Table C.2: Parameters omitted from summary statistic calculations due to abnormally high concentrations not MDL-related**

| Station | Date         |                |
|---------|--------------|----------------|
| W2      | Apr 5 2006   | all parameters |
|         | Apr 6 2006   | all parameters |
|         | June 2 2006  | all parameters |
|         | May 27 2009  | Cd             |
|         | June 17 2009 | Ag             |
| W3      | Apr 5 2006   | Se             |
|         | Nov 1 2006   | all parameters |
|         | Nov 30 2006  | Pb             |
|         | Mar 3 2008   | Ag             |
|         | Mar 19 2008  | Se             |
|         | Aug 12 2008  | Ag             |
|         | Aug 25 2008  | all parameters |
|         | Jan 2 2009   | Ag             |
|         | June 3 2009  | Cd, Pb         |
|         | June 18 2009 | Ag             |
|         | Dec 15 2009  | Cd             |
| W6      | Apr 14 2009  | all parameters |
|         | Apr 30 2009  | all parameters |
|         | Oct 7 2009   | Mo, Mn         |
| W7      | June 2 2006  | all parameters |
|         | June 23 2006 | all parameters |
|         | Oct 7 2009   | Cd             |