

Taseko Prosperity Gold-Copper Project

Appendix 5-2-A

Taseko Prosperity Gold-Copper Project

VOLUME 5: BIOTIC ENVIRONMENT

SECTION 2: WATER QUALITY AND AQUATIC ECOLOGY

BASELINE REPORT

April 2007

Table of Contents

2	Water Quality and Aquatic Ecology	2-1
2.1	Introduction.....	2-1
2.2	Aquatic Program Overview	2-2
2.2.1	Current and Historic Sites.....	2-2
2.3	Water Chemistry	2-7
2.3.1	Streams.....	2-7
2.3.1.1	Methods.....	2-7
2.3.1.2	Quality Assurance/Quality Control.....	2-15
2.3.1.3	Results.....	2-17
2.3.2	Lakes	2-24
2.3.2.1	Methods.....	2-24
2.3.2.2	Quality Assurance / Quality Control.....	2-29
2.3.2.3	Results for Lake Water Quality	2-30
2.4	Sediment Chemistry.....	2-35
2.4.1	Introduction.....	2-35
2.4.2	Methods.....	2-37
2.4.2.1	Sample Timing and Locations	2-37
2.4.2.2	Field Sampling Methods	2-38
2.4.2.3	Laboratory Methods.....	2-39
2.4.2.4	Data Analysis.....	2-40
2.4.3	Quality Assurance/Quality Control.....	2-41
2.4.3.1	Field Procedures.....	2-41
2.4.3.2	Laboratory Procedures	2-41
2.4.4	Results.....	2-43
2.4.4.1	Streams.....	2-44
2.4.4.2	Results for Lakes.....	2-54
2.4.4.3	Summary and Discussion.....	2-56
2.5	Metal Levels in Fish.....	2-57
2.5.1	Introduction.....	2-57
2.5.2	Methods.....	2-58
2.5.2.1	Sample Timing and Locations	2-58
2.5.2.2	Sampling Methods	2-58
2.5.2.3	Analytical Methods.....	2-59
2.5.2.4	Data Analysis.....	2-59
2.5.3	Quality Assurance / Quality Control.....	2-59
2.5.4	Results for Metals in Fish Tissue.....	2-60
2.5.4.1	Mercury.....	2-61
2.5.4.2	Selenium	2-63
2.6	Periphyton Community.....	2-64
2.6.1	Introduction.....	2-64
2.6.2	Methods.....	2-64
2.6.2.1	Sample Timing and Locations	2-65
2.6.2.2	Field Methods	2-66

	2.6.2.3 Laboratory Analysis–Chlorophyll	2-67
	2.6.2.4 Laboratory Analysis – Taxonomy	2-67
	2.6.2.5 Data Analysis	2-68
2.6.3	Quality Assurance / Quality Control.....	2-68
2.6.4	Results for Periphyton.....	2-69
	2.6.4.1 Chlorophyll <i>a</i>	2-69
	2.6.4.2 Periphyton Communities in Fish Creek.....	2-71
	2.6.4.3 Periphyton Communities in Taseko River.....	2-73
	2.6.4.4 Periphyton Communities in Beece Creek.....	2-75
	2.6.4.5 Periphyton Communities in Tête Angela Creek.....	2-76
2.6.5	Summary and Discussion.....	2-77
2.7	Phytoplankton	2-80
2.7.1	Introduction.....	2-80
2.7.2	Methods.....	2-81
	2.7.2.1 Sample Timing and Locations	2-81
	2.7.2.2 Field Methods	2-82
	2.7.2.3 Laboratory Analytical Methods	2-83
	2.7.2.4 Data Analysis.....	2-83
2.7.3	Quality Assurance/Quality Control.....	2-83
2.7.4	Results for Phytoplankton.....	2-83
	2.7.4.1 Chlorophyll <i>a</i>	2-83
	2.7.4.2 Phytoplankton Abundance and Composition.....	2-85
2.8	Benthic Invertebrates	2-86
2.8.1	Introduction.....	2-87
2.8.2	Benthic Invertebrates of Streams	2-87
	2.8.2.1 Methods.....	2-87
	2.8.2.2 Quality Assurance / Quality Control.....	2-90
	2.8.2.3 Benthic Invertebrate Results for 1997 and 2006.....	2-90
2.8.3	Benthic Invertebrates of Lakes	2-105
	2.8.3.1 Methods.....	2-105
	2.8.3.2 Quality Assurance/Quality Control.....	2-106
	2.8.3.3 Results for Benthic Invertebrates in Lakes	2-107
2.9	Zooplankton	2-112
2.9.1	Introduction.....	2-112
2.9.2	Methods.....	2-113
	2.9.2.1 Sample Timing and Locations	2-113
	2.9.2.2 Field Methods	2-113
	2.9.2.3 Taxonomic Analysis and Enumeration.....	2-113
	2.9.2.4 Data Analysis.....	2-114
2.9.3	Quality Assurance / Quality Control.....	2-115
2.9.4	Results.....	2-115
	2.9.4.1 Abundance	2-115
	2.9.4.2 Taxon Richness and Diversity	2-116
	2.9.4.3 Taxonomic Composition.....	2-117
2.10	References.....	2-121

List of Tables

Table 2-1	Prosperity Project Sampling Program Outline (adapted from PRS 1998).....	2-3
Table 2-2	Stream Water Quality Sampling Program Outline	2-8
Table 2-3	Water Quality Parameters, Prosperity Project, 1992–2007	2-12
Table 2-4	Canadian (CCME) and British Columbia Approved and Working Water Quality Guidelines	2-14
Table 2-5	Outlier Results Potentially Associated with Contamination in the Field, or during Shipping and Storage.....	2-16
Table 2-6	Overview of Lake Water Sampling Frequency, 1993 to 2006	2-25
Table 2-7	Summary Physical Habitat Data for Selected Lakes of the Prosperity Project Area	2-26
Table 2-8	Stream and Lake Sediment Sampling Program Outline 1994–2006	2-37
Table 2-9	Sediment Quality Parameters, Prosperity Project.....	2-39
Table 2-10	Sediment Quality Guidelines (µg/g dry weight), Prosperity Project.....	2-41
Table 2-11	Metal Concentrations in Stream Sediment (µg/g dry weight, <63 µm fraction, mean ± s.d., n=5), Prosperity Project 1997.....	2-52
Table 2-12	Metal Concentrations in Stream Sediment (µg/g dry weight, <63 to 250 µm fraction, mean ± s.d., n=3 to 5), Prosperity Project 2006	2-53
Table 2-13	Summary of Mean Metal Levels in Sediment of Prosperity Project Lakes, 1997 (n=5 replicates)	2-54
Table 2-14	Metals Detection Limits for Fish Tissue Analysis.....	2-59
Table 2-15	Date, Location and Number of Fish by Species Collected for Analysis of Metals of Fish Muscle and Liver Tissue, 1993–1997.....	2-60
Table 2-16	Mean Mercury Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area	2-62
Table 2-17	Mean Selenium Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area	2-63
Table 2-18	Periphyton Sampling Program, Prosperity Project.....	2-65
Table 2-19	Geomorphic and Hydrologic Characteristics of the Study Stations	2-66
Table 2-20	Average Stream Periphyton Chlorophyll <i>a</i> as mg/m ² (standard error), August-September Data except as Noted	2-69
Table 2-21	Fish Creek Periphyton, Taxon Richness, Diversity and Evenness 1997 and 2006 (n=5).....	2-72
Table 2-22	Fish Creek Periphyton Abundance, 1997 and 2006, mean (standard error), n=5	2-72
Table 2-23	Taseko River Periphyton Taxon Richness, Diversity and Evenness, 1997 and 2006 (n=5).....	2-74
Table 2-24	Taseko River Periphyton Abundance, 1997 and 2006, mean (standard error), n=5	2-74
Table 2-25	Beece Creek Periphyton Taxon Richness, Diversity, Evenness and Abundance, 1997 (n=5)	2-75
Table 2-26	Tête Angela Creek Periphyton Taxon Richness, Diversity, Evenness and Abundance, 1997 and 2006 (n=5).....	2-76
Table 2-27	Summary of Periphyton Characteristics for Sites in the Prosperity Project Area, 1997 (n = 5).....	2-78

Table 2-28	Examples of Chlorophyll <i>a</i> Concentrations in Streams of Western North America	2-78
Table 2-29	Prosperity Project Lake Phytoplankton Sampling Program	2-82
Table 2-30	Mean Chlorophyll <i>a</i> (µg/L) in Prosperity Project Lakes	2-84
Table 2-31	Phytoplankton Abundance in Fish Lake, 2006	2-85
Table 2-32	Benthic Invertebrate Sampling Program, Prosperity Project	2-88
Table 2-33	Benthic Community Characteristics for Fish Creek Sites, August 1997 (mean of 5 samples)	2-101
Table 2-34	Benthic Community Characteristics for Fish Creek Sites, August 2006 (mean of 5 samples)	2-102
Table 2-35	Benthic Community Characteristics for Taseko River Sites, August 1997 (mean of 5 samples)	2-102
Table 2-36	Benthic Community Characteristics for Taseko River Sites, August 2006 (mean of 5 samples)	2-103
Table 2-37	Seasonal Changes in Benthic Community Characteristics for Taseko River Site W4 Riffles, August – September 1997 (mean of 5 samples)	2-103
Table 2-38	Benthic Community Characteristics for Beece Creek Sites, August 1997 (mean of 5 samples)	2-104
Table 2-39	Benthic Community Characteristics for Tête Angela Creek Sites, August 1997 and 2006 (mean of 5 samples)	2-104
Table 2-40	Benthic Community Characteristics for Prosperity Project Streams, Riffle Sites, 1993 to 1996 (mean of 6 samples)	2-105
Table 2-41	Prosperity Project Lake Benthos Sampling Program Outline	2-106
Table 2-42	Lake Zooplankton Sampling Program, Prosperity Project	2-113

List of Figures

Figure 2-1	Aquatic Sampling Sites in the Prosperity Project Study Area	2-2
Figure 2-2	Variations in Water Quality among Streams for Selected Parameters	2-21
Figure 2-3	Conductivity–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-4	Hardness–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-5	Turbidity–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-6	DOC and TOC–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-7	Total Suspended Solids–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-8	Ammonia–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-23
Figure 2-9	Nitrate+Nitrite–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, Post-PRS	2-24
Figure 2-10	Total Phosphate–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-24

Figure 2-11	Dissolved Aluminum–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-24
Figure 2-12	Total Arsenic–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-24
Figure 2-13	Total Copper–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-24
Figure 2-14	Total Iron–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006	2-24
Figure 2-15	Comparison of Lake Water Quality, Prosperity Project Area	2-30
Figure 2-16	Water Quality in the Epilimnion, Metalimnion and Hypolimnion of Fish Lake.....	2-33
Figure 2-17	Dissolved Oxygen Profiles in Fish Lake (as percent saturation).....	2-35
Figure 2-18	Variation in Metal Levels in the <63 mm Fraction of Sediment from Pools and Riffles in Sites Sampled in 1997.....	2-45
Figure 2-19	Mean Metal Levels in the < 63 µm Fraction of the Sediment of Prosperity Project Streams, 1997 and 2006.....	2-48
Figure 2-20	Metal Levels in Prosperity Project Lakes, 1997 (mean of 5 replicates)	2-55
Figure 2-21	Mean Mercury Concentration in Liver Tissue of Fish from the Prosperity Project Area, 1995–1997	2-61
Figure 2-22	Mean Mercury Concentration in Muscle Tissue of Fish from the Prosperity Project Area, 1995–1997	2-62
Figure 2-23	Mean Mercury Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area	2-63
Figure 2-24	Periphyton chlorophyll <i>a</i> (mean, S.E.) for Riffle Habitat in Fish Creek and Taseko River Sites	2-71
Figure 2-25	Benthic Invertebrate Density (mean and standard error) in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area	2-91
Figure 2-26	Benthic Invertebrate Density (mean and standard error) in Pool Habitat in 1997, in the Prosperity Project Area	2-91
Figure 2-27	Benthic Invertebrate Taxon Richness in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area	2-92
Figure 2-28	Benthic Invertebrate Taxon Richness in Pool Habitat in 1997, in the Prosperity Project Area	2-93
Figure 2-29	Benthic Invertebrate Diversity (Shannon-Wiener Index) in Riffle Habitat, in 1997 and 2006, in the Prosperity Project Area	2-94
Figure 2-30	Benthic Invertebrate Diversity (Shannon-Wiener Index) in Pool Habitat, in 1997, in the Prosperity Project Area.....	2-94
Figure 2-31	Benthic Invertebrate EPT Index (Ephemeroptera, Plecoptera, Trichoptera) in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area.....	2-95
Figure 2-32	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Fish Creek Riffle Habitat, 1997 and 2006	2-96
Figure 2-33	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Fish Creek Pool Habitat, 1997 (see Figure 2–32 for legend)	2-97
Figure 2-34	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Taseko River Riffle Habitat, 1997 and 2006 (see Figure 2–32 for legend).....	2-98

Figure 2-35	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Taseko River Pool Habitat, 1997 (see Figure 2–32 for legend)	2-99
Figure 2-36	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Beece Creek Riffle and Pool Habitat, 1997 (see Figure 2–32 for legend)	2-100
Figure 2-37	Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Tête Angela Creek Riffle and Pool Habitat, 1997 and 2006 (see Figure 2–32 for legend)	2-100
Figure 2-38	Benthic Invertebrate Density in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)	2-107
Figure 2-39	Benthic Invertebrate Taxon Richness in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)	2-108
Figure 2-40	Benthic Invertebrate Diversity Index in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)	2-108
Figure 2-41	Benthic Invertebrate Composition in Prosperity Project Lakes, 1997	2-109
Figure 2-42	Zooplankton Density in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5 except Little Onion Lake, with n=3)	2-115
Figure 2-43	Zooplankton Taxon Richness in Prosperity Project Area Lakes, 1997 (mean, n=5 except Little Onion Lake, with n=3)	2-116
Figure 2-44	Zooplankton Diversity Index in Prosperity Project Area Lakes, 1997 (mean, n=5 except Little Onion Lake, with n=3)	2-117
Figure 2-45	Zooplankton Composition in Prosperity Project Area Lakes, 1997 (mean, n=5 except Little Onion Lake, with n=3)	2-118
Figure 2-46	Zooplankton Composition in Fish Lake, 2006 (mean, n=5)	2-119

List of Appendices

Appendix A	Steam and Lake Water Protocols
Appendix B	Steam Water Data
Appendix C	Lake Water Data
Appendix D	Sediment
Appendix E	Fish Tissue
Appendix F	Periphyton
Appendix G	Phytoplankton
Appendix H	Benthos
Appendix I	Zooplankton

Abbreviations

%	percent
<	less than
>	greater than
μ	micro
μg/m ³	micrograms per cubic metre
asl	above sea level
BCCDC	British Columbia Conservation Data Centre
BCEAA	British Columbia <i>Environmental Assessment Act</i>
BCM	bank cubic metre
BCMEMP	British Columbia Ministry of Energy, Mines and Petroleum Resources
BCMOE	British Columbia Ministry of Environment
BCMOFR	British Columbia Ministry of Forests and Range
CCME	Canadian Council of Ministers of the Environment
CDC	Conservation Data Centre
CFIA	Canadian Food Inspection Agency
CRM	certified reference materials
CV	coefficient of variation
DFO	Fisheries and Oceans Canada
DO	dissolved oxygen
DOC	dissolved organic carbon
EA	Environmental Assessment
EAA	<i>Environmental Assessment Act</i>
EAO	Environmental Assessment Office
EEM	environmental effects monitoring
EMP	environmental management program
EMS	environmental management system
EPT	Ephemeroptera, Plecoptera and Trichoptera
JW-AXYS	Jacques Whitford-AXYS
LEL	least effects level
MEMPR	Ministry of Energy, Mines and Petroleum Resources
MMER	Metal Mining Effluent Regulations
MOE	Ministry of Environment
MOFR	Ministry of Forests and Range
NRCan	Natural Resources Canada
PCA	Principal Components Analysis
PEL	probable effects level
PRS	Project Report Specifications
QA/QC	quality assurance/quality control
RIC	Resources Inventory Committee
RISC	Resources Information Standards Committee
ROM	run-of-mine
ROW	right-of-way
SD	standard deviation
SE	standard error of the mean
SQG	sediment quality guideline
TDS	total dissolved solids
TOC	total organic carbon

TSS total suspended solids
WQG water quality guideline

2 Water Quality and Aquatic Ecology

2.1 Introduction

This technical data report characterizes existing water quality and aquatic ecology conditions in areas that will be directly or indirectly affected by implementation of the Prosperity Project, as well as in nearby areas intended to be used as regional reference sites. The aquatic components relate to surface water systems (streams and lakes) in the project area and include water quality, sediment characteristics, benthic invertebrates of streams and lakes, periphyton of streams, and zooplankton and phytoplankton of lakes. Rationales for including these components and criteria for their evaluation are described in the Project Report Specifications (PRS) drawn up by the British Columbia Environmental Assessment Office (BCEAO 1998).

Water quality and aquatic biota are sensitive to mining project effects and are vital in sustaining healthy aquatic ecosystems. Discharge of metals to the receiving environment has potential for direct adverse effects on aquatic ecosystems, through toxicity of metals, nutrient enrichment (elevated nitrate or ammonia from blasting residues), increased sulphate levels, changes in pH, and release of suspended sediments. Environmental effects of mine effluent discharge have been well documented, and include excessive growth of periphyton resulting from nitrate or ammonia discharges, reduced abundance of periphyton and benthic invertebrates in areas close to discharge points, elimination of sensitive species, changes in community structure and deformities of periphyton induced by metals (Aquamin 1996). Changes in periphyton and benthos productivity can have an effect on fish assemblages (abundance, size, bioaccumulation of metals in tissue), which can then affect birds, wildlife and humans that consume fish.

Metal Mining Effluent Regulations (MMER), under the *Fisheries Act*, and associated Environmental Effects Monitoring (EEM) programs, came into effect in 2002 for all mines that discharge metals to the receiving environment and is administered through Environment Canada. Given that the Prosperity Project has been designed as a zero-discharge facility, with no discharge to the receiving environment due to recirculation of process water and direction of all site and process water to the tailings impoundment, these components of MMER will not apply to the Project during operations. However, MMER will apply post-closure, when there will be discharges from the tailings impoundment and pit lake, and would apply if, for any reason, the mine needs to discharge during operations.

Direct and indirect effects of water and sediment quality on aquatic life have been well recognized for over a century (Wetzel 2001). Currently, the Canadian Council of Ministers of the Environment (CCME) maintains and updates a list of scientifically derived water and sediment quality guidelines for protection of various users, including aquatic life (CCME 2004). A similar list is maintained by the British Columbia Ministry of Environment (MOE 2006, Nagpal et al. 2006). The linkage to regulatory drivers is through the PRS (BCEAO 1998), which was developed through consultation with regulatory, First Nations and community representatives.

2.2 Aquatic Program Overview

Taseko Mines proposes to develop the Prosperity Project in the Fish Creek watershed, 125 km southwest of Williams Lake. Project details are discussed in Volume 1, Section X of the EA. There is potential for effects, within and beyond the Project footprint, on surface water, groundwater and sediment quality, and aquatic organisms. This report presents baseline conditions of sediment and water quality (streams and lakes), metals in fish tissue, benthic invertebrates, periphyton, phytoplankton and zooplankton in study sites sampled since 1992.

Hallam Knight Piesold conducted studies between 1992 and 1995 (Hallam Knight Piesold 1994, 1995). Triton Environmental conducted studies in 1997 and 1998 (draft baseline reports). Jacques Whitford-AXYS conducted a gap analysis in 2006 to evaluate completeness of these studies, the potential for changes in the watershed after 1998 and relevance in relation to current technical and regulatory standards. Based on this gap analysis, the potential for watershed changes related to pine beetle infestations, logging, and the trend toward drier weather in recent years, it was considered appropriate to augment the historic studies with additional sampling in 2006–2007.

The stream and lake sampling program is summarized in Table 2-1, and each component of the aquatic program is discussed in detail in subsequent sections. Each section consists of introduction, overview of methods, Quality Assurance/Quality Control (QA/QC) procedures, results, including summary statistics for each system, and discussion. All detailed methods, raw data and summary statistics for individual sites are reported in appendices. During development of the Prosperity Project, some elements of the aquatic program (sites, parameters, detection limits, taxonomic levels, quality assurance / quality control QA/QC procedures, etc.) have evolved to address changes to the project description, concepts for habitat compensation planning and technical requirements of the draft and final PRS.

2.2.1 Current and Historic Sites

From 1992 to 2007, a total of 42 sites were sampled (Table 2-1, Figure 2–1), including sites prescribed in Tables 2 and 4 of the PRS. Several sampling sites were established in the local study area (Fish Creek system, Wasp Lake, Big Onion Lake system, Beece Creek) and regional study area (Taseko River, Tête Angela Creek). Most sites have been used consistently over the past decade, and a few for a shorter period of time.

The Preferred Mine Development Plan (Option 3) and the fish compensation plan had not been selected in 1998, when the PRS were finalized, so some original site designations are no longer considered relevant to the preferred plan. As a result, our baseline report focuses on Fish Creek and Fish Lake, Beece Creek, Wasp Lake, Big Onion Lake and its outlet creek, and the Taseko River. Data for sites on Vick Creek and Vick Lake, Tête Angela Creek and Lake, Groundhog Creek, Rat Cabin Lakes, Big Lake, Slim Lake and Wolftrap Lake are discussed only when they provide useful reference data. However, all data are included in the appendices, in the raw data and summary statistics tables.

The terminology employed in the PRS was based on a Before-After Control-Impact study design, with sites designated as “impact” or “control”. This convention has been retained, although more accurate practice would be to refer to “exposure” and “reference” areas.

Figure 2-1 Aquatic Sampling Sites in the Prosperity Project Study Area

Table 2-1 Prosperity Project Sampling Program Outline (adapted from PRS 1998)

Sampling Location ¹		Site Type	Location ^{2,3}		Rationale	Number of Samples					
			Latitude (N) Longitude (W)	UTM 10 U Easting. Northing		Water	Sediment	Periphyton	Phytoplankton	Benthic Invertebrates	Zooplankton
W1	Fish Creek (inlet to Fish Lake)	impact	51° 26' 11.7" 123° 36' 6"	458177. 5698547	Directly affected by Project development	75	16	16		16	
W2	Fish Creek (outlet of Fish Lake)	impact	51° 27' 17.6" 123° 37' 27.1"	456630. 5700598	Directly affected by Project development	81	21	21		27	
W3	Fish Creek (near Taseko R. confluence)	impact	51° 28' 59.3" 123° 40' 51.6"	452712. 5703773	Potential effects downstream of the Project	75	21	21		21	
W4	Taseko River (at outlet of Taseko Lake)	control	51° 22' 7.1" 123° 37' 40.4"	456292. 5691008	Regional reference upstream of project influence	73	10	5		5	
W5	Taseko River upstream of Fish Creek	control and impact	51° 29' 24.5" 123° 41' 26.8"	452040. 5704559	Reference upstream of Fish Creek, but potentially influenced by mine activities	82	21	15		21	
W6	Taseko River downstream of Fish Creek	impact	51° 29' 38.3" 123° 40' 58.3"	452594. 5704979	Site downstream of Fish Creek to monitor potential effects of mine activities	82	21	10		16	
W7	Fish Creek (u/s of ore body), discontinued 1997	impact	51° 27' 24.3" 123° 37' 30.7"	456562. 5700804	Directly affected by Project development (sampled pre-1997)	49	6				
W8	Fish Creek (downstream of ore body)	impact	51° 28' 4.4" 123° 38' 5.8"	455896. 5702049	Potential effects downstream of the Project	81	21	21		21	
W9	Taseko River downstream of Big Onion Lake	impact	51° 25' 11.2" 123° 39' 33.9"	454147. 5696715	Potential effects of project from effects on Big Onion Lake	64	6	6			
WB	Big Onion Lake tributary	Impact	51° 23' 52.1" 123° 37' 11.9"	456870. 5694247	To monitor possible groundwater seepage (2006)	5					
W10	Big Onion Lake outlet, 1990s	impact	51° 25' 6.9" 123° 38' 34.1"	455302. 5696571	To assess potential effects beyond Fish Creek watershed	63					
W10a	Big Onion Lake foreshore near outlet	impact	51° 24' 57.9" 123° 38' 25.9"	455457. 5696290	To assess potential effects beyond Fish Creek watershed, outlet dry in	12					

Sampling Location ¹		Site Type	Location ^{2,3}		Rationale	Number of Samples					
			Latitude (N) Longitude (W)	UTM 10 U Easting. Northing		Water	Sediment	Periphyton	Phytoplankton	Benthic Invertebrates	Zooplankton
	(2006)				2006						
W11	Beece Creek upstream of the Taseko River	impact	51° 22' 31" 123° 35' 45.2"	458525. 5691727	To assess potential effect of mining activities	63	16	10		16	
W12	Beece Creek upstream of project area	control	51° 20' 9.3" 123° 29' 59.5"	465179. 5687301	Reference site for activities in Beece watershed	63	16	10		16	
W13	Vick Creek downstream of Vick Lake	Not applicable	51° 35' 57.1" 123° 41' 30.3"	452088. 5716687	Not applicable to the preferred Mine Development Plan	106					
W14	Taseko River, 2 km d/s of W4	impact	51° 23' 26" 123° 37' 46.5"	456194. 5693446	Potential effects of project from groundwater movement off site, established in 2006	39	11	11		5	
W15	Big Lake Cr. (Big Lake outlet)		Not available	Not available	Sampled once in 1994	7					
W16	Groundhog Creek (north arm)	Not applicable	51° 26' 9.5" 123° 25' 18.5"	470680. 5698391	Not applicable to the preferred Mine Development Plan	24	6				
W17	Tête Angela Creek East	Not applicable	51° 32' 52.7" 123° 29' 39.1"	465732. 5710878	Not applicable to the preferred Mine Development Plan	24	16	16		16	
W18	Tête Angela Creek West	Not applicable	51° 35' 31.9" 123° 35' 43.8"	458748. 5715851	Not applicable to the preferred Mine Development Plan	20	16	11		11	
W19	Taseko River downstream of Davidson Bridge	impact	51° 33' 43.7" 123° 41' 55.2"	451570. 5712571	To assess baseline conditions and potential effects further downstream of project area	18	10	10		10	
W20	Taseko River downstream of Tête Angela confluence	impact	Not available	455181.8 5726198.1	To assess baseline conditions and potential effects further downstream of project area	18	10	10		10	
W21	Groundwater seep (spring north of Big Onion Lake)	Impact	Not available	Not available	To monitor possible groundwater seepage (1997-1998)	11					
W22	Groundwater seep (spring north of Big Onion Lake)	Impact	Not available	Not available	To monitor possible groundwater seepage (1997-1998)	13					
W23	Vick Creek upstream of Vick Lake	Not applicable	Not available	Not available	Not applicable to the preferred Mine Development Plan	9					

Sampling Location ¹		Site Type	Location ^{2,3}		Rationale	Number of Samples					
			Latitude (N) Longitude (W)	UTM 10 U Easting. Northing		Water	Sediment	Periphyton	Phytoplankton	Benthic Invertebrates	Zooplankton
W24	Upper Groundhog Creek	Not applicable	Not available	Not available	Not applicable to the preferred Mine Development Plan	12					
WC	Tête Angela Creek upstream of Taseko River	Control / reference	51° 35' 57.2" 123° 41' 32.4"	452048. 5716691	Regional reference site established in 2006 to provide additional aquatic data	7	5	5		5	
U1	Fish Lake	Impact	51° 27' 0.8" 123° 36' 50.8"	457327. 5700073	Direct effect of project, 2006	3			3		5
U2	Fish Lake	Impact	51° 27' 1" 123° 36' 51.2"	457320. 5700079	Direct effect of project, duplicate site, 2006	3			3		
	Fish Lake	Impact	51° 26' 44.7" 123° 36' 42.4"	457485. 5699573	Direct effect of project, pre-2006	22	11		13	11	11
	Little Fish Lake	Impact	51° 24' 15.3" 123° 33' 23.6"	461286. 5694926	Direct effect of project	7	5		11	11	11
	Big Lake	control	51° 31' 44.1" 123° 44' 1.2"	449107. 5708899	Regional reference site	4	5		10	5	
	Big Onion Lake	Impact	51° 24' 23.8" 123° 37' 46"	546219. 5695230	Potential project effects	5	11		11	11	17
	Little Onion Lake	Impact	51° 23' 34.7" 123° 36' 1.9"	458218. 5693696	Potential project effects	2	5				
	North Rat Cabin Lake	Not applicable	Not available	Not available	Not applicable to the preferred Mine Development Plan	2	5				
	South Rat Cabin Lake	Not applicable	Not available	Not available	Not applicable to the preferred Mine Development Plan	2	5				
	Slim Lake	Not applicable	51° 32' 44.7" 123° 39' 22.1"	454500. 5710722	Potential fish compensation site, not applicable to the preferred Mine Development Plan	6	5		11	11	11
	Taseko Lake	Control	Not available	Not available	Regional reference site		5		10	5	
	Tête Angela Lake	Not applicable	Not available	Not available	Potential fish compensation site, not applicable to the preferred Mine Development Plan	3					5
	Vick Lake	Not applicable	51° 34' 36.9"	454461.	Potential fish compensation site, not	4	5		11	11	11

Sampling Location ¹		Site Type	Location ^{2, 3}		Rationale	Number of Samples					
			Latitude (N) Longitude (W)	UTM 10 U Easting. Northing		Water	Sediment	Periphyton	Phytoplankton	Benthic Invertebrates	Zooplankton
			123° 39' 25.8"	5714188	applicable to the preferred Mine Development Plan						
	Wasp Lake	Impact or compen-sation	51° 23' 14.4" 123° 33' 31.8"	461115. 5693048	Preferred fish compensation site, 2006	7	11		12	11	6
	Wolf Trap Lake	Not applicable	51° 23' 17.2" 123° 29' 41.2"	465572. 5693100	Potential fish compensation site, not applicable to the preferred Mine Development Plan	2					

NOTES: ¹ Site W15 (Big Lake Creek) removed from original sampling program
² Lat/long coordinates recorded in degrees, minutes, seconds, UTM coordinates recorded in NAD 83
³ 2006 site locations accurate within ± 45 m of historical sites

2.3 Water Chemistry

This section presents all surface water chemistry data collected for the project since 1992. Given their distinct character, lotic and lentic systems are treated separately. The objective of the water quality monitoring program is to summarize baseline water quality of streams and lakes within and outside the proposed mine development area. This baseline information will be used to establish water quality conditions, predict potential changes to water quality in all phases of the project, determine objectives for water quality during mine construction, operation and decommissioning, and, if needed, determine allowable maximum wastewater discharge and seepage rates. Historic and current data were reviewed in light of the current requirements and practices for proposed (e.g., Kemess North Mine) and existing mining operations (MMER) to anticipate regulatory requirements for the Environmental Assessment.

Physical and chemical water quality parameters determine the physiological performance of individual aquatic organisms, with repercussions at the population and community levels in terms of distribution, diversity and density. Because freshwater systems are complex, adaptive and dynamic systems, the completion of an extensive water quality monitoring program is essential to distinguish natural variations over time and space from human-induced environmental changes.

2.3.1 Streams

Stream water quality was monitored between 1992 and 1998, and in 2006–2007. The 2006–2007 sampling program was designed to support current habitat compensation planning and to provide one year of recent water quality data, taking into account changes in land use that were likely to have had an effect on hydrology and sediment transport. Sample sites were selected to provide representative areas that could be affected by the construction and operation of the mine (impact sites) and areas that would not be affected by mine development (control sites).

2.3.1.1 Methods

Sample Timing and Locations

Between 1992 and 1997, the water quality monitoring program was conducted at 18 stream and river sites (W1 to W18) in the following systems: Fish Creek, Taseko River, Tête Angela Creek, Beece Creek, Big Onion, Groundhog Creek and Big Lake Creek. The sites were established at various times, ranging from April 1992 to May 1996. In 1997, two sites were removed from the sampling program (W7 and W15) and six sites were added. Four of these (W19, W20, W23 and W24) were located in the previously monitored streams and two (W21 and W22) were groundwater seepage points. In 2006, water monitoring was resumed at nine sites, and one new site was established. A list of the study systems, sampling sites and dates is shown in Table 2-1 and Table 2-2.

Sampling frequency varied throughout the monitoring period (Table 2-2). From May 1992 to April 1993, samples were collected once per month, whereas from May 1993 to February 1997 samples were collected once a week during the 30-day period bracketing the freshet, once a week during the 30-day period bracketing late-summer low flows and, at some sites, one to three times during the winter. After May 1997, samples were collected monthly and also during two periods of intensive water sampling (five samples

in a 30-day period), which corresponded to the freshet flows in late spring and summer and the low flow conditions in late summer to early fall. The two groundwater seepage sites (W21 and W22) were not included in the 5-week high and low flow sampling.

During various phases of the baseline monitoring program, sites W1, W13, W10a and WC could not be sampled consistently due to low and intermittent flows.

Field Sampling Methods

Methods used for stream water collection followed the BC Freshwater Biological Sampling Manual (MOE 1997a) and were consistent throughout the monitoring period. Any variations in the procedures are described in Appendix A.1, together with detailed sampling methods for field preparation, water sample collection, preservation and shipping.

In summary, samples were collected from mid-stream where possible, with the environmental monitor standing perpendicular to the flow, facing upstream. In situations where the current was too strong, water too deep or ice too thin, samples were collected from a solid area on the bank to avoid sediment resuspension during collection. During sampling and bottle handling, all necessary care was taken to avoid contamination of samples, bottles and caps. From 1992 to February 1997, five bottles were used for analyses of: general parameters, total metals, dissolved metals, mercury and cyanide. The number of bottles was reduced to three after May 1997, as mercury and cyanide were no longer measured. A list of all water quality parameters measured during the monitoring program is provided in Table 2-3. In situ measurements of pH, temperature and conductivity were also taken at all sites on each sampling date.

When necessary, preservatives were added to samples immediately after collection. All samples were kept in coolers containing icepacks after collection, and placed in a refrigerator upon return to camp. Samples were shipped to the laboratory in coolers containing icepacks, generally within the holding time defined by the PRS. Whenever a delay in shipment occurred, samples were kept refrigerated in camp and the delay was noted for subsequent quality control. Chain of custody forms describing sampling times and analytical requirements were submitted to the analytical laboratory.

Table 2-2 Stream Water Quality Sampling Program Outline

SITE	SITE DESCRIPTION	TYPE	1992						1993					
			May	Jun	Jul	Aug	Oct	Dec	Jan	Mar	May	Jun	Aug	Sep
W1	Fish Creek (lake inlet)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W2	Fish Creek (lake outlet)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W3	Fish Creek (u/s of Taseko R.)	Impact	x	x	x			x	xx	xx	xxxx	x	xxx	xx
W4	Taseko R. (lake outlet)	Ref	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W5	Taseko R. (u/s of Fish Cr.)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W6	Taseko R. (d/s of Fish Cr.)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W7	Fish Creek (u/s of ore body)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx
W8	Fish Cr. (d/s of ore deposit)	Impact	x	x	x	x	xx	x	xx	xx	xxxx	x	xxx	xx

SITE	SITE DESCRIPTION	TYPE	1992						1993					
			May	Jn	Jl	Aug	Oct	Dec	Jan	Mar	May	Jn	Aug	Sep
W9	Taseko R. (d/s of Big Onion L.)	Impact						x	xx	xx	xxxx	x	xxx	xx
W10	Big Onion L. outlet	Impact						x	xx	xx	xxxx	x	xxx	xx
W11	Beece Cr. (u/s of Taseko R.)	Impact						x	xx	xx	xxxx	x	xxx	xx
W12	Beece Cr. (u/s of Project influence)	Ref						x	xx	xx	xxxx	x	xxx	xx
W13	Vick Cr. (d/s of lake)	Ref												
W14	Taseko R. (d/s of Beece Cr.)	Ref												
W15	Big Lake Cr. (Big Lake outlet)	Ref					x				x	xx	xx	
W16	Groundhog Cr. Tributary	Ref												
W17	Tête Angela Cr. East	Ref												
W18	Tête Angela Cr. West	Ref												
W19	Taseko R. (d/s of Davidson Bridge)	Impact												
W20	Taseko R. (d/s of Tête Angela West)	Impact												
W21	Groundwater seepage	Ref												
W22	Groundwater seepage	Ref												
W23	Vick Cr. (u/s Vick L.)	Ref												
W24	Upper Groundhog Cr.	Impact												
WB	Big Onion L. tributary	Impact												
WC	Lower Tête Angela Cr. (u/s of Taseko R.)	Ref												

SITE		1994			1995				1996					
		May	Aug	Sep	Jn	Jl	Sep	Oct	Ap	May	Jn	Jl	Aug	Sep
W1	Fish Cr. (lake inlet)	xxxxx	xxxx	x	xx	xxx	x	xxxx	x	xxxx			xxx	xx
W2	Fish Cr. (lake outlet)	xxxxx	xxxx	x	xx	xxx	x	xxxx	x	xxxx			xxx	xx
W3	Fish Cr. (upstream of Taseko R.)	xxxxx	xxxx	x	xx	xxx	x	xxxx	x	xxxx			xxxx	x
W4	Taseko R. (lake outlet)	xxxxx	xxxx	x	xx	xxx	x	xxxx		xxxx	xxx	x	xxxx	x
W5	Taseko R. (u/s of Fish Cr.)	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x
W6	Taseko R. (d/s of Fish Cr.)	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x
W7	Fish Cr. (u/s of ore body)	xxxxx	xxxx	x	xx	xxx	x	xxxx		xxx			xxx	xx
W8	Fish Cr. (d/s of ore deposit)	xxxxx	xxxx	x	xx	xxx	x	xxxx	x	xxxx			xxxx	x
W9	Taseko R. (d/s of Big Onion L.)	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x
W10	Big Onion L. outlet	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x
W11	Beece Cr. (u/s of	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x

Taseko Prosperity Gold-Copper Project
Volume 5, Section 2: Water Quality and Aquatic Ecology

	SITE Taseko R.)	1994			1995				1996					
		May	Aug	Sep	Jn	Jl	Sep	Oct	Ap	May	Jn	Jl	Aug	Sep
W12	Beece Cr. (u/s of Project influence)	xxxxx	xxxx	x	xx	xxx	x	xxxx		x	xxx	x	xxxx	x
W13	Vick Creek (d/s of Vick L.)					xxx	x	xxxx		x	xxx	x	xxxx	x
W14	Taseko R. (d/s of Beece Cr.)						x	xxxx		x	xxx	x	xxxx	x
W15	Big Lake Cr. (Big Lake outlet)	x												
W16	Groundhog Cr. Tributary		x							x	xx		xxx	xx
W17	Tête Angela Cr. East										xx		xxx	xx
W18	Tête Angela Cr. West									x	xx		xxx	xx
W19	Taseko R. (d/s of Davidson Bridge)													
W20	Taseko R. (d/s of Tête Angela West)													
W21	Groundwater seepage													
W22	Groundwater seepage													
W23	Vick Cr. (u/s of lake)													
W24	Upper Groundhog Cr.													
WB	Big Onion L. tributary													
WC	Lower Tête Angela Cr. (u/s of Taseko R.)													

	SITE	1997									1998				
		Feb	May	Jn	Jl	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Ap	May
W1	Fish Cr. (lake inlet)	x	xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W2	Fish Cr. (lake outlet)	x	xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W3	Fish Cr. (upstream of Taseko R.)	x	xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W4	Taseko R. (lake outlet)	x			xxx	xx	xxx	xx	x	x	x	x	x	x	x
W5	Taseko R. (u/s of Fish Cr.)	x			xxx	xx	xxx	xx	x	x	x	x	x	x	x
W6	Taseko R. (d/s of Fish Cr.)	x			xxx	xx	xxx	xx	x	x	x	x	x	x	x
W7	Fish Cr. (u/s of ore body)														
W8	Fish Cr. (d/s of ore deposit)	x	xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W9	Taseko R. (d/s of Big Onion L.)	x			xxx	xx	xxx	xx	x	x	x	x	x	x	x
W10	Big Onion L. outlet	x	xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W11	Beece Cr. (u/s of Taseko R.)	x	xx	xxx	x		xxx	xx	x	x	x	x	x	x	

Taseko Prosperity Gold-Copper Project
Volume 5, Section 2: Water Quality and Aquatic Ecology

W12	Beece Cr. (u/s of Project influence)	x	xx	xxx	x		xxx	xx	x	x	x	x	x	x	
W13	Vick Cr. (d/s of Vick L.)	x	xxxxx	x	x		xxx	xx	x	x	x	x	x	x	
W14	Taseko R. (d/s of Beece Cr.)	x			xxx	xx	xxx	xx	x	x	x	x	x	x	x
W15	Big Lake Cr. (Big Lake outlet)														
W16	Groundhog Cr. Tributary		xxx	xx	x		xxx	xx		x	x	x		x	
W17	Tête Angela Cr. East		xxxx	x	x		xxx	xx	x	x	x	x	x	x	
W18	Tête Angela Cr. West		xxxx	x	x		xx	xx	x	x	x				
W19	Taseko R. (d/s of Davidson Bridge)				xxx	xx	xxx	xx	x	x	x	x	x	x	x
W20	Taseko R. (d/s of Tête Angela West)						xxx	xx	x	x	x	x	x	x	x
W21	Groundwater seepage						xxx	xx	xx						x
W22	Groundwater seepage							x	xx	x	x	x	x	x	x
W23	Vick Cr. (u/s of lake.)														xxx
W24	Upper Groundhog Cr.													x	xxx
WB	Big Onion L. tributary														
WC	Lower Tête Angela Cr. (u/s of Taseko R.)														

SITE		1998				2006					
		Jn	Jl	Aug	Sep	May	Jn	Jl	Aug	Sep	Oct
W1	Fish Cr. (lake inlet)					xxxx	X	x			
W2	Fish Cr. (lake outlet)					xxxx	X	x	xxxx	x	x
W3	Fish Cr. (upstream of Taseko R.)					xxxx	X	x	xxxx	x	x
W4	Taseko R. (lake outlet)	x									
W5	Taseko R. (u/s of Fish Cr.)	x				xxxx	X	x	xxxx	x	x
W6	Taseko R. (d/s of Fish Cr.)	x				xxxx	X	x	xxxx	x	x
W7	Fish Cr. (u/s of ore body)										
W8	Fish Cr. (d/s of ore deposit)					xxxx	X	x	xxxx	x	x
W9	Taseko R. (d/s of Big Onion L.)	x									
W10	Big Onion L. outlet										
W11	Beece Cr. (u/s of Taseko R.)										
W12	Beece Cr. (u/s of Project influence)										
W13	Vick Cr. (d/s of Vick L.)					xxxx	X	x			
W14	Taseko R. (d/s of Beece Cr.)	x				xxxx	X	x	xxxx	x	x
W15	Big Lake Cr. (Big Lake outlet)										
W16	Groundhog Cr. Tributary										
W17	Tête Angela Cr. East										
W18	Tête Angela Cr. West										
W19	Taseko R. (d/s of Davidson Bridge)	x									
W20	Taseko R. (d/s of Tête Angela West)	x	xxx	xx							

W21	Groundwater seepage	x	x	x							
W22	Groundwater seepage	x	x	x	x						
W23	Vick Cr. (u/s of Vick L.)	xxx	xxx								
W24	Upper Groundhog Cr.	xxx	xxx	xx							
WB	Big Onion L. tributary					xxxx	X				
WC	Lower Tête Angela Cr. (u/s of Taseko R.)					xxx	X	x	xx		

Table 2-3 Water Quality Parameters, Prosperity Project, 1992–2007

Temperature (field ¹)	Aluminum, total & dissolved
Oxygen, dissolved (field ¹)	Antimony, total & dissolved
pH (field a and lab)	Arsenic, total & dissolved
Specific conductivity (field ² and lab)	Barium, total & dissolved
Filterable Residue	Beryllium, total & dissolved
Total suspended solids	Bismuth, total & dissolved
Turbidity (field and lab)	Boron, total & dissolved
Alkalinity, total	Cadmium, total & dissolved
Sulphate	Chromium, total & dissolved
Fluoride	Cobalt, total & dissolved
Chloride	Copper, total & dissolved
Carbon, dissolved organic ²	Cyanide, total ⁴
Carbon, total organic ³	Iron, total & dissolved
Nitrogen, ammonia	Lead, total & dissolved
Nitrogen, nitrite	Lithium, total & dissolved ¹
Nitrogen, nitrate	Mercury, total ⁴
Nitrogen, Total (lakes only)	Molybdenum, total & dissolved
Phosphorus, ortho-dissolved	Nickel, total & dissolved
Phosphorus, total & dissolved	Selenium, total & dissolved
Phosphorus, total	Silicon, total & dissolved
Hardness	Silver, total & dissolved
Calcium, total & dissolved	Strontium, total & dissolved
Magnesium, total & dissolved	Thallium, total & dissolved ³
Manganese, total & dissolved	Tin, total and dissolved ¹
Potassium, total & dissolved	Titanium, total & dissolved
Sodium, total & dissolved	Uranium, total & dissolved
	Vanadium, total & dissolved
	Zinc, total & dissolved

NOTES: ¹ measured only in 1997–1998 and in 2006

² measured only in 2006

³ measured between 1992 and 1998

⁴ measured only before May 1997

Data Analysis

Summary statistics were calculated for all parameters at individual sites, as well as at sites pooled for each system over the whole monitoring period. These statistics included total number of samples, range of values, median, average, standard deviation, coefficient of variation, number of samples exceeding guidelines, and number of samples with values equal to or lower than the corresponding detection level. In addition, for each metal the ratio (in percent) between dissolved and total concentrations was calculated as an indication of metal bioavailability.

Detection limits were up to 200 times higher before May 1997 than in later periods. Therefore, values equal to the detection limit observed before May 1997 were not included in inter-site or inter-system comparisons or in calculations of summary statistics, unless results different from the detection limit for a given parameter in a given site were also available. Also, results recorded below the detection limit before May 1997 were considered not quantified and were not used in baseline characterization, whereas one-half the detection limit was assigned to non-detected values obtained after May 1997. These exclusions prevented giving a high weight to results from before May 1997 relative to those obtained after May 1997.

Conductivity and pH were only systematically measured in the field in 2006. Therefore results from laboratory measurements were used in all statistical analyses involving these two parameters.

Among-system and among-sites comparisons were assessed using one-way analysis of variance (ANOVA). Fisher's least significant difference method was used to discriminate among means. When necessary, data were log-transformed to ensure normality and homoscedasticity. If the distribution of a given parameter was not normal, comparisons were performed using a nonparametric test, Wilcoxon/Kruskal-Wallis. Yearly and inter-annual trends of selected parameters in different sites were assessed for samples collected in 1997–1998 and 2006. The list of parameters included those for which more than 50% of the data were above the detection limits. Temporal variations before May 1997 were not presented because the sampling design did not comprise either monthly data for one full year of field work or the two five-week high frequency sampling periods during peak and low flows.

Principal Components Analysis (PCA) was used to summarize the water quality data. This method reduces an original set of variables into a smaller set of uncorrelated components that represents most of the information found in the original variables. The reduction in the dimensionality of the set of water quality parameters allows a visual inspection of the main environmental conditions of the different sites and systems. PCA was performed on a correlation matrix, with standardized data, each parameter having a variance equal to 1, which reduces the effects of different scales of measurement. All statistical analyses were performed with Statgraphics Plus software, Centurion XV.

All water quality results were compared to available criteria for protection of aquatic life specified in the British Columbia Approved and Working Water Quality Guidelines (MOE 2006, Nagpal et al. 2006) and Canadian Water Quality Guidelines (CCME, 2004). These water quality guidelines (WQG) are listed in Table 2-4. Mean values for five measurements performed within a 30-day period at one-week intervals were also compared to respective BC guidelines. Detection limits for cadmium and cobalt were higher than the guidelines, so values equal to the detection limit were not considered as guideline exceedances.

Table 2-4 Canadian (CCME) and British Columbia Approved and Working Water Quality Guidelines

Parameter	Unit	Water Quality Guideline - Maximum	
		CCME	BC ¹
Temperature	°C	NA	1 °C change from optimum for fish species
Dissolved oxygen	mg/L	Minimum 5.5 to 9.5	Minimum 5 to 9 depends on life stage
pH (field and lab)	units	6.5-9.0	6.5-9.0
Total Alkalinity	mg/L	NA	site specific
Turbidity	NTU	NA	8 NTU when bkgd ≤ 8
Dissolved organic carbon (DOC)	mg/L	NA	30 day median ± 20%
Total suspended solids (TSS)	mg/L	NA	25 mg/L when bkgd ≤ 250 mg/L
Fluoride	mg/L	NA	0.2 to 0.3 varies with hardness
Chloride	mg/L	NA	600
Sulphate	mg/L	NA	100
Ammonia-N	mg/L	varies with temperature and pH	varies with temperature and pH
Nitrate-N	mg/L	NA	200
Nitrite-N	mg/L	NA	0.06 to 0.60 for Cl 2 to >10 mg/L
Phosphorus-P (total, lakes)	mg/L	NA	0.005 to 0.015 inclusive
Aluminum, dissolved	mg/L	0.1 (total)	0.1 (dissolved), pH≥6.5
Antimony, total	mg/L	NA	0.02
Arsenic, total	mg/L	0.005	0.005
Barium, total	mg/L	NA	5
Beryllium, total	mg/L	NA	0.0053
Boron, total	mg/L	NA	1.2
Cadmium, total	mg/L	0.000017	0.00001 to 0.00006 varies with hardness
Chromium, total	mg/L	0.0089 (Cr III)	0.0089 (Cr III)
Cobalt, total	mg/L	NA	0.11
Copper, total	mg/L	0.002 to 0.004 varies with hardness	0.004 to 0.019 varies with hardness
Iron, total	mg/L	0.3	0.3
Lead, total	mg/L	0.001 to 0.007 varies with hardness	0.010 to 197 varies with hard
Manganese, total	mg/L	NA	0.8 to 2.7 varies with hardness
Molybdenum, total	mg/L	0.073	2
Nickel, total	mg/L	0.025 to 0.065 varies with hardness	0.025 to 0.150 varies with hardness
Selenium, total	mg/L	0.001	0.002
Silver, total	mg/L	0.0001	0.0001 (hard ≤100) 0.003 (hard >100)
Titanium, total	mg/L	NA	2

Parameter	Unit	Water Quality Guideline - Maximum	
		CCME	BC ¹
Uranium, total	mg/L	NA	0.3
Vanadium, total	mg/L	NA	0.006
Zinc, total	mg/L	0.03	0.033 to 0.115 varies with hardness

NOTE: 1 For hardness-dependant guidelines, the range of metal values is presented for hardness of 20 to 200 mg/L

SOURCE: CCME 2004, MOE 2006, Nagpal et al. 2006

2.3.1.2 Quality Assurance/Quality Control

The Quality Assurance / Quality Control (QA/QC) program for water quality monitoring was designed to provide reliable monitoring data by minimizing sampling error, contamination and erroneous results, and by quantifying any bias in the results. Values that exceeded the mean ± 2 standard deviations for a given parameter in a given site were considered as outliers when they were associated with a manipulation or analytical problem (e.g., blank contamination, high hold time). These values were reported in the raw data appendix, but highlighted and excluded from summary statistic calculations.

Before May 1997, rigorous protocols were followed for collection, preservation and shipment of samples; however, important gaps were noticed in the QA/QC program, mainly the absence of systematic collection of replicates and blanks, as well as lack of hold time criteria. Following issue of the PRS, a stricter field and laboratory QA/QC program was implemented to identify sources of contamination and modify the protocols to eliminate any sources. These goals were achieved mainly through the regular use of field blanks, travel blanks, and replicate samples, but also by ensuring that the individuals collecting the samples were properly trained and familiar with the procedures.

Another important component of the QA/QC program was to assure data quality regarding precision, bias, adequate sample hold times and detection limits. The examination of environmental data for potential artifacts due to contamination or reporting errors was thorough. Laboratory results and field notes were verified in relation to replicate and blank results, hold times and occurrence of unusual events. Levels of total and dissolved metals were compared to evaluate potential contamination during sample filtration in the field (before 2006) or laboratory (2006). Field and laboratory results for pH and conductivity were also compared. Additional description of the field and laboratory QA/QC program is given in Appendix A.2.

Field and travel blanks

Field and travel blank were examined to determine whether detection limits had been exceeded. Blank results obtained prior to May 1997 were compared to the prevailing detection limits. These detection limits were revised in May 1997 and blanks obtained afterward were compared to the new, lower detection limits. Most field and travel blank results were at or below detection limit, and values just above the detection limit were not considered to reflect contamination. Blank results for samples collected between 1992 and 1996, in 1996–1997, and in 2006 are presented in Appendices B1, B2 and B3, respectively. Results suggesting contamination are highlighted in these appendices.

All parameters associated with potentially contaminated blanks were plotted by site and sampling date, and the graphs were examined to identify outliers. Only eight outlier values were associated with blanks that significantly exceeded the detection limit, as indicated in Table 2–5.

Table 2-5 Outlier Results Potentially Associated with Contamination in the Field, or during Shipping and Storage

Site	Sampling data	Parameter	Concentration (mg/L)
W1	06/30/1997	Dissolved zinc	0.007
W1	01/20/1998	Dissolved manganese	5.49
W1	01/20/1998	Total manganese	5.48
W20	07/14/1998	Total selenium	0.0007
W21	07/14/1998	Total selenium	0.0008
W22	07/14/1998	Total selenium	0.0008
W5	08/22/2006	Dissolved organic carbon	2.37
W14	08/22/2006	Dissolved organic carbon	2.14

Field filtration blanks generally indicated satisfactory contamination control during field filtration. Four of thirty field filtration blanks showed detectable levels of dissolved copper, with values ranging from two to six times the detection limit. These blanks, however, were not related to outliers among the sample results. Detectable levels of aluminum, antimony, calcium, magnesium, sodium and uranium were also occasionally observed in field filtration blanks, but all concentrations were less than three times the detection limit, which could be attributable to random instrumentation error.

Replicates

Laboratory results for field replicates were examined to determine if precision thresholds were exceeded. According to the PRS, field duplicates should have a difference of no more than 25% of their mean, and triplicates should have a percent-relative standard deviation of no more than 20%, when replicate values collected at the same time and location were all greater than or equal to five times the detection limit. Results for duplicate samples collected between 1992 and 1996, in 1996–1997, and in 2006, as well as for triplicates are presented in Appendices B4, B5, B6 and B7, respectively. Results for which the precision thresholds were exceeded are highlighted in these appendices.

Among the approximately 5700 analyses performed in duplicate, less than 1% (55 analyses) showed results differing by more than 25% of the mean, when each replicate value was more than five times the detection limit. These variations were more frequent for phosphate compounds (dissolved and total phosphate, and orthophosphate: 17 times), total suspended solids (seven times), turbidity (five times), and total aluminum (four times). Substantial variations between duplicates were observed August 29, 1996 and September 2, 1996, when eight parameters failed to meet the criterion for duplicates.

Among the approximately 400 triplicate analyses performed in 2006, 14 results showed variability higher than the threshold for triplicates.

Dissolved versus total concentrations

Levels of total and dissolved metals were compared to evaluate potential contamination during sample filtration in the field (before 2006) or laboratory (2006). Dissolved

concentrations that exceeded the total concentrations by more than 25%, when both concentrations were at least five times the detection limit, were flagged as an indication of contamination. Where the metal concentration in the dissolved phase exceeded the total concentration by less than 10%, the higher values of the dissolved phase were attributed to random variations.

Dissolved concentrations that significantly exceeded the corresponding total levels are highlighted in the raw data appendix for streams (Appendix B.8). These exceedances were observed four times for aluminum, three times for manganese, and once each for calcium, iron and uranium, and were not related to specific sites or sampling dates.

Hold time

Before May 1997, the hold time criterion was not in place, and the time between water collection and reception of samples by the analytical laboratory varied between two and fourteen days. Therefore, all samples collected exceeded the 48-hour hold times recommended later in the PRS, and 54% of them (assuming that analyses were performed within 48 hours of sample reception) also exceeded the 72-hour criterion. As a consequence, some outliers observed during this period could be related to long hold times. In 1997–1998, out of a total of 52 sample batches, 15 contained one or more samples that did not meet the 48-hour criterion for hold time, and seven of these 15 batches contained one or more samples that did not meet the 72-hour criterion either.

Field versus laboratory measures

Field and laboratory results for pH and conductivity were compared using t-tests for paired samples. Field measurements tended to be significantly higher than laboratory ones ($p < 0.01$), by an average of 0.32 units for pH and 5 $\mu\text{S}/\text{cm}$ for conductivity. Considering that only laboratory results were included in the system comparisons presented in this report, the observed variations should not interfere with general conclusions. Differences as large as 2.5 units for pH or 99 $\mu\text{S}/\text{cm}$ for conductivity were randomly observed among the monitored systems and in some cases were attributed to technical problems and excluded from summary statistic calculations.

2.3.1.3 Results

Stream Water Quality Comparisons

This section summarizes results of the water monitoring program obtained since 1992, including among systems differences, comparisons with water quality guidelines and seasonal variations. Values were also calculated for 30-day means at high and low flow periods and compared. All raw data are documented in Appendix B.8. Summary statistics for each stream and for individual sites are shown in Appendix B.9 and B.10, respectively.

Principal Components Analysis was conducted using a set of unrelated variables to examine similarities and differences among the systems studied. In the PCA, axis one explained 51% of the variance and was negatively correlated with turbidity (-0.93), total aluminum (-0.92) and total copper (-0.87), and positively correlated with alkalinity (+0.87) and hardness (+0.86). Axis two explained 20% of the variance, and was significantly correlated with nutrients (ammonia +0.82, and ortho-phosphate +0.79), and with total nickel (+0.77). Axis three explained 11% of the variance and was partially correlated with hardness (+0.43), conductivity (+0.43) and total calcium (+0.53). The

PCA analysis allowed clustering of the systems into three groups. The first group was negatively related with axis one, and represented Taseko River. The second group was positively related to axis two, and comprised Fish Creek. The third group consisted of systems with intermediate concentrations of major ions (the remaining streams). Differences and similarities among sites are described further below.

General characteristics

In the various systems, dissolved oxygen levels measured in daylight during ice-free periods in 2006 were supportive of fish and aquatic life in general. The streams and river tended to be supersaturated or close to 100% oxygen saturation, with mean dissolved oxygen levels between 8.7 and 10.8 mg/L. Concentrations lower than the instantaneous minimum WQG were observed once each at sites W1 and W2, both in Fish Creek.

Instantaneous water temperatures, measured between 1992 and 2006, ranged from 1 to 22°C.

Neutral to basic conditions were observed in all systems studied, with pH averaging between 7.3 and 8.3. All systems except Taseko River and Beece Creek exhibited a high acid buffering capacity, as indicated by an average alkalinity between 83 and 232 mg/L, high calcium concentrations and hard water (average hardness range between 80 and 210 mg/L). Conversely Taseko River and Beece Creek were the most susceptible to acidity, as indicated by their low to moderate alkalinity (mean of 22 and 15 mg/L, respectively), low calcium concentrations and soft water (mean hardness lower than 27 mg/L).

Taseko River and Beece Creek were also distinguished from the other systems by their low conductivity (63 and 38 µS/cm average, respectively) and low concentrations of total dissolved solids. In the others systems, mean conductivity averaged 160 to 450 µS/cm, and was highest at site W13, in Vick Creek (mean of 466 µS/cm, with 15% of the values close to or higher than 500 µS/cm).

Turbidity tended to be low (<5 NTU) in all systems except the Taseko River. In this glacier-fed river, mean turbidity was 25 NTU (range of 6 to 74 NTU), and TSS levels were also higher than in the other systems.

Nutrients and organic matter

Nutrient (nitrogen and phosphorus compounds) concentrations in the streams and river were within the range expected for basins draining forested areas, and no exceedance of BC WQG was observed. Average ammonia-N and nitrate+nitrite-N concentrations ranged from 0.005 to 0.03 mg/L and from 0.01 to 0.042 mg/L, respectively. Concentrations of total phosphate and ortho-phosphate were usually lower than 0.1 mg/L. Overall, 47, 38, 61 and 20% of measurements of ammonia, nitrate, nitrite and ortho-phosphate, respectively, were lower or equal to detection limits. Ammonia-N concentrations tended to be the highest at sites in Fish Creek, particularly during the winter.

Organic matter concentrations (both dissolved organic carbon [DOC] and total organic carbon [TOC]) were lowest in the Taseko River (mean of 1.1 and 1.3 mg/L, respectively), and in Beece Creek (mean TOC of 1.8 mg/L). In the other systems, mean TOC ranged from 8.7 to 13.6 mg/L. DOC was measured in 2006 and TOC was measured in earlier years.

Metals

Levels of most metals were consistently low. Concentrations equal to or lower than detection limits were reported for more than 90% of the samples for beryllium, bismuth, cadmium, lithium, selenium, silver, tin and vanadium throughout the period of record, as well as for thallium and phosphorus in 2006. Other metals were equal to or below the detection limit in at least 50% of the analyzed samples (antimony, boron, chromium, cobalt, lead, titanium and zinc), and some were measurable in only one or two systems:

- zinc was reported only at the eight Taseko River sites;
- titanium was measured at all Taseko River and two Tête Angela Creek sites, W17 and W18; and
- lead was detected at all Taseko River sites and the two Beece Creek sites (W11 and W12).

In all systems except Vick Creek, more than 15% of the analyzed samples had concentrations higher than WQG for at least one metal. Exceedances for aluminum and iron were the most frequent both in number of systems and in the proportion of samples in which they were observed. In Taseko River aluminum, iron and copper concentrations were exceeded in 99, 89 and 56% of the analyzed samples, respectively. Other metals (including total cadmium, cobalt, molybdenum, selenium, silver, titanium and zinc) occasionally exceeded their WQG in the Taseko River (Appendix B.9 and B.10). In Fish Creek, WQG exceedances were less frequent than in the Taseko River system, being observed in 38% of the samples for iron and in less than 10% of the samples for aluminum, cobalt, copper, molybdenum, silver and zinc. In Beece Creek, 64% of the samples exhibited high levels of aluminum, whereas in Groundhog Creek 80% of the samples exceeded iron WQG. Between 6 and 17% of Big Onion and Tête Angela Creek samples exceeded their WQG for aluminum and iron.

Partitioning of metals between dissolved and particulate forms can be considered an important factor determining metals mobilization and bioavailability. Average dissolved metal concentrations tended to be greater than 90% of total concentration for arsenic, nickel, strontium, antimony and molybdenum. Intermediate mean dissolved to total metal ratios were observed for iron and copper (45 and 65%, respectively), whereas the lowest average ratio (28%) was observed for aluminum.

Differences among sites within a system were small for Taseko River, Beece Creek, Big Onion Creek and Groundhog Creek were generally comparable in water quality. Sites located in Fish Creek, however, formed a heterogeneous group, although sites W2 and W7 tended to be comparable. Conductivity, hardness and alkalinity levels, for example, were significantly higher (ANOVA, $p < 0.05$) at sites W1, W3 and W8 than at sites W2 and W7. These differences could be attributed to an influence of Fish Lake on the general water chemistry of sites W2 and 7, located at the discharge point of the lake. Sites within Vick Creek and Tête Angela Creek also differed significantly for most parameters. Such heterogeneity is related to the fact that in both systems sites were located in independent sections of the creeks.

30-day Means for Streams

British Columbia WQGs are described as maxima (Table 2–4) and, for some parameters, as mean values (five measurements within a 30-day period, at one-week intervals) to assess longer term conditions (MOE 2006). Mean WQGs are provided for cobalt, copper, lead, molybdenum, manganese, selenium, silver and zinc.

The monitoring program has included intensive sampling at high (spring freshet) and low (late summer) flows. Raw and summary results are presented in Appendix B.8 and B.11 and summarized here. These data will be useful for longer term monitoring of project effects on water quality.

Very few mean values exceeded the 30-day mean WQG during the low and high flow periods. Those that did include:

- copper in the Taseko River (majority of sites and dates), which frequently exceeded the WQG at high and low flows (mean value up to 0.005 mg/L relative to WQG of 0.002 mg/L);
- molybdenum in Beece Creek and Taseko River (all sites) and Fish Creek (some sites) during low flow periods, with up to 0.0014 mg/L mean relative to the WQG of 0.001 mg/L;
- silver in Fish Creek (W1, high flow 2006, likely an outlier), with one value of 0.00015 mg/L relative to the WQG of 0.00005 mg/L; and
- zinc in Taseko River (1993 only), with four values of up to 0.0099 mg/L relative to the WQG of 0.0075 mg/L for hardness <90 mg/L.

Temporal Trends

Seasonal and inter-annual variations in water quality are also shown graphically for some sites sampled during 1997–1998 and 2006 (Figures 2–3 through 2–14). The raw data are presented in Appendix B.8. Considering all sites and systems monitored, there were no general temporal trends in water quality. Rather, seasonal variations were system-specific and in some cases even site-specific. For example, in Taseko River and Big Onion Creek turbidity, total suspended solids (TSS), copper, iron and aluminum (only in Taseko River) levels tended to reach a peak during the low flow period. In Beece Creek some of the above parameters peaked during high flow conditions, whereas in Fish Creek the maximum values were observed either during low flow (sites W2 and W8) or high flow (site W3) periods, or during the winter (site W1).

In Taseko River, alkalinity and hardness were at their lowest during the low flow period, with waters showing a low to moderate buffer capacity to acid inputs. In Groundhog Creek and Vick Creek, on the contrary, alkalinity and hardness peaked during low flow conditions, whereas in Beece Creek and Big Onion Creek the peak in alkalinity and hardness occurred during the winter.

Figure 2-2 Variations in Water Quality among Streams for Selected Parameters

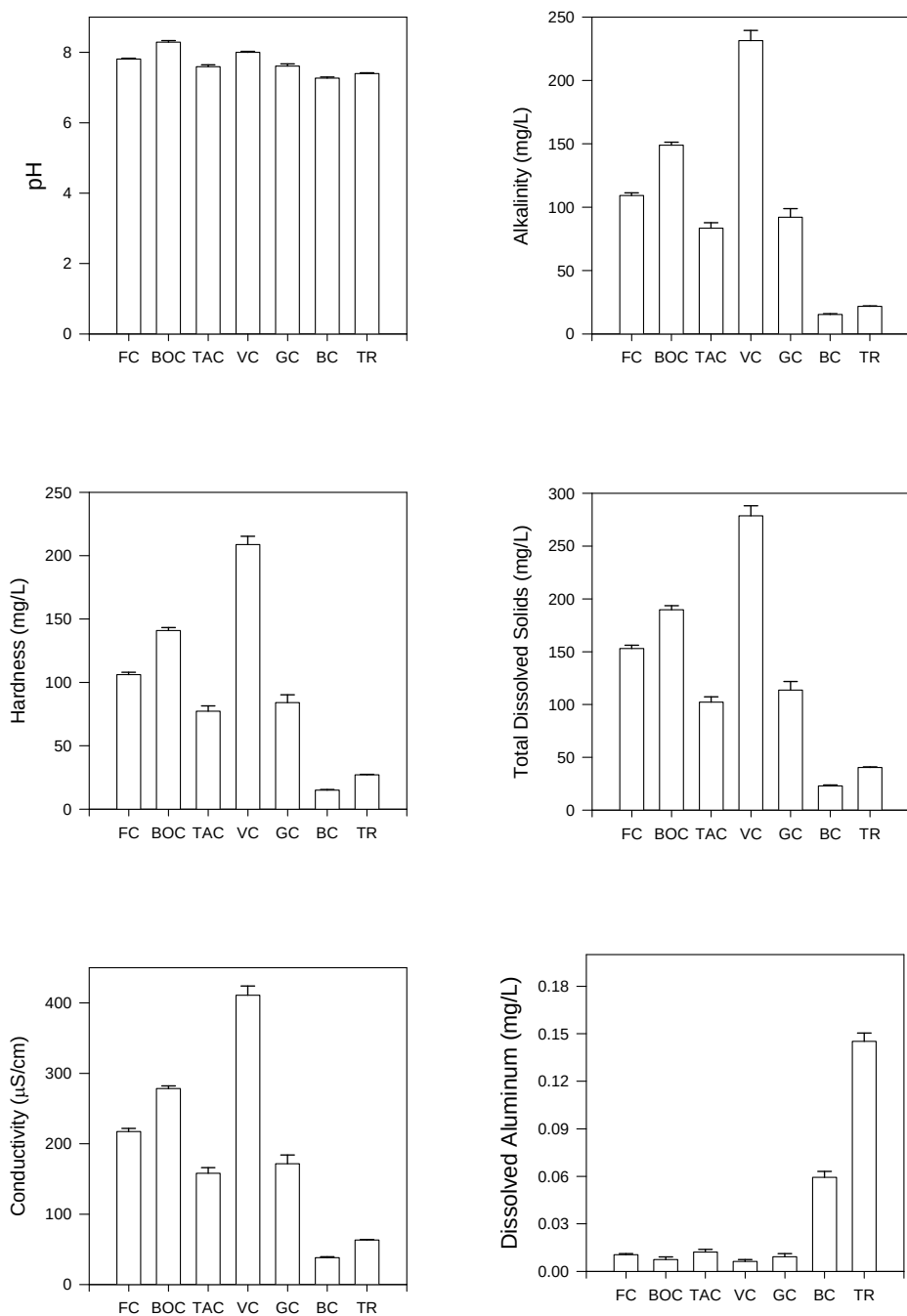


Figure 2-2 cont'd

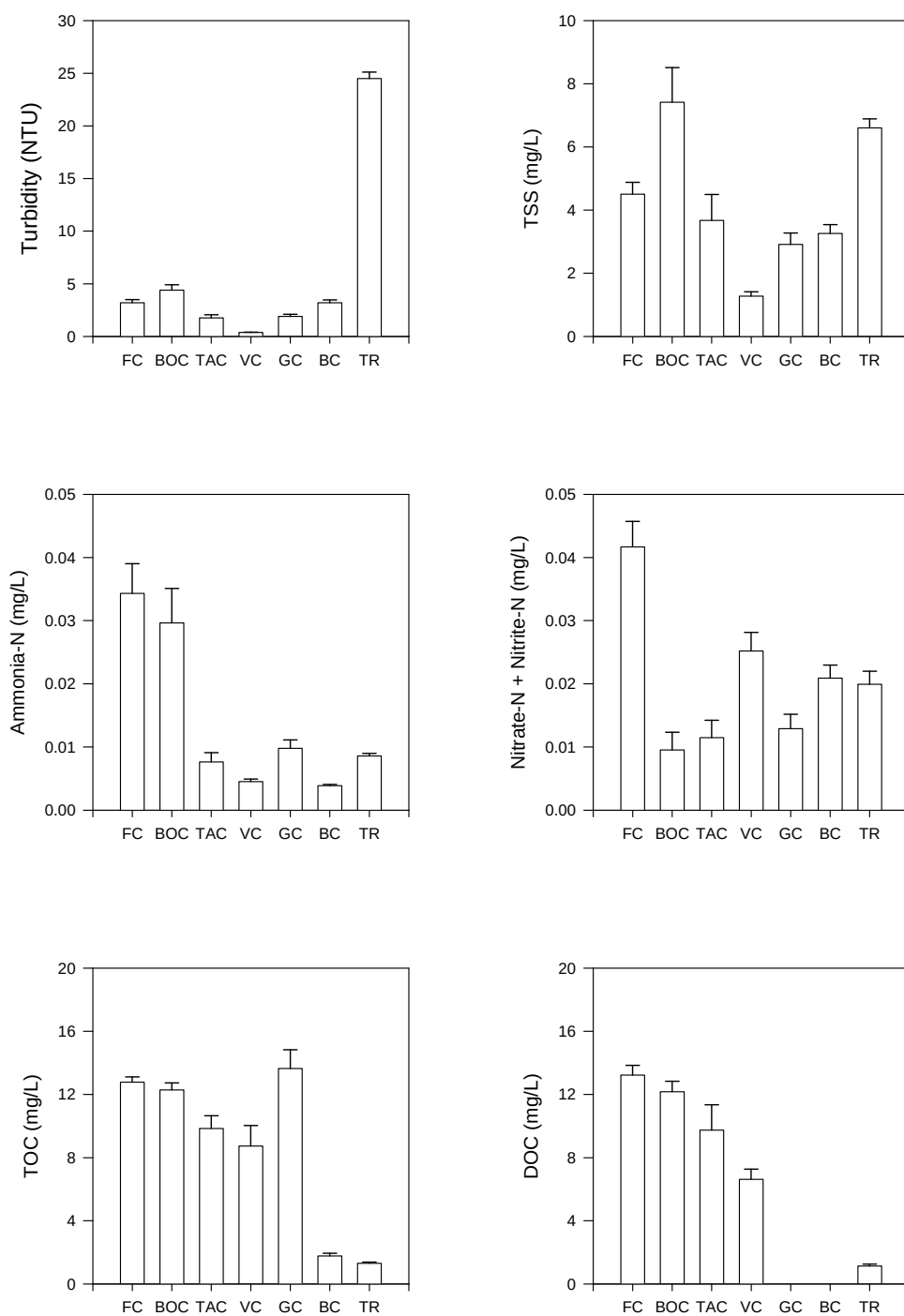
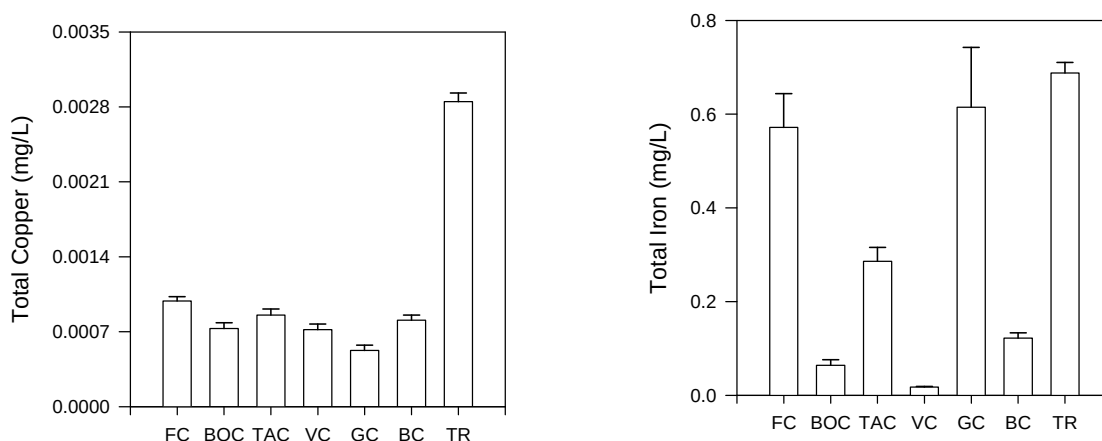


Figure 2-2 cont'd



NOTES: Error bars indicate one standard error
FC = Fish Creek, TR = Taseko River, TAC = Tête Angela Creek, VC = Vick Creek, BO = Big Onion system, GCT = Groundhog Creek and its tributary, BLC = Big Lake Creek, GW = Groundwater seepage.

Figure 2-3 Conductivity–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-4 Hardness–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-5 Turbidity–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-6 DOC and TOC–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-7 Total Suspended Solids–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-8 Ammonia–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-9 Nitrate+Nitrite–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, Post-PRS

Figure 2-10 Total Phosphate–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-11 Dissolved Aluminum–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-12 Total Arsenic–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-13 Total Copper–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

Figure 2-14 Total Iron–Seasonal and Inter-annual Variations in Prosperity Project Area Streams, 1997–1998 and 2006

2.3.2 Lakes

Monitoring of lake water quality was carried out at various times between 1992 and 2006. The monitoring program was conducted to establish baseline conditions and assist in characterization of the lakes and identification of potential compensation options. Because dissolved oxygen (DO) and the potential for winter kill have been identified as significant issues in the Fish Habitat Compensation Plan for the Prosperity Project, another main objective of the sampling was to describe the changes in DO with depth and season to compare the probability of winter kill between impact and compensation lakes.

2.3.2.1 Methods

Sample Timing and Locations

Water quality was monitored in twelve lakes, shown in Table 2-6 and Figure 2-1. Between 1993 and 1996, Fish, Little Fish, Wasp, Big, Big Onion, Slim, Vick and Wolf Trap Lake were sampled. In 1997–1998, these and an additional four lakes were sampled: Little Onion, North Rat Cabin, South Rat Cabin and Tête Angela Lake. During 2006, Fish Lake was monitored for water quality, with samples collected at spring overturn, summer and fall overturn.

Dissolved oxygen and temperature depth profiles were measured at different periods of the year, including the spring overturn, mid-summer and winter (under ice), between 1994 and 1999, and in 2006 and 2007. Dissolved oxygen and temperature profiles were

measured in Fish, Little Fish, Big Onion, Little Onion and Wasp Lakes between 1994 and 1998; in Fish Lake on four occasions in 2006 (May, July, August and October), and in Fish Lake and Wasp Lake in March 2007. Complete information on dates and sites for the dissolved oxygen and temperature depth profiles are presented in a memorandum prepared by Triton Environmental Consultants Ltd. (1999) and contained in Appendix C.1.

Table 2-6 Overview of Lake Water Sampling Frequency, 1993 to 2006

Lake	Number of Sampling Dates							
	1993	1994	1995	1996	1997	1998	2006	Total
Big Lake	–	–	–	1	–	1	–	2
Big Onion	–	1	–	2	2	–	–	5
Fish Lake	1	2	1	2	2	–	3	11
Little Fish Lake	1	1	–	2	2	–	–	6
Little Onion Lake	–	–	–	–	2	–	–	2
North Rat Cabin Lake	–	–	–	–	1	1	–	2
South Rat Cabin Lake	–	–	–	–	1	1	–	2
Slim Lake	–	1	–	1	2	–	–	4
Tête Angela Lake	–	–	–	–	–	1	–	1
Vick Lake	–	1	–	1	2	–	–	4
Wasp Lake	1	1	1	2	2	–	–	7
Wolf Trap Lake	–	–	–	2	2	–	–	4

Lake Descriptions

This section quotes a report prepared by Triton (1999) on the physical characteristics of the twelve monitored lakes. The description below is restricted to Fish, Wasp and Big Onion Lakes, which will be directly affected by the preferred mine plan or by the Fish Compensation Plan. Physical habitat parameters are summarized for all monitored lakes except Big Lake in Table 2–7, modified from Triton (1999).

Fish Lake

Fish Lake is located at an elevation of 1457 m above sea level (asl) within the Fish Creek watershed. Fish Lake has a drainage area of 6490 ha, consisting primarily of moderately to steeply rolling ground moraines with strongly sloping colluvial soils on the eastern side of the lake (Talisman Land Resource Consultants Inc. 1999). Lodgepole pines dominate the watershed with occurrences of white spruce along the imperfectly drained margins of wetlands. While the lake is surrounded by wilderness, human activity is evident by the presence of gravel roads, livestock grazing, a BC Forest Service Recreation Site, and the mining exploration camp.

Table 2-7 Summary Physical Habitat Data for Selected Lakes of the Prosperity Project Area

Property	Fish Lake	Little Fish Lake	Big Onion Lake	Little Onion Lake	Wasp Lake	Slim Lake	Vick Lake	Rat Cabin Lake (south)	Rat Cabin Lake (north)
Biogeoclimatic zone	SBPSxc	SBPSxc/MSxv	SBPSxc	SBPSxc	MSxv	SBPSxc	SBPSxc	SBPSxc	SBPSxc
Elevation (m)	1,457	1,527	1,327	1,417	1,557	1,347	1,332	1,425	1,427
Drainage area (ha)	6,490	1,470	1,410	380	310	500	1,000	5,462	5,190
Surface area (ha)	111.0	6.6	63.4	7.5	67.9	28.7	12.1	28.4	30.4
Volume (m3)	4,438,446	133,280	1,493,375	160,090	1,611,120	1,611,000	237,000	276,800	491,267
Shoreline perimeter (m)	11,756	1,300	9,115	1,729	6,907	3,704	2,346	4,144	2,856
Shoal area (ha)	83.5	6.6	57.8	7.4	67.9	1.3	12.1	28.4	30.4
Max. depth (m)	13.0	4.4	12.0	6.2	5.4	14.0	4.3	2.7	5.5
Mean depth (m)	4.0	2.0	2.4	2.1	2.4	5.6	2.0	1.0	1.6
Lake length (m)	2,050	560	2,590	685	1,600	775	800	1,160	1,060
Mean breadth (m)	541	118	245	110	424	370	152	245	287
Secchi depth (m)	>10	4	–	–	5	NA	NA	3	3
Shoreline development index	3.15	1.43	3.23	1.78	2.36	1.95	1.90	2.19	1.46
No. of inlets	10	3	3	1	1	2	2	1	1
No. of outlets	1	1	1	1	1	1	1	1	1
No. of islands	5	0	0	0	0	0	0	1	0
Perimeter of islands (m)	1,700	NA	NA	NA	NA	NA	NA	NA	NA
Estimated annual water fluctuation (m)	–	–	0.3	0.4	0	–	–	0.3	0.3

NOTES: NA = not available

a. Area above 6 m contour as per RIC standards

b. Inlet and outlet streams identified from 1:50,000 scale topographic maps or field identification

SOURCE: Triton (1999)

The volume of Fish Lake is 4,438,446 m³ and the mean depth is 4 m, reaching a maximum depth of 13 m. The area above the 6 m contour (littoral zone) is 83.5 ha or 75% of the lake area. The shoreline drops off rapidly at the north end of the lake, while the south end of the lake has a more gradual drop off. Fish Lake has an irregular shoreline with several bays and small peninsulas and it has a relatively high shoreline development index (SDI = 3.15). The lake has one large island and four small ones, but has no exposed bedrock outcroppings.

Fish Lake has three permanent inlet streams, seven ephemeral inlet tributaries and one permanent outlet stream. Both the inlet and outlet streams provide rearing and spawning habitat for rainbow trout (*Oncorhynchus mykiss*). Two of the inlet tributaries also provide rearing and spawning habitat, but to a lesser extent. Most of the shoreline consists of coarse boulder-sized glacial till. The exceptions are the inlet and outlet bays, where the substrate is organic material derived from sedge peat. There is a narrow gravel beach at the Forest Recreation Site at the north end of the lake.

The shoreline is 95% vegetated by a poorly developed mixed forest and 5% narrow sand/gravel beach. The shoreline vegetation consists of scrub birch and willow that provides sparse cover. Emergent vegetation is found in a narrow band around most of the lake, although it is wider at the inlet and outlet. Emergent species are dominated by beaked sedge and water sedge (HKP 1995). Submergent vegetation exists in extensive beds in the sheltered bays and inlets of the lake, particularly at the southeast and south portions of the lake. Submergent vegetation is dominated by Richardson's pondweed, Robbins' pondweed, and slender-leaved pondweeds, in addition to hornwort, water crowfoot, small bur-reed and yellow pond lily (HKP 1995).

Big Onion Lake

Big Onion Lake is located within the Taseko River watershed at an elevation of 1327 m asl. Big Onion Lake has a drainage area of 1410 ha, which consists primarily of gently to strongly rolling and undulating glaciofluvial surficial material (Talisman Land Resource Consultants Inc. 1999). The surrounding landscape is mountain wilderness with human activity evident by the presence of gravel roads, a meadow, livestock grazing, and the Taseko Lodge located approximately 2 km south of the lake.

The volume of Big Onion Lake is 1,493,375 m³ and the mean depth is 2.4 m. The lake has two deep areas; one in the central portion of the lake reaching a maximum depth of 12 m and a second in the north bay of the lake reaching a depth of 5 m. The area above the 6 m contour (littoral zone) is 57.8 ha or 91 % of the lake area. Big Onion Lake has an irregular shoreline with several bays and peninsulas and one island. This lake has the highest shoreline development index (SDI = 3.23) of all the monitored lakes.

Big Onion Lake has three ephemeral inlet streams and one ephemeral outlet stream. The north inlet stream does not have an obvious channel and was not observed to be carrying water during the period from 1992 to 1994. This inlet has no fish habitat (HKP 1995). The middle inlet was also dry except during spring freshet and also contains no fish habitat (HKP 1995). The very small alluvial fan at the mouth appears to be used as a road pull-off and boat launch. The Whitewater Road crossing of this inlet has no culvert or bridge. The south inlet has a defined channel near the lake where it runs through a sedge fen. The stream has suitable rearing habitat but lacks spawning habitat for rainbow trout (HKP 1995). Upstream of the fen, the Whitewater Road crosses the stream, but has no culvert or bridge and was dry at the time of the survey. The outlet stream is located at the

north tip of Big Onion Lake. The stream was a grassy swale that flows through an open meadow and had cobble and boulder substrate. There is no spawning habitat in the outlet stream. In the bays of the lake, the shoreline substrate consists of fines and detritus while along the east and west shoreline the substrate consists of gravels and cobbles. Near cliffs and outcrops, the shoreline substrate consists of boulders. There is a small gravel/sand beach at the meadow at the north end of the lake. The lake is partially coupled, particularly along the east edge of the lake.

The shoreline is 90% vegetated by a poorly developed mixed forest, 5% low rocky shore, and 5% narrow sand/gravel beach. The shoreline vegetation, which consists of green alder, water birch, cottonwood and willow, provides sparse cover. Emergent vegetation is sparse while submergent vegetation covers approximately 30% of the lake area and is concentrated in the shallow bays of the lake. Emergent vegetation is dominated by beaked sedge and water sedge, whereas submergent vegetation is dominated by Richardson's pondweed, water crowfoot and algal mats (HKP 1995).

Wasp Lake

Wasp Lake is located within the Beece Creek watershed at an elevation of 1557 m asl. This lake has a drainage area of 310 ha, where the dominant surficial material consists of strongly rolling loamy-skeletal morainal deposits with occurrences of moderately deep organic soils (Talisman Land Resource Consultants Inc. 1999). The lake is surrounded by lodgepole pine forest with regeneration by hybrid white spruce. The understory is open and park-like, consisting of a variety of mosses, grasses and shrubs depending on localized moisture conditions. The lake basin genesis is glacial. A hunting camp (two butchering racks and a picnic table) is located on the east side of the lake but the extent of its use is unknown.

The volume of Wasp Lake is 1,611,120 m³ and the surface area is 67.9 ha. The lake has a mean depth of 2.4 m and reaches a maximum depth of 5.4 m. The area above the 6 m contour (littoral zone) is 67.9 ha or 100 % of the lake area. Wasp Lake has a well forested shoreline with a major constriction or narrows in the middle of the lake. It has a moderate shoreline development index of 2.36. The lake has no islands, bluffs, or rock outcrops. The lake is decoupled.

Wasp Lake drains into Beece Creek via a poorly defined, intermittent stream from the southern tip of the southwest bay. The stream only has flow during freshet and heavy rains and does therefore not provide good fish habitat (HKP 1995). There are two ephemeral inlet streams.

The shoreline is 100% vegetated and has no mudflats, gravel or sand beaches. The shoreline along the north and west sides of the lake are poorly developed and experience an abrupt transition from water to pine forest. Along the south and east shore a more developed shoreline community of scrub birch, willows, bluejoint and unidentified sedges is found. Narrow-leafed pondweed is found beyond the sedge beds in water 0.3 m to 0.5 m deep. The dominant submergent vegetation is yellow pond lily, which is found in water 0.5 to 1.3 m deep (HKP 1995). Submergent vegetation covers approximately 15% of the lake area. The near-shore substrate consists of fine textured sands, marl, and organic sediments while shoreline sediments above the high water mark consist of sandy to gravely till loams (HKP 1995).

Sampling Procedures

Samples for water quality analyses were collected at the deepest point of each lake, and in general from the subsurface (~ 0.25 m), by immersion of the bottles. For Fish, Big Onion and Slim Lakes, samples were collected using a Van Dorn sampler from the epilimnion, metalimnion and hypolimnion, defined by temperature depth profiles. In 2006, water samples from Fish Lake were obtained from two adjacent replicate sites (U1 and U2) at the deepest point of the lake, from 0.5, 5 and 10 m depth. The number of bottles and sampling procedures were comparable to those used in stream sampling. Temperature and dissolved oxygen depth profiles were measured using a calibrated YSI meter (model 51B, 57 or 85). Readings were taken at 0.5 or 1 m intervals, from the subsurface to approximately 0.5 m above the bottom. A detailed description of lake water sampling is provided in Appendix A.1.

Data Analysis

Data obtained for the lake program were treated as described for streams. For Fish Lake, variations in water quality with depth and season were assessed. Variations in DO and temperature with depth among different years were also compared for Fish, Big Onion and Wasp Lakes. Detailed information on estimation of volume weighted mean DO and winter oxygen depletion rates in these three lakes as well as in Little Fish and Little Onion Lakes, and on statistical treatment of DO data are provided in Appendix C.1.

2.3.2.2 Quality Assurance / Quality Control

The QA/QC program used for lake water quality was similar to the protocols employed for streams (Appendix A.2) and consisted of field and travel blanks and replicate samples. There were three replicate samples taken over the course of the lake sampling program from 1993 to 1998. During 2006, Fish Lake was sampled in May, July and October, concurrent with stream sampling, and a single batch of field blanks was used for both stream and lake water quality control. In 2006, all lake samples were collected in duplicate.

According to the report prepared by Triton (1999), of the three replicate samples collected between 1993 and 1998, only three parameters (dissolved phosphate, total phosphate and turbidity) in one set of duplicates failed to meet the criteria outlined in the PRS, showing a difference of more than 25% when both replicates were at least five times the detection limit. Examination of the results did not indicate any particular sample or site affected by any of the parameters that failed to meet the criteria.

Among the 747 pairs of duplicate data points collected in 2006 from Fish Lake, 3% or 22 pairs failed to meet the PRS criterion for duplicates (Appendix C.2). The parameters for which between-replicate variations more frequently exceeded the PRS criterion were turbidity, dissolved ortho-phosphate, total lead, total copper and dissolved manganese (three times each), and total nitrogen (twice). Several other parameters showed an occasional substantial variation between replicates. Examination of the results indicated that most samples that failed to meet the criterion were collected in October (13 samples) or were from the hypolimnion (12 samples). No observed variations in duplicate samples collected in 2006 were associated with field or travel blank contamination. Field and travel blanks in 2006 were the same as those for streams shown in Appendix B.3.

2.3.2.3 Results for Lake Water Quality

Lake Water Quality Comparisons

This section summarizes results of the lake water monitoring program, including among-lake comparisons, water quality guideline exceedances and seasonal variations. All raw data for lake water quality is documented in Appendix C.3. Summary statistics for each lake and different strata of the water column are shown in Appendix C.4.

The 12 lakes were comparable in terms of most analyzed parameters (Figure 2-15). In general, the lakes were characterized by low concentrations of nutrients (N and P compounds), low turbidity (mean <5 NTU) and neutral to basic conditions (mean pH of 7.3 to 8.1). Among-lake differences were observed for hardness, alkalinity, conductivity and magnesium concentrations, which were significantly higher in Big Lake (ANOVA, $p < 0.05$) than in the other lakes. Intermediate levels were reported for Vick, Little Onion, Big Onion, Slim and Wolf Trap Lake. The remaining lakes (Fish, Little Fish, Wasp, North South Rat Cabin and Tête Angela Lake) formed a homogeneous group, with similar low levels of those parameters.

Figure 2-15 Comparison of Lake Water Quality, Prosperity Project Area

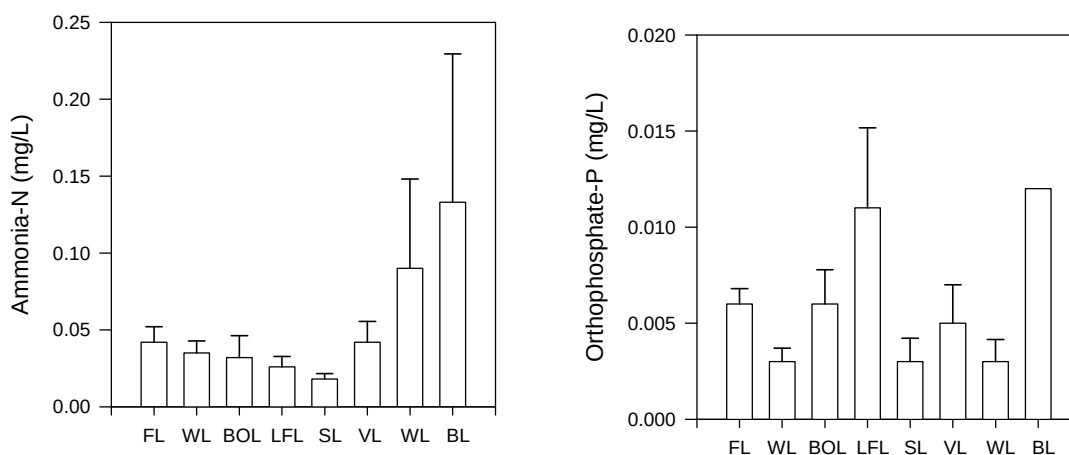
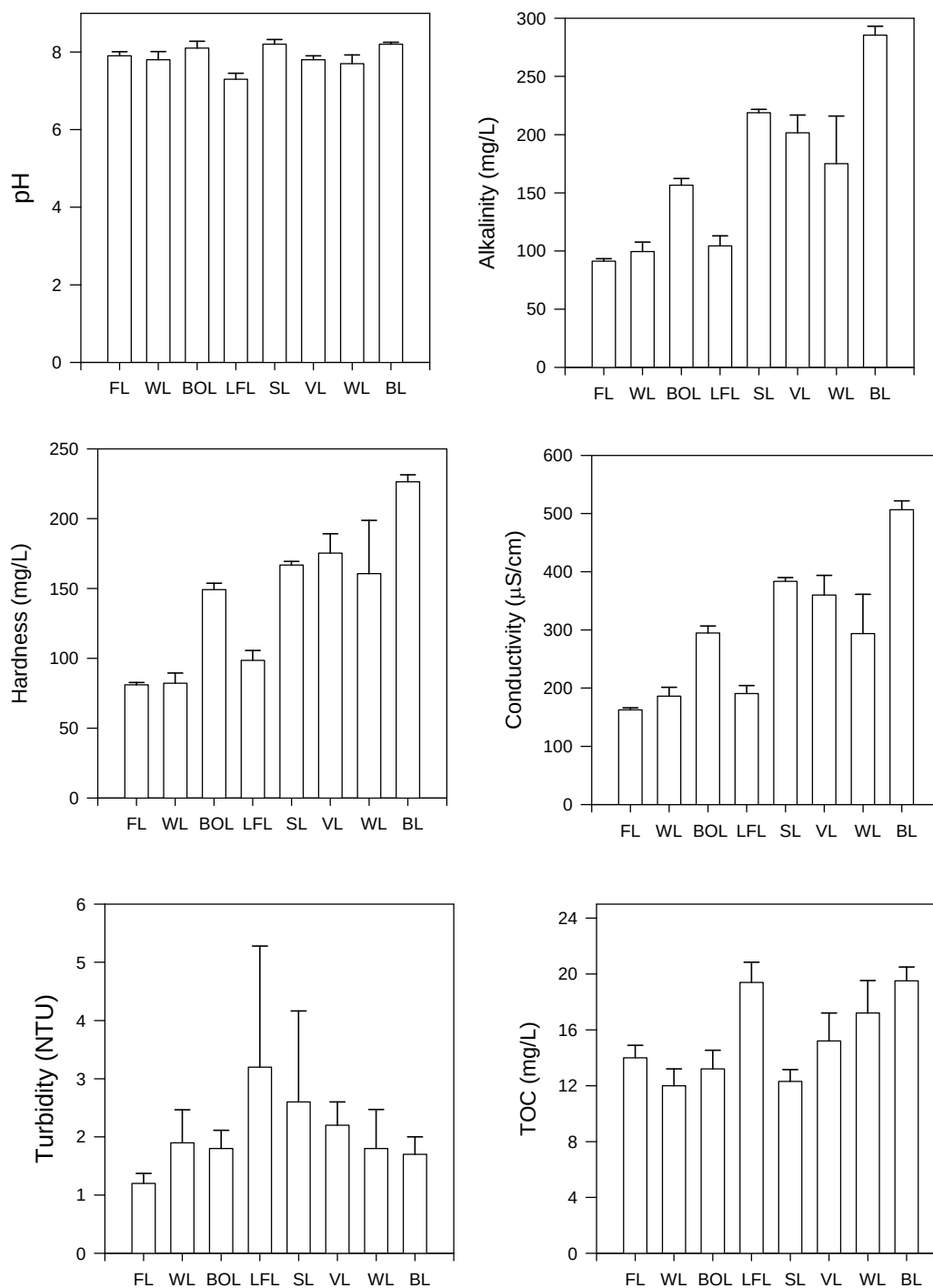


Figure 2-15 cont'd



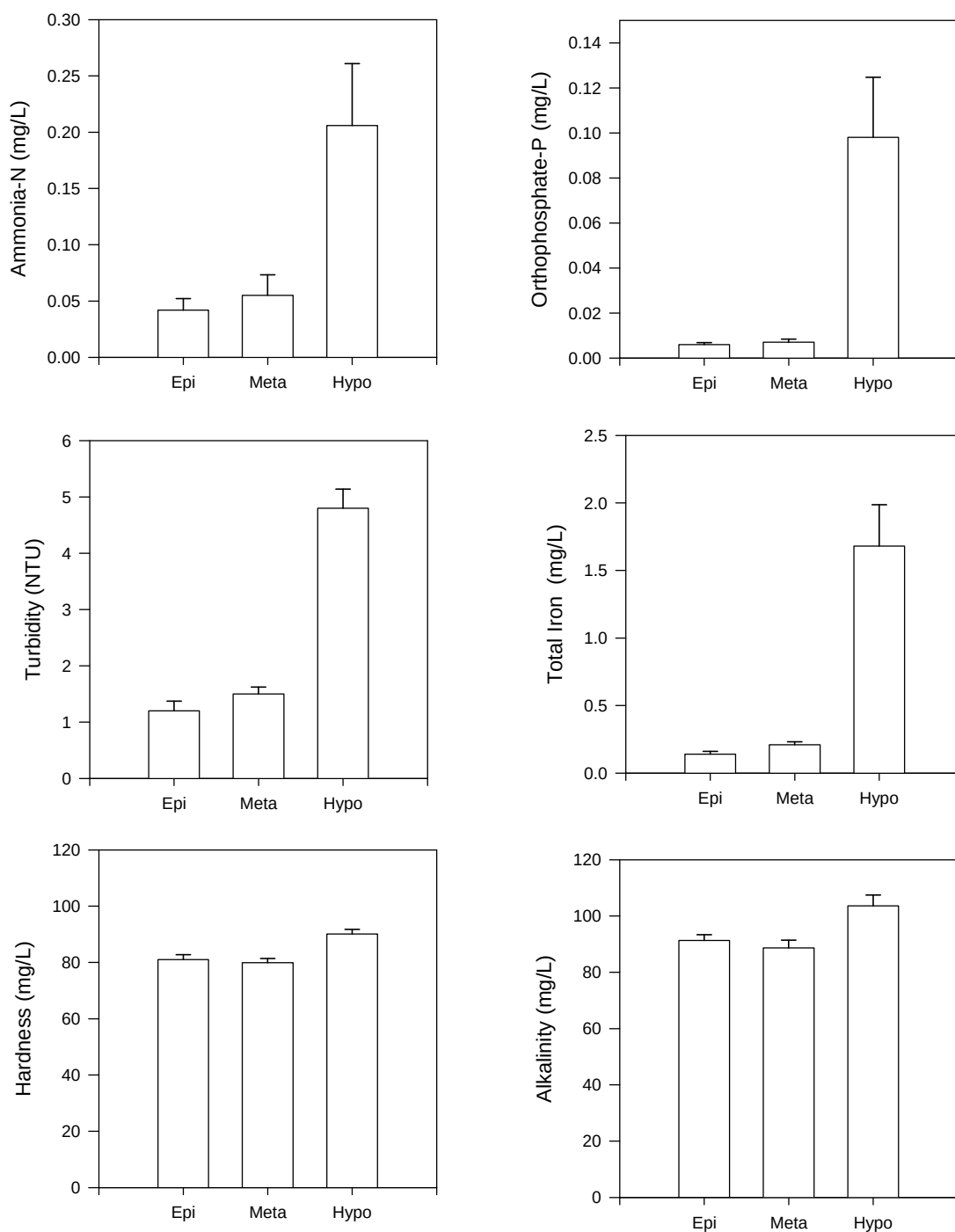
NOTE: Error bars indicate one standard error

Levels of metals tended to be low in lakes. Concentrations consistently lower than detection limits were reported for more than 50% of the samples for antimony, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, lead, lithium, molybdenum, selenium, silver, tin, titanium, vanadium and zinc. WQG were exceeded in Fish Lake for iron (all samples collected in the hypolimnion, one sample collected in the metalimnion) and in Little Fish Lake (one sample). One atypically high turbidity measurement was reported for Fish Lake in May 1996.

Samples collected at three depths from Fish Lake in 2006 indicated that average levels of ammonia-N, orthophosphate, iron and turbidity were significantly higher (ANOVA, $p < 0.05$) in the hypolimnion than the epilimnion and metalimnion (Figure 2-16). Conductivity, hardness, alkalinity, calcium, manganese, sodium and strontium also tended to be the highest in the hypolimnion.

Seasonal variations in a few parameters were reported in Fish Lake. In the epilimnion, conductivity and alkalinity levels tended to be at a maximum and turbidity and pH at a minimum during winter. Metalimnetic levels of conductivity, alkalinity, ammonia, orthophosphate and total phosphate were highest during fall. For the remaining parameters, as well as for the hypolimnion, no seasonal trend was observed.

Figure 2-16 Water Quality in the Epilimnion, Metalimnion and Hypolimnion of Fish Lake



NOTE: Error bars indicate one standard error

Temperature and Dissolved Oxygen Depth Profiles

The risk of winter kill in impact and potential fisheries compensation lakes was assessed by Triton (1999) using average late-winter DO concentrations (not weighted by lake volume-at-depth) from 1992 to 1999. Results were assessed using risk categories defined by Lirette and Chapman (1993) for lakes in the Cariboo-Chilcotin region:

- “poor” or “high risk”: <1 mg/L
- “fair” or “moderate risk”: 1 to 3 mg/L
- “good” or “low risk”: 3 to 7 mg/L and
- “excellent” or “no risk”: >7 mg/L.

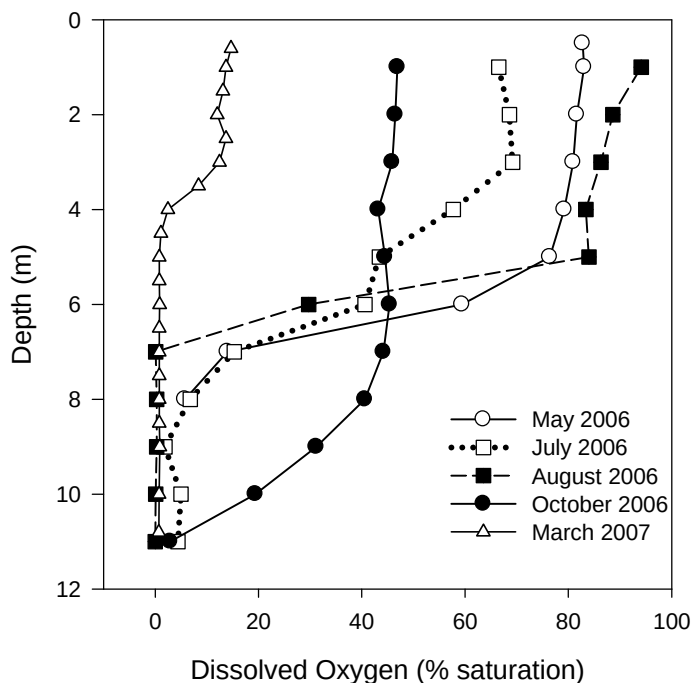
Significant among-lake and inter-annual variations in temperature and oxygen depth profiles were observed during the monitoring period (ANOVA, $p < 0.05$). For the winter DO profiles, the lakes could be divided into two groups, based on risk of winter kill:

- moderate to low risk—Fish Lake and Big Onion Lake, which were deeper and had mean late winter (March) unweighted DO concentrations of 3 to 3.4 mg/L and
- high to moderate risk—Little Fish Lake, Little Onion Lake and Wasp Lake, which were shallower, with mean later winter (March) DO concentrations of 0.9 to 1.8 mg/L.

Profiles for Fish Lake during free-ice seasons in 2006 indicated in the top 6 m of the water column up to 94% saturation in May and August, and 40 to 70% saturation in July and October (Figure 2-17). In these months, DO levels decreased to less than 6% saturation (less than 1 mg/L) at the bottom. During the winter, DO concentrations reached at most 15% saturation close to the ice layer and waters down to 3.5 m in depth were anoxic.

In both basins of Wasp Lake, DO concentrations in March 2007 were very low and homogeneous, with a saturation of at most 2% throughout the water column.

Figure 2-17 Dissolved Oxygen Profiles in Fish Lake (as percent saturation)



NOTE: Profiles measured in May (open circles), July (open squares), August (black squares) and October (black circles) 2006, and in March 2007 (open triangle)

2.4 Sediment Chemistry

The sediment quality assessment was designed to provide data on metal levels, organic carbon content and particle size characteristics of benthic sediments. These parameters are relevant to toxicity and physical habitat requirements for benthos, fish eggs and alevin. The objectives of the study are:

- to obtain baseline data on sediment quality that can be used to assess changes related to construction, operation, closure, and post-closure stages of the Prosperity Project;
- to identify sediment parameters that may be present at elevated levels, and to use this information to propose site-specific sediment quality objectives, if needed; and
- to provide baseline data that can be used to support the biological monitoring programs.

2.4.1 Introduction

Sediment metal analysis is widely used as an indicator of environmental quality in baseline monitoring and environmental impact assessments. Lake and streambed sediments serve as a repository for metals in both the particulate and dissolved fractions, often containing higher metal concentrations than are found in water. Up to 100 % of the metal load in freshwater systems can be found in sediments (Horowitz, 1991). When disturbed, metals in sediments can be resuspended into the water column. Metals that

enter aquatic systems may cause acute or chronic toxicity in benthic invertebrates, plankton and periphyton (e.g., biochemical and physiological changes; Hook and Fisher 2001; Grosell et al. 2006; Wilding and Maltby 2006; Shaw et al. 2006), which can lead to altered community structure. Changes in benthic and plankton communities can, in turn, indirectly affect fish and other organisms in the aquatic food chain (e.g., amphibians, aquatic birds and mammals) as prey species are eliminated.

Metals accumulate in sediments when sediment particles are washed into water and settle onto the substrate or when soluble metals become sorbed by sediment particles. The fate of these metals depends on local physical and chemical sediment conditions. Sediments act as either source or a sink for metals depending on redox potential, cation exchange capacity (the exchangeable cations associated with the crystalline lattice structure of clay), particle size of sediments, and organic carbon content (Salomons et al. 1987). Trace metals are present in sediments as discrete compounds or as ions held by cation-exchanging clays, bound to hydrated oxides of iron or manganese, or chelated by humic substances (Manahan 1984).

Particle size influences sediment quality and binding behaviours for metals and other contaminants. Fine ($<63\ \mu\text{m}$) and coarse particles ($>63\ \mu\text{m}$) differ in their mineralogical, morphological, physicochemical and mechanical properties (Salomons and Forstner 1984). Coarse sediments tend to be rounded and stack upon each other. Metals tend to be associated with the fine particle size (clays) as a result of the following characteristics:

- their diverse shapes and sizes;
- their tendency to aggregate and precipitate into the sediments as floc networks, which provides an open structure that binds metal ions in water;
- they are electrically charged, so metals are attracted and bound more easily than to coarse, non-charged particles; and
- clay particles form aggregates from colloidal suspension so settle more quickly than particles in colloids.

In general, chemicals adsorb more readily to fines (Brook and Moore 1988), with the highest metal concentrations in the clay-sized particles. The exception is manganese and iron, which preferentially bind to coarse particles $>300\ \mu\text{m}$.

Characteristics such as water depth, pH, hardness, nutrient concentration, temperature, dissolved oxygen and water circulation also play a critical role in determining the behaviour of metals in a lake or stream (Mudroch and MacKnight 1991).

Chemical metal-sediment interactions strongly influence the toxicity of metals in freshwater systems. Although there is some debate surrounding the sources and mechanisms of metal toxicity for benthic organisms (i.e., water vs. sediment) or absorption of dissolved metals vs. ingestion of particulate metals (Campbell et al. 2006), the bioavailability and toxicity of metals can largely be determined by metal ion activity in sediment pore water (Carbonaro et al. 2005; Campbell et al. 2006). Thus, chemical interactions that produce insoluble metal species reduce the potential for metal toxicity. For example, the natural presence of iron monosulphide (FeS) in lakes and streams lowers dissolved concentrations of Cu^{2+} , Cd^{2+} , Ni^{2+} , Pb^{2+} , Zn^{2+} , and Ag^{+} through formation of insoluble metal sulphides (Carbonaro et al. 2005). The potential for metal toxicity also depends on levels of molecular oxygen, which oxidizes metal sulphides, thereby releasing metal ions back to the sediment pore water (Carbonaro et al. 2005).

Binding of metal ions to organic carbon also affects metal concentrations in pore water (Ankley et al. 1996).

In the present assessment, metal concentrations in sediment were compared to BC working sediment quality guidelines (SQGs). SQGs represent total metal concentrations below which adverse biological effects are not expected and are based on least effect levels (LELs) derived from the literature (MOE 2006), the chemical concentration below which adverse biological effects are expected to occur only rarely. At present, only interim SQGs are available for metals due to a lack of data.

2.4.2 Methods

Since May 1997, sampling methods and sites followed the PRS and were compatible with those described in the *British Columbia Field Sampling Manual for Lake and Stream Sediment Sampling* (Ministry of Environment 1997b). Samples were also collected from 1994 to 1996.

2.4.2.1 Sample Timing and Locations

Sites sampled for sediment monitoring were selected based on geological and hydrological characteristics relative to future mine activities. Where suitable habitat was available, depositional areas near the water quality sites and erosional areas at the benthic invertebrate sites were sampled. A total of 30 sites were sampled between 1994 and 2006: 19 located in streams and 11 in lakes.

Sample locations are illustrated in Figure 2-1, described in Table 2-1 by geographic location, and summarized for the period from 1994 to 2006 in Table 2-8. The number of sites sampled in a given year varied. From 1994 to 1995, 14 stream sites and three lake sites were sampled. The 1997-1998 program included 13 stream sites and 11 lake sites. The 2006 program focused on additional data from seven sites considered most relevant to the preferred mine plan.

Table 2-8 Stream and Lake Sediment Sampling Program Outline 1994–2006

Sampling location		Site Type	Year					
			1994	1995	1996	1997	1998	2006
W1	Fish Creek (Fish Lake inlet)	Impact	√	–	–	√	–	–
W2	Fish Creek (Fish Lake outlet)	Impact	√	–	–	√	–	√
W3	Fish Creek (near Taseko R. confluence)	Impact	√	–	–	√	–	√
W4	Taseko River (outlet of Taseko Lake)	Control	–	–	–	√	–	–
W5	Taseko River upstream of Fish Creek	Impact	√	–	–	√	–	√
W6	Taseko River downstream of Fish Creek	Impact	√	–	–	√	–	√
W7	Fish Creek (upstream of ore body)	Impact	√	–	–	–	–	–
W8	Fish Creek (mid-way)	Impact	√	–	–	√	–	√
W9	Taseko River (d/s of Big Onion Lake)	Impact	–	–	√	–	–	–
W11	Beece Creek u/s of the Taseko River	Impact	√	–	–	√	–	–
W12	Beece Creek upstream of mine influence	Control	√	–	–	√	–	–
W14	Taseko River, 2 km d/s of W4	Control	–	–	√	–	–	√
W16	Groundhog Creek (north tributary)	Control	–	–	√	–	–	–
W17	Tête Angela Creek East	Control	–	–	√	√	–	–
W18	Tête Angela Creek West	Control	–	–	√	√	–	–
W19	Taseko River d/s of Davidson Bridge	Impact	–	–	–	√	–	–
W20	Taseko River d/s of Tête Angela confluence	Impact	–	–	–	√	–	–
WC	Tête Angela Creek u/s of Taseko River	Control	–	–	–	–	–	√
	Big Lake	Control	–	–	–	√	–	–

Sampling location		Site Type	Year					
			1994	1995	1996	1997	1998	2006
	Big Onion Lake	Impact	–	√	–	√	–	–
	Fish Lake	Impact	–	√	–	√	–	–
	Little Fish Lake	Impact	–	–	–	√	–	–
	Little Onion Lake	Impact	–	–	–	√	√	–
	North Rat Cabin Lake	Control	–	–	–	√	–	–
	South Rat Cabin Lake	Control	–	–	–	√	–	–
	Slim Lake	Control	–	–	–	√	–	–
	Vick Lake	Control	–	–	–	√	–	–
	Wasp Lake	Impact	–	√	–	√	–	–
	Taseko Lake	Control	–	–	–	√	–	–

The May 1994 stream sampling program collected data for Fish Creek, Taseko River and Beece Creek. Additional samples were collected in August 1996 in Tête Angela Creek, Taseko River and Groundhog Creek. Six replicate samples were collected from depositional areas within these sites. In August 1997, streams samples were collected from Fish Creek, Taseko River, Beece Creek and Tête Angela Creek. Samples were collected in erosional and depositional habitat (or glide habitat where there were no pools or riffles). In 2006, sediment samples were collected from erosional and depositional habitat in Fish Creek (W2, W3, W8), Taseko River (W5, W6, W14) and Tête Angela Creek (WC). Site W1 was not sampled, as it was dry by late summer.

Lake sediment was sampled from July 29 to August 23, 1995 in Fish Lake, Wasp Lake, and Big Onion Lake. Ten lakes (Fish, Big Onion, Wasp, Little Fish, Vick, Slim, Big, Taseko, North Rat Cabin and South Rat Cabin Lakes) were sampled for sediments between August 11 and 22, 1997. Little Onion Lake was sampled on October 22, 1998. No lake sampling was conducted in 2006.

2.4.2.2 Field Sampling Methods

Streams

Since 1997, samples have been collected using protocols described in *Lake and Stream Bottom Sediment Sampling Manual* (Ministry of Environment 1997b), as prescribed in the PRS. Methods used prior to 1997 differed in number of replicates and sample containers. Replicate samples were collected at each site, with the first replicate located at a downstream position and the others located consecutively upstream to minimize substrate disturbance. Replicates were collected less than 5 m apart to reduce habitat variation.

Sediment was collected using a plastic scoop to a maximum depth of 10 cm and placed in a plastic collection tray. The collected sediment was then carefully stirred to homogenize the sample. Any gravel or stones greater than 5 cm in diameter were removed and a sub-sample scooped into wide-mouthed containers, filled to be airtight. General observations regarding appearance (colour, odour, texture, etc.) were recorded in the field book, along with water temperature, water depth and pH for each site. All containers were pre-labelled with date, site location, sample identification, sample type and replicate number. The containers were stored in a cooler with ice packs (at 4°C) and transported to ALS Environmental Laboratories (Vancouver, BC) for analysis.

Depositional habitat was sampled prior to 1997, with six replicate samples collected at each site. Samples were placed in paper bags, sealed and allowed to dry in a cool dry place for several days before being shipped to the laboratory for analysis.

Both depositional (pool) and erosional (riffle) areas were sampled in 1997. The extensive riffle/run morphology at several Taseko River sites and lack of pool habitat resulted in collection of sediment samples from glide habitat (intermediate between depositional and erosional zones) at W5, W6 and W14. Five replicates were collected in each habitat type and transferred to glass jars (two 125 mL jars per site) prior to shipment to the laboratory. In 2006, riffle habitat was sampled; lack of sufficient fine sediment at Taseko River samples led to compositing of some samples prior to analysis, reducing the number of replicate samples at sites W5, W6 and W14.

Lakes

Lake sampling sites were identified using a map (usually the deepest part of the lake) and accessed by boat. Water depth at each replicate was measured then samples were collected using a 15 x 15 cm brass Ekman grab. Prior to 1997, one or two samples were collected in each lake. In 1997, five replicates were collected in each lake, in a radial pattern away from the central replicate at a distance of approximately 20 m. Samples were stored in either glass jars or in pre-rinsed 1-L wide-mouth plastic bottles that were capped and frozen prior to shipment.

2.4.2.3 Laboratory Methods

ALS Laboratory (Vancouver BC) analyzed sediment samples for particle size, percent moisture, total organic carbon (TOC) and metals as shown in Table 2-9. Samples collected in 1997 and 2006 were analyzed using a full metal scan (data in Appendix D.1); however, this report focuses on parameters identified by the PRS (boldface parameters in Table 2-9).

Table 2-9 Sediment Quality Parameters, Prosperity Project

Parameters¹	1994	1995	1996	1997	1998	2006
Particle size	✓	–	–	✓	–	✓
% Moisture	✓	✓	✓	✓	✓	✓
Total Organic Carbon	–	–	–	✓	✓	✓
Aluminum, total	–	–	–	✓	✓	✓
Antimony, total	✓	✓	✓	✓	✓	✓
Arsenic, total	✓	✓	✓	✓	✓	✓
Barium, total	–	–	–	✓	✓	✓
Beryllium, total	–	–	–	✓	✓	✓
Boron, total	–	–	–	✓	✓	
Cadmium, total	✓	✓	✓	✓	✓	✓
Calcium, total	–	–	–	✓	✓	✓
Chromium, total	✓	✓	✓	✓	✓	✓
Cobalt, total	✓	–	✓	✓	✓	✓
Copper, total	✓	✓	✓	✓	✓	✓
Iron, total	–	✓	–	✓	✓	✓
Lead, total	✓	✓	✓	✓	✓	✓
Magnesium, total	–	–	–	✓	✓	✓
Manganese, total	–	✓	–	✓	✓	✓
Mercury, total	✓	✓	✓	✓	✓	✓
Molybdenum, total	✓	–	✓	✓	✓	✓
Nickel, total	✓	✓	✓	✓	✓	✓

Parameters ¹	1994	1995	1996	1997	1998	2006
Potassium, total	–	–	–	✓	✓	✓
Selenium, total	✓	✓	✓	✓	✓	✓
Silver, total	✓	✓	✓	✓	✓	✓
Sodium, total	–	–	–	✓	✓	✓
Tin, total	–	–	–	✓	✓	✓
Zinc, total	✓	✓	✓	✓	✓	✓

NOTE: 1. Parameters in bold are identified in the PRS and discussed below

The lowest commercially available detection limits possible at the time were used, given moisture content of the samples. Detection limits and laboratory methods used for sediment analysis are described in Appendix D.2. Detection limits were consistent with those outlined in the PRS with the following exceptions, due to laboratory constraints:

- cadmium (detection limit of 0.1 µg/g compared to recommended 0.06 µg/g);
- nickel (detection limit of 2 µg/g compared to the recommended 1.6 µg/g); however, average levels of nickel in samples were greater than detection limits, typically more than ten times the detection limit used; and
- silver (detection limit ranged from 0.1 µg/g in 1998 and 2006 to 8 µg/g in 1995 compared to the recommended 0.1 µg/g).

The size fraction analyzed was not specified for data collected prior to 1997; however, report methods (Hallam Knight Piesold 1995) describe collection of fine sediment, and laboratory practice at that time was typically to analyze the entire sample (Andre Langlais, ALS Laboratory, pers. comm.).

Samples analyzed post-PRS met the requirement to analyze metals on the <63 µm particle sizes (silt and clay), with the exception of some samples obtained in 2006, where the sample volume was too small after sieving at <63 µm. Such samples were sieved at larger particle sizes depending on sample volume, and included W8 (four of the five riffle samples sieved at <106 µm), WC (all riffle and pool samples sieved at <250 µm), W2 (three pool and three riffle samples at <250 µm) and W3 (three pool and all five riffle samples at <250 µm).

2.4.2.4 Data Analysis

Data from all years were summarized as mean and range (minimum and maximum values) for each habitat type at each site (Appendix D.3). Values less than detection limit were treated as:

- one-half the detection limits for statistical purposes if detection limits were consistent across years (data were omitted if detection limits varies over years to avoid placing extra weight away from true values); and
- full value when determining exceedances.

ANOVA and Variance Components Analysis procedures were used to estimate the contribution of multiple factors (systems, habitats, particle size fraction) to the variability of the different parameters. Fisher's least significant difference method was used to discriminate among means.

Analytical results were compared with criteria listed in the working sediment quality guidelines (SQG) for British Columbia (MOE 2006) and with CCME guidelines (CCME

2004), which were identical in most cases (Table 2-10). The guidelines for chromium and copper quoted in the 1997 PRS were lower than the most recent BC and CCME guidelines listed in Table 2-10. Antimony and manganese, for which there are no BC or CCME guidelines were assessed using the PRS criteria.

Table 2-10 Sediment Quality Guidelines (µg/g dry weight), Prosperity Project

Variable	Criteria listed in PRS	CCME Guidelines (2004)	BC Working Sediment Guidelines	
			Least Effects Level (LEL)	Probable Effects Level (PEL)
Antimony, total	0.43	–	–	–
Arsenic, total	6	5.9	5.9	17
Cadmium, total	0.6	0.6	0.6	3.5
Chromium, total	26	37.3	37.3	90
Copper, total	16	35.7	35.7	197
Iron, total	–	–	21,200	43,766
Lead, total	31	35	35	91
Manganese, total	460	–	–	–
Mercury, total	0.17	0.170	0.170	0.486
Nickel, total	16	–	16	75
Selenium, total	5	–	5	–
Silver, total	0.5	–	0.5	–
Zinc, total	120	123	123	315

SOURCE: PRS, MOE 2006, CCME 2004

2.4.3 Quality Assurance/Quality Control

QA/QC protocols comprised standard procedures in the field to avoid sample contamination, examination of certified reference materials and laboratory duplicates, and assessment of the precision of field replicates.

2.4.3.1 Field Procedures

Quality assurance in the field included cleaning the equipment (Ekman grab, plastic collection pan, spatulas) with de-ionized water between sites and rinsing thoroughly with ambient water between replicates. Contamination by field staff was minimized by keeping hands clean and wearing no metallic jewellery. The glass sampling jars were acid-washed and brought uncontaminated from the laboratory. Upon collection, samples were immediately placed in a clean cooler, containing ice packs. Care was taken to not contaminate the inside of the jar or the cap. Samples were kept in a clean refrigerator until they were sent to the laboratory for analysis (between one and eight day hold time).

2.4.3.2 Laboratory Procedures

Certified Reference Materials

ASL Laboratories provided results for analysis of standard certified reference materials (CRM) (MESS-2, Marine sediment CRM for trace elements from National Research Council of Canada). Metals, TOC, conductivity and pH were analyzed using eleven CRM samples. ALS reported the analysis and certified values and calculated percent of target value. The acceptance criteria for water quality samples (20% of target value) were adopted for the sediments.

The laboratory analyses in general met the criteria of less than 20% difference in the value of metals found in the CRM samples compared to the target value as determined by NRC. Chromium results, however, were consistently lower than expected between 1994 and 1997. The explanation provided by ASL Laboratories was that the analytical method used was particularly effective for total recoverable metals, but tended to underestimate mineralized or non-environmentally available metals such as chromium, which may be associated with the silica matrix of the sample (pers. comm., Heather Ross, ASL Laboratories, Vancouver, according to Triton 1999). This was demonstrated in the CRM tests where the chromium measured was lower than the target values by approximately 31 to 45%. This analytical bias should be taken into account when interpreting these data. Eventual values above or below the 95% confidence limits were observed for arsenic, manganese and antimony in analyses conducted in 1995 and 1997.

Analytical Duplicates

In 1997, the laboratory conducted duplicate analyses on thirteen stream and one lake sample. In each case the sample was mixed and divided, then analyzed for metals and TOC. The percent difference (a measure of the analysis precision) between the samples was calculated as $((x1-x2)/x1)*100$. Given that the PRS did not describe an acceptable minimum percent difference, 20% was adopted to reflect variability that might be expected from duplicate samples with values greater than five times the detection limit.

Concentrations of parameters from the 1997 duplicate tests were not always similar. Differences between duplicate samples from three sites, W3, W5 and Big Lake, were consistently less than 20% in all parameters. However, 10 of the samples failed to achieve this goal for between one and six of the sixteen parameters. Parameters that showed variability higher than 20% were: antimony (six duplicates), chromium (five duplicates), manganese and zinc (four duplicates), nickel (three duplicates), arsenic, mercury, copper and conductivity (two duplicates). Much of the variability appears to be related to particular samples. Samples from sites W12 and W2 showed differences for duplicates higher than 20% for 12 and six of the analyzed parameters. In general, differences in duplicate samples reflect the heterogeneity of the sample sediments (pers. comm., Heather Ross, ASL Laboratories, Vancouver, BC, according to Triton 1999).

For samples analysed in 2006, only antimony showed differences between duplicates higher than 20% (sites W3, W8, W10 and WC).

Field Replicates

Replicate samples provide information about heterogeneity of the sediment within a site; the dispersion around the mean provides a measure of precision. Precision was assessed by calculating the coefficient of variation (CV) of each parameter at a site.

Precision for the five replicates per site was calculated ($CV = [\text{standard deviation} / \text{mean}] * 100$) to assess variability of samples collected in 1997 and 2006. As per the PRS, standard deviation and CV should be no more than 20% of the mean when the replicate values collected at the same time and location are all ≥ 5 times the detection limit.

Of the 299 analyses for streams (13 parameters times 23 sites), 66 results (22%) had greater than 20% CV (one to six parameters per site). Samples from Fish Creek had more frequent and greater variability than those from the other creeks, with no apparent relationship among sites or habitat types:

- Fish Creek (antimony up to 116%, arsenic up to 61%, chromium up to 64%, copper up to 43%, manganese up to 44%, mercury at W8 riffle, nickel up to 25%);
- Taseko River (antimony up to 192%, arsenic up to 38%, chromium with one value of 23%, copper with one value of 28%, manganese with one value of 23%, mercury up to 77%);
- Beece Creek (antimony up to 31%, arsenic up to 47%, chromium with one value of 23%, copper up to 28%, iron with one value of 30%, manganese up to 33%, nickel with one value of 28% and zinc with one value of 22%); and
- Tête Angela Creek (antimony up to 39% in W17 pool and riffle; arsenic 89%, chromium 40%, copper 33%, iron 43%, manganese 46%, nickel 24%, zinc 21% in W18 pool).

These precision analyses indicate the great heterogeneity of stream environments and suggest that more than five samples is needed to characterize pool or riffle habitat at a given site in order to detect differences among sites or over time, particularly if background data are to be used for comparison with conditions during mine operation. This is also relevant considering that several metals that exceeded the 20% CV target (antimony, arsenic, chromium, copper, manganese, nickel) also exceeded SQG.

Replicate precision for Fish, Little Fish and Big Onion Lakes (N = 5) was less variable (C.V > 20% for zero to two parameters) than for Wasp and Taseko Lakes, with arsenic levels consistently showing the highest variability:

- Fish Lake (no parameters greater than 20% CV);
- Little Fish Lake (antimony 26% and arsenic 58%);
- Big Onion Lake (arsenic 89%, mercury 37%);
- Wasp Lake (antimony 26%, arsenic 69%, chromium 25%, iron 57%, manganese 29%, zinc 30%), for which particle size data were not available, but which contained the highest levels of total organic carbon; and
- Taseko Lake (antimony 24%, arsenic 52%, copper 41%, manganese 31%, nickel 26%, zinc 27%), for which particle size and organic content also varied considerably.

2.4.4 Results

The entire data set from 1994 to October 2006 is presented in Appendix D.1; however, only sites that may be affected by the project or used as reference sites are presented here. For samples collected prior to 1997, the whole sample was analyzed without sieving, the practice at the time. The 1997 data set is the most complete, with the <63 µm fraction analyzed in all samples from pool and riffle habitat. In 2006, some samples contained insufficient sediment <63 µm following sieving; for Fish Creek samples, <106 or <250 µm fractions were analyzed and for Taseko River samples, composites were analyzed, rendering results less consistent with the 1997 data.

2.4.4.1 Streams

Sediment Fractions

Sediment from both pool and riffle habitats contained high proportions of gravel and sand (range 62% to 100%, average 95%), with little silt or clay (average 5.2%). The content of organic matter tended to be very low (range 0.05 to 3.2%, average 0.4%).

Within each system, concentrations of most metals varied with the size fraction analyzed. In Fish Creek, significantly higher levels of barium, chromium, cobalt, lead, nickel, and silver were observed in the <250 µm fraction than in the <63 µm fraction or the whole sample (ANOVA, $p < 0.05$). In Beece Creek and Tête Angela Creek, the metals were more associated with the fine fraction (<63 µm), whereas in Taseko River no significant trend was observed. Given such variability and the fact that some fractions were under-represented in one or more systems and sampling years, among-systems comparisons presented here focused on the <63 µm fraction, the most common fraction analyzed in this study (148 of 254 samples).

Pool vs. Riffle Habitat

Variations in metal concentrations among pool and riffle habitats in all sites sampled in 1997 are shown in Figure 2-18. In general, no consistent pattern of distribution of metals with habitat type could be delineated, suggesting that in most sites both habitats tend to be homogeneous in terms of accumulation of metals, with a few exceptions indicated in Figure 2-18.

Figure 2-18 Variation in Metal Levels in the <63 mm Fraction of Sediment from Pools and Riffles in Sites Sampled in 1997

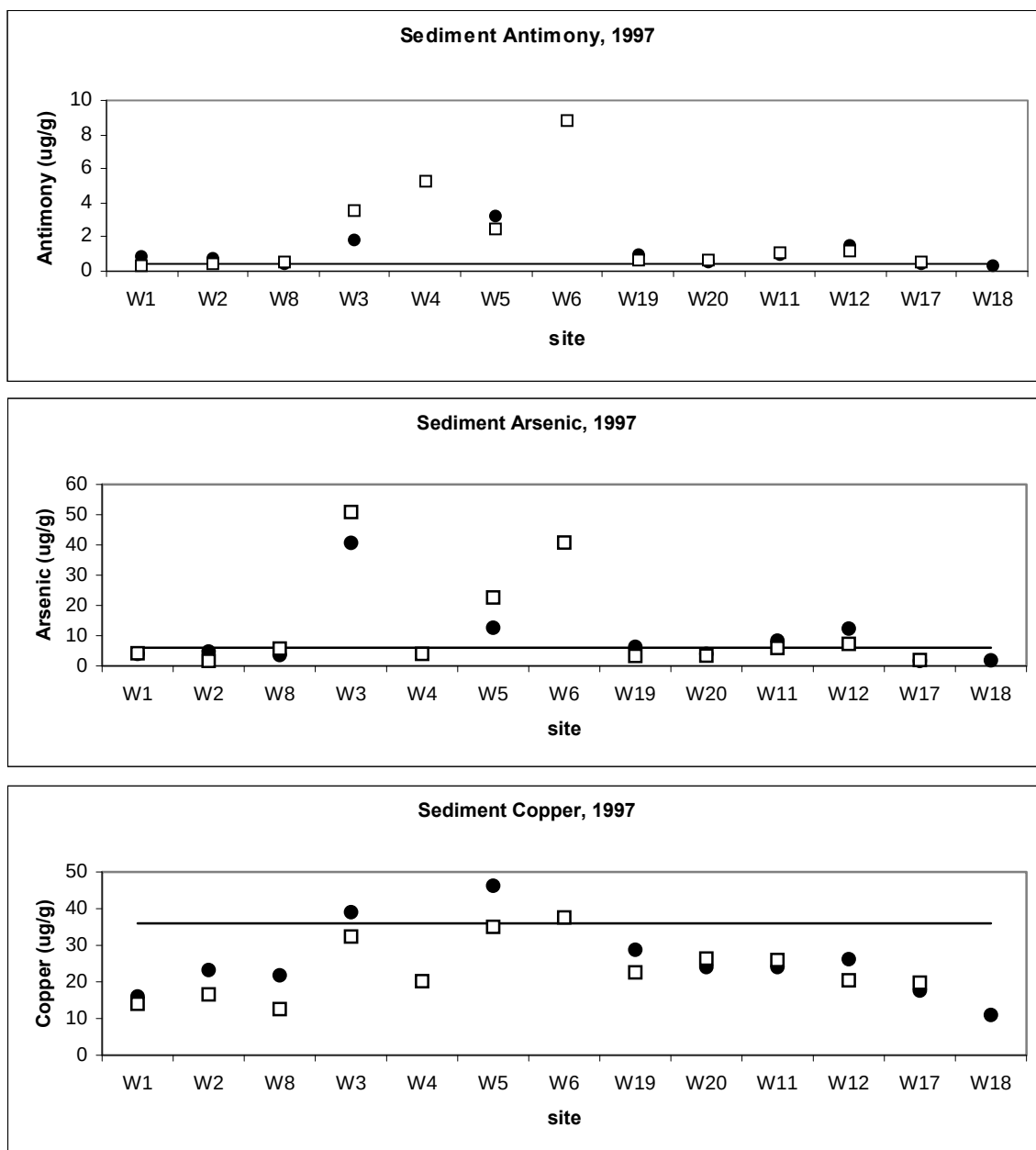


Figure 2-18 cont'd

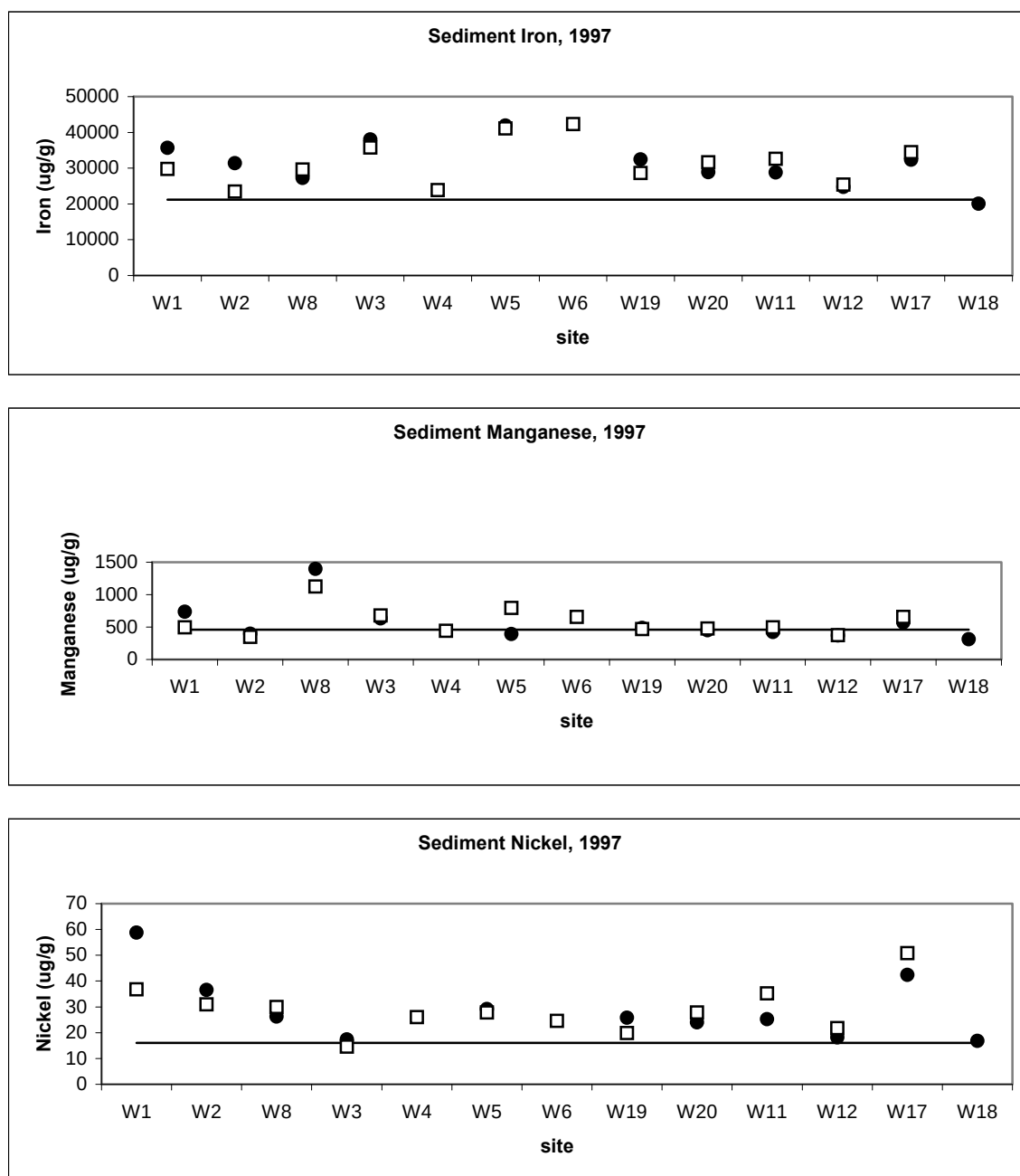
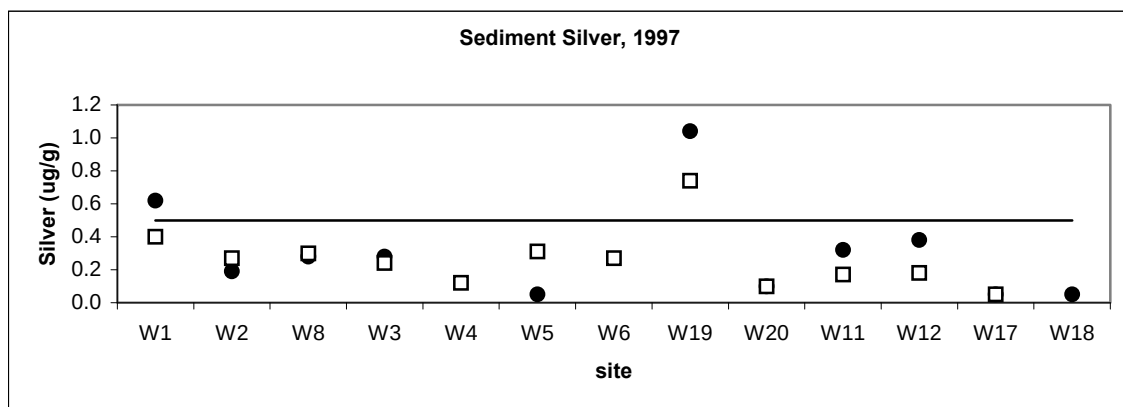


Figure 2-18 cont'd



NOTES: closed symbol = pools; open symbol = riffle, line = Sediment Quality Guideline

Among-system Comparisons

Significant variations in metal concentrations in the <63 μm fraction were observed among the different systems (ANOVA, $p < 0.05$), as showed in Figure 2-19. Sediment from Taseko River (either pool or riffle habitats) had higher levels of aluminum, barium and copper than the other systems. Levels of arsenic, calcium, cobalt and manganese tended to be high in pool or riffle sediments of Fish Creek. Pool sediment from Beece Creek had the highest concentrations of lead, potassium and sodium, and riffle sediment of Tête Angela Creek, the highest levels of magnesium and nickel. Iron concentrations tended to be comparable at the different sites.

Figure 2-19 Mean Metal Levels in the < 63 µm Fraction of the Sediment of Prosperity Project Streams, 1997 and 2006

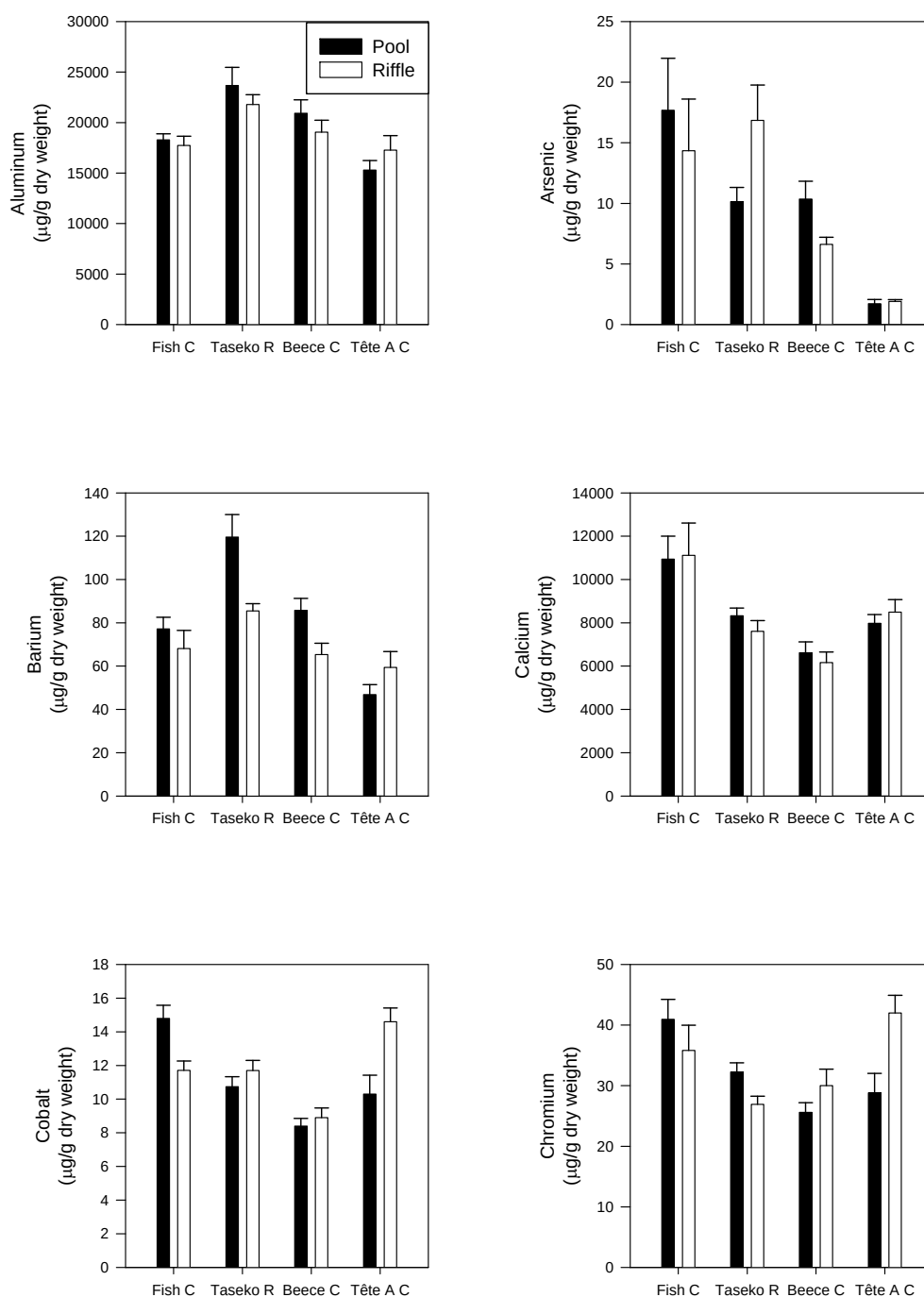
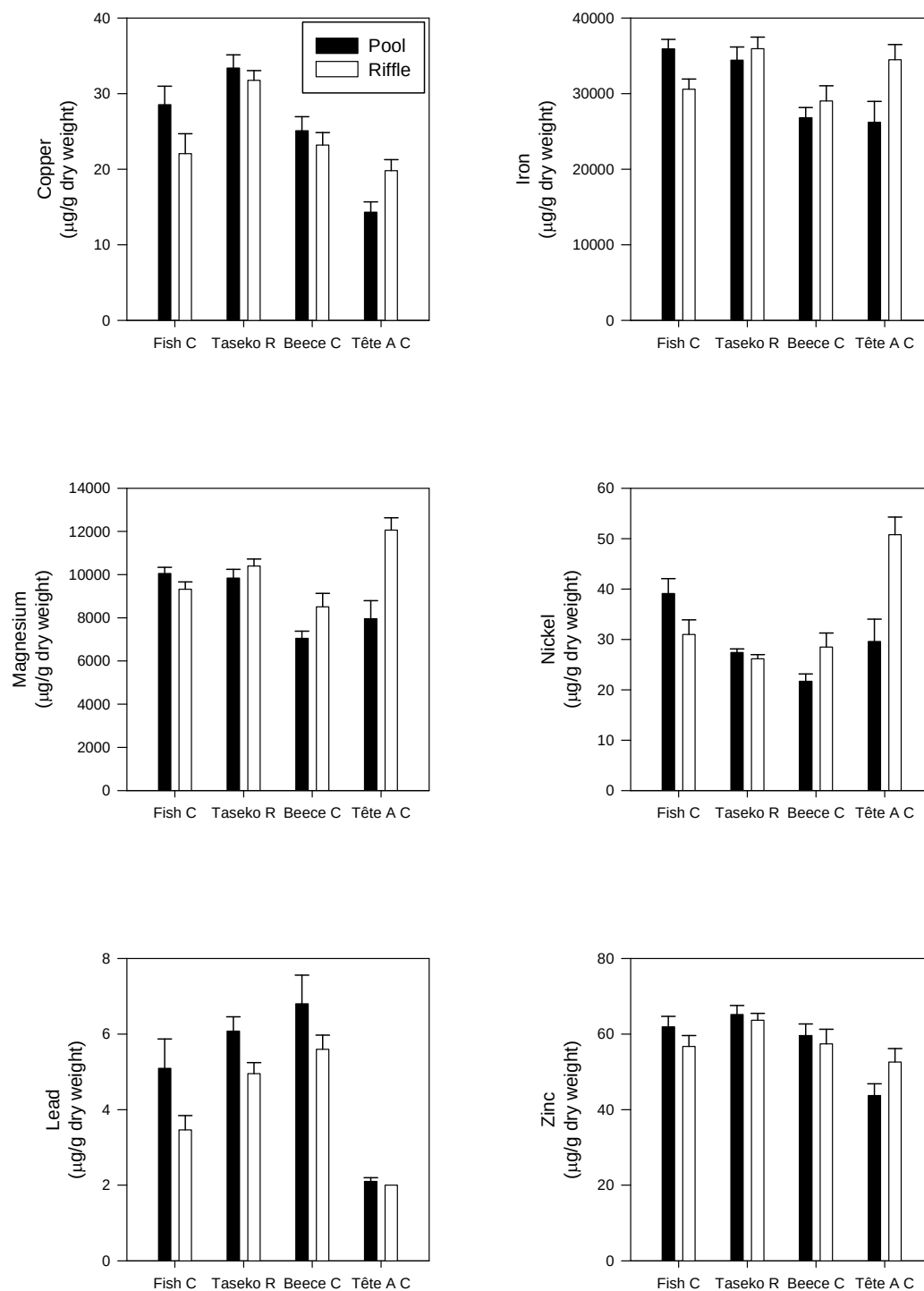


Figure 2-19 cont'd



NOTE: Error bars indicate standard error

Guideline Exceedances

Individual values of cadmium, lead, selenium and zinc did not exceed guidelines at any monitored site, all systems considered together. However, levels of most metals were higher than the BC least effects level (LEL) guidelines in many samples, and a few exceeded the PEL (Probable Effect Level), including:

- antimony at all sites and habitats except W1, in Fish Lake; in all riffle and pool samples collected prior to 2006 and some samples collected in 2006 in Taseko River; in all riffle and pool samples in Beece Creek; and in about 30% samples in Tête Angela Creek;
- arsenic in 50, 80, 78 and 16% of samples in Fish Creek, Taseko River, Beece Creek and Tête Angela Creek, respectively;
- chromium in 52, 5, 6 and 54% of samples in Fish Creek, Taseko River, Beece Creek and Tête Angela Creek, respectively;
- iron in 95, 100, 100 and 97% of samples in Fish Creek, Taseko River, Beece Creek and Tête Angela Creek, respectively;
- manganese in 70, 60, 25 and 58% of samples in Fish Creek, Taseko River, Beece Creek and Tête Angela Creek, respectively;
- nickel in 90, 100, 97 and 94% of samples in Fish Creek, Taseko River, Beece Creek and Tête Angela Creek, respectively;
- copper in 22, 33 and 3% of samples in Fish Creek, Taseko River and Beece Creek, respectively;
- silver in 10, 11 and 5% of samples in Fish Creek, Taseko River and Beece Creek, respectively;
- mercury in 10% of samples at sites W2, W3 and W8 in Fish Creek.

Some of the monitored sites showed particularly elevated metal levels:

- W3 in Fish Creek and W4, W5 and W6 in Taseko River with up to 8.8 µg/g antimony and up to 50.9 µg/g arsenic (almost 20-fold and 10-fold higher, respectively, than SQG);
- W8 (in Fish Creek), with 1,400 µg/g manganese;
- W1 in Fish Creek and W17 in Tête Angela Creek, with 59 and 51 µg/g nickel, respectively; and
- W19 (Taseko River), with 1 µg/g silver.

Inter-annual Variations

Results for 1997 (Table 2–11) resembled those for 2006 (Table 2–12) in overall trends, with antimony, arsenic, iron and nickel higher than SQG at most sites and arsenic chromium, copper and manganese higher than SQG at some sites. Keeping in mind these differences in procedures, the following notable differences between years were observed higher levels at Fish Creek sites W2 riffle, W8 pool and riffle, and most substantially, W3 pool and riffle:

- antimony and arsenic levels were higher in 2006 than in 1997 in Fish Creek sites but lower in 2006 in samples from the Taseko River;
- chromium, copper, manganese, mercury, nickel, selenium and zinc levels were higher at Fish Creek sites in 2006 than in 2007, but the same in both years at Taseko River sites; and
- cadmium and lead levels were higher at all sites in 2006 than in 2007.

Results for replicate samples did not show consistent relationships between size fraction analyzed and metal levels for samples collected in 2006. Therefore, the higher levels of metals measured in 2006 than in 1997 for sites in Fish Creek but not in Taseko River may reflect either greater temporal or spatial variation or changes in Fish Creek itself.

Table 2-11 Metal Concentrations in Stream Sediment ($\mu\text{g/g}$ dry weight, $<63 \mu\text{m}$ fraction, mean $\pm$ s.d., $n=5$), Prosperity Project 1997

Site			Sb	As	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Se	Ag	Zn
Fish	W1	pool	0.87 $\pm$ 1.01	3.96 $\pm$ 1.09	0.05 $\pm$ 0.00	54 $\pm$ 4	16 $\pm$ 7	35700 $\pm$ 3840	3 $\pm$ 1	735 $\pm$ 186	0.029 $\pm$ 0.002	59 $\pm$ 11	0.1 $\pm$ 0.1	0.6 $\pm$ 0.2	55 $\pm$ 2
		riffle	0.33 $\pm$ 0.09	4.19 $\pm$ 2.56	0.05 $\pm$ 0.00	42 $\pm$ 27	14 $\pm$ 2	29800 $\pm$ 4000	2 $\pm$ 1	496 $\pm$ 133	0.013 $\pm$ 0.004	37 $\pm$ 13	0.1 $\pm$ 0.0	0.4 $\pm$ 0.2	47 $\pm$ 5
	W2	pool	0.70 $\pm$ 0.54	4.78 $\pm$ 2.85	0.05 $\pm$ 0.00	37 $\pm$ 8	23 $\pm$ 8	31400 $\pm$ 6300	3 $\pm$ 1	399 $\pm$ 94	0.063 $\pm$ 0.045	37 $\pm$ 9	0.1 $\pm$ 0.0	0.2 $\pm$ 0.2	48 $\pm$ 10
		riffle	0.39 $\pm$ 0.16	1.67 $\pm$ 0.83	0.05 $\pm$ 0.00	34 $\pm$ 9	17 $\pm$ 4	23500 $\pm$ 4080	2 $\pm$ 1	348 $\pm$ 46	0.024 $\pm$ 0.008	31 $\pm$ 12	0.1 $\pm$ 0.0	0.3 $\pm$ 0.3	44 $\pm$ 6
	W8	pool	0.40 $\pm$ 0.12	3.60 $\pm$ 0.97	0.05 $\pm$ 0.00	28 $\pm$ 6	22 $\pm$ 5	27300 $\pm$ 1970	2 $\pm$ 1	1400 $\pm$ 506	0.030 $\pm$ 0.008	26 $\pm$ 4	0.1 $\pm$ 0.0	0.3 $\pm$ 0.1	45 $\pm$ 3
		riffle	0.50 $\pm$ 0.09	5.72 $\pm$ 1.87	0.05 $\pm$ 0.00	40 $\pm$ 4	13 $\pm$ 4	29600 $\pm$ 5690	2 $\pm$ 1	1120 $\pm$ 494	0.086 $\pm$ 0.082	30 $\pm$ 5	0.2 $\pm$ 0.1	0.3 $\pm$ 0.2	53 $\pm$ 8
	W3	pool	1.83 $\pm$ 0.54	40.6 $\pm$ 3.54	0.05 $\pm$ 0.00	14 $\pm$ 1	39 $\pm$ 7	38000 $\pm$ 1550	8 $\pm$ 7	635 $\pm$ 59	0.129 $\pm$ 0.014	17 $\pm$ 2	0.1 $\pm$ 0.0	0.3 $\pm$ 0.1	75 $\pm$ 5
		riffle	3.59 $\pm$ 3.50	50.9 $\pm$ 11.2	0.05 $\pm$ 0.00	13 $\pm$ 1	32 $\pm$ 5	35800 $\pm$ 4500	5 $\pm$ 1	677 $\pm$ 200	0.143 $\pm$ 0.022	15 $\pm$ 2	0.1 $\pm$ 0.1	0.2 $\pm$ 0.1	70 $\pm$ 7
Taseko	W4	glide	5.24 $\pm$ 10.0	3.95 $\pm$ 0.44	0.05 $\pm$ 0.00	29 $\pm$ 4	20 $\pm$ 2	23900 $\pm$ 1190	4 $\pm$ 0	441 $\pm$ 73	0.017 $\pm$ 0.006	26 $\pm$ 3	0.1 $\pm$ 0.0	0.1 $\pm$ 0.1	50 $\pm$ 3
		pool	3.25 $\pm$ 0.96	12.7 $\pm$ 4.30	0.05 $\pm$ 0.00	33 $\pm$ 4	46 $\pm$ 13	41900 $\pm$ 4070	6 $\pm$ 1	393 $\pm$ 42	0.078 $\pm$ 0.022	29 $\pm$ 5	0.2 $\pm$ 0.1	0.1 $\pm$ 0.0	83 $\pm$ 13
	W5	riffle	2.43 $\pm$ 0.68	22.6 $\pm$ 3.64	0.05 $\pm$ 0.00	25 $\pm$ 4	35 $\pm$ 5	41100 $\pm$ 3430	4 $\pm$ 1	795 $\pm$ 187	0.058 $\pm$ 0.042	28 $\pm$ 4	0.1 $\pm$ 0.0	0.3 $\pm$ 0.3	71 $\pm$ 10
		riffle	8.79 $\pm$ 7.89	40.8 $\pm$ 15.4	0.05 $\pm$ 0.00	19 $\pm$ 2	38 $\pm$ 5	42300 $\pm$ 3890	4 $\pm$ 0	658 $\pm$ 66	0.067 $\pm$ 0.011	25 $\pm$ 2	0.1 $\pm$ 0.0	0.3 $\pm$ 0.2	72 $\pm$ 6
	W19	pool	0.94 $\pm$ 0.19	6.36 $\pm$ 1.20	0.05 $\pm$ 0.00	31 $\pm$ 7	29 $\pm$ 2	32400 $\pm$ 3170	6 $\pm$ 2	487 $\pm$ 52	0.035 $\pm$ 0.010	26 $\pm$ 4	0.1 $\pm$ 0.0	1.0 $\pm$ 0.8	60 $\pm$ 7
		riffle	0.62 $\pm$ 0.05	3.33 $\pm$ 0.80	0.05 $\pm$ 0.00	23 $\pm$ 4	23 $\pm$ 3	28600 $\pm$ 3020	4 $\pm$ 1	468 $\pm$ 96	0.047 $\pm$ 0.036	20 $\pm$ 2	0.1 $\pm$ 0.0	0.7 $\pm$ 0.2	51 $\pm$ 5
	W20	pool	0.59 $\pm$ 0.06	3.99 $\pm$ 0.53	0.08 $\pm$ 0.03	23 $\pm$ 4	24 $\pm$ 3	28900 $\pm$ 4470	3 $\pm$ 1	449 $\pm$ 56	0.066 $\pm$ 0.033	24 $\pm$ 4	0.1 $\pm$ 0.0	$<$ 0.2	51 $\pm$ 8
		riffle	0.59 $\pm$ 0.07	3.35 $\pm$ 0.82	0.10 $\pm$ 0.00	28 $\pm$ 5	26 $\pm$ 3	31600 $\pm$ 4000	3 $\pm$ 0	479 $\pm$ 50	0.044 $\pm$ 0.016	28 $\pm$ 5	0.1 $\pm$ 0.0	$<$ 0.2	57 $\pm$ 6
Beece	W11	pool	1.01 $\pm$ 0.22	8.38 $\pm$ 1.98	0.05 $\pm$ 0.00	29 $\pm$ 5	24 $\pm$ 4	28800 $\pm$ 3090	6 $\pm$ 1	424 $\pm$ 34	0.018 $\pm$ 0.004	25 $\pm$ 4	0.1 $\pm$ 0.1	0.3 $\pm$ 0.1	60 $\pm$ 6
		riffle	1.05 $\pm$ 0.13	5.94 $\pm$ 1.45	0.05 $\pm$ 0.00	36 $\pm$ 6	26 $\pm$ 3	32620 $\pm$ 1180	6 $\pm$ 1	493 $\pm$ 52	0.021 $\pm$ 0.004	35 $\pm$ 5	0.1 $\pm$ 0.2	0.2 $\pm$ 0.1	63 $\pm$ 1
	W12	pool	1.50 $\pm$ 0.47	12.3 $\pm$ 5.84	0.05 $\pm$ 0.00	22 $\pm$ 3	26 $\pm$ 7	24800 $\pm$ 4510	8 $\pm$ 3	371 $\pm$ 91	0.013 $\pm$ 0.011	18 $\pm$ 1	0.3 $\pm$ 0.2	0.4 $\pm$ 0.1	59 $\pm$ 13
		riffle	1.16 $\pm$ 0.11	7.28 $\pm$ 2.11	0.05 $\pm$ 0.00	24 $\pm$ 5	20 $\pm$ 5	25400 $\pm$ 7560	5 $\pm$ 1	377 $\pm$ 123	0.007 $\pm$ 0.003	22 $\pm$ 6	0.1 $\pm$ 0.1	0.2 $\pm$ 0.0	52 $\pm$ 16
Tête Angela	W17	pool	0.45 $\pm$ 0.10	1.62 $\pm$ 0.30	0.05 $\pm$ 0.00	36 $\pm$ 4	18 $\pm$ 1	32300 $\pm$ 1560	2 $\pm$ 1	571 $\pm$ 72	0.018 $\pm$ 0.020	42 $\pm$ 3	0.1 $\pm$ 0.0	0.1 $\pm$ 0.0	52 $\pm$ 2
		riffle	0.51 $\pm$ 0.20	1.91 $\pm$ 0.31	0.05 $\pm$ 0.00	42 $\pm$ 6	20 $\pm$ 3	34500 $\pm$ 4500	2 $\pm$ 0	654 $\pm$ 93	0.011 $\pm$ 0.005	51 $\pm$ 8	0.1 $\pm$ 0.0	0.1 $\pm$ 0.0	53 $\pm$ 8
	W18	pool	0.29 $\pm$ 0.04	1.81 $\pm$ 1.60	0.05 $\pm$ 0.00	21 $\pm$ 8	11 $\pm$ 4	20100 $\pm$ 8640	2 $\pm$ 0	312 $\pm$ 143	0.008 $\pm$ 0.004	17 $\pm$ 4	0.1 $\pm$ 0.0	0.1 $\pm$ 0.0	36 $\pm$ 8

NOTE: numbers in bold exceed PRS Sediment Criterion (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Table 2-12 Metal Concentrations in Stream Sediment (µg/g dry weight, <63 to 250 µm fraction, mean ± s.d., n=3 to 5), Prosperity Project 2006

Site			Sb	As	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Se	Ag	Zn
Fish	W1	pool	Not sampled in 2006, site dry												
		riffle	Not sampled in 2006, site dry												
	W2	pool	0.38±.13	2.52±1.13	0.05±0.00	44±11	19±9	31100±8800	5±3	350±60	0.051±0.027	36±12	0.6±0.3	0.05±0.0	57±10
		riffle	0.57±.28	3.70±1.01	0.08±0.05	103±75	35±16	35200±1400	6±1	670±397	0.112±0.056	87±52	0.1±0.1	0.1±0.04	72±4
	W8	pool	0.61±.30	14.6±4.6	0.06±0.02	673±	30±3	43800±5630	6±3	1330±910	0.063±0.009	50±6	0.4±0.1	0.05±0.0	77±5
		riffle	0.88±.54	7.78±2.82	0.06±0.03	6218±	18±5	36500±5790	4±2	1960±998	0.044±0.014	51±13	0.2±0.1	0.1±0.04	62±11
	W3	pool	3.45±1.81	85.2±12.2	0.23±0.03	59±26	66±14	41100±2890	14±3	1000±98	0.110±0.011	57±17	0.6±0.3	0.1±0.1	81±6
		riffle	3.42±2.45	84.3±6.2	0.16±0.03	126±49	69±8	46000±780	20±18	1060±21	0.082±0.020	104±39	0.4±0.1	0.2±0.1	84±5
Taseko	W4	glide	Not sampled in 2006												
	W5	pool	<0.10	8.30±0.85	0.22±0.09	37±6	31±2	Not analyzed	7±1	759±18	0.050±0.009	29±1	0.07±0.0	0.05±0.0	61±2
		riffle	<0.10	9.13±1.19	0.18±0.02	33±4	30±3	Not analyzed	6±1	568±21	0.029±0.003	29±2	0.05±0.0	0.05±0.0	63±1
	W6	pool	0.85±0.59	21.3±4.08	0.20±0.06	29±4	36±2	Not analyzed	8±2	628±51	0.051±0.009	28±2	0.05±0.0	0.1±0.1	692
		riffle	0.29±0.32	27.7±12.6	0.22±0.04	28±3	38±3	Not analyzed	7±1	759±18	0.050±0.009	29±1	0.05±0.0	0.05±0.0	72±3
	W19	pool	Not sampled in 2006												
		riffle	Not sampled in 2006												
	W20	pool	Not sampled in 2006												
		riffle	Not sampled in 2006												

NOTE: numbers in bold exceed PRS Sediment Criterion (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

2.4.4.2 Results for Lakes

Fish, Little Fish, Wasp, Big Onion and Taseko Lakes were sampled in 1997 according to methods described in the PRS (five replicates per lake), and also in 1995 (one or two samples per lake). The entire data set is presented in Appendix D.4 and summary statistics for each lake are shown in Appendix D.6; however, only sites that may be affected by the Project or used as control sites are presented here. The 1997 data set is the most complete, with the <63 µm fraction analyzed in the five replicates.

Metal levels in sediment collected in 1997 are summarized in Table 2–13 and shown in Figure 2–20. Maximum arsenic levels were reported for Big Onion and Taseko Lakes, selenium in Big Onion Lake and manganese in Taseko Lake.

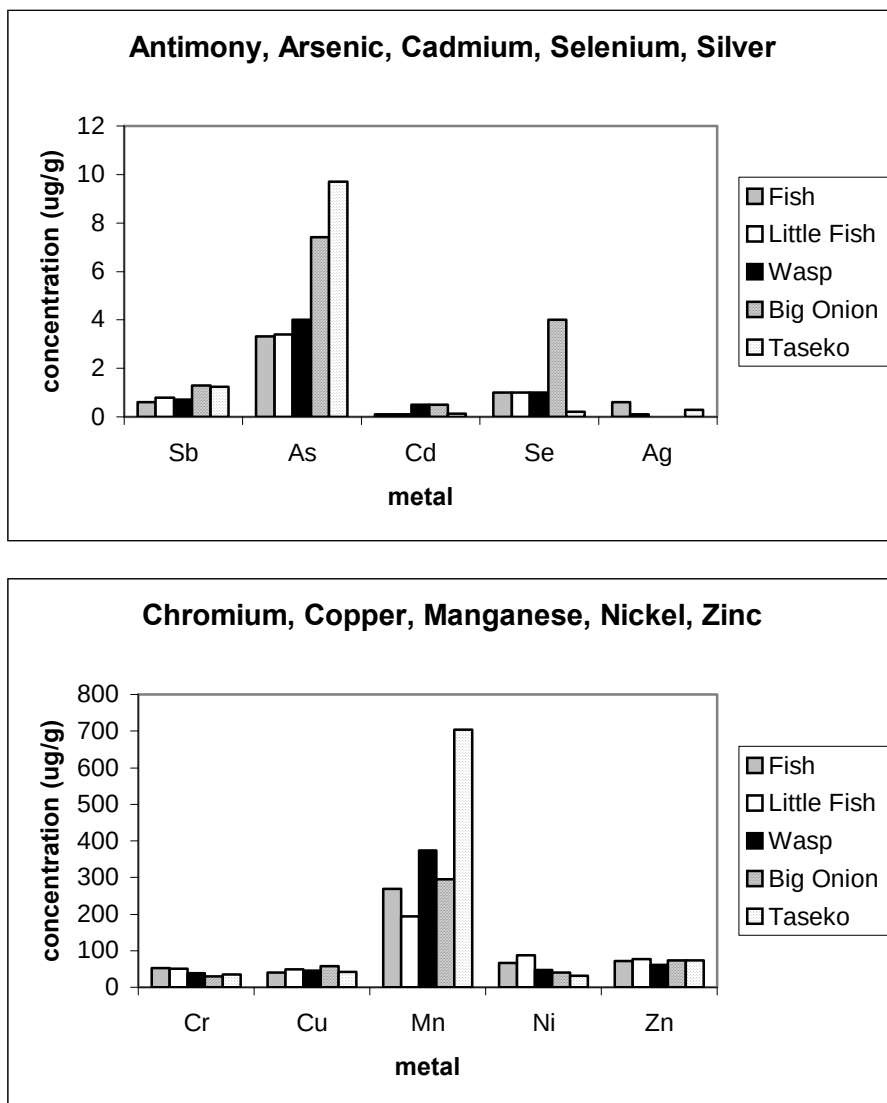
Sediment in the five lakes was characterized by antimony, chromium, copper and nickel levels higher than BC SQG. Metals higher than SQG in only some lakes included arsenic in Big Onion and Taseko Lakes, chromium in Fish, Little Fish and Wasp Lakes, iron in Wasp, Big Onion and Taseko Lakes and silver in Fish Lake. In contrast, levels of cadmium, lead, mercury, selenium and zinc were always lower than the SQG.

Table 2-13 Summary of Mean Metal Levels in Sediment of Prosperity Project Lakes, 1997 (n=5 replicates)

Parameter	Fish	Little Fish	Wasp	Big Onion	Taseko
Antimony, total (µg/g)	0.60	0.8	0.7	1.3	1.23
Arsenic, total (µg/g)	3.31	3.4	4.0	7.4	9.7
Cadmium, total (µg/g)	0.10	0.1	<0.5	<0.5	0.12
Chromium, total (µg/g)	52	50	38	29	35
Copper, total (µg/g)	41	49	45	58	42
Iron, total (µg/g)	17,900	17,400	28,200	24,800	34,200
Lead, total (µg/g)	6	6	<20	<20	7
Manganese, total (µg/g)	269	194	373	296	704
Mercury, total (µg/g)	0.110	0.106	0.018	0.048	0.033
Nickel, total (µg/g)	66	87	48	40	32
Selenium, total (µg/g)	1	1	1	4	0.2
Silver, total (µg/g)	0.6	0.1	<1	<1	0.3
Zinc, total (µg/g)	71	76	61	74	73
% TOC	16.5	16.9	30.1	24.5	1.9

NOTE: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Figure 2-20 Metal Levels in Prosperity Project Lakes, 1997 (mean of 5 replicates)



Fish Lake

Fish Lake samples collected in 1997 contained 100% clay (<4 µm) and 16 to 17% TOC. Mean levels and individual values of arsenic, cadmium, iron, lead, manganese, mercury, selenium and zinc did not exceed SQG in Fish Lake sediment. However, antimony, chromium, copper and nickel exceeded the SQG (mean and all replicate values). In addition, silver exceeded the SQG (mean and three replicates) by a small amount (SQG = 0.5 µg/g).

Little Fish Lake

Samples collected from Little Fish Lake in 1997 contained 100% clay (<4 µm) and 14 to 19% TOC. Metal levels were similar to those in Fish Lake sediment, with mean and

individual values of arsenic, cadmium, iron, lead, manganese, mercury, selenium and zinc within SQG and antimony, chromium, copper and nickel greater than the SQG. Silver levels were within the SQG, one replicate exceeded the arsenic SQG, and nickel values exceeded the PEL.

Wasp Lake

Samples collected from Wasp Lake in 1997 contained 26 to 32% TOC (up to twice as high as in Fish or Little Fish Lake. Particle size was not measured. Levels of several metals were similar to those in Fish and Little Fish Lake sediments, although nickel and chromium were lower and manganese was higher. Mean and individual values of cadmium, lead, mercury, selenium and zinc were within the SQG and those of copper and nickel were higher than the SQG. Mean and some individual values of antimony, chromium and iron exceeded the SQG. One replicate each of arsenic and manganese exceeded the SQG, but mean levels were within the SQG. Silver could not be evaluated as all values were below detection ($<1 \mu\text{g/g}$), but this was higher than the SQG ($0.5 \mu\text{g/g}$).

Big Onion Lake

Samples collected from Big Onion Lake in 1997 contained 21 to 28% TOC, which is up to 50% higher than in Fish or Little Fish Lakes. Particle size was not measured. Levels of several metals were similar to those in Fish and Little Fish Lake sediments, although nickel and chromium were lower and antimony, copper and selenium levels were higher. Mean levels and individual values of cadmium, chromium, lead, manganese, mercury, selenium and zinc did not exceed SQG in Big Onion Lake sediment. However, antimony, copper and nickel exceeded the SQG (mean and all replicate values). The mean and one replicate each of arsenic exceeded the SQG. In addition, silver exceeded the SQG in one sample and not detected in the other replicates (<1 compared to SQG of $0.5 \mu\text{g/g}$). Mean and some individual values of chromium and iron exceeded the SQG.

Taseko Lake

Particle size in samples collected from Taseko Lake in 1997 were more variable in composition than those from Fish Lake, with mean values of 27% gravel, 42% sand, 12% silt and 19% clay. TOC ranged from 0.1 to 5%, notable lower than in Fish Lake samples. Chromium and nickel levels were lower than in Fish Lake, whereas antimony, arsenic, iron and manganese levels were higher. Mean and individual values of cadmium, lead, mercury, selenium, silver and zinc did not exceed BC SQG in Taseko Lake sediment. However, antimony, iron and nickel exceeded the SQG for mean and all replicate values, and arsenic, copper and manganese exceeded the SQG for mean and several replicate values. One replicate sample exceeded the chromium SQG.

2.4.4.3 Summary and Discussion

Cadmium, lead, mercury, selenium and zinc were present at low concentrations, below the detection limits in the streams and lakes studied. Silver occurred in concentrations that were low or below detection limits in some or all sites, but interpretation of results for some sites was hindered by the use of detection limits greater than the SQG. Mercury levels were higher than SQG in some replicate samples from Fish Creek sites W8 and W3, although mean levels remained below the SQG.

Antimony, iron, manganese and nickel concentrations were elevated and higher than SQG at many of the lake and stream sites and chromium and copper were elevated at some sites. Arsenic levels exceeded SQO in Fish Creek (W3), Taseko River (W5 and W6), Big Onion Lake and Taseko Lake. These sites also had higher antimony levels than the other sites sampled. The three stream sites are in close proximity to each other, near the confluence of Fish Creek with the Taseko River (W6 is downstream of confluence).

The high degree of variability (CV >20%) for replicate samples from several streams and lakes indicates the heterogeneity of the environment and the need for greater numbers of samples per site when assessing statistical significance of differences among sites.

Samples collected from streams often did not show consistent or significant differences between pool and riffle habitat.

Metal concentrations reported for project area lakes and streams were comparable to or less than naturally occurring levels in the area (Reiberger 1992, Manahan 1984), indicating the generally mineralized nature of Interior Plateau watersheds. Nickel and zinc were exceptions, as they were higher in some project lakes than are typically found in the Interior Plateau (Reiberger 1992).

Given the high background levels of some metals in sediments of the project area, the SQG (least effects levels for protection of aquatic life) for metals such as antimony, iron, manganese and nickel and, to a lesser extent, copper, and chromium will not be attainable in the region. Site-specific guidelines will be required for the project area.

The consequences for aquatic life of elevated concentrations of antimony, copper, chromium, nickel, and manganese in sediments depend on bioavailability of these and other metals and on metal speciation. The effect of sediment metals on aquatic organisms is difficult to predict due to complex bio-physico-chemical interactions, for example with organic matter, other metals (iron and manganese complexes), hardness and pH. To be bioavailable, a metal must be present in a form that can be taken up by algal or invertebrate organisms, typically by surface adsorption of ions onto aquatic plants and animals (Smock 1983) or by ingestion. For adsorption to occur, metals must be available as non-bound forms (e.g., dissolved ions). Metals such as arsenic and mercury bind strongly to sediments, whereas others are weakly bound and are more readily released into the water (Branner et al. 1980). In addition to availability, metals must also have an affinity for adsorption onto biotic forms (Smock 1983), and this capacity varies greatly (e.g., low for manganese and high for chromium).

Total metal concentration are likely not the most reliable measure of sediment quality, given the complex behaviour of metals in sediments, as total metal does not describe bioavailability (Tessier and Campbell 1987). Biomonitoring of trace metals in tissues of various aquatic species has proven effective for determining the transference of metals to tissues (Power and Chapman 1992, Hare and Tessier 1998). Comparison of sediment levels with results of metal analysis in fish tissue will be useful in predicting potential effects of metals on aquatic life for the Prosperity Project.

2.5 Metal Levels in Fish

2.5.1 Introduction

From 1993 through 1997 and in 2006, fish tissue samples were collected for the Prosperity Project to establish background levels of metals in areas that may be affected

by Project activities and for environmental monitoring purposes. Tissue analyses are also used to characterize naturally occurring background (pre-mine development) metal accumulations in resident rainbow trout muscle tissue.

Concentrations of mercury in water are normally quite low and require very clean sample collection methods and precise laboratory detection techniques, which may not be achievable when collecting samples from remote locations. Measuring mercury levels in fish tissue can provide a more accurate measure of environmental conditions. Levels of mercury and other heavy metals can have adverse effects on human health and other species that consume fish, and direct deleterious effects on the fish themselves. This section summarizes methods and results from the fish tissue survey program in areas that may be affected by effluent or seepage from the mine, so that changes due to project development can be evaluated.

2.5.2 Methods

2.5.2.1 Sample Timing and Locations

From 1993 through 1997, fish tissue samples were collected at eight locations: Beece Creek, Fish Lake, Groundhog Creek, Little Fish Lake, Lower Fish Creek, Taseko River, Tête Angela Creek West, and Tête Angela Creek East. As specified in the PRS, the 1997 program aimed to collect a minimum of ten specimens for each resident species per site, preferably of uniform age, sex, and weight for comparability of results. However, it was not always possible to capture adequate numbers of fish at each sample time and location, due to unfavourable sampling conditions (e.g., high turbidity, strong currents, low fish densities).

2.5.2.2 Sampling Methods

Sampling methods followed guidelines provided by MELP and outlined in the PRS. Fish were captured using minnow traps, gill nets, trap nets, and electrofishing. Species, length (fork length), weight, date and location were recorded for each specimen. In 1993 and 1995, Hallam Knight Piesold captured fish, transported them in a cooler at 4°C to a lab at the Prosperity Camp, dissected the fish and stored the tissue samples frozen at -20°C until analysis. In 1996 and 1997, Triton collected fish samples, which were kept cool while being transported to the Prosperity Camp where they were weighed, measured and frozen whole at -20°C. Fish were dissected and analyzed by ASL.

In 2006, rainbow trout muscle tissues were collected from Tête Angela Headwater Lake and Fish Lake for metals analyses. Fish were captured during a 24-hour gill net set at Fish Lake and a 3-hour set at Tête Angela Headwater Lake. Rainbow trout were weighed ($\pm 0.1\text{g}$), measured (fork length; mm), dissected and placed in numbered, sterilized glass jars. Samples were refrigerated for 24-hour prior to shipment to the laboratory for analysis. Excess tissues that were not used during the analysis were archived.

Fish with a fork length greater than 170 mm were the approximate minimum size required to provide an adequate amount of liver tissue for analysis, and were selected preferentially. However, most specimens were relatively small, so most of the available muscle tissue on each fish had to be used for analysis and in some cases, composite samples were prepared.

2.5.2.3 Analytical Methods

Fish tissue (muscle and liver) was analyzed by ALS (Vancouver BC) for metals listed in Table 2–14. All levels were reported in mg/kg wet weight. The British Columbia criteria (MOE 2006) and minimum detection limits for selected metals are also listed.

Table 2-14 Metals Detection Limits for Fish Tissue Analysis

Metal	BC Criterion¹	Minimum Detection Limits
Antimony	none	0.05 µg/g dry weight
Arsenic	none	0.35 µg/g wet weight or 1.75 µg/g dry weight ²
Cadmium	none	0.03 µg/g dry weight
Chromium	none	0.5 µg/g dry weight
Lead	0.8 µg/g wet weight ³	0.08 µg/g wet weight or 0.4 µg/g dry weight ²
Mercury	0.1-0.5 µg/g wet weight ⁴	0.01 µg/g wet weight
Nickel	none	2 µg/g dry weight
Selenium	1 µg/g wet weight ⁵	0.3 µg/g wet weight or 1.5 µg/g dry weight ²

NOTES: ¹MOE 2006

²Assuming 80% moisture content in the fish tissue.

³Alert level for total lead in the edible portions of fish and shellfish for human consumption.

⁴Concentrations of total Hg in edible portion of fish and shellfish (dependent on quantity consumed weekly by humans on a regular basis).

⁵Interim guideline protective of aquatic life.

2.5.2.4 Data Analysis

Mean values, standard deviations and standard errors were calculated. Results were compared with applicable guidelines for fish tissue.

2.5.3 Quality Assurance / Quality Control

The QA/AC program for metals analysis in fish tissue was compatible with the *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwater* (MOE 1997a) as required in the PRS. It included method blanks, laboratory replicates, three different CRM, and one field replicate. Method blanks and CRM were used for all laboratory analyses; however, laboratory replicates were not used in 1995 and 1996, due to the small size of the fish collected.

QA/QC protocols also included following procedures in the field to avoid sample contamination. Latex gloves were used when handling fish and care was taken to prevent the samples from contacting any metal. Stainless steel cutting blades, a plastic cutting board, and clean dissection equipment were used to acquire fish tissue samples. De-ionized water was used between dissections to prevent cross-contamination. Wide-mouthed, acid-washed glass sampling jars were brought uncontaminated from the laboratory to collect tissue samples. When the size of the fish permitted, tissue samples were taken from the rear, upper quadrant of the fish. Care was taken to ensure the sample was free of skin, bones and fluids from internal organs. Upon collection, samples were immediately placed in clean cooler containing ice packs. Samples were frozen upon return to the camp until they were shipped to the laboratory for analysis.

QA/QC data for the 1993 to 1997 fish tissue samples are presented in Appendix E.1. All values for method blanks were below detection limits. For laboratory replicates, most of the metals were below or near detection limits, with the exception of mercury, which was always detectable. Of the sixteen sets of laboratory replicates, only two values showed a

difference of more than 25%, both for mercury. In one case, the duplicate values differed by 30% (0.084 mg/kg and 0.115 mg/kg), with one of the values higher than the BC criterion for mercury. For the one field replicate analyzed selenium values differed by more than 25% (3.87 mg/kg and 1.76 mg/kg, a two-fold difference) and exceeded the BC criterion. For certified reference materials, 32.5% of the measured values differed from the reference value by more than 20%.

QA/QC data for the 2006 fish tissue samples is provided in Appendix E.2. For the one laboratory replicate analyzed, all metals were below detection limits with the exception of arsenic and mercury, which met the PRS acceptability level of 25%.

2.5.4 Results for Metals in Fish Tissue

The numbers of fish and tissue samples collected at each sampling event are provided in Table 2–15. In only a few cases were ten or more fish collected from a sample site at one time. Data from 1995-1997 were pooled for analysis by year, with the exception of Beece Creek and Fish Lake, for which data from different years was pooled. Some areas were sampled in one year and not others. For some samples, liver tissue was pooled from several fish caught at the same time. In cases where tissue was pooled for analysis, the average weight of the fish pooled was used in size vs. metal concentration graphs.

Rainbow trout muscle tissues were collected from Tête Angela Lake and Fish Lake for metals analyses on September 26, 2006 and samples composited for analysis. The nine tissue samples collected from Fish Lake were analyzed as three composites and the six tissue samples from Tête Angela Lake were analyzed as three composites.

Table 2-15 Date, Location and Number of Fish by Species Collected for Analysis of Metals of Fish Muscle and Liver Tissue, 1993–1997

Location	Species	1993*	1995	Sept. 1996	Oct. 1996	Jul. 1997	Aug. 1997	Sept. 1997	Total
Beece Ck.	BT	–	1	10 (3)**	3	–	–	–	11
	RB	–	3 (1)**	–	–	–	–	–	4
	WF	–	3 (2)†	1	–	–	–	–	4
Fish L.	RB	–	20	–	–	10	–	–	30
Groundhog Cr.	RB	–	–	10 (4)**	–	–	–	–	10
Little Fish L.	RB	–	–	–	–	–	3	7	10
Lower Fish Cr.	BT	–	–	–	–	–	3	–	3
	RB	–	–	–	–	–	10	–	10
Taseko R.	BT	–	–	–	–	1	7	2	10
	RB	–	–	–	–	2	8	2	12
	WF	–	–	–	–	1	9	–	10
Tête Angela E.	RB	–	–	10 (3)**	–	–	–	–	10
Tête Angela W.	RB	–	–	–	–	–	–	10	10

NOTES: * 9 rainbow trout from Fish Lake and 13 from Little Fish Lake were analyzed, but data were omitted due to QA/QC concerns

** composite liver samples due to small size of fish; parentheses indicate the number of composite samples analyzed.

† composite liver samples and composite muscle samples due to small size of fish; three fish were pooled for one muscle and one liver sample.

BT = bull trout; RB = rainbow trout; and WF = whitefish.

The 1993 fish tissue analyses data displayed a number of anomalies, so were not included. Anomalies included lack of QA/QC procedures, no correction for small amounts of mercury present in the reagents used to process the samples, compounding of errors associated with large dilution factors used in the laboratory, and inconsistencies within the 1993 data report. As a result, mercury levels from the 1993 samples were substantially higher than those reported in 1995 and 1997.

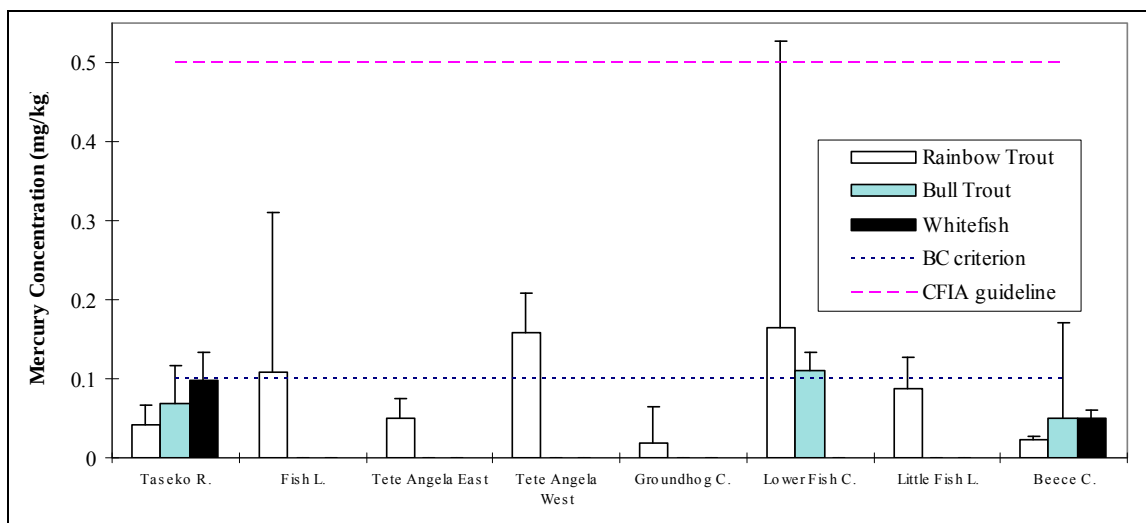
Raw data for metals in fish tissue appear in Appendix E.3. In the 1997 data, mercury and selenium were the only metals that exceeded the BC criterion. The mercury criterion was exceeded at most locations for at least one sample of either muscle or liver tissue. Selenium levels exceeded the criterion at six locations: Beece Creek, Fish Lake, Groundhog Creek, Little Fish Lake, Tete Angela Creek West and the Taseko River.

2.5.4.1 Mercury

Mean mercury concentrations in liver and muscle tissue exceeded the B.C. criterion level in rainbow trout from Fish Lake, Lower Fish Creek and Tête Angela Creek West, and in bull trout from Lower Fish Creek (Figures 2–21 and 2–22).

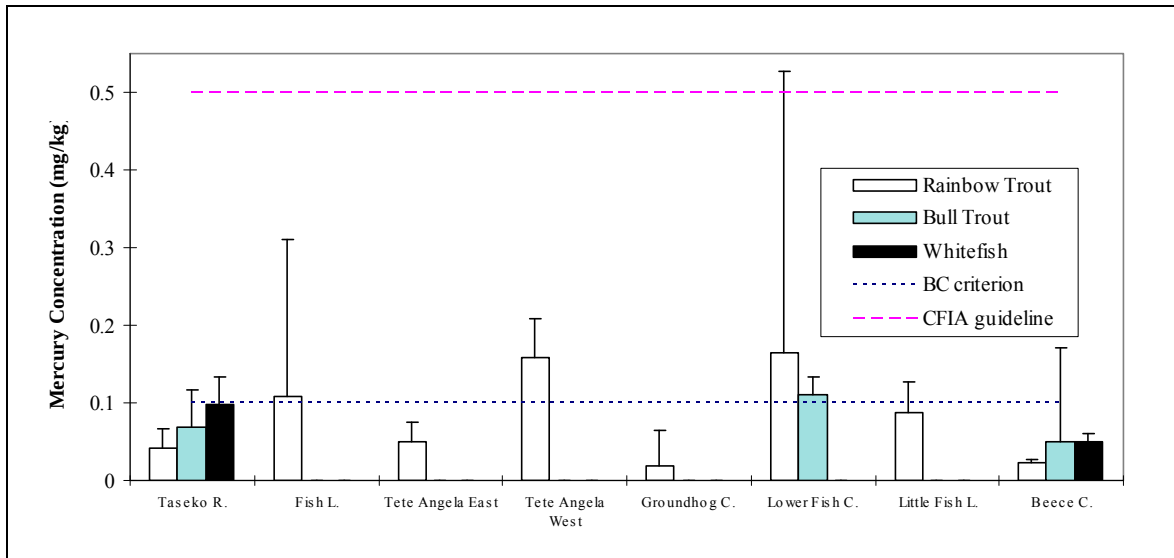
Mean mercury concentrations in muscle and liver tissue are reported in Table 2–16. The highest mean mercury concentration was reported for rainbow trout muscle tissue in Tête Angela West (0.179 mg/kg), where all muscle and liver tissue samples exceeded the BC criterion. The site with the second highest mean mercury concentration was Lower Fish Creek, where the mean mercury concentration in rainbow trout muscle tissue (0.114 mg/kg) and liver tissue (0.165 mg/kg) exceeded the BC criterion. Mean mercury concentration in bull trout from Lower Fish Creek also exceeded the BC criterion for liver tissue (0.111 mg/kg), but not muscle tissue (0.056 mg/kg). Rainbow trout from Fish Lake were next highest, with mean mercury levels exceeding the BC criterion for liver tissue (0.108 mg/kg) but not muscle tissue (0.093 mg/kg).

Figure 2-21 Mean Mercury Concentration in Liver Tissue of Fish from the Prosperity Project Area, 1995–1997



NOTES: Error bars indicate the maximum value for a location
CFIA = Canadian Food Inspection Agency

Figure 2-22 Mean Mercury Concentration in Muscle Tissue of Fish from the Prosperity Project Area, 1995–1997



NOTES: Error bars indicate the maximum value for a location
CFIA = Canadian Food Inspection Agency

Table 2-16 Mean Mercury Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area

Location	Muscle			Liver		
	BT ¹	RB ¹	WF ¹	BT ¹	RB ¹	WF ¹
Beece Creek	0.016	0.024	0.047	0.051	0.023	0.051
Fish Lake	–	0.093	–	–	0.108	–
Groundhog Creek	–	0.072	–	–	0.020	–
Little Fish Lake	–	0.060	–	–	0.088	–
Lower Fish Creek	0.056	0.114	–	0.111	0.165	–
Taseko River	0.056	0.043	0.053	0.069	0.042	0.098
Tête Angela Creek East	–	0.048	–	–	0.050	–
Tête Angela Creek West	–	0.179	–	–	0.159	–

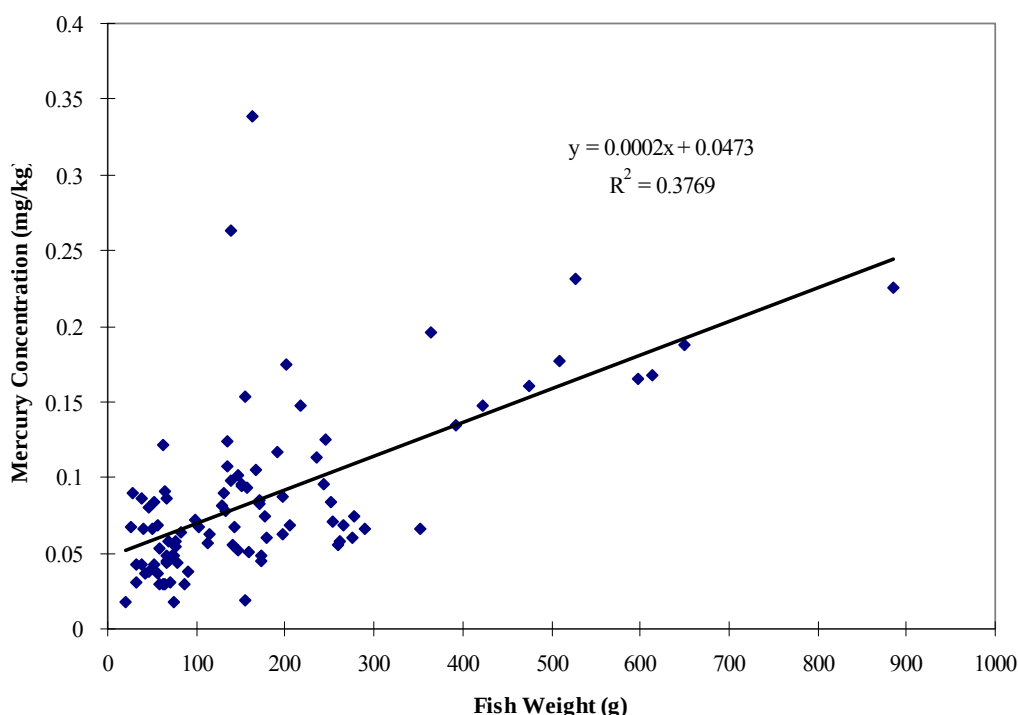
NOTE: 1. BT = bull trout, RB = rainbow trout, WF = whitefish

Metals such as mercury are known to accumulate in fish over time, resulting in higher concentrations in older larger fish. This relationship was not observed in data from individual sites for mercury in rainbow trout muscle or liver tissue or for selenium in rainbow trout liver tissue. However, there was a positive relationship between fish size and mercury levels in rainbow trout muscle tissues when all 1995–1997 data were pooled (Figure 2-23). The poor correlation for specific sites is probably due to the small sample sizes and the small size and age range of fish sampled in each area.

Rainbow trout muscle tissue samples collected in Tête Angela Lake in 2006 had mercury concentrations that exceeded the BC criterion (0.138 mg/kg) in all fish samples tested. The sample size (six fish) was too small to draw a correlation between fish size (weight)

and mercury concentrations. Data from studies prior to 1997 were pooled and confirmed that this correlation exists within the study area. Mean mercury levels in samples from Fish Lake (0.091 mg/kg) were below the criterion. Levels of all other metals met the BC criteria for fish muscle tissue and, in most cases, were below detection limits. Results for all metals are provided in Appendix E.3.

Figure 2-23 Mean Mercury Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area



2.5.4.2 Selenium

Mean selenium concentrations were lower in muscle than liver tissue for all species and sampling locations (Table 2-17). In all sites mean selenium concentrations in fish muscle were lower than the criterion for aquatic life (1 mg/kg), whereas liver tissue levels tended to be higher than the criterion in four of the 13 sites. The highest mean selenium concentration was reported for rainbow trout liver tissue from Beece Creek (4.54 mg/kg).

Table 2-17 Mean Selenium Concentration (mg/kg wet weight) in Fish Tissue Samples from the Fish Lake Area

Location	Muscle			Liver		
	BT	RB	WF	BT	RB	WF
Beece C.	0.880	0.755	0.690	2.27	4.54	2.80
Fish L.	—	0.113	—	—	2.40	—
Groundhog C.	—	0.100	—	—	0.825	—
Little Fish L.	—	0.380	—	—	1.55	—
Lower Fish C.	0.200	0.140	—	0.633	0.096	—
Taseko R.	0.390	0.433	0.370	1.67	2.84	2.29

Location	Muscle			Liver		
	BT	RB	WF	BT	RB	WF
Tête Angela East	–	0.100	–	–	0.567	–
Tête Angela West	–	0.500	–	–	1.88	–

2.6 Periphyton Community

The objectives of the periphyton monitoring program were to determine:

- the baseline level of attached primary productivity in streams (chlorophyll a standing crop) to compare to future levels in potentially affected streams; and
- the baseline periphyton community diversity to compare qualitatively to future communities in potentially affected streams.

2.6.1 Introduction

Periphyton are algae that grow attached to substrates. They are the primary source of energy in third to sixth order streams (Stevenson 1996), so play a fundamental role in stream ecosystems. Algae convert inorganic carbon, nitrogen and phosphorus into organic matter, making it available for secondary consumers such as benthic invertebrates. Branched or filamentous forms of periphyton can provide microhabitats for benthic invertebrates, where they provide stable refuge from predators or strong currents.

Periphyton are sensitive to changes in water chemistry and stream habitat. They have been used as indicators of water quality since the early 1900s because of known sensitivity to changes in nutrient, sediment (TSS) and metal levels, which makes them useful sentinels of changes related to mine operations. They also provide valuable links between water chemistry and the fish community.

Effects of metals on algae were summarized by St-Cyr et al. (1997) as part of the Aquatic Effects Technology Evaluation leading up to the Metal Mining Effluent Regulation environmental effects monitoring programs (Aquamin 1996, Environment Canada 2002). Effects range from chronic and acute toxicity, through physical deformities of diatoms.

Nutrient additions (eutrophication) can lead to excessive periphyton growth, with filamentous mats clogging or entangling invertebrates, depleting oxygen as they decompose, decreasing aesthetic values, decreasing the value of fish spawning habitat and altering composition of the benthic invertebrate community (Horner et al. 1983). For example, pollution sensitive Ephemeroptera, Trichoptera, or Plecoptera are replaced with less sensitive Chironomidae or Oligochaeta (Nordin 1985).

This section documents periphyton communities in streams within the Taseko Mine footprint and beyond, with potential to be affected by project activities or to provide reference sites. Both abundance (chlorophyll *a* or standing crop) and community diversity were assessed. Chlorophyll ‘a’ is the predominant photosynthetic pigment, found in all algae (Wetzel 2001), provides a representation of primary production in aquatic environments and enables comparison among sites and systems.

2.6.2 Methods

The PRS prescribed collection of at least five replicate samples per site during the period of mid-summer maximum growth, after peak scouring flows have subsided. The target

was to detect a 20% difference in the mean level of chlorophyll a standing crop, and detect the predominant species for that site.

Methods and quality assurance measures used were compatible with those in the *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwaters* (Clark 1996). Natural substrates were sampled in pool and riffle habitat.

2.6.2.1 Sample Timing and Locations

Peak flows occur from April to June in Fish Creek and Tête Angela Creek and from June to July in Beece Creek. The Taseko River flows are primarily in response to annual glacial melt. Flows increase rapidly from March to July, then decrease rapidly through to December.

Samples were collected after peak flows had subsided. Periphyton samples were collected in August and September 1993 and 1996, between August 12 and September 23, 1997 and between August 15 and September 6, 2006. The 2006 program was developed to provide comparison with 1997 data, given the intervening years, and sampled riffle habitat only.

Samples were collected at sites in Fish Creek, Beece Creek, Tête Angela Creek and Taseko River (Table 2–1, Table 2–18). Some sites listed in the PRS are no longer considered impact sites, given the preferred mine option, and are included if they provide useful reference data (e.g., data from Tête Angela and Beece Creeks).

Table 2-18 Periphyton Sampling Program, Prosperity Project

Sampling location		Site Type	Year			
			1993	1996	1997	2006
W1	Fish Creek (Fish Lake inlet)	Impact	Riffle		Pool / Riffle	(dry)
W2	Fish Creek (Fish Lake outlet)	Impact	Riffle		Pool / Riffle	Riffle
W3	Fish Creek (near Taseko R. confluence)	Impact	Riffle		Pool / Riffle	Riffle
W4	Taseko River (outlet of Taseko Lake)	Control			Glide	
W5	Taseko River upstream of Fish Creek	Impact			Pool / Riffle	Riffle-Run
W6	Taseko River downstream of Fish Creek	Impact			Riffle	Riffle-Run
W8	Fish Creek (mid-way)	Impact	Riffle		Pool / Riffle	Riffle
W9	Taseko River	Impact		Riffle		
W11	Beece Creek upstream of the Taseko River	Impact			Pool / Riffle	
W12	Beece Creek upstream	Control			Pool / Riffle	
W14	Taseko River, 2 km d/s of W4	Impact		Riffle		Riffle- Run
W17	Tête Angela Creek East	Control		Riffle	Pool / Riffle	
W18	Tête Angela Creek West	Control		Riffle	Riffle	
W19	Taseko River downstream of Davidson Bridge	Impact			Pool / Riffle	
W20	Taseko River d/s of Tête Angela West confluence	Impact			Pool / Riffle	
WC	Tête Angela Creek upstream of Taseko River	Control				Riffle

Every effort was made to identify reference and impact sites similar in flow, depth, solar arc and substrate characteristics. Physical characteristics are summarized in Table 2-19. The control site in Taseko River, W4, is physically similar to the other sites in Taseko River. The Beece Creek control site, W12 is similar to the downstream site, W11. Consistent with the PRS, both pool and riffle habitats were sampled in 1997, except where suitable pool habitat was lacking (some Taseko River sites – glide habitat only at W4, riffle habitat only at W6; Tête Angela West – riffle habitat only at W18). Samples were collected only from riffle habitat in 2006.

Table 2-19 Geomorphic and Hydrologic Characteristics of the Study Stations

Site	mean velocity (m/s) ¹	mean riffle depth ² (m)	mean pool depth ² (m)	gradient (%)	crown cover (%)	finest (%)	gravel s (%)	cobble (%)	boulder (%)	aspect
Fish Creek										
W1	0.24	0.12 (0.02)	0.30 (0.08)	2	0	22	2	57	19	nw
W2	0.009	0.25 (0.36)	0.37 (0.06)	1	0	34	21	34	10	nw
W8	0.05	0.11 (0.03)	0.30 (0.09)	1	40	30	57	11	2	nw
W3	0.17	0.11 (0.03)	0.31 (0.13)	3.4	40	10	50	40	0	nw
Taseko River										
W4		0.50 (0)	NA	1	1	0	60	30	10	n
W5	0.9	0.20 (0.06)	0.33 (0.06)	3	1	1	10	65	20	n-ne
W6	0.9	0.05 (0.004)	NA	1.5	1	1	15	60	10	n-ne
W19	0.9	0.50 (0)	0.24 (0.04)	1.5	20	0	20	40	40	n-w
W20		0.27 (0.03)	0.29 (0.05)	1	20	0	10	20	70	n
Beece Creek										
W12	0.45	0.19 (0.01)	0.38 (0.08)	2	1	1	20	50	30	w
W11	0.64	0.16 (0.04)	0.27 (0.08)	3	1	<5	25	60	20	w-nw
Tête Angela										
W17	0.09	0.08 (0.03)	0.43 (0.12)	1	0	10	35	50	5	nw
W18	0.042	NA	0.28 (0.08)	1	0	50	6	40	4	n

NOTES: 1. measures of dispersion were not available
2. Riffle and pool average depths (standard deviation in parentheses) were measured at the time periphyton samples were collected in 1997. Other variables are from stream surveys conducted in 1993 - 1995 (CB Research International Corp. 1995a).

SOURCE: Triton (1999) unpublished technical data report

In 1997 and 2006, five replicates from natural substrates were collected in each habitat type. The first replicate was located at a downstream position within the site and subsequent samples were located consecutively upstream no further than 5 m apart, to minimize habitat variation. In 1993 and 1996, six replicates were collected at each site.

2.6.2.2 Field Methods

Sampling methods were based on procedures described in *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwaters* (Clark 1996). At each replicate site, three large, flat rocks representative of the area were selected. Each rock was placed in a collecting pan, a template was placed on it and the area within the template was scraped carefully with a toothbrush. The scraped area was rinsed with de-

ionized water to wash off the periphyton. This process was repeated for the other two rocks. Thus, each replicate sample was a composite of the area scraped from three rocks.

In 1997, the solution was poured into a pre-labelled plastic 250 ml bottle and kept dark and cool in a cooler, then divided at the laboratory into two fractions (20 to 60 mL for chlorophyll *a* analysis, the remainder preserved with Lugol's solution later the same day for taxonomic analysis). In 2006, samples were collected separately for chlorophyll and taxonomy, and processed as described below.

In 1997, a template (area = 43 cm²) was used to collect periphyton from the rocks at sites W2, W3, W4, W5, W6, W17 and W18. At sites W4, W9, W11, W12, W14, W19 and W20, a cellophane template was cut for each replicate and used to sample the three rocks that made up the composite sample, with the outline of the templates drawn onto waterproof paper and the area calculated with a digitizer. In 2006, a template was used and the number of scrapings and total area recorded. Scraping areas are included in the raw data report (Appendix F.1).

2.6.2.3 Laboratory Analysis–Chlorophyll

In 1997 and 2006, the chlorophyll *a* subsamples were filtered through a 45 µ membrane filter with a Nalgene vacuum pump filtering apparatus. The filtering apparatus was rinsed with de-ionized water after each sample was filtered to avoid contamination. Four to five drops of MgCO₃ were added to the filtering cup near the end of the filtration. The membrane was folded inside a Whatman filter paper labelled with the sample identification, date, volume of sample filtered, and preservative used. The filter paper was then wrapped in aluminum foil and placed inside an amber jar containing silica crystals. Samples were held in a refrigerator until being sent to ASL Laboratories for chlorophyll *a* analysis. A similar process was followed in 2006, with the following differences: filtration occurred immediately following sampling and samples were not transported in amber jars filled with silica.

ALS Laboratory analyzed samples using fluorometry, following a modification of APHA method 10200H and USEPA method 445. Results were reported as µg/L (1997) or mg/sample (2006), then converted to mg/m², for consistency. Data were converted to mg/m² based on the area of substrate scraped. Means and standard errors (SE) at each site and habitat type were calculated from the five replicates.

2.6.2.4 Laboratory Analysis – Taxonomy

Samples for taxonomic analysis were preserved with Lugol's solution, either later that day (1997) or immediately following sample collection (2006). Fraser Environmental Services identified periphyton, following procedures outlined in *Standard Methods for the Examination of Water and Wastewater* (Clesceri et al. 1989). Details and taxonomic references are described in Appendix F.2. The volume of each sample was measured and a 25 mL sample randomly removed and settled in a chamber for approximately four hours. The entire chamber was then scanned at increasing powers of magnification to determine the species or genera present. For each sample, three diatom slides were prepared using either pyrolysis or acid digestion to clear the frustules. Slides were examined at increasing magnification and species/genera identified. Cells were counted in Utermohl-type settling chambers. At least 10 random fields were counted, to a total count of at least 100 for the dominant species, and data were converted to cells/mL.

Periphyton data from 1993 and 1996 (Hallam Knight Piesold 1995, CB Research International Corp. 1995b) were summarized as relative abundance and number of taxa per phylum. Numbers of cells was not calculated, but each taxon was characterized as dominant (>25% of total numerical density), common (5 - 24.5% of total numerical density) or present. Six replicate samples were collected at each site.

2.6.2.5 Data Analysis

Raw data are presented in Appendix F.3 as cells/cm² observed in each replicate. For each species, the mean number of cells/cm², standard deviation (SD) and standard error (SE) were calculated for each site and habitat type. Coefficient of variance (standard deviation/mean X 100) was calculated for chlorophyll data to assess variability, with a target CV of 20% or less.

Data were reported by taxonomic group and for the most abundant taxa at each site. The six groups are diatoms (*Bacillariophyceae*), green algae (*Chlorophyta*), blue-green algae (*Cyanophyta*), yellow-brown algae (*Chrysophyta*), dinoflagellates (*Pyrrophyta*), and red algae (*Rhodophyta*).

Community diversity of periphyton at each site and habitat type was calculated using Shannon-Wiener's H' Diversity Index (Zar 1984):

$$H' = -\sum_{i=1}^K p_i \log p_i$$

where p_i is the proportion of the total average cell density (cells/cm²) for each taxon i , and k is the total number of taxa.

A measure of evenness, J' , was calculated as:

$$J' = H' / H'_{\max}$$

where $H'_{\max}$ is the theoretical maximum value of $H' = \log(k)$, and where k is the total number of taxa in the sample.

2.6.3 Quality Assurance / Quality Control

QA/QC protocols included precautions for ensuring samples were protected from contamination and deterioration (consistency of sampling, correct use of equipment, detailed field notes, use of clean bottles). Bottles for taxonomy samples were labelled with indelible ink (sample site, replicate number, collection date, collector's name, and preservative). Care was taken to ensure sample bottles were kept in a cool, clean environment, either cooler or refrigerator, with minimal exposure to light.

Replicate samples (six in 1993 and 1996, five in 1997 and 2006) were collected from the same general area at each site to detect heterogeneity within the environment, provide an estimate of the precision of the data, and provide a check on reproducibility of the sampling.

Standard protocols for chlorophyll a samples were followed to maintain sample quality prior to analysis. Quality control measures for the laboratory are limited because filtered samples cannot be split or re-analyzed. There is approximately 30% deterioration in the

materials due to travel time and exposure to light (Heather Ross, ASL Laboratories, Vancouver, pers. comm.).

Fraser Environmental Services (FES) followed internal procedures for taxonomy: microscope calibration, counting procedures, Batch Quality Control procedures for precision and accuracy in taxonomic identifications, verification with an in-house reference collection and external review. Appendix F.4 contains a detailed summary of procedures and the results of six Batch Quality Control tests conducted to demonstrate accuracy in taxonomic identification (a comparison of analysis of the same samples by two in-house taxonomists). Percent similarity ranged from 73 to 93%.

2.6.4 Results for Periphyton

Physical and chemical conditions of the sampling sites are described in Section 2.3. Geomorphic and hydrologic variables that may affect periphyton growth and bioaccumulation are summarized in Table 2–20.

2.6.4.1 Chlorophyll *a*

Chlorophyll *a* data were variable, even with collection of five replicates per site. For the 1997 data, CV ranged from 12 to 83%, exceeding the 20% target for 21 of the 23 sites (Appendix F.3), with no consistent trends for pools vs. riffles or for specific streams. For the 2006 data, CV ranged from 38 to 50%, exceeding the 20% target at all sites (Appendix F.3).

Chlorophyll *a* concentrations in riffles ranged from 0.23 to 11.0 mg/m² (Table 2–20). Results for a given site were generally similar among years, although the range for 2006 (1.22 to 3.34 mg/m²) was smaller than for comparable sites sampled in 1997. Temporal trends for sites in Fish Creek and Taseko River are shown in Figure 2–24, and illustrate the maximum value reported for W8 in 1997.

Table 2-20 Average Stream Periphyton Chlorophyll *a* as mg/m² (standard error), August-September Data except as Noted

Site ¹		Chlorophyll <i>a</i> (mg/m ²)				
		1993	1996	1997		2006
		Riffle (n=6)	Riffle (n=6)	Riffle (n=5)	Pool (n=5)	Riffle (n=5)
W1	Fish Creek	2.97 (0.60)	—	2.96 (0.16)	2.67 (0.33)	(dry)
W2	Fish Creek	2.48 (0.21)	—	3.55 (1.37)	3.76 (0.79)	1.29 (0.20) ²
W8	Fish Creek	—	—	11.0 (1.6)	12.4 (1.88)	1.22 (0.31)
W3	Fish Creek	0.64 (0.16)	—	0.82 (0.20)	1.73 (0.26)	1.73 (0.24)
W4	Taseko River	—	—	1.09 (0.20)	—	—
W14	Taseko River	—	4.09 (1.22)	—	—	1.88 (0.29)
W5	Taseko River	—	—	5.22 (1.04)	6.90 (1.06)	2.20 (0.62)
W6	Taseko River	—	—	1.63 (0.43)	—	3.34 (0.57)
W9	Taseko River	—	0.33 (0.13)	—	—	—
W19	Taseko River	—	—	3.57 (0.82)	3.28 (0.27)	—
W20	Taseko River	—	—	3.66 (0.61)	5.30 (1.05)	—
W11	Beece Creek	—	—	0.23 (0.02)	1.53 (0.51)	—

Site ¹		Chlorophyll <i>a</i> (mg/m ²)				
		1993	1996	1997		2006
		Riffle (n=6)	Riffle (n=6)	Riffle (n=5)	Pool (n=5)	Riffle (n=5)
W12	Beece Creek	—	—	1.05 (0.19)	4.10 (0.66)	—
W17	Tête Angela Creek East	—	2.38 (0.74)	7.62 (2.83)	9.04 (1.89)	—
W18	Tête Angela Creek West	—	9.49 (3.16)	—	5.86 (0.61)	—
WC	Tête Angela Creek	—	—	—	—	0.69 (0.15)

NOTES: 1. in 1993, samples also analyzed from Fish Creek at H3, 300m d/s of Fish Lake (10.62 mg/m³, s.e. = 0.59) and Calep's cabin, 500 m upstream of W8 (4.13 mg/m³, s.e. = 0.60)
2. n=4 for Site W2 in 2006

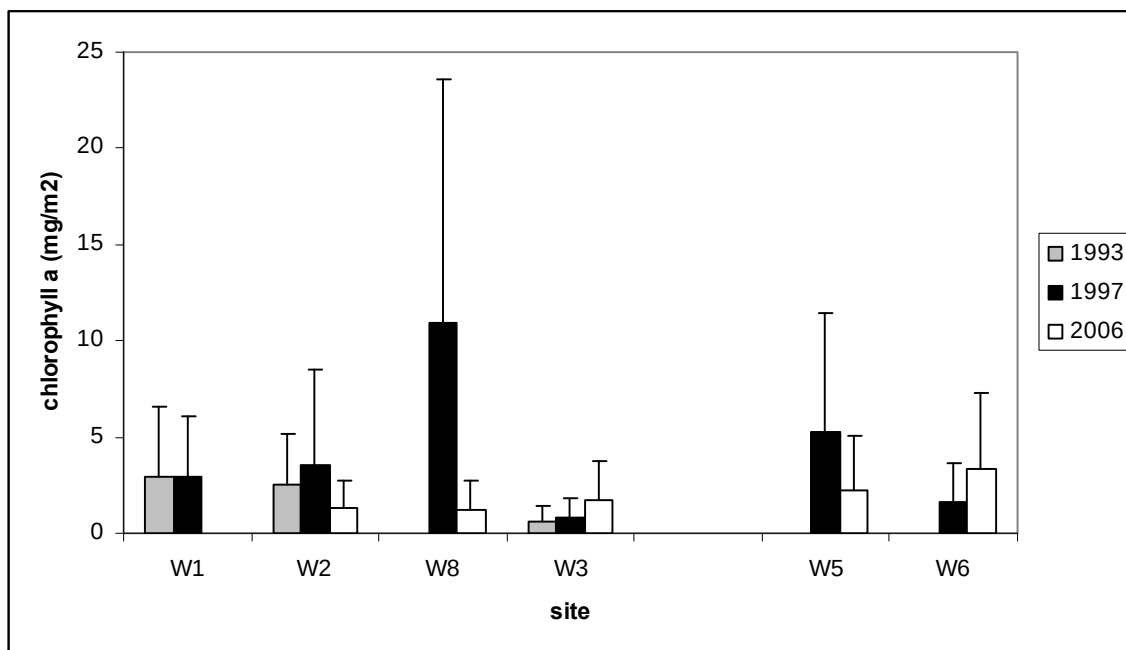
SOURCE: 1993 and 1996 data from CB Research International Corp. (1995b)
1997 data from Triton Environmental (1999)
2006 data from Jacques Whitford-AXYS

Chlorophyll *a* concentrations in pools, sampled in 1997 only, ranged from 1.53 to 12.4 mg/m², lowest at W11 (Beece Creek) and W3 (Fish Creek) and highest at W8 (Fish Creek) and W17 (Tête Angela Creek).

Chlorophyll *a* levels in riffles tended to be lower than in corresponding pools. Results varied among sites and years:

- in Fish Creek, mean chlorophyll *a* levels ranged from 0.64 to 3.55 mg/m² in all but one sample; W8 in 1997 (11.0 mg/m²) had the highest level of any riffle site;
- in the Taseko River, mean chlorophyll *a* levels ranged from 1.63 to 5.22 mg/m², with less variation among sites in 2006;
- in Beece Creek, levels ranged from 0.23 to 1.05 mg/m², higher at W12 than at W11; and
- in Tête Angela Creek, levels in the east tributary (W17) were 2.38 mg/m² in 1996 and 7.62 mg/m² in 1997; in the west tributary (W18), levels were 9.49 mg/m² in 1996 (no riffle habitat sampled in 1997); near the Taseko confluence (WC, 2006), the value (0.69 mg/m²) was lower.

Figure 2-24 Periphyton Chlorophyll a (mean, S.E.) for Riffle Habitat in Fish Creek and Taseko River Sites



2.6.4.2 Periphyton Communities in Fish Creek

Raw data on taxonomic composition are contained in Appendix F.5 (1997 data) and F.6 (2006 data). Numerous taxa were identified at the Fish Creek sites (171 taxa at four sites in 1997, 173 taxa at three sites in 2006). In both years, diatoms (*Bacillariophyceae*) comprised over 50% of the taxa, green algae (*Chlorophyta*) 21 to 25% of the taxa, blue-green algae (*Cyanophyta*) 6 to 16% of the taxa, and dinoflagellates (*Pyrrophyta*), red algae (*Rhodophyta*) and golden algae (*Chrysophyta*) each with 1 to 5% of the taxa. Similar trends were noted for both riffle and pool habitat.

Taxon Richness, Diversity and Evenness

Taxon richness (number of taxa per site) has varied over the years (Table 2–21). For riffle habitat, the quantitative estimates ranged from 75 to 104 taxa in 1997 and from 38 to 150 taxa in 2006. The 1993 qualitative assessment indicated lower taxon numbers (58, 70 and 35 for W2, W8 and W3 respectively) than for corresponding 1997 and 2006 quantitative studies, but with similar distribution among diatoms, blue-green and green algae. For pool habitat, the quantitative estimate ranged from 52 to 123 taxa (1997).

Species diversity at Fish Creek sites ranged from 0.93 (W3 pool, 1997) to 2.10 (W2 riffle, 2006), as shown in Table 2–21. There were no consistent trends in pool vs. riffle habitat or from one year to another. In both 1997 and 2006, the diversity index for riffle habitat was highest at W2, likely reflecting contributions of species from Fish Lake to the stream assemblage. Evenness ranged from 0.52 to 0.76, with similar trends to diversity.

Table 2-21 Fish Creek Periphyton, Taxon Richness, Diversity and Evenness 1997 and 2006 (n=5)

Site		Taxon Richness		Shannon Wiener Diversity ((H'))		Evenness (J')	
		1997	2006	1997	2006	1997	2006
Riffles	W1	85	—	1.25	—	0.65	—
	W2	104	150	1.47	2.10	0.73	0.42
	W8	78	115	0.98	1.45	0.52	0.31
	W3	75	38	1.20	1.09	0.64	0.29
Pools	W1	85	—	1.51	—	0.78	—
	W2	123	—	1.48	—	0.69	—
	W8	84	—	1.46	—	0.76	—
	W3	52	—	0.93	—	0.54	—

NOTE: 1. qualitative assessment

Periphyton Abundance

In riffle habitat of Fish Creek, mean periphyton abundance ranged from 79,400 to 2,060,000 cells/cm² in 1997 and from 367,000 to 764,000 cells/cm² in 2006 (Table 2–22), reflecting the narrower range of chlorophyll *a* values reported in Table 2–20. Abundance ranged from 55,100 to 381,000 cells/cm² in pool habitat (1997). Although there were no consistent trends among sites from 1997 to 2006 and there was high variability within a site, abundance tended to vary in the same manner as chlorophyll *a*.

Table 2-22 Fish Creek Periphyton Abundance, 1997 and 2006, mean (standard error), n=5

Site	Riffles (cells/cm ²)		Pools (cells/cm ²)	
	1997	2006	1997	2006
W1	462,000 (105,000)	—	203,000 (27,000)	—
W2	151,000 (18,600)	561,000 (766,000)	371,000 (61,000)	—
W8	2,060,000 (1,030,000)	764,000 (516,000)	381,000 (71,000)	—
W3	79,400 (16,000)	367,000 (94,000)	55,100 (6,410)	—

Taxonomic Composition

Taxonomic composition is described in Appendix F.5 and F.6. Periphyton in riffle habitat of Fish Creek contained a variety of algae, with diatoms and blue-green algae predominant and green algae common. Composition differed somewhat in pool and riffles. Common species in 1997 included:

- the blue-green algae *Calothrix* cf., *Oscillatoria*, *Rivularia*, *Aphanizomenon flos-aquae* (at W2 downstream of Fish Lake), cf. *Coccochloris clathrata* (at W3) and *Agmenellum tenuissima* (at W3); *Lyngbya* spp. (W8), *Entophysalis* sp.;
- the diatoms *Cocconeis placentula*, *Epithemia turgida*, *Epithemia sorex*, *Fragilaria capucina*, *Fragilaria construens*, *Gomphonema* spp., *Nitzschia* spp., and *Navicula* spp.;

- the green algae *Chaetophora* sp.; and
- the red alga *Audouinella* sp.

Results for riffle samples taken in 2006 were similar to those collected in 1997 in the presence several species of blue-green, green and diatom species. Notable differences included:

- the predominance of blue-green algae, with the most abundant species being *Homeothrix varians* (formerly identified as *Lyngbya limnetica*) at W2, *Entophysalis* at W8 and *Rivularia* sp. at W3, along with many of the species noted for 1997;
- common diatoms *Achnanthes minutissima*, *Cymbella minuta*, and *Rhoicosphenia curvata* in addition to species noted for 1997; and
- common green alga *Scenedesmus* sp. and unidentified Chaetophorales.

Data from the 1993 semi-quantitative analysis (Hallam Knight Piesold 1995) of samples from riffle habitat indicated similar composition to the 1997 results at W2 and W8, a higher proportion of diatoms at W8, and other differences in relative abundance.

The species found at W1 and W2 are typical of habitats that experience few high water events or other disturbances and medium to high nutrient enrichment (Biggs 1996). In 1997, *Aphanizomenon flos-aquae*, a planktonic form common in Fish Lake (Hallam Knight Piesold 1995) was common in samples from W2 riffles; abundance was likely attributable to wash out from the lake. The combination of species such as *Rivularia*, *Lyngbya/Homeothrix* and *Audouinella* at several sites suggested habitat rarely disturbed by flood events. In contrast, predominance of *Cocconeis placentula* and *Entophysalis* combined with low abundance at W3 in 1997 suggested higher flows than at the other sites. These species cling to the substrate and withstand high flows (Biggs 1996). As indicated in Table 2–19, site W3 may experience more extreme flow fluctuations than upstream sites (higher gradient and water velocity than W2 or W8). During spring and early summer, the average monthly flow at W3 is almost double that of the other sites (Hallam Knight Piesold 1995).

2.6.4.3 Periphyton Communities in Taseko River

At the three Taseko River sites, 112 taxa were identified in 1997 and 99 were identified in 2006 (Appendix F.5 and F.6). This included 58 to 65% diatoms and 17% green, 17% blue-green and 2% red algae species.

Taxon Richness, Diversity and Evenness

In 1997, taxon richness ranged from 40 to 65 taxa in riffle/glide samples, and was higher, from 58 to 62 taxa, in pool samples (Table 2–23). Riffle habitats sampled in 2006 had higher taxon richness at corresponding sites than in 1997 (66 to 84 taxa). Riffle and pool samples were similar in the high number of diatoms species. The semi-quantitative assessment of riffle habitat conducted in 1993 and 1996 indicated total taxon numbers of 41, 51 and 29 for W5, W6 and W14 respectively, similar to 1997 results for corresponding sites.

Species diversity in 1997 ranged from 0.96 to 1.29 at most riffle and pool sites in the Taseko River (Table 2–23). The exception was low diversity (0.31) in the W19 riffle. Diversity ranged from 1.22 to 2.08 in the 2006 samples from riffle habitat, similar in the two years for W5, but higher in 2006 for W6. Evenness ranged from 0.55 to 0.73 for all

sites except W19 riffle (evenness = 0.18). In general, diversity and evenness behaved similarly among the sites.

Table 2-23 Taseko River Periphyton Taxon Richness, Diversity and Evenness, 1997 and 2006 (n=5)

Site		Taxon Richness		Shannon Wiener Diversity ((H'))		Evenness (J')	
		1997	2006	1997	2006	1997	2006
Riffles	W4 (glide)	56	–	0.96	–	0.55	–
	W14	–	72	–	2.08	–	0.49
	W5	40	66	1.29	1.22	0.73	0.29
	W6	51	84	1.05	1.92	0.65	0.43
	W19	53	–	0.31	–	0.18	–
	W20	65	–	1.15	–	0.64	–
Pools	W5	60	–	1.17	–	0.66	–
	W19	58	–	1.20	–	0.68	–
	W20	62	–	1.23	–	0.68	–

Periphyton Abundance

Mean periphyton abundance in riffle samples from the Taseko River ranged from 55,200 to 811,000 cells/cm² in 1997 and from 354,000 to 640,000 cells/cm² in 2006. Samples from pool habitat, collected in 1997, had abundance ranging from 489,000 to 849,000 cells/cm² (Table 2–24). There were no consistent trends among sites and years, or between pools and riffles, although variability among replicates was lower than in samples from Fish Creek. Similarly, abundance and biomass (chlorophyll *a*, Table 2–20), did not show consistent trends.

Table 2-24 Taseko River Periphyton Abundance, 1997 and 2006, mean (standard error), n=5

Site	Riffles (cells/cm ²)		Pools (cells/cm ²)	
	1997	2006	1997	2006
W4 (glide)	639,000 (208,000)	–	–	–
W14	–	640,000 (137,000)	–	–
W5	371,000 (105,000)	354,000 (232,000)	459,000 (38,000)	–
W6	55,200 (11,300)	520,000 (143,000)	–	–
W19	811,000 (139,000)	–	528,000 (26,400)	–
W20	564,000 (188,000)	–	849,000 (150,000)	–

Taxonomic Composition

Taxonomic composition is described in Appendix F.5 and F.6. Periphyton in riffle habitat of the Taseko River contained a variety of algae, typically with diatoms predominant and blue-green algae common in both 1997 and 2006, although blue-greens were predominant at W4 in 1997. The numbers and relative abundance of blue-greens was

higher at W6, downstream of Fish Creek than at W5, upstream. Composition differed somewhat in pool and riffles. Common species in 1997 included:

- the blue-green algae *Schizothrix lacustris* (W4, W19), *Agmenellum tenuissima*, *Lyngbya* spp., *Oscillatoria* spp., *Oscillatoria tenuis* (W6), *Rivularia* spp.;
- the diatoms *Achnanthes minutissima*, *Achnanthes* spp., *Gomphonema* spp., *Synedra filiformis*, *Cymbella minuta*, *Nitzschia* spp. (W14) *Fragilaria* spp. and *Synedra* spp. and *Meridion circulare* (W5 pools), *Diatoma hiemale* (W5 pools); and
- the green algae *Ulothrix zonata* (W14) and *Spirogyra* sp. (W6, 1993).

Results differed somewhat for riffle areas sampled in both 2006 and 1997, with the following results for 2006:

- common blue-greens *Schizothrix* spp., along with *Homeothrix varians* and *Chamaesiphon* sp., at all sites;
- predominance of the diatoms *Achnanthes minutissima* and *Fragilaria vaucheriae* at all sites; and
- low abundance of green algae.

2.6.4.4 Periphyton Communities in Beece Creek

At W11 and W12 in Beece Creek, 73 periphyton taxa were identified in 1997 (Appendix F.5). This consisted of 37% diatoms, 23% blue-green algae and 22% green algae, with up to 3% for each of the red, dinoflagellate and golden species.

Taxon Richness, Diversity and Evenness

In 1997, taxon richness ranged from 42 to 50 taxa in riffle samples and was similar in pool samples, ranging from 40 to 51 taxa (Table 2–25). Similar trends were noted for both riffle and pool habitat. At W11 and W12, diversity (H') and evenness (J') were lower in riffle than pool habitat.

Table 2-25 Beece Creek Periphyton Taxon Richness, Diversity, Evenness and Abundance, 1997 (n=5)

Site		Taxon Richness	Shannon Wiener Diversity (H')	Evenness (J')	Abundance (cells/cm ²)
Riffles	W11	50	0.62	0.37	55,500 (16,700)
	W12	42	0.51	0.32	71,600 (11,500)
Pools	W11	40	0.87	0.54	538,000 (208,000)
	W12	51	0.68	0.40	301,000 (58,600)

The semi-quantitative assessment conducted in 1993 indicated lower numbers of taxa (27 and 40 taxa for riffle samples from W11 and W12, respectively). As for 1997, diatoms comprised over half of the taxa.

Periphyton Abundance

Mean periphyton abundance ranged from 55,500 to 71,600 cells/cm² in riffles of Beece Creek and from 301,000 to 538,000 cells/cm² in pools (Table 2–26). Chlorophyll *a* levels

(Table 2–20) were also higher in pools than in riffles, although, in contrast to abundance, levels in pools were higher at W12 than at W11 (4.1 vs. 1.5 mg/m² chlorophyll *a*).

Taxonomic Composition

At W11, blue-green algae were predominant (84 and 89% of total numbers) in pools and riffles in 1997. The filamentous blue-greens *Lyngbya limnetica* (identified as *Homeothrix varians* in 2006) and *Oscillatoria tenuis* were predominant in riffles and *L. limnetica* and *Lyngbya* spp. were predominant in pools. Other common species in pool habitat were *Achnanthes minutissima*, *Phormidium/Schizothrix*, *Anacystis dispersus*, and *Chamaesiphon* sp. Composition differed in 1993, where the filamentous green *Ulothrix zonata* comprised 80 to 98% of biomass in riffle samples (Hallam Knight Piesold 1994). None of the top species in 1993 were numerically important in 1997.

At W12, diatoms were predominant in pools and blue-green algae were predominant in riffles in 1997. As for W11, riffle samples contained mainly *L. limnetica*, followed by *A. minutissima* and *Oscillatoria* spp. Samples from pool habitat also contained mainly *L. limnetica* and *A. minutissima*, but in much greater abundance than in riffles. Composition differed substantially in 1993, where riffle samples contained mainly *Ulothrix zonata* (80 to 95% of biomass), as reported for W11.

2.6.4.5 Periphyton Communities in Tête Angela Creek

A total of 133 species were identified from sites W17 and W18 in Tête Angela Creek in 1997 and 68 species were identified from WC, further downstream, in 2006 (Appendix F.5 and F.6). This included 50 to 60% diatoms, 15 to 20% green algae, 16 to 24% blue-green algae and less than 2% each of red algae and dinoflagellates. There was no riffle habitat available at W18.

Taxon Richness, Diversity and Evenness

Taxon richness at the three sites in Tête Angela Creek ranged from 69 to 100 in 1997 and 2006, higher in pools than in riffles (Table 2–26). Riffle samples collected in 1996 contained 51 taxa at W17 and 39 taxa at W18 (qualitative assessments). Diversity ranged from 0.26 (pools at W18 in 1997) to 1.47 (riffles at WC in 2006). Evenness ranged from 0.35 (riffles at WC in 2006) to 0.98 (pools at W17 in 1997). There were no consistent trends among sites or years.

Table 2-26 Tête Angela Creek Periphyton Taxon Richness, Diversity, Evenness and Abundance, 1997 and 2006 (n=5)

Site		Taxon Richness		Shannon Wiener Diversity (H')		Evenness (J')		Abundance (cells/cm ²) ¹	
		1997	2006	1997	2006	1997	2006	1997	2006
Riffles	W17	74	–	0.44	–	0.82	–	1,390,000 (512,000)	–
	W18	–	–	–	–	–	–	–	–
	WC	–	69	–	1.47	–	0.35	–	668,000 (327,000)
Pools	W17	87	–	0.51	–	0.98	–	3,600,000 (539,000)	–

Site	Taxon Richness		Shannon Wiener Diversity (H')		Evenness (J')		Abundance (cells/cm ²) ¹	
	1997	2006	1997	2006	1997	2006	1997	2006
	1997	2006	1997	2006	1997	2006	1997	2006
W18	100	–	0.26	–	0.51	–	956,000 (186,000)	–

NOTE: 1. mean (standard error)

Periphyton Abundance

Periphyton abundance in samples from Tête Angela Creek ranged from 956,000 to 3,600,000 cells/cm² in 1997 (Table 2–26). Maximum abundance was reported for pools at W17. Results were lower in 2006, where samples from WC had mean abundance of 668,000 cells/cm²; chlorophyll *a* levels were also lower at this site in 2006 than at the W17 and W18, sampled in 1997.

Taxonomic Composition

In 1997, blue-green algae were predominant numerically in the riffle and pool samples from W17, with 78 and 91% of total cell density respectively. The most common species in both habitats were *Agmenellum tenuissimum*, *Nostoc* sp., *Lyngbya limnetica*, and *Anabaena* sp. The green alga *Chaetophora* sp. and diatom *Cocconeis placentula* were common in the W17 riffle. Samples collected from riffles in 1996 contained predominantly *Nitzschia* spp. and *Synedra ulna* (diatoms), neither of which was noted as predominant in 1997.

Pool samples from W18 (1997) contained a mix of diatoms, blue-greens and green algae, with diatoms contributing 50% abundance. The most abundant species were *Fragilaria construens* (diatom), *Lyngbya limnetica* (blue-green) and *Chaetophora* (filamentous green). In 1996, riffle samples from W18 contained predominantly *Chaetophora pisiformis*, along with *Nitzschia* sp. and *Rhopalodia gibba*.

Riffle habitat at site WC was sampled in 2006. Samples contained 90 to 100% blue-green algae, as noted for 1997 at W17. Predominant species were *Homeothrix varians* (reported as *Lyngbya limnetica* in 1997), *Chamaesiphon* sp. and *Nostoc* sp.

2.6.5 Summary and Discussion

Summary statistics for streams in the Project area sampled in 1997 are provided in Table 2–27. Periphyton accumulations ranged from 0.23 to 12.4 mg/m² chlorophyll *a* in the 1997 and 2006 studies. These values were low to moderate in comparison to other streams in Western Canada, where values ranged from 2 to 24 mg/m² in coastal systems and 23 to 100 mg/m² in more productive inland systems (Table 2–28). Chlorophyll *a* levels for the project area were well within the range for sites considered oligotrophic (Moss 1968) and well below the 50 mg/m² British Columbia water quality criteria established for algae (Nordin 1985).

Average cell numbers ranged from 55,000 to 3,600,000 cells/cm² in the Project study area; in comparison, up to 15,000,000 cells/cm² was reported from the Flathead River in southeastern BC, prior to development of coal mining (Sheehan et al. 1980).

Table 2-27 Summary of Periphyton Characteristics for Sites in the Prosperity Project Area, 1997 (n = 5)

Creek	Site	Habitat	Chlorophyll a (mg/m ²)	Density (cells/cm ²)	Taxon Richness	Diversity (H')	Evenness (J')
Fish Creek	W1	Riffle	2.96	462,000	85	1.25	0.65
		Pool	2.67	203,000	85	1.51	0.78
	W2	Riffle	3.55	151,000	104	1.47	0.73
		Pool	3.76	371,000	123	1.48	0.69
	W8	Riffle	10.96	2,060,000	78	0.98	0.52
		Pool	12.41	381,000	84	1.46	0.76
	W3	Riffle	0.82	79,400	75	1.20	0.64
		Pool	1.73	55,100	52	0.93	0.54
Taseko River	W4	Glide	1.09	639,000	56	0.96	0.55
	W5	Riffle	5.22	371,000	57	1.29	0.73
		Pool	6.90	459,000	60	1.17	0.66
	W6	Riffle	1.63	55,200	41	1.05	0.65
	W19	Riffle	3.57	811,000	53	0.31	0.18
		Pool	3.28	528,000	58	1.20	0.68
	W20	Riffle	3.66	564,000	65	1.15	0.64
		Pool	5.30	849,000	62	1.23	0.68
Beece Creek	W11	Riffle	0.23	55,500	50	0.62	0.37
		Pool	1.53	538,000	40	0.87	0.54
	W12	Riffle	1.05	71,600	42	0.51	0.32
		Pool	4.10	301,000	50	0.68	0.40
Tête Angela Creek	W17	Riffle	7.62	1,400,000	74	0.82	0.44
		Pool	9.04	3,600,000	87	0.98	0.51
	W18	Pool	5.86	956,000	100	0.51	0.26

Table 2-28 Examples of Chlorophyll a Concentrations in Streams of Western North America

Location	Chlorophyll 'a' (mg/m ²)	Reference
Capilano River, North Vancouver	2-7	Nordin 1985
Capilano River, North Vancouver	12-24	Nordin 1985
Lynn Creek, North Vancouver	2.4-13.6	Nordin 1985
Fording River	2.7-35.1	Nordin 1985
Flathead River Basin	1 - 100	Sheehan et. al. 1980
Lower Thompson River	23-45	Nordin 1985
Carnation Creek, Vancouver Island	1.9	Nordin 1985
Cascade Mountains, Oregon	2 - 40	Lyford and Gregory 1975
Logan River, Colorado	140	McConnell and Sigler 1959
Prickly Pear Creek, Montana	2.5	Crossey and La Point 1988
Keough River, Vancouver Island	4.72	Perrin et al. 1987

Periphyton density, diversity and species richness can range considerably over a season and from year to year. The timing for peak values in inland streams is often later than the mid to late August period sampled for this program (Westlake et al. 1980), although peak values can vary widely depending on location and reach characteristics (e.g., Bott et al. 1985). Any future monitoring programs should be designed to collect data as close as possible to the timing used for baseline studies, to enable more representative comparison.

Diatoms dominate the periphyton community in many oligotrophic and moderately productive systems (Wetzel 2001), as was found for several sites in the project area. Diatoms were predominant in species richness and, with blue-green algae, predominant in relative abundance. Thin layers of brownish algae were visible on stream substrates, with occasional dark crustose forms or gelatinous spherical colonies and a lack of visible mats of green or blue-green algae. Periphyton communities differed from one system to another and, in some cases, from pool to riffle habitat.

Stevenson (1996) described periphyton community development as a succession of species, starting with colonization by small diatoms, e.g., *Navicula* and some *Achnanthes* species, lying flat (adnate) on the substratum. Vertically attaching (apical) cells, such as *Synedra* grow on top, limiting somewhat the nutrient and light availability to the bottom layer. Then stalked and filamentous algae grow over the first two stages. These later colonizers are exposed to the currents and attached less securely, so may be dislodged through current action or sediment scouring, and are usually found in quieter waters where physical stresses are less extreme. Disturbance from high flows causes the later successional growth to slough off, leaving the early stage species. Stream velocity and frequency of hydrologic disturbance determine community structure to a great extent, although nutrient supply, and to a less degree, light, temperature, substrate and invertebrate grazing also play roles (Horner et al. 1983, Biggs 1996).

Fish Creek, Tête Angela, Beece Creek and Taseko River each had unique hydrological regimes, gradient, substrate type, width, velocity, flow, turbidity and catchment characteristics. For example, Tête Angela Creek meanders unconfined as a low gradient stream through plateau meadows and some forest; Fish Creek drains bogs and lakes upstream, meadow in the middle reaches, and steep forest further downstream; Beece Creek flows within steep forests; and Taseko River drains a large glacial lake, so is large and highly turbid. These physical variations affect the periphyton communities.

The lake-fed lower Fish Creek had a steady supply of water during the late summer sampling period. Blue-green algae and diatoms were predominant at all four sites and in both pool and riffle habitat. Sites immediately upstream (W1) and downstream (W2) of Fish Lake supported communities dominated by filamentous green algae (*Chaetophora* sp.) and low-growing diatoms (*Fragilaria construens*, *F. capucina*, *Epithemia turgida*, *E. sorex*, *Gomphonema* spp., *Navicula* spp., *Nitzschia* spp., *Cocconeis placentula*). These represent late succession communities in habitats with medium to low disturbance and relatively high enrichment (Biggs 1996). In addition, the community at W2 was enriched with species that had washed out of Fish Lake, such as the typically planktonic blue-green *Aphanizomenon flos-aquae*. Further downstream at W8, the riffle community contained very high densities of nitrogen-fixing blue-green algae (*Rivularia* sp.), suggesting nitrogen limitation. Average flows measured just upstream of site W8 were lower (5 cm/s; Table 2–19) than for other sites on Fish Creek. Nutrient transfer from water to periphyton cells is inefficient at low current velocities, while faster current velocities reduce the boundary layer, improving nutrient transfer. Most Fish Creek sites

experience slow currents in August, which promotes the growth of species such as nitrogen-fixing blue-green algae that can withstand such conditions. Site W3, furthest downstream in steeper gradient, faster flowing habitat, had lower chlorophyll *a* and periphyton numbers than upstream sites, with adnate species such as *Cocconeis placentula* and *Agmenellum tenuissima* predominant.

Periphyton communities in the fast-flowing Beece Creek and Taseko River sites were characterized by low to moderate taxon richness, density and diversity, particularly in riffle sites of Beece Creek. The predominance of the substratum-clinging diatom, *Achnanthes minutissima*, and the blue-green algae, *Lyngbya limnetica*, indicate fast flows. As expected in systems with fast water, e.g., velocity >60 cm/s (Horner et al., 1990), densities were higher in pool than riffle habitat. Although riffle habitat is generally considered to be more productive for periphyton growth and biomass accumulation than slow current habitat because of greater nutrient diffusion rates, the factors influencing periphyton loss, such as high velocity, may override these benefits (Nordin 1985).

Average periphyton abundance at Taseko River sites ranged from 55,000 to 849,000 cells/cm² in 1997. Diatoms were predominant at all sites except W4 (lake outlet), where blue-green algae were twice as abundant as diatoms. Habitats dominated by diatoms generally indicate physical disturbance from fast flow, streambed instability or flooding (Biggs 1996). Species belonging to the genera *Achnanthes*, *Lyngbya*, *Fragilaria*, *Gomphonema*, *Synedra*, and *Oscillatoria* were ubiquitous and usually common (>5% relative abundance) at all sites in the Taseko River.

Tête Angela Creek is a meandering low energy channel draining boggy terrain. Sites in upper Tête Angela Creek experienced low flows and stable conditions, and periphyton abundance and chlorophyll *a* levels were among the highest of all sites in the project area. At the sites sampled, species richness was somewhat high, up to 100 taxa at W18, but diversity was low, indicating dominance by a few species, with most species present in very low densities (confirmed by low evenness). Nitrogen-fixing blue-green algae (*Nostoc*, *Anabaena*, *Rivularia*, *Tolypothrix* and *Gloeotrichia* were predominant at W17, suggesting that nitrogen may have been limiting. This association of species is often found where disturbance frequency is low.

2.7 Phytoplankton

The objectives of the phytoplankton monitoring program were to determine lake productivity in support of fisheries assessments of Fish Lake, effects of water diversion on aquatic habitat of Wasp and Big Onion Lakes and development of the fish habitat compensation project in terms of:

- baseline primary productivity in terms of chlorophyll *a* standing crop; and
- baseline phytoplankton community composition.

2.7.1 Introduction

Phytoplankton are algae that grow suspended in the water column and provide the primary source of energy in lakes (Wetzel 2001). Like periphyton, they convert inorganic carbon, nitrogen and phosphorus into organic matter, making it available for secondary consumers such as zooplankton and benthic invertebrates.

Phytoplankton are sensitive to changes in water chemistry, and have been used as indicators of water quality since the early 1900s because of known sensitivity to changes

in nutrient, sediment (TSS) and metal levels, which makes them useful sentinels of changes related to mine operations. They also provide valuable links between water chemistry and the fish community. Nutrient additions (eutrophication) can lead to increased and excessive phytoplankton growth, including blue-green algae blooms that deplete oxygen as they decompose, and can alter composition of the zooplankton community.

This section documents phytoplankton communities in lakes within the project footprint, with potential to be affected by project activities, and regional lakes that have been considered for the fish compensation plan. Chlorophyll *a* (standing crop) and community composition were assessed in 1994, 1995, 1997 and 2006. Chlorophyll *a*, the predominant photosynthetic pigment found in all algae (Wetzel 2001), provides a way of comparing primary production in a range of aquatic systems. The 2006 study was designed to assess phytoplankton in Fish Lake, concurrent with water quality samples, to provide additional baseline information about lake productivity.

The PRS prescribed collection of at least five replicate samples per site during summer, with the target of detecting a 20% difference in the mean level of chlorophyll *a* standing crop, and the predominant species for that site.

2.7.2 Methods

Methods and quality assurance measures were compatible with those in the *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwaters* (Clark 1996).

2.7.2.1 Sample Timing and Locations

Phytoplankton samples have been collected in several lakes since 1994, as shown in Table 2–29. Samples were collected in 1994, 1995 or 1996 (Hallam Knight Piesold 1995; CB Research International Corp. 1995a, 1995b), 1997 (Triton 1999) and 2006 (Jacques Whitford–AXYS). Samples collected in 1997 followed the PRS requirements for chlorophyll *a* analysis in impact and control lakes. Samples were also obtained from Little Onion Lake, North Rat Cabin Lake, South Rat Cabin Lake and Wolftrap Lake in 1997 when alternative mine and fisheries compensation plans were being considered; however, results from these lakes are not discussed here as they are not relevant to the current mine plan.

The 2006 program involved Fish Lake only, to provide comparison with 1997 data and provide additional information about seasonal and depth distribution of algae. In 2006, phytoplankton samples were collected during spring turnover (May 23), summer (July 4) and autumn (October 4), concurrent with water sampling. Two sites were sampled at the deepest part of the lake (determined by bathymetric maps). Sampling depths in the epilimnion (0.5 m), metalimnion (5 m) and hypolimnion (10 m) were selected based on dissolved oxygen and temperature profiles measured at the time of sampling.

Table 2-29 Prosperity Project Lake Phytoplankton Sampling Program

Site	Site Type	Year ¹			
		1994	1995	1997	2006
Fish Lake	Impact	Aug. (0.25 m)	July (1 m, 7 m)	Aug. (0.25 m, 5 m)	May, Jul, Oct. (0.5, 5, 10 m)
Little Fish Lake	Impact	Aug. (0.25 m)	–	Aug. (0.25 m, 3 m)	–
Wasp Lake	Impact	Aug. (0.25 m)	July (1 m)	Aug. (0.25 m, 3 m)	–
Big Onion Lake	Impact	Aug. (0.25 m)	–	Aug. (0.25 m, 5 m)	–
Big Lake	Control	–	–	Aug. (0.25 m, 3 m)	–
Slim Lake	Control	Aug. (0.25 m)	–	Aug. (0.25 m, 3 m)	–
Vick Lake	Control	Aug. (0.25 m)	–	Aug. (0.25 m, 3 m)	–
Taseko Lake	Control	–	–	Aug. (0.25 m, 3 m)	–

NOTE: n = 1 in 1994 and 1995, n=5 in 1997, n=2 in 2006
1. chlorophyll and taxonomy samples (1994, 1995 and 2006); chlorophyll samples only (1997).

2.7.2.2 Field Methods

In 1997, five replicate locations were sampled at two depths in each lake. The surface sample was collected with a 1 L plastic bottle held approximately 25 cm under water. The sample from 3 or 5 m was collected with a van Dorn sampler and transferred to 1 L bottles. Samples were stored in a cooler until later in the day, when a 250 mL subsample was filtered for chlorophyll *a* analysis and prepared for shipment. Samples were filtered through a 45 µm membrane filter using a Nalgene vacuum pump filtering apparatus. Four to five drops of MgCO₃ were added near the end of filtration. The membrane filter was folded inside a Whatman filter paper labelled with the sample identification, date, volume filtered, and preservative used. The filter paper was then wrapped in aluminum foil and placed inside an amber jar containing silica crystals. The apparatus was rinsed with de-ionized water after each filtration to eliminate contamination. Samples were held in a refrigerator until shipment to the laboratory.

In 2006, phytoplankton samples were collected at three depths from Fish Lake using a modified plexiglas Van Dorn sampler. A 250 mL sample was collected for taxonomy and a 1 L sample was collected for chlorophyll *a* in plastic bottles. Taxonomy samples were preserved immediately with 1 mL of Lugol's solution; chlorophyll *a* samples were wrapped with foil to ensure minimal sunlight exposure. All samples were kept in a cooler with ice packs and shipped to the laboratory for analysis. Chlorophyll *a* samples were filtered through a 45 µm membrane filter in the laboratory. All sample bottles were pre-labelled with date, sample identification, sample type, preservative, and replicate number.

In both 1997 and 2006, taxonomy samples were shipped to Fraser Environmental Services (Surrey, BC) and chlorophyll *a* samples were shipped to ALS Environmental Laboratories (Vancouver, BC).

2.7.2.3 Laboratory Analytical Methods

ALS Laboratories followed standard methods for analysis of chlorophyll *a* (fluorometry following a modification of APHA method 10200H and USEPA method 445). Data were reported as µg/L. Data reported in CB Research International Corp. (1995) were transformed from mg/L to µg/L (laboratory reporting measure) for consistency.

Fraser Environmental Services enumerated and identified phytoplankton to the lowest practical level (i.e., genus or species). Their lab standards, procedures and QA/QC protocols are outlined in Appendix G.1, and were similar to those for periphyton.

2.7.2.4 Data Analysis

The laboratory provided chlorophyll *a* data as µg/L. Results for 1995 (CB Research International Corp. 1995a) were reported as mg/L for chlorophyll *a*, and converted back to µg/L for consistency. Means, standard deviation and standard error were calculated in 1997 and 2006, and coefficient of variation (CV) was calculated for 1997 data.

2.7.3 Quality Assurance/Quality Control

Procedures for quality assurance were based on those outlined in *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwaters* (Clark 1996).

In the field, precautions were followed to ensure samples were protected from contamination and deterioration (consistency of sampling, correct use of equipment, detailed field notes). Clean plastic bottles were used. Sample bottles were kept in a cool, clean environment (cooler or refrigerator) with minimal exposure to light.

Natural variability, sampling precision and reproducibility were assessed for the five replicates collected from each lake in 1997. The duplicate samples were compared in 2006. In 1994 and 1995, there was replication for Wasp Lake (one sample split in three).

There are limited laboratory quality control measures for chlorophyll *a* because the filtered samples cannot be split or re-analyzed and there is no reliable, reference material. There is approximately 30% deterioration in the materials due to travel time and exposure to light (Heather Ross, ASL Laboratories, pers. com.).

Laboratory QA/QC protocols for taxonomy samples included microscope calibration, analysis of duplicate samples (tests for randomness and similarity), maintenance of a reference collection, and verification by external taxonomists (Appendix G.1).

2.7.4 Results for Phytoplankton

2.7.4.1 Chlorophyll *a*

Results for chlorophyll *a* analysis are summarized in Table 2–30, with detailed results provided in Appendix G.3. Chlorophyll *a* levels varied among the lakes, from 0.26 µg/L (Slim Lake 1994) to 10.3 µg/L (Vick Lake 1997). There was some variability among replicates in 1997 (CV range of 8% to 51%). The CV was greater than the 20% target at 3 or 5 m depths of Wasp, Little Fish, Fish and Taseko Lakes, indicating greater variability at depth than in surface samples.

Table 2-30 Mean Chlorophyll *a* (µg/L) in Prosperity Project Lakes

Lake	1994		1995		1997		2006			
	depth	Aug.	depth	Jul.	depth	Aug.	depth	May	Jul.	Oct.
Big	–	–	–	–	0.25 m	3.18	–	–	–	–
Big	0.25 m	1.97	–	–	3 m	3.65	–	–	–	–
Onion	–	–	–	–	0.25 m	6.14	–	–	–	–
	–	–	–	–	5 m	6.15	–	–	–	–
Fish	0.25 m	0.70	1 m	1.45	0.25 m	2.90	0.5 m	1.45	0.58	5.03
	–	–	–	–	5 m	3.88	5 m	2.79	1.10	1.14
	–	–	7 m	4.96	–	–	10 m	1.76	0.64	1.69
Little Fish	0.25 m	0.87	–	–	0.25 m	1.08	–	–	–	–
	–	–	–	–	3 m	9.43	–	–	–	–
Slim	0.25 m	0.26	–	–	0.25 m	1.08	–	–	–	–
	–	–	–	–	3 m	1.12	–	–	–	–
Vick	0.25 m	1.39	–	–	0.25 m	10.13	–	–	–	–
	–	–	–	–	3 m	10.31	–	–	–	–
Wasp	0.25 m	0.51	1 m	1.19	0.25 m	1.10	–	–	–	–
	–	–	–	–	3 m	1.46	–	–	–	–
Taseko	–	–	–	–	0.25 m	2.64	–	–	–	–
	–	–	–	–	3 m	2.02	–	–	–	–

NOTE: n = 1 in 1994 and 1995, n=5 in 1997, n=2 in 2006

Some differences were noted from year to year, with higher chlorophyll *a* in 1997 than 1994 for corresponding lakes sampled in August. The 1997 data provide the most extensive dataset for comparison of lakes, with five replicates collected per lake. The similarity in chlorophyll *a* levels in samples collected from the surface (0.25 m) and at mid-depth (3 or 5 m) in most of the lakes suggested either lack of stratification (shallow lakes) or sampling above the thermocline (deeper lakes). Only in Little Fish Lake was a distinct sub-surface peak noted.

The 1997 data were also useful for comparing productivity among lakes and with a general classification system for trophic classes. Nordin (1985) developed a system for British Columbia lakes using average growing season levels of chlorophyll *a*, although this comparison for project area lakes is made with caution (only one sample from the growing season). Based on Nordin's system, the following trends are tentatively noted:

- oligotrophic (0-2 µg/L) – Wasp and Slim Lakes;
- mesotrophic (2-7 µg/L) – Fish, Little Fish, Big Onion, Big and Taseko Lakes; and
- eutrophic (>7 µg/L) – Vick Lake.

Distribution of chlorophyll *a* with depth and season was compared for Fish Lake data. Chlorophyll *a* levels in surface water ranged from 0.70 µg/L (Aug. 1994) to 5.03 µg/L (Oct. 2006), with indications of metalimnion maxima noted in July 1995 and May 2006. Chlorophyll *a* levels were higher at spring (May) and autumn (October) overturns than during summer (July).

Nutrient data for 2006 (Appendix C.4) indicated variability between the two Fish Lake sites in terms of ammonia, nitrate and phosphate. Ammonia-N levels ranged from 0.012 to 0.40 mg/L, nitrate-N from <0.005 to 0.0083 mg/L and total phosphate-P from 0.0026

to 0.300 mg/L. Nutrient concentrations increased with depth to a maximum at 10 m on all three sampling dates, and also increased through the seasons, with maximum ammonia and nitrate levels in October and maximum total phosphate levels in July.

2.7.4.2 Phytoplankton Abundance and Composition

Phytoplankton composition in Fish Lake and other lakes of the project area is described fully in Appendix G.3 and G.4.

Fish Lake

Samples collected in 2006 provided the most extensive data about seasonal and vertical distribution of phytoplankton in Fish Lake. Two sites were sampled in the epilimnion (0.5 m), metalimnion (5 m) and hypolimnion (10 m) in May, July and October. Total abundance was similar in the duplicate samples, and ranged from 110 cells/mL (July, 10 m) to 2900 cells/mL (May, 5 m) as shown in Table 2-31. Numbers were highest in May, at the time of spring overturn, and lowest in July. A second, smaller peak in abundance was noted in October.

Vertical distribution changed with season, as is expected for lakes that develop a thermocline (Wetzel 2001). In May, abundance was similar at 0.5 and 5 m (with water freely circulating through those depths) and lower at 10 m. In July and October, abundance was highest at 0.5 m, and lower at 5 and 10 m. Abundance and chlorophyll values (Table 2-30) corresponded only roughly, suggesting differences in composition and size of cells influence the data.

Table 2-31 Phytoplankton Abundance in Fish Lake, 2006

Date	Abundance (cells/mL) ¹		
	May 23	July 4	October
0.5 m	2500	840	2200
5 m	2900	390	800
10 m	1900	110	1000

NOTE: 1. mean for two samples

Phytoplankton communities in Fish Lake are dominated by small flagellates in spring and early summer and by blue-green algae later in the summer. The presence of the bloom-forming blue-green alga *Aphanizomenon flos-aquae* was noted in Fish Lake phytoplankton first in August 1994 (surface bloom visible near the lake inlet), in periphyton samples collected in August 1997, and in phytoplankton samples collected in October 2006 (predominant at 1 and 5 m). Similarly the filamentous blue-green *Lyngbya limnetica* has been reported in surface mats (1994) and sub-surface accumulations (2006 at 10 m). The abundance of these blue-green algae indicates well-nourished conditions, although the periodic chlorophyll *a* levels are indicative of mesotrophic rather than eutrophic conditions

The duplicate sites in Fish Lake were similar in composition. Species composition was similar in May and July, and differed in October in the abundance of blue-green algae:

- in May, the predominant species were the small cryptoflagellate *Chroomonas acuta* at 0.5 and 5 m (approximately 60% abundance) and a small filamentous blue-green

alga, *Lyngbya* sp., at 10 m (85% abundance); the cryptophyte *Cryptomonas ovata/erosa* (3% to 7%) and unidentified flagellates (10 to 13%) were common at 0.5 and 5 m;

- in July, the cryptophyte *Chroomonas acuta* continued as predominant at 0.5 and 5 m (28 to 80% abundance) and blue-greens *Lyngbya* sp. and *Lyngbya limnetica* were predominant at 10 m (44 to 96% abundance, both species combined); *Cryptomonas ovata/erosa* was common (8 to 19%) at 5 m; at one duplicate site, the colonial green alga *Sphaerocystis Schroeteri* was common at all three depths (12 to 30% abundance); and
- in October, blue-green algae were abundant at all depths, with *Aphanizomenon flos-aquae* predominant at 1 and 5 m (72 to 90%) and *Gomphosphaeria naegelianum* predominant at 10 m (67 to 76%); common species included the cryptophyte *Chroomonas acuta* (7 to 10%) at 1 and 5 m) and *Lyngbya limnetica* (2 to 10%) at 10 m.

Previous sampling of Fish Lake also indicated the extensive growth of blue-green algae in Fish Lake. In August 1994, three grab samples were collected from Fish Lake at the time of extensive surface blooms of algae near shore (Hallam Knight Piesold 1995) and analyzed by Munro Environmental Consulting. Two samples were collected from the southeast and south (inlet) shores, where dense mats of the blue-green alga *Lyngbya aestuarii* covered about 3 ha. A third sample was collected from near the inlet, where there was a conspicuous bloom of the blue-green *Aphanizomenon flos-aquae* (visible grass-like flakes in the water).

Little Fish, Wasp and Big Onion Lakes

In August 1994, grab samples were also taken from surface waters in Wasp, Little Fish and Big Onion Lakes. Mats and suspended algae were not visible in these lakes. Diverse assemblages of blue-green, green and diatom species were identified, as follows:

- the sample from Little Fish Lake contained mainly *Chlorococcum* sp. (green alga) and *Asterionella formosa* (diatom);
- the sample from Wasp Lake contained a variety of green algae (*Oocystis* sp., *Scenedesmus* spp., *Sphaerocystis Schroeteri*) and diatoms (*Cyclotella* sp. and *Synedra radians*); and
- the sample from Big Onion Lake contained mainly the blue-green *Aphanothece* sp. and green *Oocystis* sp.

2.8 Benthic Invertebrates

The objectives of the benthic invertebrates monitoring program were to:

- characterize community diversity and abundance prior to project development so that changes due to project development, operation and closure can be evaluated;
- assess variation relative to historic data; and
- provide supporting information for fisheries assessments.

2.8.1 Introduction

Benthic invertebrates are commonly used for biomonitoring purposes. Their ubiquity and basically sedentary nature allow effective spatial analysis of the effects of contaminants and disturbance on a long-term basis through measurement of changes in density, community composition or ecosystem functioning. Benthic invertebrates are an important component of both flowing and standing water habitats, as they consume smaller animals and plants, aid in decomposition of organic material, and are an important source of food for fish and other animals.

The main advantages of using benthic invertebrates for biomonitoring are: 1) they are ubiquitous, so can be affected by perturbations in many aquatic habitats; 2) the many species involved offer a wide range of responses to environmental stresses; 3) they are relatively sedentary, which allows for the determination of the spatial changes caused by perturbations; and 4) they have long life cycles, so the effects of perturbations over time can be observed (Rosenberg and Resh 1993, Barbour et al. 1999).

This section documents benthic invertebrate communities collected in 1993–1994, 1997 and 2006 in streams and lakes within the Taseko Mine footprint and beyond, with potential to be affected by project activities or to provide reference sites.

2.8.2 Benthic Invertebrates of Streams

2.8.2.1 Methods

Sample Timing and Locations

Benthic invertebrate sampling was conducted in several periods, as indicated in Table 2–32. Sampling was conducted in 1993 and 1994 (Hallam Knight Piesold 1995; CB Research International Corp. 1995a, 1995b, 1996), 1997 (Triton 1999) and 2006 (Jacques Whitford–AXYS). Samples were collected during the late summer low flow period (August), with the exception of two samples collected in May 1994.

Riffle habitat was sampled for all benthic invertebrate programs and pool habitats were also sampled, where available, in 1997, following PRS recommendations. Riffles were sampled to target preferred habitat of the more sensitive benthic invertebrates and pools were sampled to target habitat where the highest concentrations of fine particles, most likely to have absorbed metals, reside. In 1997, both habitat types were sampled at all sites except for W18, W4 and W6. At W18 the water level was extremely low, so only pool habitat could be sampled. At W4 and W6, flows remained high in late summer and fall on the glacier-fed Taseko River, so only run habitat was accessible and was sampled along the margin of the river at depths of less than 0.5 m.

In 1997, as suggested by the PRS, benthic invertebrates were sampled on four separate occasions over a six week period (August 16, August 22, September 2, and September 24) at site W4 to establish the nature of variability within a season.

In 2006, benthic invertebrates were collected from riffle habitat in eight sites on Taseko River and Fish and Tête Angela Creeks. No samples were collected at W1 because the inlet stream was dry at the time. Riffles were sampled because it was assumed effects of potential changes to land use in the watershed (altered flows and sediment loads) would be less noticeable on organisms already adapted to depositional conditions (pools).

Table 2-32 Benthic Invertebrate Sampling Program, Prosperity Project

Sampling location		Site Type	Year			
			1993 Aug	1994 May	1997 Aug	2006
W1	Fish Creek (Fish Lake inlet)	Impact	–	√	√	–
W2	Fish Creek (Fish Lake outlet)	Impact	√	√	√	√
W3	Fish Creek (near Taseko R. confluence)	Impact	√	–	√	√
W4	Taseko River (outlet of Taseko Lake)	Control	–	–	√	–
W5	Taseko River upstream of Fish Creek	Impact	√	–	√	√
W6	Taseko River downstream of Fish Creek	Impact	√	–	√	√
W8	Fish Creek (mid-way)	Impact	√	–	√	√
W11	Beece Creek upstream of the Taseko River	Impact	√	–	√	–
W12	Beece Creek upstream	Control	√	–	√	–
W14	Taseko River near Beece Creek	Impact	–	–	–	√
W17	Tête Angela Creek East	Control	–	√	√	–
W18	Tête Angela Creek West	Control	–	√	√	–
W19	Taseko River downstream of Davidson Bridge	Impact	–	–	√	–
W20	Taseko River d/s of Tête Angela West confluence	Impact	–	–	√	–
WC	Tête Angela Creek upstream of Taseko River	Control	–	–	–	√

Field Methods

Prior to 1997, six replicate samples were collected at each site with a Surber sampler of unspecified area and mesh size (Hallam Knight Piesold 1995). Samples were preserved in 10% formalin and Rose Bengal immediately after collection. During the post-PRS phases, sampling methods were based on those outlined in the *British Columbia Field Sampling Manual for Biological Sample Collection: Freshwaters* (Clark 1996).

In 1997, a Surber sampler (500 µm mesh, 0.0093 m² sampling area) was used to collect benthic invertebrates. All rocks falling within the quadrat were scraped clean, and sediments were stirred by hand up to a depth of 10 cm to dislodge any burrowing invertebrates. Once the rocks were scraped and the sediment stirred, the invertebrates were flushed into the cod-end of the sampler by dipping the net repeatedly into the stream. The sides of the net were rinsed down with de-ionized water to collect any remaining individuals. The collected individuals were transferred to a 500 mL plastic bottle, placed in a cooler and preserved in 70% ethanol the same day they were sampled.

In 2006, invertebrates were collected using a Hess sampler (250 µm mesh size; 0.0093 m² area). The sampler was positioned securely at a random location on the stream bottom, parallel to the water flow, and twisted into the substrate to approximately 4 cm depth. Larger rocks were loosened from the substrate and rubbed to dislodge invertebrates. The remaining sediment was stirred with a trowel to a 10 cm depth to float invertebrates and allow them to be washed by the current into the cod-end of the sampler. The sampler was then removed and the net rinsed with de-ionized water to wash any remaining organisms.

into the cod-end. The collected material was emptied into pre-labelled 500 mL amber glass sample bottles and preserved with 10% buffered formalin.

In 1997 and 2006, five replicate samples were collected in each site and habitat type. The replicates were collected less than 5 m apart to minimize habitat variation. The initial replicate was collected at a downstream location, with the others located consecutively upstream to minimize substrate disruption and avoid potential sample contamination. A general description of the habitat was recorded in the field notebook (e.g., riparian vegetation, morphology, water quality parameters), and is provided in Appendix H.1.

Laboratory Methods

Details on the taxonomic analysis and enumeration methods used in 1993 and 1994 were not provided (Hallam Knight Piesold 1995). Samples collected in 1997 were analyzed by Fraser Environmental Services (Surrey BC). They were sieved at 1 and 0.5 mm in the lab to separate large and small organisms, following PRS requirements. The <500 µm fraction was archived and the >500 µm fraction was analyzed. Samples collected in 2006 were sieved through two nested sieves (500 and 250 µm). The 500 µm fraction was sorted without subsampling unless the sample was judged to have more than 600 organisms per sample. The 250 µm fraction was archived.

Invertebrates were identified to the lowest practical level (genus for most insects including chironomids, family or order for other organisms, species or phylum in some cases). Detailed methods and taxonomic keys used in 1997 and 2006 are provided in Appendices H2 and H3, respectively. Taxonomic data for stream samples collected in 1997 and 2006 showed in Appendices H4 and H5.

Data Analysis

To facilitate data analysis and presentation, the various life stages of individual taxa were combined (i.e., adult, larval, and pupal stages). For comparison and discussion purposes, lower taxonomic levels were often combined into higher levels (usually order). Limnetic organisms, likely originating from adjacent lakes, observed in several samples and included in previous reports on benthic invertebrates (Hallam Knight Piesold 1995, Triton Environmental Consultants Ltd. 1999), are not considered here.

Density (number of individuals per unit area), an indicator of habitat availability and fish food abundance, and respective standard error (SE) for each taxon were calculated for each habitat type and site sampled in 1997 and 2006. For samples collected prior to 1997, only the mean densities were available.

Diversity of benthic invertebrates at each site and habitat type sampled in 1997 and 2006 was calculated using the Shannon-Wiener diversity index (Zar 1984). This index is a measure of community structure defined by the relationship between the number of distinct taxa and their relative abundances:

$$H' = - \sum_{i=1}^k p_i \log p_i$$

where k is the number of taxa described, and p_i is the proportion of the total sample belonging to taxon i .

The Ephemeroptera, Plecoptera, and Trichoptera (EPT) index, an estimation of taxon richness among the insect orders EPT, commonly considered sensitive to pollution, was calculated for all riffle habitats.

Data were reported as organisms/m², with appropriate conversions of the data. Shannon-Wiener diversity index values reported in base *e* prior to 1997 phase were converted to base 10. Extensive comparisons of results obtained before and after 1997 were avoided due to absence of information on sampler mesh size, identification and enumeration methods used between 1994 and 1996 and analysis of pool as well as riffle habitats only during the 1997 survey.

Between-habitat differences for a site were assessed with t-tests. Among-system variations were tested with ANOVA or the nonparametric Wilcoxon/Kruskal-Wallis test.

2.8.2.2 Quality Assurance / Quality Control

Field QA/QC measures were based on *Guidelines for Monitoring Benthos in Freshwater Environments* (Gibbons et al. 1993) and ensured that all personnel were adequately trained, sampling methods were consistent, samples were correctly collected, labelled and preserved, equipment was properly cleaned, detailed field notes were kept, chain-of-custody forms were used and safe shipping and storage methods were used.

Analytical QA/QC was based on the Freshwater Biological Sampling Manual (MOE 1997a) and Fraser Environmental Services internal QA/QC procedures. Sorting efficiency was assessed, with 90% efficiency considered acceptable. Samples were split when the number of individuals per sample was high. Splitting efficiency was calculated. A minimum of 100 organisms of the most common taxon and 400 organisms total was counted.

2.8.2.3 Benthic Invertebrate Results for 1997 and 2006

Abundance

The mean density of benthic invertebrates varied by two orders of magnitude, ranging from 698 organisms/m² in run habitat at site W11 (1997), to 67,417 organisms/m² in riffle habitat at site W2 (1997). Generally, density was higher at Fish Creek and Tête Angela Creek sites than at Taseko River and Beece Creek sites (Figure 2–25, riffles and Figure 2–26, pools), although pool habitats at sites Fish Creek W2 and W3 provided an exception in having lower abundance than the other Fish Creek sites.

Figure 2-25 Benthic Invertebrate Density (mean and standard error) in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area

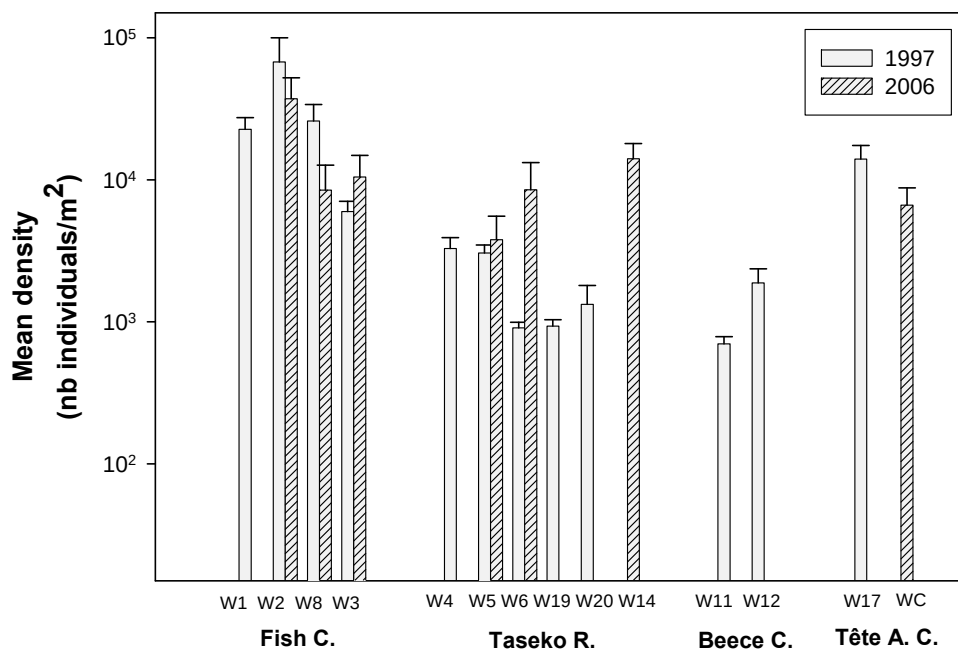
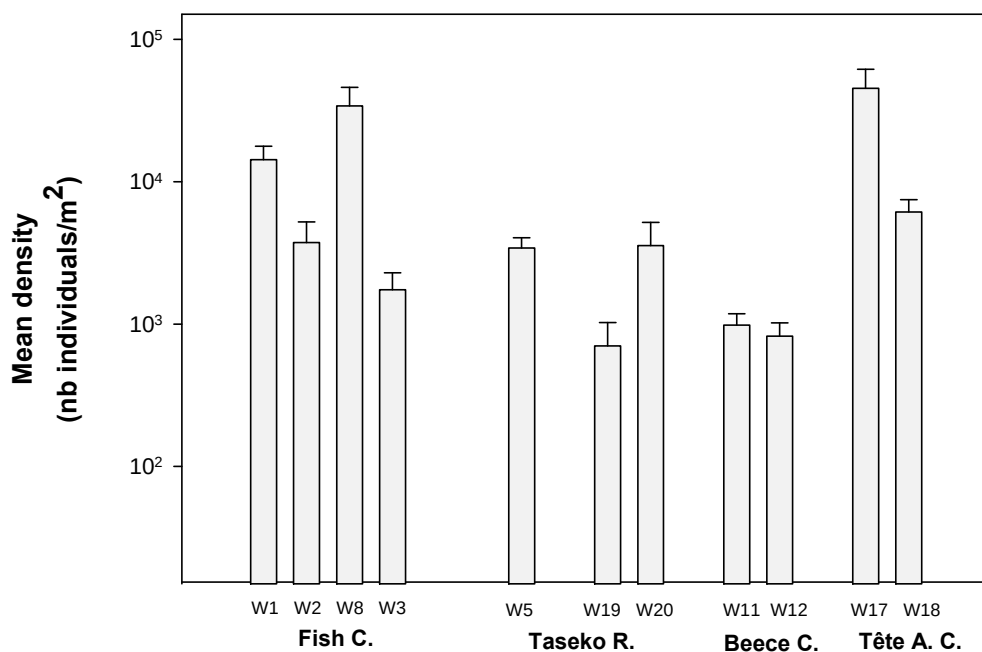


Figure 2-26 Benthic Invertebrate Density (mean and standard error) in Pool Habitat in 1997, in the Prosperity Project Area



Significant differences in density between pool and riffle habitats were observed for sites W2, W3, W12 (higher in riffles than pools) and for W17 and W20 (higher in pools than riffles) (t-test, $p < 0.05$).

Taxon Richness

The number of taxa per site (taxon richness) ranged from 17 (W14, riffles 2006) to 65 (W17, pools 1997), and was similar in riffle and pool habitats at sites W3, W8 and W20 in 1997 (Figure 2-27, riffles and Figure 2-28, pools). Lower taxon richness in 2006 than 1997 was noted for riffle habitat at several sites.

Figure 2-27 Benthic Invertebrate Taxon Richness in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area

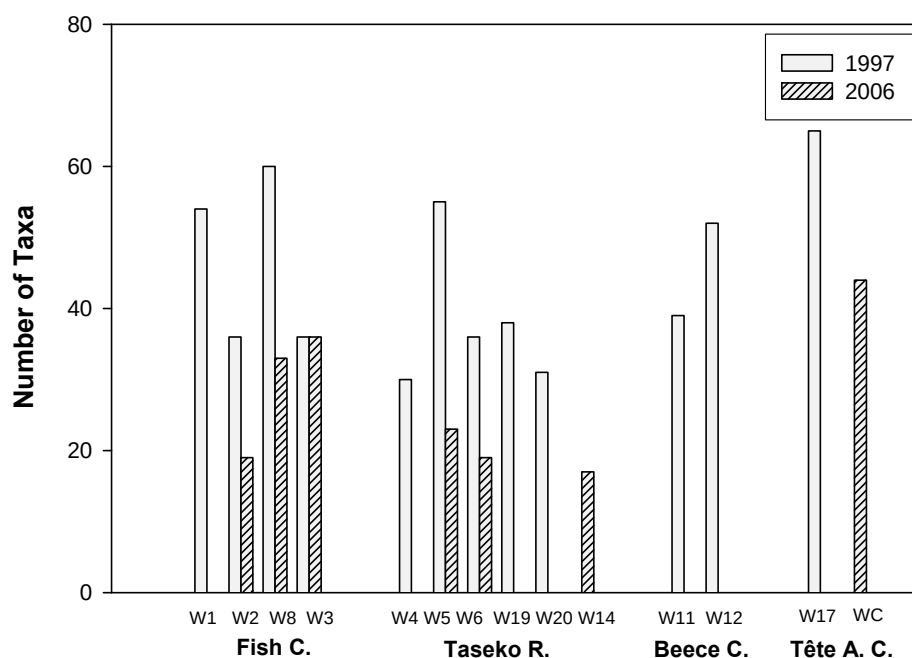
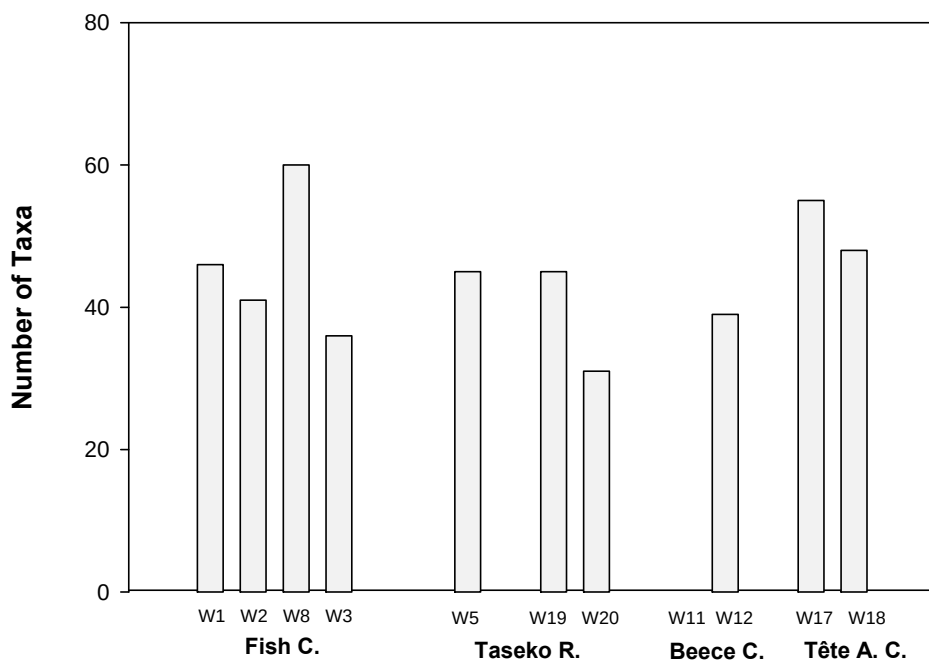


Figure 2-28 Benthic Invertebrate Taxon Richness in Pool Habitat in 1997, in the Prosperity Project Area



Diversity

Diversity (Shannon-Wiener index) ranged from 0.52 (pool habitat at W17 in 1997) to 2.72 (riffle habitat at WC in 2006), as shown in Figures 2–29 and 2–30. The diversity index tended to be higher in Tête Angela Creek, although among-system variations were not significant. Differences between pools and riffles in the diversity index (1997) were more noticeable at sites W2 (higher in pool habitat) and W5, W17 and W19 (higher in riffle habitat).

Figure 2-29 Benthic Invertebrate Diversity (Shannon-Wiener Index) in Riffle Habitat, in 1997 and 2006, in the Prosperity Project Area

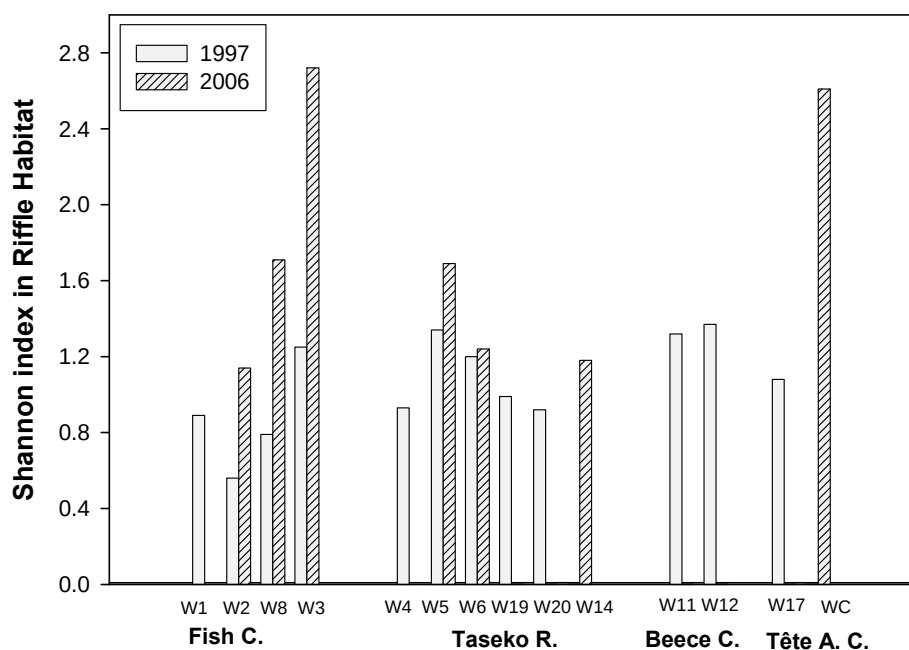
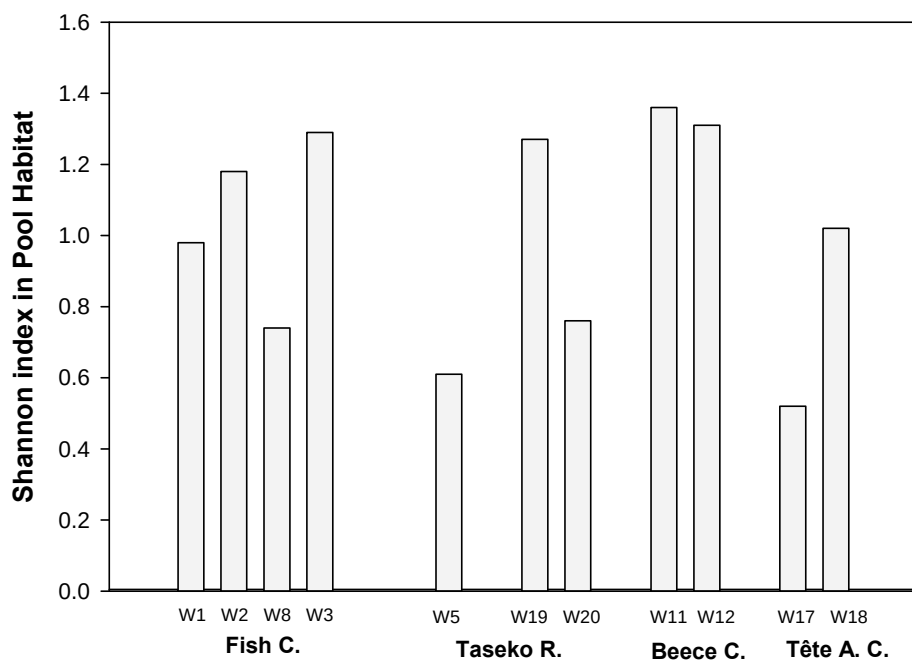


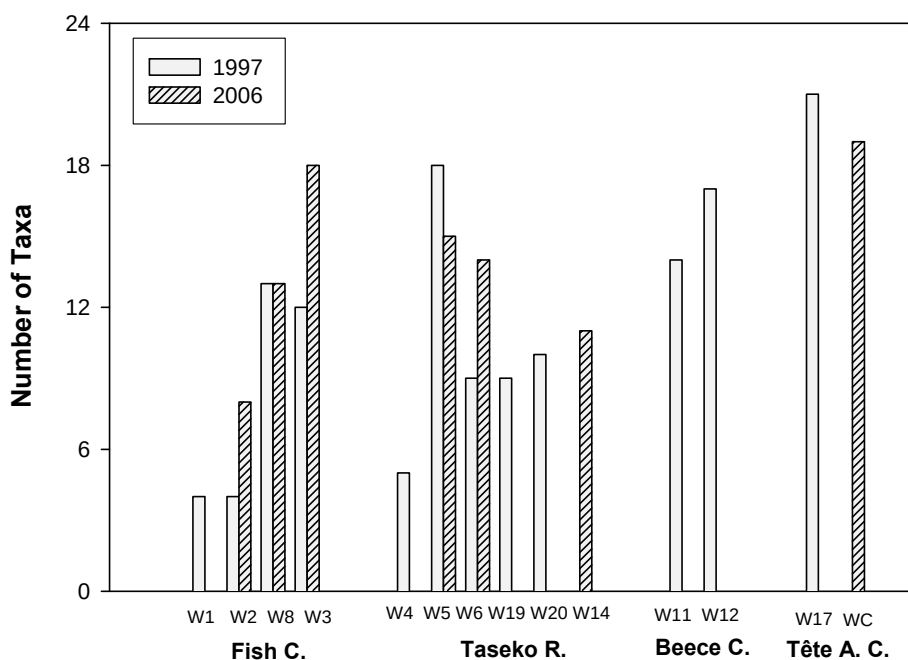
Figure 2-30 Benthic Invertebrate Diversity (Shannon-Wiener Index) in Pool Habitat, in 1997, in the Prosperity Project Area



EPT Index

The EPT index (number of taxa belonging to the insect orders Ephemeroptera, Plecoptera and Trichoptera or mayflies, stoneflies and caddisflies) ranged from 4 to 21 taxa, as shown in Figure 2–31. These organisms are considered sensitive to sediment and organic inputs (pollution-sensitive), preferring well-oxygenated flowing waters with cobble and boulder substrate. The EPT index was lowest at W1 and W2 in Fish Creek in areas most influenced by Fish Lake (e.g., predominance of *Simulium* sp. at W2), and at W4 in Taseko River (1997, where oligochaetes were predominant).

Figure 2-31 Benthic Invertebrate EPT Index (Ephemeroptera, Plecoptera, Trichoptera) in Riffle Habitat in 1997 and 2006, in the Prosperity Project Area



Taxonomic Composition

Differences among sites in relative abundance of benthic invertebrate taxa were noted among sites and between years. Details are provided in sections following for each system.

In Fish Creek, sites W1, W2 and W8, Diptera were predominant in both riffle and pool habitats in 1997, comprising 47 to 92% of the total number (Figure 2–32 and Figure 2–33); in 2006, composition at W2 differed markedly from 1997, with Oligochaeta predominant.

At all Taseko River sites except W4, Ephemeroptera were predominant in riffle habitat; Oligochaeta were predominant at W4 in riffles. Diptera or Oligochaeta were predominant in pool habitats (Figure 2–34 and 2–35). Results were generally similar at sites sampled in both 1997 and 2006.

In Beece Creek, sampled in 1997, Ephemeroptera and Diptera were the most abundant groups in both pool and riffle habitats (Figure 2–36).

In Tête Angela Creek, Diptera were predominant in pool and riffle habitat in 1997 and 2006 (Figure 2–37).

Figure 2-32 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Fish Creek Riffle Habitat, 1997 and 2006

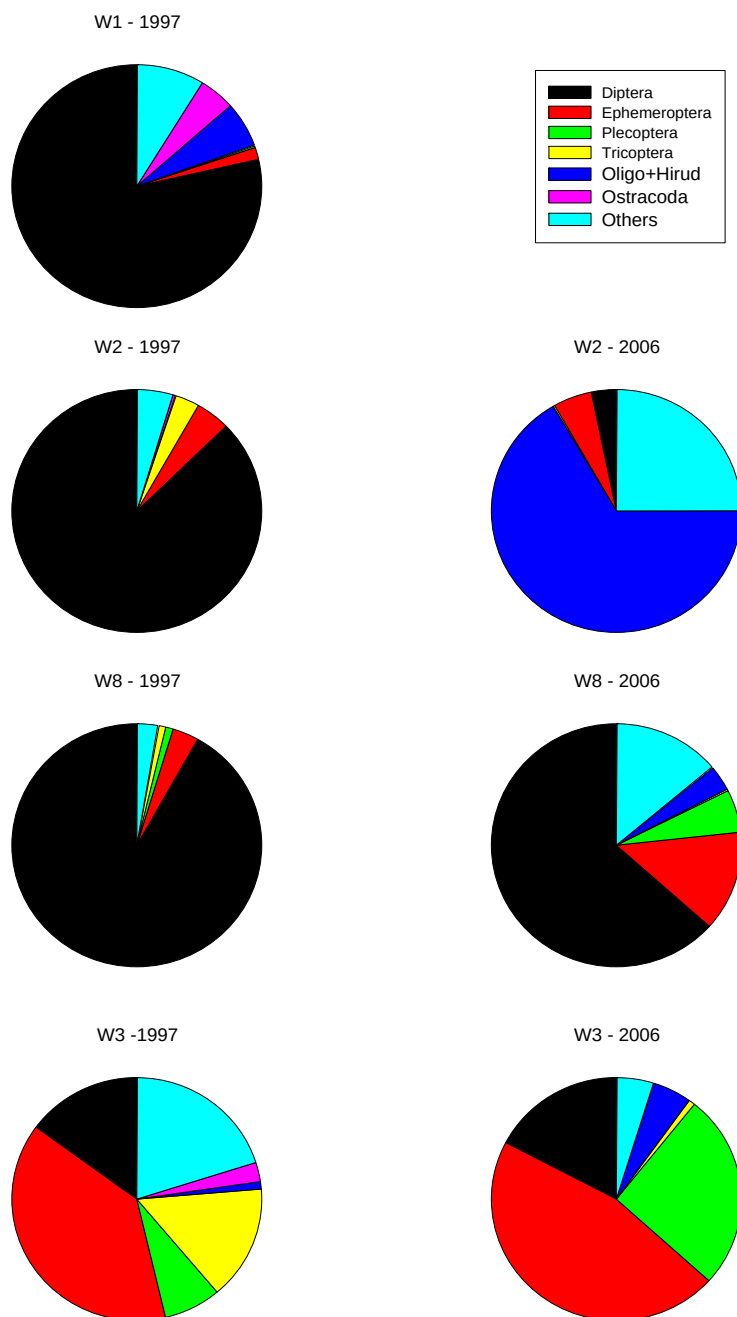


Figure 2-33 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Fish Creek Pool Habitat, 1997 (see Figure 2-32 for legend)

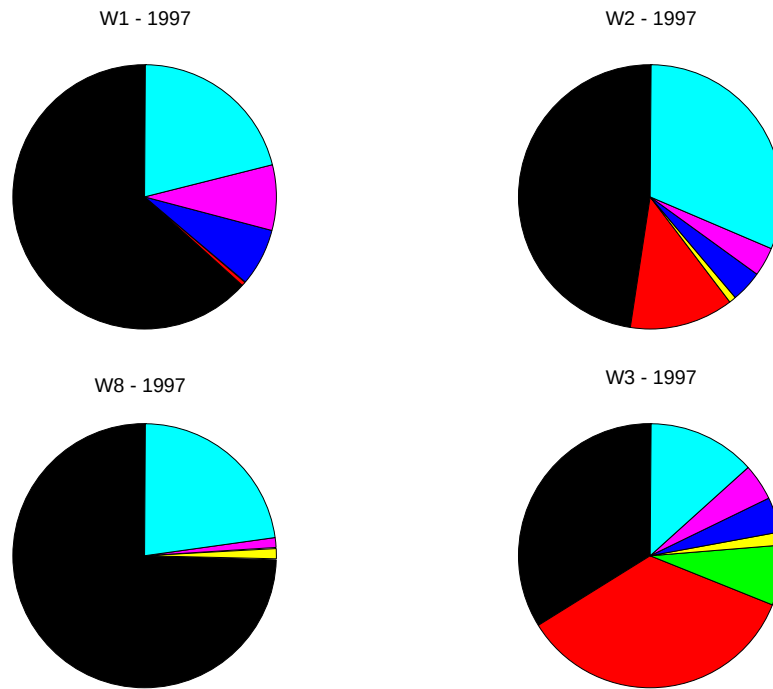


Figure 2-34 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Taseko River Riffle Habitat, 1997 and 2006 (see Figure 2-32 for legend)

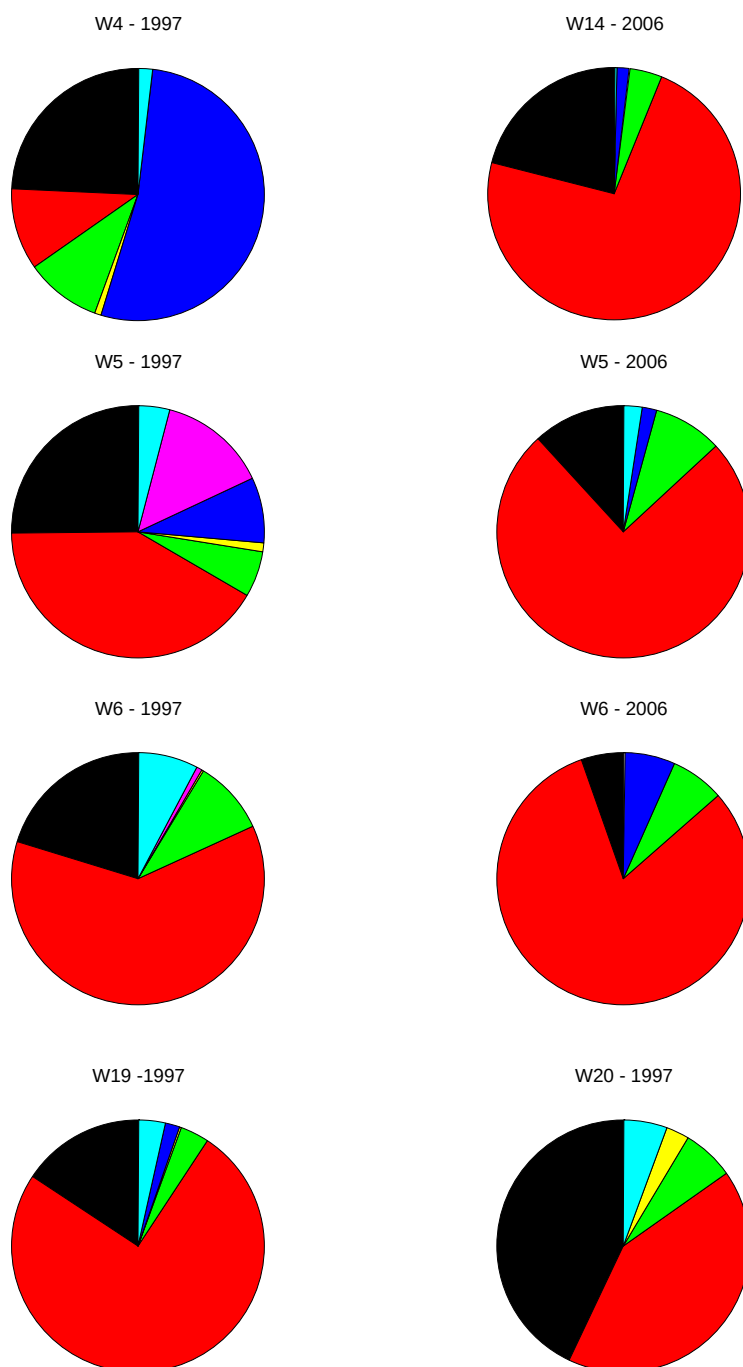


Figure 2-35 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Taseko River Pool Habitat, 1997 (see Figure 2-32 for legend)

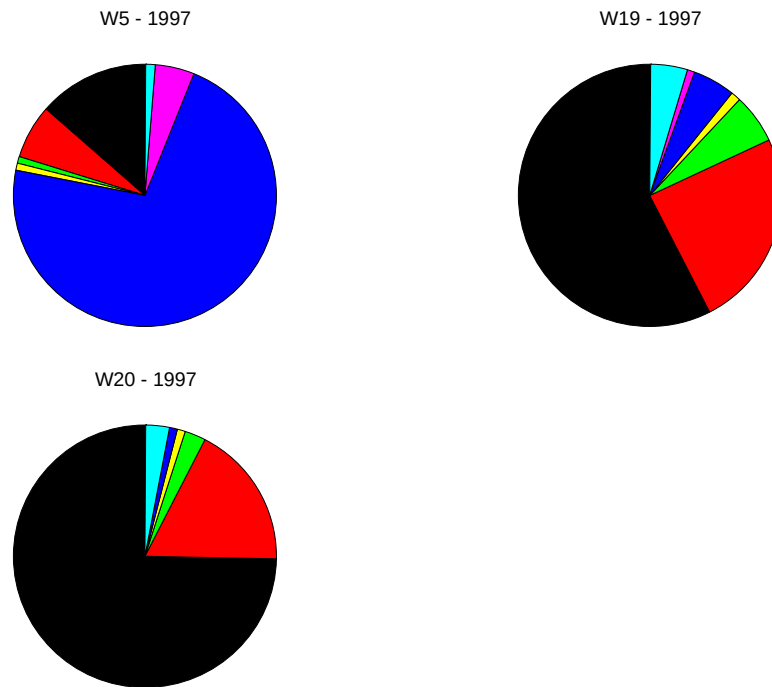


Figure 2-36 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Beece Creek Riffle and Pool Habitat, 1997 (see Figure 2-32 for legend)

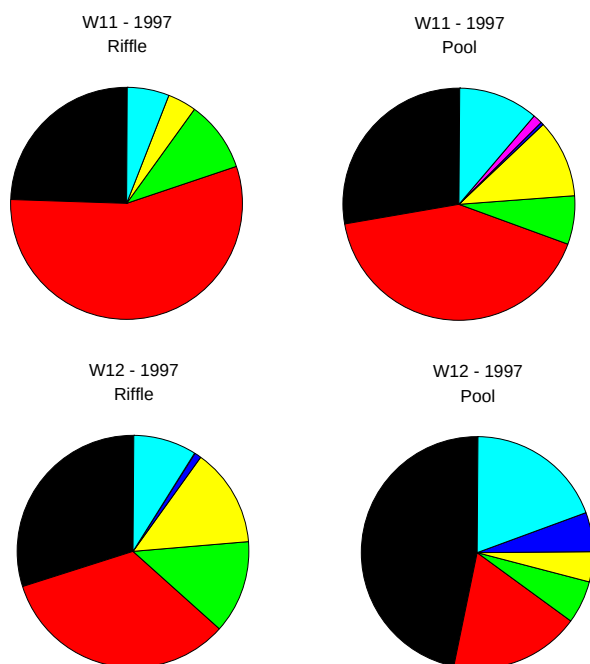
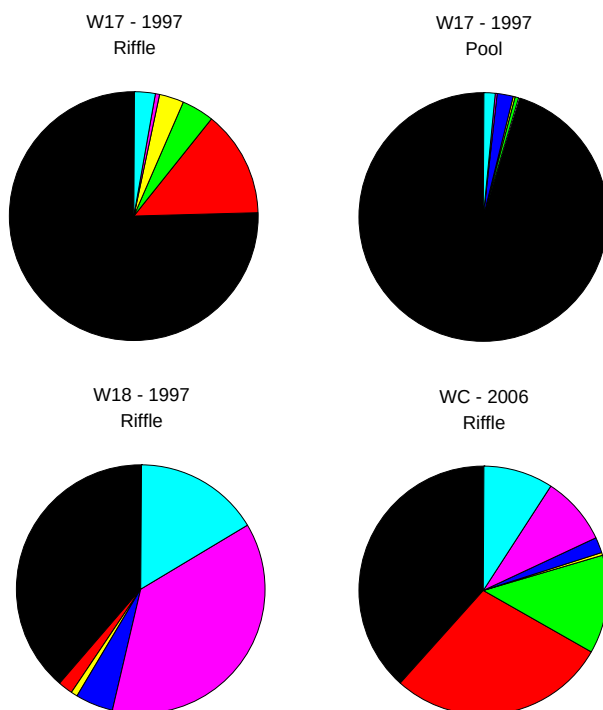


Figure 2-37 Benthic Invertebrate Composition (relative abundance) by Taxonomic Group, Tête Angela Creek Riffle and Pool Habitat, 1997 and 2006 (see Figure 2-32 for legend)



Fish Creek

Fish Creek sites generally had among the highest densities of invertebrates of the four systems sampled, ranging from 1739 to 67,417 organisms/m². Abundance and taxon richness were higher in 1997 than 2006 for sites W2 and W8, similar in both years at W3. Diversity index values were higher at all sites in 2006 than in 1997. Composition was similar from 1997 to 2006, with the exception of W2 riffles, which shifted from mainly Simuliidae (blackflies) in 1997 to Oligochaeta (aquatic worms) in 2006.

Abundance was greatest at W2 riffles (1997 and 2006) and W8 pools and riffles (1997). The number of taxa ranged from 19 to 60, and the Shannon-Wiener diversity indices from 0.56 to 2.72.

Fish Creek sites were dominated by insects, mostly Diptera. The exception was W2 riffles in 2006, which had a predominance of Oligochaeta. The EPT index varied from 4 to 13, with W1 and W2 showing the lowest value reported among all systems monitored. Composition at W2 (riffle) was distinct in the high number of organisms, predominance of the dipteran (blackfly larva) *Simulium* sp., which comprised over 70% of the population, low taxon richness and diversity in 1997, and 70% Oligochaeta in 2006. Results for individual sites are summarized in Table 2–33 for 1997 and Table 2–34 for 2006.

Table 2-33 Benthic Community Characteristics for Fish Creek Sites, August 1997 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
W1	Riffle	22,700	54	0.89	Diptera (mainly Chironomidae)	79%
					Ostracoda	5%
W1	Pool	14,200	46	0.98	Diptera (mainly Chironomidae)	63%
					Mollusca	14%
W2	Riffle	67,400	36	0.56	Diptera (mainly Simuliidae)	87%
					Diptera (mainly Chironomidae)	48%
W2	Pool	3,730	41	1.18	Hydracarina	17%
					Ephemeroptera	13%
W8	Riffle	26,000	60	0.79	Diptera	92%
	Pool	34,000	60	0.74	Diptera	75%
					Ephemeroptera	39%
					Trichoptera	15%
W3	Riffle	5,980	36	1.25	Diptera	15%
					Ephemeroptera	
W3	Pool	1,740	36	1.29	Diptera	35%
					Trichoptera	34%

SOURCE: Triton 1999

Table 2-34 Benthic Community Characteristics for Fish Creek Sites, August 2006 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
W1	Riffle	Not sampled – site was dry in August				
W2	Riffle	37,200	19	1.14	Oligochaeta	70%
W8	Riffle	8,460	33	1.71	Diptera	64%
					Ephemeroptera	13%
					Ephemeroptera	46%
W3	Riffle	10,500	36	2.72	Plecoptera	26%
					Diptera	17%

Taseko River

Sites on the Taseko River had relatively low number of benthic invertebrates compared to sites on Fish and Tête Angela Creeks. In 1997, mean density ranged from 702 to 3548 organisms/m², lowest at W6 and W19. In 2006, density was higher at corresponding sites and ranged from 3800 to 14,000 organisms/m². Results are reported in Table 2–35 for 1997 and in Table 2–36 for 2006.

Table 2-35 Benthic Community Characteristics for Taseko River Sites, August 1997 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
W4	Riffle	3,280	34	0.93	Annelida (Oligochaeta:Naididae)	53%
					Diptera, Ephemeroptera, Plecoptera	44%
W5	Riffle	3,050	55	1.34	Ephemeroptera	41%
	Pool	3,420	45	0.61	Diptera (mainly Chironomidae)	25%
					Annelida (Oligochaeta)	70%
W6	Riffle	906	36	1.20	Diptera (mainly Chironomidae)	14%
					Ephemeroptera	62%
W19	Riffle	934	38	0.99	Diptera (mainly Chironomidae)	75%
					Diptera (mainly Chironomidae)	16%
	Pool	702	45	1.27	Ephemeroptera and Diptera	82%
W20	Riffle	1,330	31	0.92	Diptera (mainly Chironomidae)	43%
					Ephemeroptera	42%
	Pool	3,550	31	0.76	Diptera (mainly Chironomidae)	75%
					Ephemeroptera	18%

SOURCE: Triton 1999

Table 2-36 Benthic Community Characteristics for Taseko River Sites, August 2006 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups
W14	Riffle	14,000	17	1.18	Ephemeroptera 72%
					Diptera 20%
W5	Riffle	3,800	23	1.69	Ephemeroptera 75%
					Diptera (mainly Chironomidae) 12%
W6	Riffle	8,500	19	1.24	Ephemeroptera 81%

The time series assessed at site W4 riffles between August 16 and September 24, 1997 included four sampling dates at two week intervals to assess seasonal variation in the benthic invertebrate community. The average density decreased from 3300 to 491 organisms/m² in that period. The number of taxa identified ranged from 27 to 35, and the diversity index ranged from 0.76 to 1.04 (Table 2–37). Species composition changed over the course of the sampling period. The benthic community in mid-August was dominated by Annelida (53%) on August 16 and insects comprised 44% of the population. By late September, annelids comprised less than 3% of the population, while insects (mainly dipterans) comprised almost 95% of the population.

The Shannon-Wiener diversity index ranged from 0.76 to 1.69, and the number of taxa ranged from 17 to 55. The diversity index was higher in 2006 than 1997 and taxon richness was higher in 1997 than 2006.

Riffle habitats in the Taseko River were dominated by insects, mostly from the orders Ephemeroptera and Diptera, with Oligochaeta abundant in some sites (W4 riffle and W5 pool in 1997). The EPT index in riffle habitats varied from 5 to 18, and was lowest at W4. In 1997, the abundance of oligochaetes at some sites was likely influenced by the type of habitat available for sampling (near shore habitat away from the inaccessible deep, fast-flowing Taseko River), where fine substrates tend to accumulate and oligochaetes are more likely to occur. In 2006, concerted efforts were made to sample riffle habitat deeper in the river, and results indicated more typical invertebrate composition (greater abundance of Ephemeroptera).

Table 2-37 Seasonal Changes in Benthic Community Characteristics for Taseko River Site W4 Riffles, August – September 1997 (mean of 5 samples)

Site	Date	Density organisms/m ²	Taxon Richness	Diversity Index
W4	Aug. 16, 1997	3,300	34	0.93
	Aug. 22, 1997	1,180	30	0.76
	September 2, 1997	2,080	35	1.02
	September 24, 1997	491	27	1.04

SOURCE: Triton 1999

Beece Creek

In general, Beece Creek sites had the lowest mean density of invertebrates (from 698 to 1900 organisms/m²) compared to the other three stream systems sampled. The number of taxa ranged from 39 to 52 and the Shannon-Wiener diversity index was the highest of all the streams sampled, ranging from 1.31 to 1.37 for the 1997 data. Pool and riffle habitats of both Beece Creek sites were dominated by insects, particularly Ephemeroptera and Diptera. The EPT index was 14 for W11 and 17 for W12, at the high end of the range for Project area streams. Results for individual sites are summarized in Table 2–38 for 1997.

Table 2-38 Benthic Community Characteristics for Beece Creek Sites, August 1997 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
W11	Riffle	698	39	1.32	Ephemeroptera (mainly Heptageniidae)	56%
					Diptera (mainly Chironomidae)	24%
	Pool	984	47	1.36	Ephemeroptera (mainly Heptageniidae)	42%
					Diptera (mainly Chironomidae)	28%
W12	Riffle	1,880	52	1.37	Ephemeroptera (mainly Heptageniidae)	34%
					Diptera (mainly Chironomidae)	30%
	Pool	822	39	1.31	Diptera (mainly Chironomidae)	47%
					Ephemeroptera (mainly Baetidae)	18%

SOURCE: Triton 1999

Tête Angela Creek

Tête Angela Creek was sampled in 1997 at sites W17 and W18, in the headwaters, and in 2006 at WC, near the confluence with Taseko River. Densities of benthic invertebrates at Tête Angela Creek were comparable to sites from Fish Creek, and substantially higher than for Beece Creek and Taseko River sites. Densities ranged from 6,100 organisms/m² to 45,200 organisms/m², and were greatest in pool habitat at W17 (1997). Taxon richness was the highest among the streams sampled, ranging from 44 to 65. The Shannon-Wiener diversity index ranged from 0.52 to 2.61, and was highest in 2006 at WC.

The most abundant taxa in Tête Angela Creek sites were the insect orders Diptera and Ephemeroptera (and Ostracoda in pools at W18 in 1997). The EPT index was 21 for W17, the highest reported for any of the study area sites. Results for individual sites are summarized in Table 2–39.

Table 2-39 Benthic Community Characteristics for Tête Angela Creek Sites, August 1997 and 2006 (mean of 5 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
W17 (1997)	Riffle	14,000	65	1.08	Diptera (Chironomidae, Simuliidae)	76%
	Pool	45,200	55	0.52	Ephemeroptera	14%
W18 (1997)	Pool	6,100	48	1.02	Diptera (mainly Chironomidae)	95%
					Diptera (mainly Chironomidae)	38%
					Ostracoda	37%

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups	
WC (2006)	Riffle	6,600	44	2.61	Diptera (Chironomidae)	38%
					Ephemeroptera	28%
					Plecoptera	13%

Benthic Invertebrate Sampling Programs Prior to 1997

Benthic invertebrates were also sampled in riffle habitat prior to issuing of the PRS in 1997. Given the absence of raw data for benthic invertebrates sampled in streams between 1993 and 1996, results summarized in Table 2-40 are based on those from Triton Environmental Consultants Ltd. 1999. Less emphasis is placed on these results, given the lack of detail on the sampling methods and equipment (mesh size and area of sampler), and the inclusion of planktonic organisms in estimation of richness, density and diversity. For some sites, there were substantial (up to five-fold) differences in abundance between the 1993 or 1996 and 1997 samples (e.g., notably higher at W2 in 1997 and lower at W8, W5, W6, and W11 in 1997), indicating high variability among years. The number of taxa identified was greater in 1993 than 1997 and 2006, but the diversity index was similar.

Table 2-40 Benthic Community Characteristics for Prosperity Project Streams, Riffle Sites, 1993 to 1996 (mean of 6 samples)

Site		Density organisms/m ²	Taxon Richness	Diversity Index	Predominant Groups
W1	May 1994	18,400	60	0.96	Dipteran
W2	Aug 1993	10,500	71	1.35	Diptera
	May 1994	17,200	60	0.77	Diptera
W8	Aug 1993	71,200	63	0.65	Diptera
W3	Aug 1993	5,300	65	1.62	Diptera, Ephemeroptera
W5	Aug 1993	25,300	68	1.02	Ephemeroptera, Ostracoda
W6	Aug 1993	6,600	63	1.22	Plecoptera
W11	Aug 1993	2,299	51	1.18	Ephemeroptera, Plecoptera
W12	Aug 1993	1,600	51	1.21	Ephemeroptera
W17	Aug 1996	16000	65	1.18	Ephemeroptera
W18	Aug 1996	4,100	66	1.24	Diptera, Annelida (Oligochaeta)

SOURCE: Hallam Knight Piesold Ltd. 1995, quoted in Triton (1999)

2.8.3 Benthic Invertebrates of Lakes

2.8.3.1 Methods

Sample Timing and Locations

Prior to 1997, benthic invertebrates were collected from Fish, Little Fish, Wasp, Big Onion, Slim and Vick Lakes (Table 2-41). These lakes were sampled again in August 1997 along with Taseko and Big Lakes. Four of the lakes (Slim, Taseko, Vick and Big

Lakes) were designated as control lakes because they were located in watersheds that fell outside the area potentially affected by the project.

Table 2-41 Prosperity Project Lake Benthos Sampling Program Outline

Site	Site Type	Year ¹		
		1993	1994	1997
Big Lake	Control			√
Big Onion Lake	Impact		√	√
Fish Lake	Impact	√		√
Little Fish Lake	Impact	√		√
Slim Lake	Control		√	√
Vick Lake	Control		√	√
Wasp Lake	Impact	√		√
Taseko Lake	Control			√

Field Methods

In 1993 and 1994, benthic invertebrates were collected using an Ekman grab. Six samples were taken in each lake, in various depths at the same points where zooplankton samples were collected. A 750-mL subsample (equivalent to 20% of the entire dredge sample) was withdrawn from each sample, preserved and analyzed for species composition. In the laboratory, samples were sieved using a series of nested screens with mesh size varying from 0.001 to 1 mm.

In 1997, sediment and benthic invertebrate samples were collected simultaneously at each site using an Ekman grab (15 x 15 cm). After the sediment sample was removed (approximately 250 mL), the remaining contents of the grab were sifted through a 0.5 mm sieve. Invertebrates were rinsed from the sieve with de-ionized water into a collecting pan, and then transferred to a 500 mL plastic bottle. All sample bottles were kept in a cooler. Five replicates were taken at each lake, with the exception of Taseko Lake, where only three replicates were collected due to difficulties sampling the hard, rocky substrate. As with the stream samples, all invertebrate lake samples were preserved in 70% ethanol the same day they were collected.

Taxonomic Analysis and Enumeration

Organisms were identified and counted by Fraser Environmental Services, as described previously for streams. Taxonomic data for benthic invertebrates collected before the PRS and in 1997 are provided in Appendix H.6 and H.7, respectively.

Data Analysis

Methods for data analysis were same as for streams, described in Section 2.8.2.1.

2.8.3.2 Quality Assurance/Quality Control

QA/QC for field and laboratory procedures were the same as described in Section 2.8.2.2 for streams.

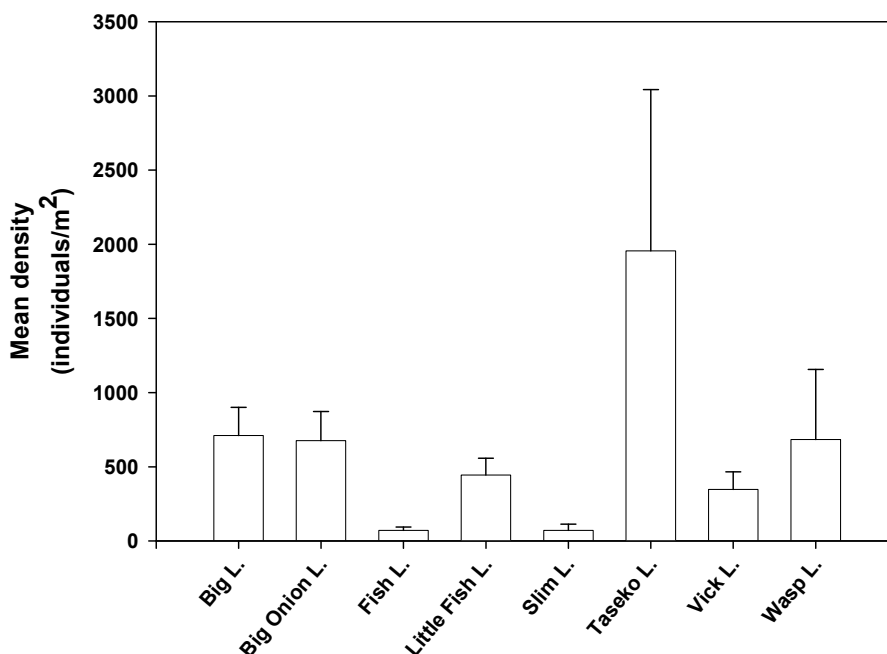
2.8.3.3 Results for Benthic Invertebrates in Lakes

Abundance

For lakes sampled in 1997, the mean density of benthic invertebrates ranged from 71 organisms/m² (Slim and Fish Lakes) to 1,960 organisms/m² (Taseko Lake), as shown in Figure 2–38. Densities for Slim and Fish Lakes were significantly lower and for Taseko Lake were significantly higher ($p < 0.05$) compared to the other lakes. No significant differences in density were observed among the remaining, intermediate groups.

Abundance of benthic invertebrates sampled in 1993 or 1994 was substantially higher than values obtained in 1997 due to differences in sampling and enumeration techniques. Samples taken in 1997 were sieved in the field using a 0.5 mm mesh, whereas those collected in 1993 were sieved in the laboratory using a series of finer meshes. Although a 0.5 mm mesh meets the PRS requirements, the *Guidelines for Monitoring Benthos in Freshwater Environments* recommends a mesh size of 0.180 to 0.25 mm for benthos monitoring studies (Gibbons et al. 1993). Lake samples collected in 1997 underestimate the density and diversity of benthic invertebrates compared to samples collected in earlier years in part due to the larger mesh size that was used in 1997. In addition, the inclusion of limnetic taxa such as Copepoda and Cladocera in the 1993 list resulted in an overestimate of benthic invertebrate density, richness and diversity indices.

Figure 2-38 Benthic Invertebrate Density in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)



Taxon Richness and Diversity

The number of taxa ranged from 1 at Fish Lake to 19 at Taseko Lake (Figure 2–39). The Shannon-Wiener index of diversity varied from 0 in Fish Lake to 1.01 in Taseko Lake (Figure 2–40).

Figure 2-39 Benthic Invertebrate Taxon Richness in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)

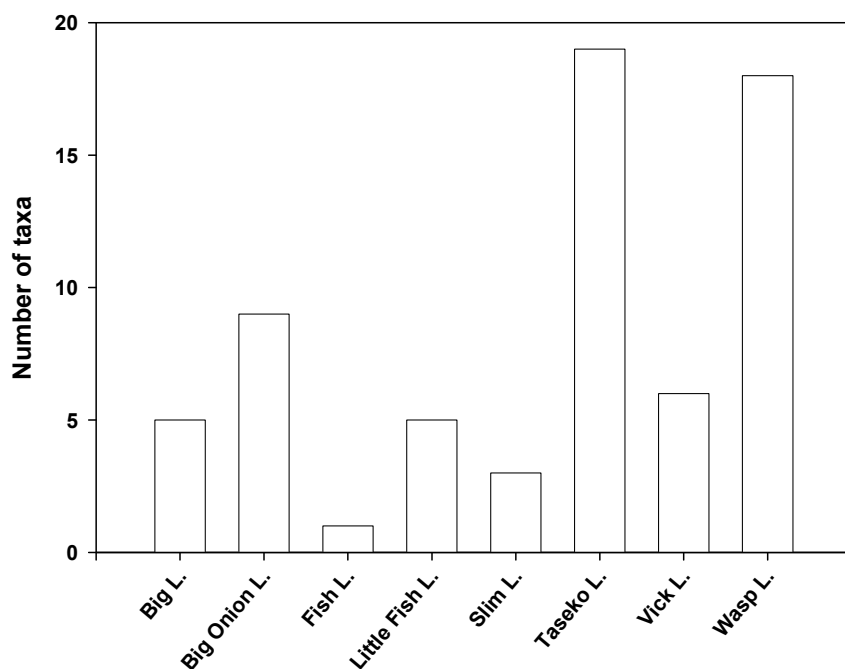
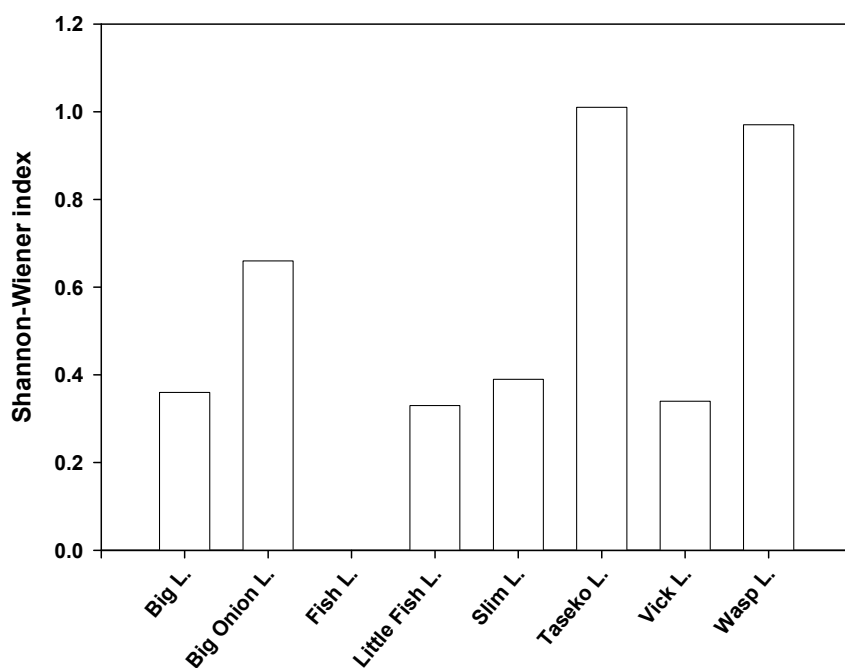


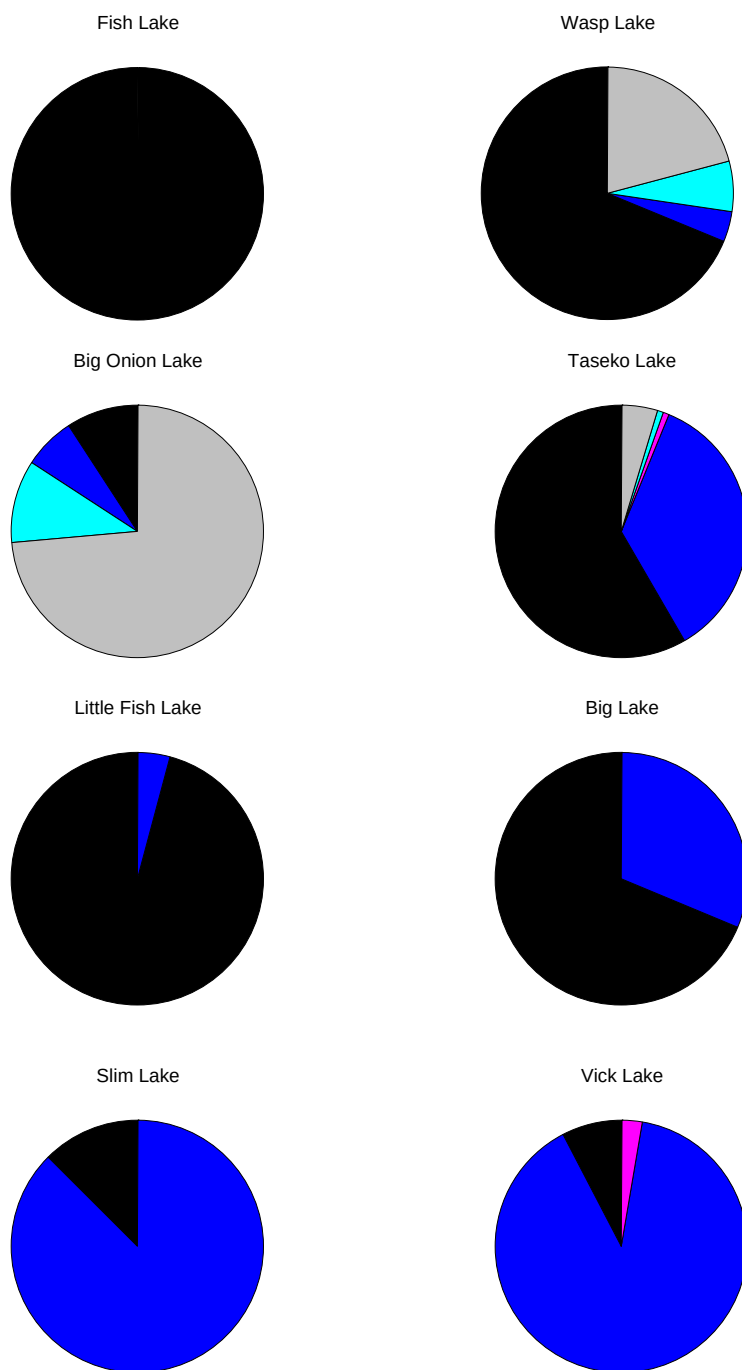
Figure 2-40 Benthic Invertebrate Diversity Index in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5)



Taxonomic Composition

In Big, Fish, Little Fish, Taseko and Wasp Lakes, Diptera (insects) were predominant, representing from 58 to 100% of the total organisms. In Slim and Vick Lakes, Oligochaeta (aquatic worms) comprised approximately 90% of the population, and in Big Onion Lake Mollusca (snails and bivalves) was predominant (Figure 2-41).

Figure 2-41 Benthic Invertebrate Composition in Prosperity Project Lakes, 1997



Big Lake

Samples collected from Big Lake in 1997 had a mean density of 711 organisms/m², intermediate when compared to those of other lakes sampled in 1997 (Figure 2–38). Five taxa were identified, with a resulting Shannon-Wiener diversity index (H') of 0.36. This low diversity resulted from a community dominated by *Chironomus* (Diptera, 67% abundance) and Tubificidae (Oligochaeta, 28% abundance) shown in (Figure 2–41). The remaining 5% of organisms identified were *Nanocladius* (order Diptera) and other Oligochaeta, including Naididae.

Big Onion Lake

Benthic samples collected from Big Onion Lake in 1997 had a mean density of 676 organisms/m², with nine taxa identified and a diversity index of 0.66. Molluscs (class Pelecypoda and family Sphaeriidae) made up 74% of the community (Figure 2–41). Diptera comprised 9% of the benthic invertebrate community and oligochaetes, roundworms (Nematoda), and scuds (Amphipoda) comprised the remaining organisms.

Among lakes sampled in 1994, Big Onion Lake had the lowest density of benthic invertebrates, with a mean value of 2500 organisms/m². There were 16 taxa identified, and a diversity index of 0.84 (Hallam Knight Piesold Ltd. 1995). The community consisted mainly of nematodes, tubificid worms and ostracods, all small and generally not consumed by fish. Chironomids and freshwater shrimps were present in low densities. There was some similarity between the taxa identified from the 1997 and 1994 samples, including the dipteran family Chironomidae, the amphipod family Gammaridae, the class Oligochaeta, and the phylum Nematoda. However, the majority of taxa identified were unique to a given year. During sampling, an abundant release of methane bubbles and a characteristic odour of hydrogen sulphide indicated anaerobic conditions in the sediment (Hallam Knight Piesold Ltd. 1995).

Fish Lake

Samples collected from Fish Lake in 1997 had a mean density of 71 organisms/m². Only one taxon was identified (the genus *Chironomus*), resulting in a diversity index of 0.

Samples collected in 1993 had a notably higher density (15,153 organisms/m², with 14 taxa identified and a Shannon-Wiener diversity index of 0.25 (Hallam Knight Piesold Ltd. 1995). Numerous taxa reported in 1993 were not present or were not enumerated in the 1997 samples (see Hallam Knight Piesold Ltd. 1995).

Little Fish Lake

Samples collected from Little Fish Lake in 1997 had a mean density of 444 organisms/m² with five taxa identified and a Shannon-Wiener diversity index of 0.33. Diptera (Chironomidae) were predominant (94% abundance). Aquatic worms (class Oligochaeta) and the insect order Hemiptera were also reported.

Samples collected in 1993 had a considerably higher mean density (over 100,000 organisms/m²), with 12 taxa identified and a Shannon-Wiener diversity index of 0.18 (Hallam Knight Piesold Ltd. 1995). The high density was attributed to inclusion of limnetic species. Many taxa identified in 1993 were present in 1997, including the chironomid genera *Chironomus* and *Tanytus*. The abundance of other taxa was similar to

that observed in 1997 when grouped into higher taxonomic levels, such as class Oligochaeta. There were numerous taxa unique to samples from one of the two years.

Slim Lake

Samples collected from Slim Lake in 1997 had a mean density of 71 organisms/m², similar to that estimated for Fish Lake, and the lowest of all sites sampled that year (Figure 2–38). There were three taxa identified, with a Shannon-Wiener diversity index of 0.39. Family Tubificidae (Oligochaeta) comprised 63%, family Naididae (Oligochaeta) comprised 25%, and the chironomid genus *Tanytarsus* (Diptera) comprised 12%.

Samples collected in 1994 had a mean density of over 60,000 organisms/m², considerably higher than reported for 1997. There were 17 taxa identified with a Shannon-Wiener diversity index of 0.49 (Hallam Knight Piesold Ltd. 1995). Of the three taxa identified in 1997, only the family Tubificidae was present in the 1994 samples. There were numerous taxa identified in 1994 not found in 1997. Palatable benthic invertebrates relatively abundant in Slim Lake included chironomid larvae, the freshwater shrimps *Hyaella azteca* and *Gammarus lacustris*. Some small mud-dwelling organisms also showed high densities in some replicates (the ostracods *Candona* sp. and *Cypria* sp., nematodes and enchytraeid and tubificid worms).

Taseko Lake

Samples collected from Taseko Lake in 1997 had a mean density of 2430 organisms/m², with 19 taxa identified and a Shannon-Wiener diversity index of 1.05. These values were the highest among the lakes sampled in 1997 (Figures 2–38 to 2–40). Diptera comprised 58% of the population and Oligochaeta (family Tubificidae and family Naididae) comprised 36%. Molluscs (families Planorbidae and Sphaeriidae), water mites (Hydracarina) and Ostracoda were also reported (Figure 2–41).

Vick Lake

Samples collected from Vick Lake in 1997 had a mean density of 347 organisms/m², with six taxa identified and a diversity index of 0.34. Aquatic earthworms (class Oligochaeta, family Naididae) accounted for 90% of the population (Figure 2–41). The remaining 10% of the population was equally divided among Diptera (genera *Chironomus*, *Paratanytarsus* and *Procladius*) and Ostracoda.

Samples collected in 1994 had a mean density of over 17,000 organisms/m². There were 23 taxa identified and a diversity index of 0.72 (Hallam Knight Piesold Ltd. 1995). Of the taxa reported in 1997, only *Procladius* was present in the 1994 data. Other taxa were similar if grouped into higher taxonomic levels, such as Oligochaeta, Ostracoda and Chironomidae. There were numerous taxa unique to either year. The predominant benthic taxa in the 1994 samples were chironomids, the ostracods *Cypria* and *Candona* sp, the snail *Menetus cooperi*, nematodes and oligochaetes. Densities of chironomid larvae in Vick Lake were higher than in Fish Lake but slightly lower than in Little Fish Lake.

Wasp Lake

The mean density of benthic invertebrates from the 1997 Wasp Lake samples was 684 organisms/m². There were 18 taxa identified, with a diversity index of 0.97. Diptera were predominant with 69% of the total organisms (Figure 2–41) and Molluscs (class

Pelecypoda and genus *Pisidium*) comprised 20%. Leeches (class Hirudinea), the scud *Hyalella azteca* and water mites (Hydracarina) were present.

Samples collected from Wasp Lake in 1993 had a mean density of over 17,000 organisms/m². Wasp Lake had a rich and diverse benthic fauna (42 taxa, Shannon-Wiener diversity index of 1.21) and supported large-sized benthic invertebrates, which are palatable food organisms for rainbow trout. These include chironomids (*Procladius*, *Dicrotendipes*, *Paratanytarus* and *Cricotopus* sp.), fingernail clam *Pisidium ferrugineum* and freshwater shrimps *Hyalella azteca* and *Crangonyx* sp (Hallam Knight Piesold Ltd. 1995). There was some similarity among the taxa in the two years, e.g., numerous dipteran taxa (especially Chironomidae), the order Ostracoda, the scud *Hyalella azteca*, and the mollusc genus *Pisidium*. There were also numerous taxa unique to samples from one of the two years.

2.9 Zooplankton

The objectives of the zooplankton monitoring program were to:

- help understand the ecology of lakes in the project area by describing baseline zooplankton abundance and diversity;
- provide additional baseline information about productivity of Fish Lake by describing zooplankton abundance as it relates to potential future loss of lake habitat and fish productivity; and
- support the compensation plan for the Prosperity Project.

2.9.1 Introduction

Zooplankton communities represent an important lake component because of their role as secondary producers and relationship with either phytoplankton or fish production (Mazumder 1994; Vadstein et al. 1995). The smallest zooplankton can be characterized as recyclers of water-column nutrients and often are closely tied to measures of nutrient enrichment. Larger zooplankton are important food for forage fish species and larval stages of all fish. The zooplankton community is composed of both primary consumers, which eat phytoplankton, and secondary consumers, which feed on other zooplankton.

There are three main taxonomic groups: the rotifers and two subclasses of the Crustacea, cladocerans and copepods. Protozoans, a few coelenterates, larval trematode flatworms, gastrotrichs, mites and the larval stages of some insects are also considered zooplankton, even if some of them live in the water column occasionally or for a portion of their life cycles (Wetzel 2001). Rotifers are mainly small, omnivorous plankton, with the exception of the Asplanchnidae, which are predatory (Horne and Goldman 1994). Copepods are subdivided into Calanoida (larger filter feeders or raptorial feeders), Cyclopoida (generally smaller omnivores) and Harpacticoida (benthic copepods) (Wetzel 2001). Cladocerans are filter-feeding herbivores that select from a broad range of plankton sizes. Copepods feed at a lower rate and select larger particles than cladocerans (Cyr 1998). Some instars of the phantom midge *Chaoborus* spp., which is predatory and a prey item of some fish, can be abundant.

2.9.2 Methods

2.9.2.1 Sample Timing and Locations

Zooplankton samples were collected in August or September 1993, 1994, 1997 and 2006 at sites described in Table 2–42. In 1993 or 1994, Fish, Little Fish, Wasp, Big Onion, Slim and Vick Lakes were sampled. In 1997, these lakes, with the exception of Wasp Lake, were sampled again and Little Onion Lake was sampled. In 2006, only Fish Lake was sampled.

Table 2-42 Lake Zooplankton Sampling Program, Prosperity Project

Site	Site Type	1993	1994	1997	2006
Big Onion Lake	Impact	✓	✓	✓	-
Fish Lake	Impact	✓	-	✓	✓
Little Fish Lake	Impact	✓	-	✓	-
Little Onion Lake	Impact	-	-	✓	-
Slim Lake	Control	-	✓	✓	-
Tête Angela Lake	Control	-	-	-	✓
Vick Lake	Control	-	✓	✓	-
Wasp Lake	Impact	✓	-	-	-

2.9.2.2 Field Methods

Prior to 1997, zooplankton were collected using vertical hauls at different depths, at the same locations where benthic invertebrates were collected. There was no information available about equipment used (mesh size, diameters) or depths sampled. Six samples were taken in each lake.

In 1997 and 2006, samples were collected at the deepest point of the lakes. One plankton net (12 cm diameter net, 60 µm mesh) was used in Fish, Big Onion, Vick and Slim Lakes in 1997 and in Fish Lake in 2006. A different net (17 cm diameter net, 929 cm² opening, 500 µm mesh) was used in Little Onion and Little Fish Lakes. The net was hauled vertically through the top 3 to 5 m of the water column at a constant rate of approximately 0.5m/sec. At the surface, the outside of the net was rinsed with de-ionized water to wash any adhered plankton down into the cod-end. The rinsate was decanted into a pre-labelled 500 mL wide mouth amber glass jar. The sample was preserved with 70% ethanol or 10% buffered formalin and stored in a cooler until sent to the laboratory for identification and enumeration. Five replicate samples (three from Little Onion Lake) were collected from each lake. The net was rinsed between samples with de-ionized water.

2.9.2.3 Taxonomic Analysis and Enumeration

Samples were shipped to Fraser Environmental Services (Surrey BC) for analysis. The total volume of each sample was measured, and a 50 mL subsample was examined in a petri dish using increasing powers of magnification to identify the species or genera present. Densely populated samples were diluted or smaller volumes were examined. Sparsely populated samples were concentrated by centrifugation or sedimentation.

Zooplankton were identified to species where possible or otherwise to genus or family. A list of the taxonomic keys used is provided in Appendix I.1.

Organisms were counted in three to five 1 mL aliquots removed from a well mixed sample. Aliquots were settled in a Sedgwick-Rafter cell for at least 15 minutes then organisms in the entire cell were counted using a strip counting method. The average of the total number of organisms per species or genus was calculated for aliquots then multiplied by the total sample volume to derive an estimate of abundance per sample. The estimates were standardized by dividing by the total lake water volume filtered (calculated by multiplying net diameter by length of water column sampled, assuming 100% filtering efficiency. The resulting measure of relative abundance/m³ was converted to abundance/L, a more commonly used unit of relative abundance.

Zooplankton were identified to species where possible or to genus or family.

2.9.2.4 Data Analysis

Because many organisms were not identified below family level, data were reported for higher taxonomic groups (Cladocera, Copepoda, Rotifera, Diptera, Protozoa). Cladocera were subdivided into daphnids and non-daphnids and copepods into Cyclopoida and Calanoida. The taxonomic composition of zooplankton collected in 1993–1994, 1997 and 2006 is showed in appendices I2, I3 and I4, respectively.

Average abundance (total and per taxon) and standard error (SE) were calculated for each lake. There were three cases where specimens of a genus were described as ‘present’ in a sample but rare, i.e., not counted in the aliquots but observed in the 50 mL subsample. These rare observations were converted to a numerical value for data analysis by assigning them a value equal to half the lowest counted density. For example, *Daphnia pulex* was “present” in one replicate from Little Onion Lake, so its abundance was calculated as 0.5 times the density of the least abundant organism (Diaptomidae, observed once in the aliquots.).

Many organisms were not identified below sub-order or order. Species diversity indices such as the Shannon-Wiener index are usually applied to species data. Applying this index to higher taxonomic levels, or mixed taxonomic levels underestimates diversity compared to values calculated from lower taxonomic levels, although it provides a relative pattern of diversity at sites and can be effective for comparing sites with similar data constraints (Hughes 1978). The Shannon-Wiener diversity index was calculated for each lake by pooling the number of each taxon counted in the replicates and then applying the following formula:

$$H' = - \sum_{i=1}^k p_i \log p_i$$

where k is the number of taxonomic categories, and p is the proportion of individuals found in taxonomic category i .

Data collected prior to 1997 included species not commonly considered zooplankton, e.g., ostracods and mollusks, but did not include rotifers and protozoans. Therefore, the data sets from before and after 1997 were not comparable in terms of total abundance or diversity indices. The 1993-1994 data were used in a more general way to compare densities of Cladocera, Copepoda, and Diptera taxa in the two phases. Numbers, reported

as organisms/L for each lower taxonomic level, were grouped into higher taxonomic levels (cladocerans, copepods and dipterans) for analysis. Similarly, the use of nets of different sizes and mesh in 1997 prevented the inclusion of all zooplankton results in among-lakes comparisons, and only lakes for which zooplankton samples were collected with a 60 µm net were considered. Pooled Shannon-Wiener diversity index values from 1993 and 1994 samples were originally calculated using logarithmic base e. These values were converted from $\log_e$ to $\log_{10}$ using the factor 0.4343.

2.9.3 Quality Assurance / Quality Control

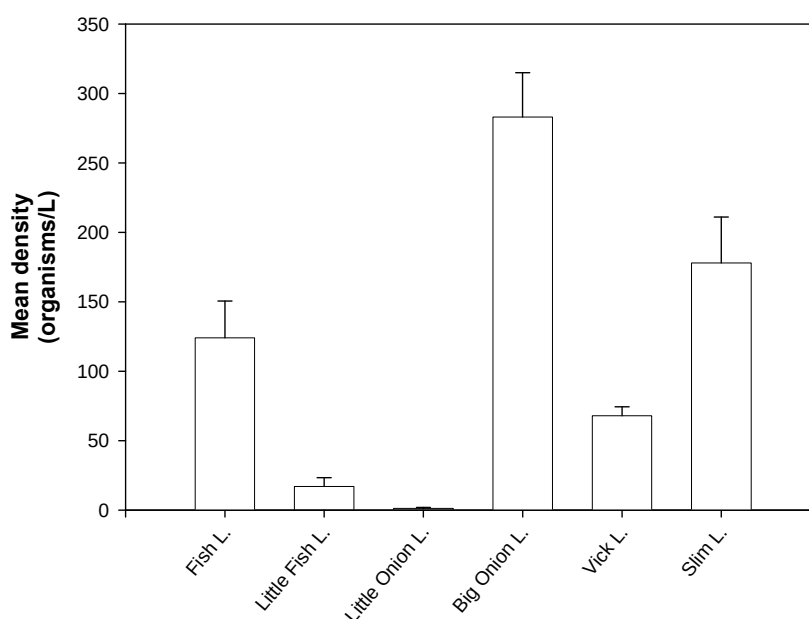
Fraser Environmental Services followed their internal laboratory QA/QC procedures for enumerating zooplankton. The quality assurance measures for ensuring accurate results included regular calibration of the inverted and compound microscopes at each power of magnification and daily establishment of Kohler illumination. Results of counting procedures were examined for statistical randomness and tested for agreement with a Poisson series using a Chi-squared test (variance to mean ratio).

2.9.4 Results

2.9.4.1 Abundance

Mean zooplankton density for lakes sampled in 1997 is shown in Figure 2–42. Samples collected with the 60-µm net had densities ranging from 68 organisms/L (Vick Lake) to 283 organisms/L (Big Onion Lake). Samples collected with the 500-µm mesh net had densities of 1.3 organisms/L (Little Onion Lake) to 17 organisms/L (Little Fish Lake), with the lower densities related to exclusion of rotifers when the larger mesh was used.

Figure 2-42 Zooplankton Density in Prosperity Project Area Lakes, 1997 (mean and standard error, n=5 except Little Onion Lake, with n=3)



2.9.4.2 Taxon Richness and Diversity

The number of taxa was lower in Little Fish and Little Onion Lakes (9 and 6 taxa, respectively), where the 500- μ m mesh net was used, than in the other four lakes (13 to 17 taxa), where the 60- μ m mesh net was used (Figure 2-43). Maximum taxon richness was reported for Fish Lake (17 taxa). The Shannon-Wiener diversity did not appear as sensitive to differences in sampling equipment, and ranged from 0.23 in Vick Lake to 0.88 in Big Onion Lake (Figure 2-44).

Figure 2-43 Zooplankton Taxon Richness in Prosperity Project Area Lakes, 1997 (mean, n=5 except Little Onion Lake, with n=3)

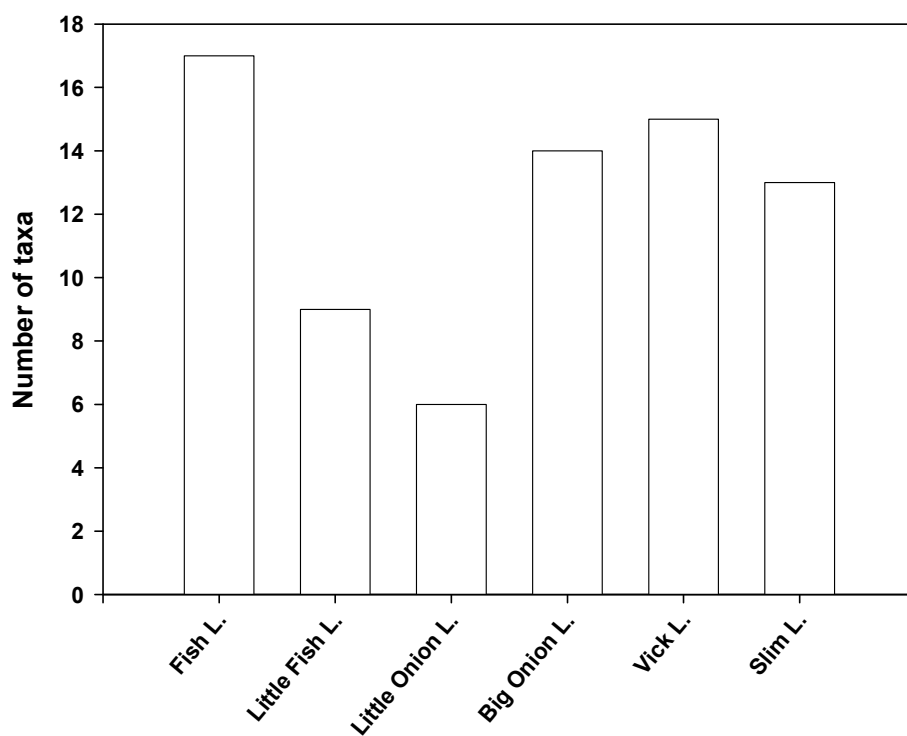
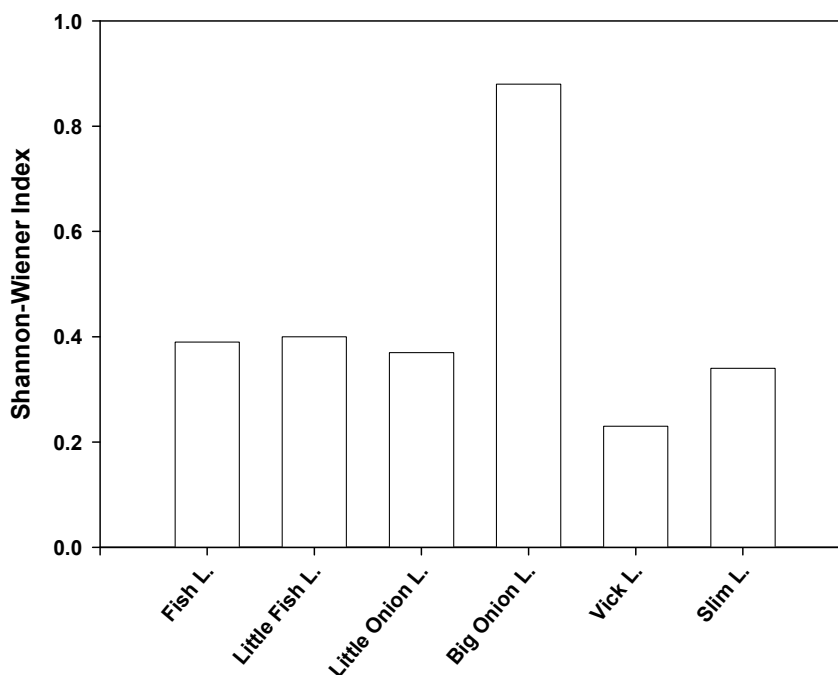


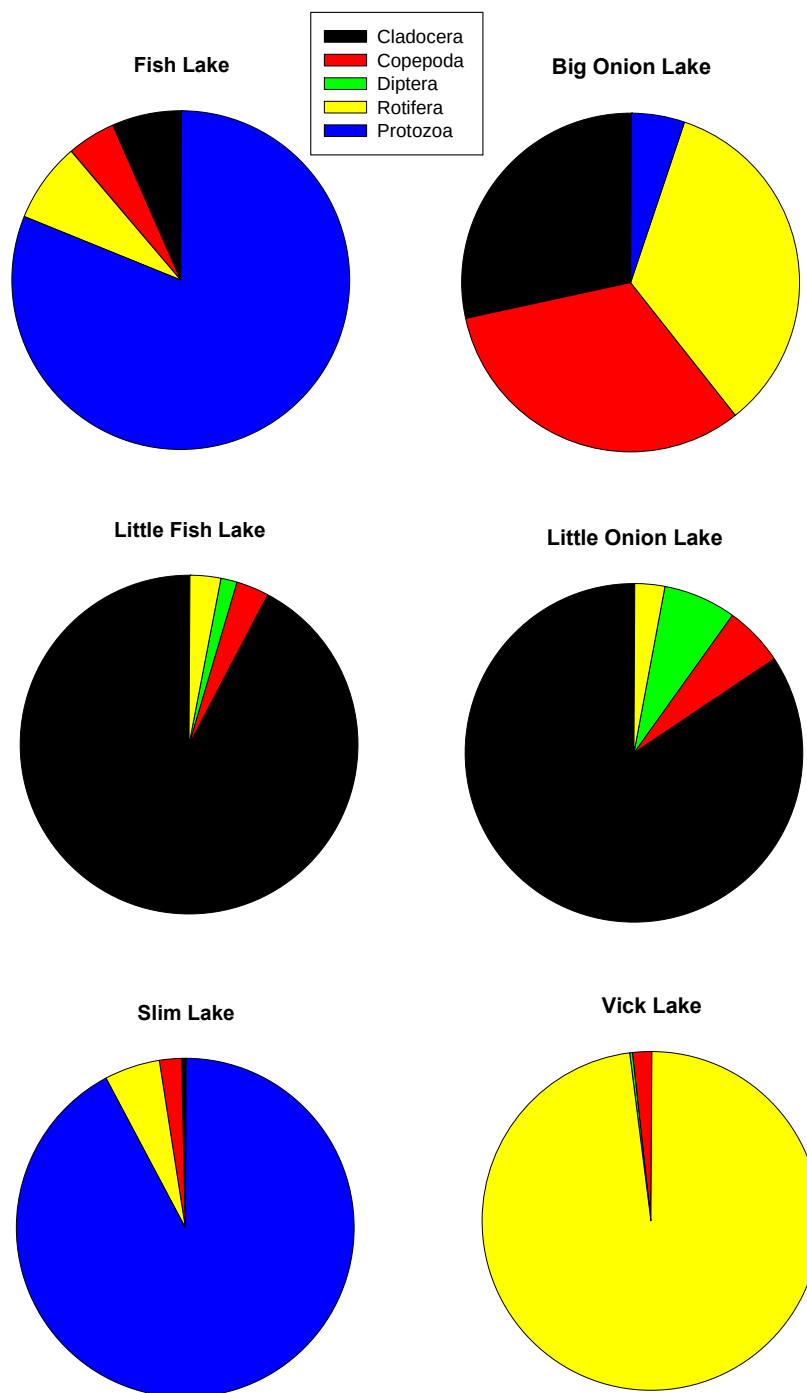
Figure 2-44 Zooplankton Diversity Index in Prosperity Project Area Lakes, 1997 (mean, n=5 except Little Onion Lake, with n=3)



2.9.4.3 Taxonomic Composition

In Little Fish and Little Onion lakes, where the 500- μ m mesh net was used, larger sized zooplankton, particularly Cladocera, were predominant and accounted for 92 and 82% of the total organisms (Figure 2-45). Smaller zooplankton were the most abundant organisms in the four lakes sampled with the 60 μ m mesh net, with Protozoa predominant (81 and 92%, respectively) in Fish and Slim Lakes and Rotifera predominant (97%) in Vick Lake.

Figure 2-45 **Zooplankton Composition in Prosperity Project Area Lakes, 1997**
(mean, n=5 except Little Onion Lake, with n=3)



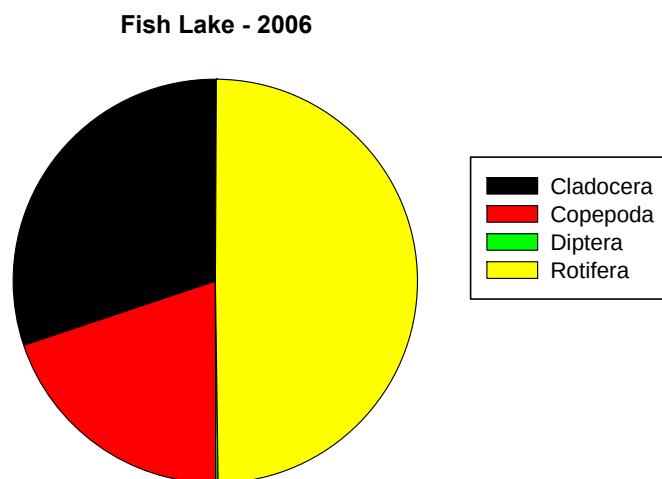
Fish Lake

Samples collected from Fish Lake in 1997 had a mean density of 124 organisms/L, intermediate compared with densities in other lakes sampled in 1997 (Figure 2–42). Taxon richness was the highest in this lake (17 taxa) and the resulting Shannon-Wiener diversity index (0.39) was comparable to values in four of the five other lakes. The community was dominated by the photosynthetic protozoan *Ceratium hirundinella*, with 81% abundance. Several species of rotifers were also observed, with 8% abundance (Figure 2–45, Appendix I).

Samples collected in 2006 had a mean density of 3500 organisms/sample, with a taxon richness of 30, higher than in 1997. Predominant taxa were the rotifer *Conochilus* sp. (40% abundance), *Daphnia pulicaria* (17%) and *Daphnia rosea* (11%). The protozoan *Ceratium* was not reported in 2006 (Figure 2–46, Appendix I.3).

Samples collected in 1993 had a mean density of 10.3 individuals/L (not converted to per L) and contained predominantly the daphnids *Daphnia pulex*, *D. rosea*, and *Ceriodaphnia* sp. (Appendix I.4, Hallam Knight Piesold 1995). No other Cladocera were identified, but there were low numbers of copepods reported (calanoid *Diaptomus* sp. and cyclopoid *Eucyclops* sp. and *Cyclops* spp.). Hydracarina (water mites) and Ostracoda (mussel shrimps), not typically included in zooplankton counts, were also reported in low numbers. The Shannon-Wiener diversity index calculated from pooled samples (n=6) was 0.48 and 17 taxa were counted.

Figure 2-46 Zooplankton Composition in Fish Lake, 2006 (mean, n=5)



Little Fish Lake

Low zooplankton densities were reported for Little Fish Lake samples (average = 17 organisms/L), almost certainly due to the large mesh size (500 µm) used for plankton hauls. There were nine taxa identified, with a Shannon-Wiener diversity index of 0.40. The majority of zooplankton (92%) were large sized Cladocera (*Daphnia pulex* and *D. rosea*). Ehippia (*Daphnia* eggs) were present in two replicates and small numbers of *Chaoborus* sp. and rotifers were reported. No cyclopoids or small-sized protozoans were reported (Appendix I.3).

Samples collected from Little Fish Lake in 1993 contained mainly the daphnid *D. rosea*, with some *D. pulex*, cyclopoids (*Eucyclops* sp. and *Cyclops* spp.) and calanoids (*Diaptomus* sp. and *Epishchura nevadensis*) and very low numbers of *Chaoborus* sp. The pooled diversity index was 0.46 and taxon richness was 16. Several benthic species were included in the data, i.e., Hydracarina, Procladius (chironomid), Staphylinidae (rove beetles), Ostracoda, and a mollusc species (Appendix I.4, Hallam Knight Piesold 1995).

Big Onion Lake

Samples collected from Big Onion Lake in 1997 had the highest density (283 organisms/L) and the highest Shannon-Wiener diversity index (0.88) among all lakes sampled. A total of 14 taxa were identified. A variety of taxa were present, with no clear dominance: 28% Cladocera, 32% Copepoda and 34% Rotifera. The cladoceran *Bosmina longirostris* was the most abundant taxon (26%), followed by cyclopoid copepodids (20%), the rotifer *Polyarthra* (15%), copepod nauplii (11%), and rotifer *Filinia* (10%).

Samples collected from Big Onion Lake in 1994 had a mean density of 10.3 organisms/L (Appendix I.4, Hallam Knight Piesold 1995), again related to mesh size. Non-daphnid cladocerans were predominant, with 78% *Sida crystalina*. Calanoids (*Diaptomus leptopous*, copepodids) were present and very low densities were reported for *Daphnia schodleri* and *Bosmina longirostris*. The Shannon-Wiener diversity index for the six pooled samples was 0.32 and the total number of taxa was 8. Corixidae (water boatmen) and Gammaridea (amphipods) were included in the data.

Little Onion Lake

The mean zooplankton density for Little Onion Lake (1.13 organisms/L) was the lowest among all lakes monitored in 1997, and can be attributed to the use of the 500 µm net. Taxon richness was 6. Cladocera (*D. pulex* and immature *D. rosea*) were predominant, calanoid (Diaptomidae) and cyclopoid (copepodid) copepods were present in very low numbers and the rotifer *Kellicottia longispina* and dipteran *Chaoborus* sp. were rare.

Vick Lake

The mean zooplankton density in samples from Vick Lake samples collected in 1997 was 68 organisms/L, with 15 taxa identified and a Shannon-Wiener diversity index of 0.23 (lowest of all lakes, due to the uneven species distributions). Rotifers were predominant (98% of the total), mainly *Keratella cochlearis*. Copepoda and five other rotifer families were present in low numbers, but no Cladocera or protozoa were reported.

Samples collected in 1994 from Vick Lake had a mean density of 1.2 organisms/L. The pooled diversity index was 0.44 and 12 taxa were reported. Common taxa included the cladocerans *D. pulex*, *D. schodleri* and *S. crystalina*, with lower abundance of the calanoid *Diaptomus* sp. and cyclopoid *Cyclops* sp. and phantom midge *Chaoborus* (Appendix I.4, Hallam Knight Piesold 1995).

Slim Lake

Zooplankton density in Slim Lake samples collected in 1997 was 178 organisms/L, the second highest among the lakes sampled. Taxon richness was 13 taxa and the Shannon-Wiener diversity index was 0.34. Protozoa were predominant, comprising 93% of the zooplankton. *D. pulex* was present in low numbers, along with some calanoids, cyclopoids and rotifers.

In 1994, the Slim Lake samples contained lower average densities (2.22 organisms/L). Taxon richness was 12 (four of which were not zooplankton) and the diversity index was 0.51. Cladocera were predominant (*Daphnia schodleri*, with occasional *Sida crystalina* and *Ceriodaphnia*). The copepods were mostly calanoids (*Diaptomus* spp. and copepodids). *Chaoborus* was present (Appendix I.4, Hallam Knight Piesold 1995).

Wasp Lake

Wasp Lake was sampled in 1994 but not in 1997, and had low total zooplankton densities (0.10 organisms/L), lower than for other lakes sampled that year. The diversity index was 1.12 and a total of 35 taxa were counted, many of which were non-zooplankton taxa (e.g., Gastropoda, Bivalvia, Oligochaeta, Nematoda, Porifera, Hemiptera). The samples contained several species of daphnids (*D. pulex*, *D. rosea* and *D. parvula*) and cyclopoids (*Eucyclops* spp., *Cyclops* spp., and *Acrocyclops albidus*), most of which were present in only one or two samples (Appendix I.4, Hallam Knight Piesold 1995).

2.10 References

- Ankley, G.T., Di Toro, D.M., Hansen, D.J. and W.J. Berry. 1996. Technical basis and proposal for deriving sediment quality criteria for metals. *Envir. Tox. Chem.* 15: 2056-2066.
- Aquamin. 1996. Assessment of the aquatic effects of mining in Canada. Aquamin Final Report.
- Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.
- Biggs, B.J. 1996. Patterns in benthic algae of streams. In: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe (eds.), *Algal ecology: freshwater benthic ecosystems*. Academic Press. San Diego. pp. 31-56.
- Bott, T.L., J.T. Brock, C.S. Dunn, R.J. Naiman, R.W. Ovink, and R.C. Petersen. 1985. Benthic community metabolism in four temperate stream systems: an inter-biome comparison and evaluation of the river continuum concept. *Hydrobiologia* 123: 3-45.
- Branner, J.M., R.H. Plumb, and I. Smith, Jr. 1980. Long-term release of heavy metals from sediments. In: R.A. Baker (Ed.) *Contaminants and sediments*, Vol. 2. Ann Arbor Science Publishers Inc., Michigan. Pp. 221-266.
- British Columbia Environmental Assessment Office (BC EAO). 1998. Project Report Specifications for the Taseko Project.
- Brook, E.J. and J.N. Moore. 1988. Particle-size and chemical control of As, Cd, Cu, Fe, Mn, Ni, Pb, and Zn in bed sediment from the Clark Fork River, Montana (U.S.A.). *Science of the Total Environment* 76: 247-266.
- Canadian Council of Ministers of the Environment (CCME). 2004. Canadian environmental quality guidelines. Chapter 4 Canadian Water Quality Guidelines for the Protection of Aquatic Life. Canadian Council of Ministers of the Environment, Winnipeg, Manitoba.
- Campbell, P.G.C., Chapman, P.M. and B.A. Hale. 2006. Risk Assessment of Metals in the Environment. Issues in Environmental Science and Technology, No. 22. Chemicals in the Environment: Assessing and Managing Risk. The Royal Society of Chemistry, 2006.

- Carbonaro, R.F., J.D. Mahony, A.D. Walter, E.V. Halper and D.M. Di Toro. 2005. Experimental and modeling investigation of metal release from metal-spiked sediments. *Envir. Tox. Chem.* 24: 3007-3019.
- CB Research International Corporation. 1995a. Water quality station descriptions. Appendix L. Prepared for Taseko Mines Limited, Vancouver, BC.
- CB Research International Corporation. 1995b. Periphyton data from water quality stations in the Prosperity Project area. Appendix J. Prepared for Taseko Mines Limited, Vancouver, BC.
- Clark, M.J.R. (editor). 1996. *British Columbia Field Sampling Manual*. Laboratory and Systems Management, Environmental Protection Department, Ministry of Environment, Lands and Parks, Victoria, BC, Canada. 312 pp.
- Clesceri, L.S., A.E. Greenberg, and R.R. Trussel (eds.). 1989. *Standard methods for the examination of water and wastewater*. 17th ed. APHA-AWWA-WPCF.
- Crossey, M.J. and T.W. LaPoint. 1988. A comparison of periphyton community structural and functional responses to heavy metals. *Hydrobiologia* 162: 109-121.
- Cyr, H. 1998. Cladoceran- and copepod-dominated zooplankton communities graze at similar rates in low-productivity lakes. *Can. J. Fish. Aquat. Sci.* 55: 414-422.
- Gibbons, W.N., M.D. Munn, and M.D. Paine. 1993. Guidelines for monitoring benthos in freshwater environments. Prepared for Environment Canada by EVS Consultants, North Vancouver, BC.
- Environment Canada. 2002. *Metal Mining Guidance Document for Aquatic Environmental Effects Monitoring*. Environment Canada
- Grosell, M., Gerdes, R.M. and K.V. Brix. 2006. Chronic toxicity of lead to three freshwater invertebrates – *Brachionus calyciflorus*, *Chironomus tentans*, and *Lymnaea stagnalis*. *Envir. Tox. Chem.* 25: 97-104.
- Hallam Knight Piesold. June 1994. Fisheries and aquatic resources of the Fish Lake Project Area data report. Prepared for Taseko Mines Limited, Vancouver, BC.
- Hallam Knight Piesold Ltd. (HKP). 1995. Aquatic resources of Fish Lake, Fish Creek and related fish habitat compensation sites. Report prepared for Taseko Mines Limited, Vancouver, BC.
- Hare, L. and A. Tessier. 1998. The aquatic insect *Chaoborus* as a biomonitor of trace metals in lakes. *Limnol. Oceanog.* 43: 1850-1859.
- Hook, S.E. and N.S. Fisher. 2001. Sublethal effects of silver in zooplankton: importance of exposure pathways and implications for toxicity testing. *Envir. Tox. Chem.* 20: 568-574.
- Horne, A.J. and C.R. Goldman. 1994. *Limnology*. 2nd Ed. McGraw-Hill, Inc. New York.
- Horner, R.R., E.B. Welch, M.R. Seeley, and J.M. Jacoby. 1990. Responses of periphyton to changes in current velocity, suspended sediment and phosphorus concentration. *Freshw. Biol.* 24: 215-232.
- Horner, R.R., E.B. Welch, and R.B. Veenstra. 1983. Development of nuisance periphytic algae in laboratory streams in relation to enrichment and velocity. In: R.G. Wetzel (ed), *Periphyton of freshwater ecosystems*. Dr. W. Junk Publishers. The Hague. pp. 121-134.
- Horowitz, A.J. 1991. *A primer on sediment-trace element chemistry*. Second edition. Lewis Publishers, Michigan. 136 pp.
- Hughes, B.D. 1978. The influence of factors other than pollution on the value of Shannon's Diversity index for benthic macro-invertebrates in streams. *Water Research* 12: 359-364.

- Lirette, M.G. and B.B. Chapman. 1993. Winter limnological survey of selected lakes in central British Columbia, an assessment of winter kill risk. B.C. Ministry of Environment, Regional Fisheries Report No. CA 935. 21 p.
- Lyford, J.H., and S.V. Gregory. 1975. The dynamics and structure of periphyton communities in three Cascade Mountain streams. *Verh. Internat. Verein. Limnol.* 19: 1610-1616.
- Manahan, S.E. 1984. *Environmental Chemistry*, 4th Ed. Willard Grant Press, Boston. Pp. 612.
- Mazumder, A. 1994. Patterns of algal biomass in dominant odd vs. even-link ecosystems. *Ecology* 75:1141-1149.
- Ministry of Environment (MOE). 1997a. BC Freshwater Biological Sampling Manual (1997). Resources Information Standards Committee. Available at:
<http://ilmbwww.gov.bc.ca/risc/pubs/aquatic/freshwaterbio/index.htm>
- Ministry of Environment (MOE). 1997b. Lake and Stream Bottom Sediment Sampling Manual. Resources Information Standards Committee. Available at:
<http://ilmbwww.gov.bc.ca/risc/pubs/aquatic/lake-stream/index.htm>
- Ministry of Environment (MOE). 2006. British Columbia Approved Water Quality Guidelines, 2006 Edition. Science and Information Branch.
http://www.env.gov.bc.ca/wat/wq/BCguidelines/approv_wq_guide/approved.html
- Moss, B. 1968. The chlorophyll 'a' content of some benthic algal communities. *Arch. Hydrobiol.* 65: 51-62.
- Mudroch, A. and S.D. MacKnight. 1991. *Handbook of techniques for aquatic sediments sampling*. CRC Press. Boca Raton.
- Nagpal, N.K., L.W. Pommen and L.G. Swain. 2006. A compendium of working water quality guidelines for British Columbia. Environmental Protection Division, Ministry of Environment.
http://www.for.gov.bc.ca/hfd/library/ffip/Nagpal_NK2001.pdf
- Nordin, R.N. 1985. Water quality criteria for nutrients and algae (Technical Appendix). Water Quality Unit, Resource Quality Section, Waste Management Branch, British Columbia Ministry of Environment, Victoria.
- Perrin, C.J., M.L. Bothwell, and P.A. Slaney. 1987. Experimental enrichment of a coastal stream in British Columbia: effects of organic and inorganic additions on autotrophic periphyton production. *Can. J. Fish. Aquat. Sci.* 44: 1247-1256.
- Power, E.A. and P.M. Chapman. 1992. Assessing sediment quality. In: G.A. Burton (Ed.) *Sediment Toxicity Assessment*. Lewis Publishers, Inc. Michigan. pp. 1-18.
- Reiberger, K. 1992. Metal concentrations in fish tissue from uncontaminated BC lakes. BC Ministry of Environment, Lands and Parks, Water Quality Branch, Victoria, BC.
- Rosenberg, D. M. and V.H. Resh. 1993. Introduction to freshwater biomonitoring and benthic macroinvertebrates. Pages 1-9 in D.M. Rosenberg and V.H. Resh (eds.). *Freshwater biomonitoring and benthic macroinvertebrates*. Chapman and Hall, New York.
- Salomons, W., N.M. de Rooij, H. Kerdijk, and J. Bril. 1987. Sediments as a source for contaminants? *Hydrobiologia* 149: 13-30.
- Salomons, W. and U. Forstner. 1984. *Metals in the Hydrocycle*. Springer-Verlag, Berlin. Pp. 349.
- SAS Institute Inc. 2005. JMP IN 5.1, the statistical discovery software. SAS Institute Inc., Cary, North Carolina.

- Shaw, J.R., T.D. Dempsey, C.Y. Chen, J.W. Hamilton and C.L. Folt. 2006. Comparative toxicity of cadmium, zinc, and mixtures of cadmium and zinc to Daphnids. *Envir. Tox. Chem.* 25: 182-189.
- Sheehan, S.W., G.L. Ennis, and R.L. Hallam. 1980. A water quality study of the Flathead River Basin in British Columbia prior to proposed coal mining. Water Quality Branch, Inland Waters Directorate, Environment Canada, Pacific and Yukon Region.
- Smock, L.A. 1983. Relationship between metal concentrations and organism size in aquatic insects. *Freshw. Biol.* 13: 313-321.
- St-Cyr, L. A. Cattaneo, R. Chasse and C. Fraikin. 1997. Technical evaluation of monitoring methods using macrophytes, phytoplankton and periphyton to assess the impacts of mine related effluents on the aquatic environment. Report prepared for the AETE program, CANMET, Natural Resources Canada, Ottawa, Ont.
- Stevenson, R.J. 1996. An introduction to algal ecology in freshwater benthic habitats. In: R.J. Stevenson, M.L. Bothwell, and R.L. Lowe (eds.). *Algal ecology: freshwater benthic ecosystems*. Academic Press. San Diego. pp. 3-30.
- Talisman Land Resource Consultants Inc. 1999. Prosperity Project Soil Survey 1996-1997-1998. Prepared for Taseko Mines Ltd. March 1999.
- Tessier, A., and P.G. Campbell. 1987. Partitioning of trace metals in sediments: relationships with bioavailability. *Hydrobiologia*: 149: 43-52.
- Triton Environmental Consultants Ltd. 1999. Various unpublished manuscripts of baseline data.
- Vadstein, O., O. Brekke, T. Andersen and Y. Olsen. 1995. Estimation of phosphorous release rates from natural zooplankton communities feeding on planktonic algae and bacteria. *Limnol. Oceanogr.* 40:250-262.
- Westlake, D.F., M.S. Adams, M.E. Bindloss, G.G. Ganf, G.C. Gerloff, U.T. Hammer, P. Javornicky, J.F. Koonce and A.F. Marker. 1980. Primary production. In: E.D. LeCren and R.H. Lowe-McConnell. *The functioning of freshwater ecosystems*. Cambridge University Press. Cambridge. pp. 141-246.
- Wetzel, R.G. 2001. *Limnology*. W.B. Saunders Co. Philadelphia. 743 pp
- Wilding, J. and L. Maltby. 2006. Relative importance of aqueous and dietary metal exposure to a freshwater crustacean: implications for risk assessment. *Envir. Tox. Chem.* 25: 1795-1801.
- Zar, J.H. 1984. *Biostatistical analysis*, 2nd ed. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Appendix A Stream and Lake Water Protocols

Contents

- Appendix A1 Protocols For Collecting, Preserving And Shipping
Surface Water Quality Samples 1992–2007**
- Appendix A2 Quality Assurance / Quality Control Protocol for the
Surface Water Quality Program 1992–2007**

**Appendix A1 Protocols For Collecting, Preserving And Shipping
Surface Water Quality Samples 1992–2007**

WATER QUALITY SAMPLING

The surface water quality sampling program consisted of two interrelated components: field measurements (dissolved oxygen [DO], temperature, pH, conductivity and salinity), and collection of water samples for laboratory analyses (general chemistry, total metals and dissolved metals). Water samples were collected from streams and lakes in between 1992 and 1998 and in 2006.

1. FIELD PREPARATION

In order to prepare for field sampling, the following steps were taken:

- sample bottles were pre-labelled with ALS Environmental labels using permanent ink; all the bottles for each station were placed into labelled bags until sample collection;
- the conductivity and pH meters were calibrated each day before going into the field;
- coolers, bottles, Milli-Q™ water, syringes, filters and gloves were stored in a clean room and made ready for the following sampling day;
- the water sampling field note template was completed;
- several freezer packs or bottles filled with water (marked “water”) were placed in the freezer in preparation for use; and,
- a properly labeled (i.e., date) travel blank was taken into the field.

2. STREAM SAMPLING

Upon arrival at each sampling site:

- sampling location (UTM with GPS), time, weather and air/water temperature were recorded in a field book;
- site specific observations including high/low flow, unusual water conditions (e.g., unusually muddy water), actively eroding banks, coloured water seeping from the ground into the water course, absence/presence of wildlife etc. were also recorded.
- a photograph was taken to document any changes;
- pH, conductivity, temperature and dissolved oxygen were measured with a YSI dissolved oxygen meter and recorded at each sampling site. Prior to using the YSI at each site, equipment was calibrated to consider elevation.

It was recommended that monitors collect water samples from mid-stream rather than from the stream bank; however, this was only done when flow conditions were safe

for wading in, and each monitor had a pair of waders. The following procedures were followed if wading was performed:

- care was taken to ensure the inner surface of the sample bottle lid remained untouched, was not pointed into the wind and that dirt or dust did not collect on the inside of the lid;
- the monitor stood perpendicular to the flow and faced upstream;
- the bottle was held well below the neck and quickly forced beneath the surface and oriented into the current, so water that entered the bottle came from below the surface;
- once the bottle was full it was removed from the water by being forced forward (into the current) and upwards;
- the cap was replaced immediately and
- samples requiring filtration and/or preservation were dealt with as soon as possible after returning to shore.

In situations where the current was too strong, water was too deep, or ice was too thin, samples were collected from the stream or river bank following these procedures:

- a site where the stream bank was solid and sediment would not be knocked into the water while working on the bank was selected;
- the appropriate sample bottle was obtained, the lid removed and held aside, and care was taken to ensure the inner surface of the sample bottle lid remained untouched, was not pointed into the wind and that dirt or dust did not collect on the inside of the lid;
- the bottle was held well below the neck and quickly forced beneath the surface and oriented into the current, so water that entered the bottle came from below the surface;
- once the bottle was full it was removed from the water by being forced forward (into the current) and upwards, and
- the cap was replaced immediately.

Winter Samples

Samples taken in winter presented extra elements of danger. Caution was always used when proceeding over ice and safety was never jeopardized. Ice was checked for thickness with a rod or ice chisel every few steps (ice should have a minimum of three to four inches of thickness). When the ice was safe, the following steps were used to collect a water sample:

- loose ice and snow was cleared from the sampling location, and a hole drilled through the ice with a hand-held auger. The area around the hole was kept clear of potential contamination (e.g., dirt, oil);
- all ice chips and slush were removed from the hole, using a plastic sieve;
- pH and conductivity meters were kept warm and never exposed to air temperatures lower than -10 oC for any long period of time.

Overwintering sites consisted of both deep water pools and shallower riffle areas. Sites were marked with rebar and flagging tape and GPS site co-ordinates were noted. Both habitat types were measured for depth, water temperature and dissolved oxygen. Where the stream was frozen over, a hole was made with a power auger. Water depth and ice thickness were measured with a tape measure. There were a variety of unusual conditions that may have been encountered in sampling through ice, such as meltwater below the snow on the ice surface, or a slushy stratum within the ice itself. All these conditions were noted in the field.

Water Collection

Before May 1997, five polyethylene bottles were filled at each sample site:

- a 1-litre sample for general parameters, not preserved;
- a 1-litre sample for cyanides, preserved with NaOH;
- a 500-mL sample for mercury, preserved with 1 mL of HNO₃ (from 1992 to 1995 only);
- a 250-mL sample for total metals, preserved with 1 mL of HNO₃; and
- a 250-mL sample for dissolved metals, which was filtered with a 0.45 µm cellulose filter (1992 to mid-1995) or during collection with a 0.4 µm filter (mid-1995 to 1996), then preserved with 1 mL of HNO₃.

Before sampling, bottles for the general parameters and total metals, including mercury, were rinsed three times with creek water, the cyanide bottle was not rinsed and the bottle for dissolved metals was only rinsed with filtered creek water, with the filter changed before sample collection.

In 1997–1998, three polyethylene bottles were filled at each sample site as follows:

- a 1-litre sample for general parameters, not preserved;
- a 250-mL sample for total metals, preserved with 1 mL of HNO₃; and
- a 250-mL sample for dissolved metals, which was filtered during collection and preserved with 1 mL of HNO₃.

Sample bottles for dissolved and total metals were acid washed in the laboratory, so were not rinsed in the field. The bottle for general chemistry was rinsed three times with creek water only if it appeared dusty or particles of dirt had fallen into the bottle.

In 2006, methods were similar to those used in 1997–1998, with the following modifications:

- bottles were not rinsed in the field before water collection; samples for dissolved metals were filtered in the lab rather than the field;
- in situ parameters (temperature, dissolved oxygen, pH and conductivity) were measured at each site and sampling date using a YSI meter and occasionally a hand held conductivity meter calibrated before each field trip; and
- dissolved organic carbon was measured in 2006, whereas total organic carbon was measured in 1997-1998.

At all times great care was taken to avoid touching any area of the bottle, lid, syringe or filter that came in contact with the sample water. Plastic gloves supplied by ALS were worn during sampling; and once filled, bottles were replaced in the cooler. The same procedures were used to collect duplicate or triplicate samples as required.

3. LAKE SAMPLING

Water samples were collected from the deepest point in each lake. The approximate location of the deepest part of the lake was identified using bathymetric maps and referencing surrounding terrain features. In the spring, summer, and fall, each sample location was accessed by boat. During the winter, the lake was accessed by helicopter or snowmobile and crews augured a hole in the ice in the same manner as the stream sampling described above.

Before May 1997, sampling sites in the centre of the lakes were accessed with an inflated boat during the ice-free season. Samples were collected from 0.25 m depth by immersing the bottles to that depth. Five samples were collected in each lake, as described before for streams; however, on August 29, 1994, only one sample for general parameters was collected from Fish Lake. Dissolved oxygen and temperature depth profiles of the lakes were obtained using a YSI meter.

After May 1997, water quality samples and depth profiles were obtained from adjacent replicate sites at the deepest point of each lake. The sampling area was identified using bathymetric maps and referencing surrounding terrain features, and was accessed, during the ice-free season, using an aluminium boat with an electric motor. During winter, the lake was accessed by helicopter or snowmobile. At each depth, three sample bottles were collected, as described for stream samples. In 1997-1998, samples were collected from 0.5 m and either 3 m or 5 m using a van Dorn sampler. In 2006 and 2007, water samples were collected only from Fish Lake using a modified Van Dorn sampler, at three depths corresponding to the epilimnion, metalimnion and hypolimnion during stratified periods (0.5 m, 5 m and 10 m). Temperature and dissolved oxygen depth profiles were measured using a calibrated YSI meter (model 51B, 57 or 85). The YSI meter was calibrated as per the operating instructions, and the manufacturer's directions for storage and transportation were followed. Readings were taken at 0.5 or 1.0 m intervals, from the subsurface to approximately 0.5 m above the bottom. The probe was allowed to equilibrate (a steady reading on the meter) at each depth before recording the value. As a quality control measure, readings were recorded twice, once as the probe descended, and again as it ascended.

4. STORAGE AND SHIPMENT OF SAMPLES

Immediately upon return to camp, water samples were placed in the refrigerator. The refrigerator was kept clean and samples stored on upper shelves so that potential contaminants did not fall onto the sample bottles. The following guidelines applied to bottles being prepared for shipping to ALS:

- samples were handled in a clean area, free of dust and other contaminants;
- smoking was not permitted while samples were being handled;

- sample handling was minimised as much as possible; and,
- Chain of Custody forms were completed, and bottle labels were double checked for consistency with the forms.

Packing of samples for shipment was conducted using the following protocol:

- samples were securely packed upright in a cooler with sufficient ice-packs to keep them cool during shipment (if there was a shortage of ice-packs, frozen one litre bottles of water were used. These bottles were clearly marked as ice packs so the lab did not analyse the water);
- unpreserved samples most likely to deteriorate were kept closest to the ice packs (general water sample);
- the travel blank was placed in the cooler with the other samples;
- the completed Chain of Custody forms were enclosed in a sealed zip lock bag and placed in the corresponding cooler on top of the samples, and
- the cooler was sealed with heavy duty packing tape and labelled appropriately.

The following protocols were followed when shipping samples to the laboratory for analysis:

- every effort was made to have samples arrive at ASL within 48 hours of collection;
- in order to prevent long holding times, field schedules were co-ordinated with transportation times, and
- if samples were going to be delayed in shipment, they were kept refrigerated in camp.

Field Notes/Follow up

In 1997–1998, at the ending of each sampling day field notes were removed from the field note book and photocopied. The notes were then placed into an office note book, and the photocopies filed in the filing cabinet away from the office. In case of fire, field notes were never kept in the same building as the photocopies. When the sampling trip had ended, all notes were entered into an Excel spreadsheet. Field notes were faxed to Triton Environmental Consultants Ltd. (Triton) every two weeks, during the high and low surface water sampling period, and immediately after each monthly sampling period. Each month an electronic version of the field notes was shipped on a 3.5” diskette to Triton. Chain of Custody forms were retained for on-site files and faxed to Triton.

**Appendix A2 Quality Assurance / Quality Control Protocol for the
Surface Water Quality Program 1992–2007**

QA/QC STREAMS AND LAKES

The QA/QC program was built into the water sampling procedures and was used to minimise sampling error, sample contamination and erroneous results, and to quantify any bias in the resulting data. It was also designed to modify the protocols to eliminate eventual sources of contamination. The laboratory also had QA/QC protocols to check internal procedures (method blank, reference materials). Specifically, the QA/QC was designed to ensure that the water samples were not contaminated throughout the collection and analytical processes and that the lab results reflected the actual chemistry of natural waters in the Prosperity Project study area.

1. FIELD COMPONENT

An important component of the field quality control was to ensure that the individuals collecting the samples were properly trained and familiar with the procedures in order to avoid sample contamination during handling. Other main components of the QA/QC field program were the field blanks, travel blanks and replicate samples. All the necessary bottles for each of these samples were supplied by ASL. The following is a description of each QA/QC method. The expression “sampling trip” is used to refer to the collection of all the water samples required in any week. A sampling trip may have lasted from one to four days depending on the number of sites that were to be sampled in a particular week.

Field Blanks (FB)

These were samples that were processed in exactly the same way as the samples that were collected in the field, however, instead of using water from the creeks and lakes the bottles were filled with Milli-Q™ water supplied by the analytical laboratory. Field blanks were exposed to the sampling environment at the sample site. Consequently, they provided information on contamination resulting from the handling technique and through exposure to the atmosphere. For each sampling trip there was one field blank prepared for each type of sample collected on that trip. However, it was the responsibility of the environmental monitors to collect additional field blanks for dissolved and total metals at any time when they felt that prevailing conditions during sampling (e.g., dust, heavy rain, very windy) may have contaminated water samples. Field blanks were processed during the whole 1997–1998 program and although originally included in the 2006–2007 sampling program, the use of field blanks was discontinued after the July 2006 field trip, as it was judged that filtering of samples in the laboratory and use of the travel blank would provide enough of a QA/QC control measure.

Travel Blanks

Travel blanks provided by the analytical laboratory were used to detect potential sample contamination during shipping and handling. These blanks consisted of sets of three bottles similar to those used for regular samples, but filled with

Milli-Q™ water. The blank traveled unopened with the other sample bottles from the laboratory to the field and back to the laboratory. During 1997–1998, three sets of travel blanks were used for each field trip (one for each sampling day); in 2006–2007, only one travel blank set accompanied the bottles for each field trip.

Replicate Samples

Replicate samples consisted of samples from a same site being collected in duplicate or triplicate at the same time and in the same manner, and preserved, shipped and analyzed in exactly the same way. They fulfilled two purposes: to describe the natural variation of the water chemistry at each site and to check for consistency in sampling, handling and analytical procedures.

2. ANALYTICAL COMPONENT

The Project Report Specifications for the Prosperity Project detailed the required methods for assuring data quality. The four main areas were: detection limits, precision, bias, and sample hold times.

Detection Limits

The first concern of the QA/QC analysis was to identify sample numbers (or batches) containing contaminated blank samples, defined as those with a detectable level of a given parameter. This information could then potentially be used to explain any outlying parameter concentrations in water samples. The data reported for both the field and travel blanks were examined for batches containing parameters with a reported value greater than the detection limit. The date and blank number were then used to identify the sample number (or batch) from the database. All of the data for sites and parameters associated with potentially contaminated blanks were plotted by variable and site for the sampling period. These graphs were examined to identify outliers in the data which were related to sample numbers containing potentially contaminated blanks.

Precision

The PRS state that field duplicates should have a difference of no more than 25% of their mean and triplicates should have a percent relative standard deviation of no more than 20%, when replicate values collected at the same time and location are all greater than or equal to five times the detection limit. All replicates were verified for these criteria.

Bias

For the 1997/98 sampling program no in-house reference samples were utilised as the lab had its own internal testing and certification program. The use of reference samples is not a requirement of the PRS but may be required for future monitoring of the project.

Sample Hold Times

The PRS list the following parameters as being sensitive to the time between field collection and laboratory analyses (hold time):

- 48 hours: nitrite, ortho-phosphorus and total dissolved phosphorus
- 72 hours: pH, specific conductivity, turbidity, alkalinity, organic carbon, ammonia and nitrate

Samples that exceeded the recommended hold times were checked for potential outlier values. This was accomplished by examining results for each parameter analysed in samples which exceeded the recommended hold. These results were compared against the mean value for each parameter at a given station. Parameters whose values exceeded the mean + 2 * standard deviations were flagged.

In order to determine the effect of hold times on the Prosperity Project water samples, ASL performed a basic study by analysing samples within 48 hours and then again at seven days and 14 days. Conclusions from this limited study revealed that “parameters in most cases seem to be within analytical variability when the results are greater than ten times the detection limits” (ASL 1998).

References

Analytical Service Laboratories Ltd. 1998. Analysis of Hold Times on Water Quality Parameters. Vancouver, British Columbia.

Appendix B Stream Water Data

Contents

Appendix B1	Appendix Table B1 QAQC results Blanks 1992 to 1996
Appendix B2	Appendix Table B2 QAQC results Blanks 1997 to 1998
Appendix B3	Appendix Table B2 QAQC results Blanks 2006
Appendix B4	Appendix Table B4 QAQC results Duplicates 1992 to 1996
Appendix B5	Appendix Table B5 QAQC results Duplicates 1997 to 1998
Appendix B6	Appendix Table B6 QAQC results Duplicates 2006
Appendix B7	Appendix Table B7 QAQC results Triplicates 2006
Appendix B8	Appendix Table B8 Raw Data Streams 1992 to 2006
Appendix B9	Appendix Tables Summary for Streams:
	Appendix Table B9-1 Summary for Fish Creek, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-2 Summary for Taseko River, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-3 Summary for Beece Creek, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-4 Summary for Tete Angela Creek, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-5 Summary for Big Onion System, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-6 Summary for Groundhog Creek, All Sites and All Dates, 1992 to 2007
	Appendix Table B9-7 Summary for Vick Creek, All Sites and All Dates, 1992 to 2007

Appendix B10 Appendix Tables Summary for Sites:

Appendix Table B10-1 Water Quality Summary for Fish Creek W1, 1992 to 2006

Appendix Table B10-2 Water Quality Summary for Fish Creek W2, 1992 to 2006

Appendix Table B10-3 Water Quality Summary for Fish Creek W3, 1992 to 2006

Appendix Table B10-4 Water Quality Summary for Fish Creek W7, 1992 to 1997

Appendix Table B10-5 Water Quality Summary for Fish Creek W8, 1992 to 2006

Appendix Table B10-6 Water Quality Summary for Taseko River W4, 1992 to 1998

Appendix Table B10-7 Water Quality Summary for Taseko River W5, 1992 to 2006

Appendix Table B10-8 Water Quality Summary for Taseko River W6, 1992 to 2006

Appendix Table B10-9 Water Quality Summary for Taseko River W9, 1992 to 1998

Appendix Table B10-10 Water Quality Summary for Taseko River W14, 1992 to 2006

Appendix Table B10-11 Water Quality Summary for Taseko River W19, 1997 to 1998

Appendix Table B10-12 Water Quality Summary for Taseko River W20, 1997 to 1998

Appendix Table B10-13 Water Quality Summary for Beece Creek W12, 1992 to 1998

Appendix Table B10-14 Water Quality Summary for Beece Creek W12, 1992 to 1998

Appendix Table B10-15 Water Quality Summary for Tete Angela Creek W17, 1992 to 1998

Appendix Table B10-16 Water Quality Summary for Tete Angela Creek W18, 1992 to 1998

Appendix Table B10-17 Water Quality Summary for Tete Angela Creek WA, 2006

Appendix Table B10-18 Water Quality Summary for Big Onion Lake outlet W10 and W10A, 1992-2006

Appendix Table B10-19 Water Quality Summary for Big Onion Lake inlet WB, 2006

Appendix Table B10-20 Water Quality Summary for Groundhog Creek W16, 1992-1998

Appendix Table B10-21 Water Quality Summary for Groundhog Creek W24, 1997-1998

Appendix Table B10-22 Water Quality Summary for Vick Creek W13, 1992 – 2006

Appendix Table B10-23 Water Quality Summary for Vick Creek W23, 1997 – 1998

Appendix B11 Appendix Tables Summary for High and Low Flows:

Appendix Table B11-1 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Appendix Table B11-2 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

Appendix Table B11-3 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Beece Creek sites

Table B11-4 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Tete Angela Creek sites

Appendix Table B11-5 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Groundhog Creek and tributary sites

Appendix Table B11-6 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Appendix Table B11-7 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Vick Creek sites

Appendix B1

Appendix Table B1 QAQC results Blanks 1992 to 1996

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.0001	Dissolved Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.005	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.1	Dissolved Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.01	Dissolved Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.005	Dissolved Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.1	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.0002	Dissolved Chloride mg/L DL: 0.5
De-ionized blank (no. 1)																					
	8/31/1993	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/14/1993	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/20/1993	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/4/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/26/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/31/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/10/1994		<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	
	8/16/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/24/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/30/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/6/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	6/21/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		0.0002		
	6/28/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	7/3/1995	<0.0001		0.014			<0.0001		<0.10		<0.010		<0.005		<0.10		0.115		<0.0002		
	7/12/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/27/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/5/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/18/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/27/1995	<0.0001		0.012			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/24/1996	<0.0001	<0.0001	0.008	0.051	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	8/16/1996	<0.0001	<0.0001	0.006	0.007	4.4	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	9/3/1996	<0.0001	<0.0001	<0.005	<0.005	2.7	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	10/14/1996	<0.0001	<0.0001	<0.005	<0.005	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	2/26/1997	<0.0001	<0.0001	<0.005	<0.005	<1	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
De-ionized blank (no. 2)																					
	5/4/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/26/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	5/31/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/10/1994		<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	
	8/16/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/24/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	8/30/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/6/1994	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	6/21/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	6/28/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	7/3/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	7/13/1995	<0.0001		0.009			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	9/27/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/4/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/18/1995	<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002		
	10/27/1995	<0.0001		0.051			<0.0001		<0.10		<0.010		<0.005		<0.10		0.121		<0.0002		
	8/18/1996	<0.0001	<0.0001	0.006	0.122	4.6	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	0.283	<0.0002	<0.0002	<0.5
	10/14/1996	<0.0001	<0.0001	<0.005	<0.005	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
ASL DI - travel blank																					
	8/25/1994	<0.0001	<0.0001	0.027	0.042	<1.0	<0.0001	<0.0001	<0.10	<0.10	0.031	0.031	<0.005	<0.005	<0.10	<0.10	0.471	0.471	<0.0002	<0.0002	<0.5
	8/31/1994					<1.0															<0.5
	6/22/1995	<0.0001	<0.0001	<0.005	<0.005	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	6/28/1995	<0.0001	<0.0001	<0.005	0.021	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5
	7/4/1995	<0.0001	<0.0001	<0.005	0.007	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.050	<0.050	<0.0002	<0.0002	<0.5

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.0001	Dissolved Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.005	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.1	Dissolved Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.01	Dissolved Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.005	Dissolved Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.1	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.0002	Dissolved Chloride mg/L DL: 0.5
	7/13/1995	<0.0001	<0.0001	0.022	0.014	<1.0	<0.0001	0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	0.059	<0.050	<0.0002	<0.0002	<0.5
	7/24/1995	<0.0001	<0.0001	0.041	0.047	<1.0	<0.0001	<0.0001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	0.113	0.112	<0.0002	<0.0002	<0.5
	9/27/1995		<0.0001		0.012	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	10/27/1995		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	12/20/1995		<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	
	3/6/1996					<1.0											<0.050				<0.5
	5/10/1996		<0.0001		0.181	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		0.427		<0.0002	<0.5
	5/14/1996		<0.0001		<0.005			<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	
	5/29/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	6/7/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	6/18/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	6/27/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	7/31/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	8/6/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5
	8/22/1996		<0.0001		<0.005	<1.0		<0.0001		<0.10		<0.010		<0.005		<0.10		<0.050		<0.0002	<0.5

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.03	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.005	Dissolved Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.001	Dissolved Sodium mg/L DL: 2
De-ionized blank (no. 1)																				
	8/31/1993	<0.001			<0.001		0.003			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	9/14/1993	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	9/20/1993	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	5/4/1994	<0.001			<0.001		0.006			<0.030			<0.01	0.022		<0.005		<0.001		<0.01
	5/26/1994	<0.001			<0.001		0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	5/31/1994	<0.001			<0.001		0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.02
	8/10/1994		<0.001			<0.001		<0.001			<0.030				<0.010		<0.005		<0.001	
	8/16/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	8/24/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	8/30/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	9/6/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	6/21/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		0.01
	6/28/1995	<0.001			<0.001		<0.001			<0.030			<0.01	0.083		<0.005		<0.001		<0.01
	7/3/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		0.05
	7/12/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	9/27/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	10/5/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	10/18/1995	<0.001			<0.001		0.002			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	10/27/1995	<0.001			<0.001		0.001			<0.030			<0.01	<0.050		<0.005		0.001		<0.01
	5/24/1996	<0.001	<0.001	1	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
	8/16/1996	<0.001	<0.001	9.8	<0.001	<0.001	0.002	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	2.29
	9/3/1996	<0.001	<0.001	9.5	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	2.35
	10/14/1996	<0.001	<0.001	1.4	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	0.03	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	0.03
	2/26/1997	<0.001	<0.001	<2	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
De-ionized blank (no. 2)																				
	5/4/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	5/26/1994	<0.001			<0.001		0.002			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	5/31/1994	<0.001			<0.001		0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.02
	8/10/1994		<0.001			<0.001		<0.001			<0.030				0.017		<0.005		<0.001	
	8/16/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	8/24/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	8/30/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		0.01
	9/6/1994	<0.001			<0.001		<0.001			<0.030			<0.01	<0.010		<0.005		<0.001		<0.01
	6/21/1995	<0.001			<0.001		0.001			<0.030			<0.01	<0.050		<0.005		<0.001		0.01
	6/28/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	7/3/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		0.001		<0.01
	7/13/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	9/27/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	10/4/1995	<0.001			<0.001		<0.001			<0.030			0.01	<0.050		<0.005		<0.001		<0.01
	10/18/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	10/27/1995	<0.001			<0.001		<0.001			<0.030			<0.01	<0.050		<0.005		<0.001		<0.01
	8/18/1996	<0.001	<0.001	9.7	<0.001	<0.001	0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	2.33
	10/14/1996	<0.001	<0.001	1.6	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	0.01
ASL DI - travel blank																				
	8/25/1994	<0.001	<0.001	5.3	<0.001	<0.001	0.006	0.006	0.02	<0.030	<0.030	1.38	0.09	0.05	0.055	<0.005	<0.005	<0.001	<0.001	0.22
	8/31/1994			1.2					<0.02											
	6/22/1995	<0.001	<0.001	1	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
	6/28/1995	<0.001	0.001	1	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
	7/4/1995	<0.001	<0.001	1.1	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	<0.05	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.03	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.005	Dissolved Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.001	Dissolved Sodium mg/L DL: 2
	7/13/1995	<0.001	<0.001	1.1	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	0.15	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
	7/24/1995	<0.001	<0.001	1.2	<0.001	<0.001	<0.001	<0.001	<0.02	<0.030	<0.030	0.28	<0.01	<0.050	<0.050	<0.005	<0.005	<0.001	<0.001	<0.01
	9/27/1995		<0.001	3.4		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	10/27/1995		<0.001	1		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	12/20/1995		<0.001			<0.001		<0.001			<0.030				<0.050		<0.005		<0.001	
	3/6/1996			1.2					<0.02			<0.05		<0.050						
	5/10/1996		<0.001	1		<0.001		<0.001	<0.02		<0.030	1.07			<0.050		<0.005		<0.001	
	5/14/1996		<0.001			<0.001		<0.001			0.03				<0.050		<0.005		<0.001	
	5/29/1996		<0.001	1.1		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	6/7/1996		<0.001	1		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	6/18/1996		<0.001	1.1		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	6/27/1996		<0.001	<1.0		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	7/31/1996		<0.001	1.5		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	8/6/1996		<0.001	<1.0		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	
	8/22/1996		<0.001	<1.0		<0.001		<0.001	<0.02		<0.030	<0.05			<0.050		<0.005		<0.001	

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.001	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.0001	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.001
De-ionized blank (no. 1)																					
	8/31/1993				<0.001					<0.001			0.0002		<0.0005		<0.050			<0.001	
	9/14/1993				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	9/20/1993				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/4/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/26/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/31/1994				<0.001					<0.001			<0.0001		<0.0005		0.063			<0.001	
	8/10/1994					<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001
	8/16/1994				<0.001					<0.001			<0.0002		<0.0005		<0.050			<0.001	
	8/24/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	8/30/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	9/6/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	6/21/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	6/28/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	7/3/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	7/12/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	9/27/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/5/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/18/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/27/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/24/1996	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	5.9	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
	8/16/1996	<0.005	<0.001	0.01	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	6.69	<0.0001	<0.0001	<0.0005	<0.0005	0.329	0.324	<1.0	<0.001	<0.001
	9/3/1996	<0.005	0.005	0.019	<0.001	<0.001	0.002	0.002	0.002	<0.001	<0.001	7.12	<0.0001	<0.0001	<0.0005	<0.0005	0.336	0.332	<1.0	<0.001	<0.001
	10/14/1996	<0.005	<0.001	<0.005	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	5.91	0.0002	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
	2/26/1997	<0.005	0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	6.4	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1	<0.001	<0.001
De-ionized blank (no. 2)																					
	5/4/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/26/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	5/31/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	8/10/1994					<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001
	8/16/1994				<0.001					<0.001			<0.0002		<0.0005		<0.050			<0.001	
	8/24/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	8/30/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	9/6/1994				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	6/21/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	6/28/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	7/3/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	7/13/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	9/27/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/4/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/18/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	10/27/1995				<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001	
	8/18/1996	<0.005	<0.001	0.011	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	6.78	<0.0001	<0.0001	<0.0005	<0.0005	0.321	0.323	<1.0	<0.001	<0.001
	10/14/1996	<0.005	0.001	<0.005	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	5.88	0.0002	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
ASL DI - travel blank																					
	8/25/1994	<0.005	0.001	0.107	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	5.78	<0.0001	<0.0001	<0.0005	<0.0005	0.577	0.584	<1.0	0.003	0.003
	8/31/1994	<0.005	<0.001	<0.005			<0.001	<0.001	<0.001			5.73							<1.0		
	6/22/1995	<0.02	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	5.51	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	2.1	<0.001	<0.001
	6/28/1995	<0.005	<0.001	<0.005	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	5.54	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
	7/4/1995	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	5.37	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.001	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.0001	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.001
	7/13/1995	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	5.5	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
	7/24/1995	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	6.08	<0.0001	<0.0001	<0.0005	<0.0005	<0.050	<0.050	<1.0	<0.001	<0.001
	9/27/1995	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	5.61		<0.0001		<0.0005		<0.050	<1.0		<0.001
	10/27/1995	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	6.18		<0.0001		<0.0005		<0.050	<1.0		<0.001
	12/20/1995					<0.001					<0.001			<0.0001		<0.0005		<0.050			<0.001
	3/6/1996	<0.005	<0.001	<0.005			<0.001	<0.001	<0.001			6.5							<1.0		
	5/10/1996	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	5.94		<0.0001		<0.0005		<0.050	<1.0		<0.001
	5/14/1996					<0.001					<0.001			<0.0001		0.0005		<0.050			<0.001
	5/29/1996	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	6.09		<0.0001		<0.0005		<0.050	<1.0		<0.001
	6/7/1996	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	5.86		<0.0001		0.0006		<0.050	<1.0		<0.001
	6/18/1996	<0.005	<0.001	<0.005		<0.001	<0.001	<0.001	<0.001		<0.001	6.05		<0.0001		0.0008		<0.050	<1.0		<0.001
	6/27/1996	<0.005	<0.001	<0.005		<0.001	<0.001	0.001	0.001		<0.001	5.84		<0.0001		<0.0005		<0.050	<1.0		<0.001
	7/31/1996	<0.005	<0.001	<0.005		<0.001	<0.001	0.001	<0.001		<0.001	6.18		<0.0001		<0.0005		<0.050	<1.0		<0.001
	8/6/1996	<0.005	<0.001	<0.005		<0.001	0.002	0.002	0.002		<0.001	5.84		<0.0001		0.0008		<0.050	<1.0		<0.001
	8/22/1996	<0.005	0.001	<0.005		<0.001	<0.001	0.002	<0.001		<0.001	5.86		<0.0001		0.0005		<0.050	<1.0		<0.001

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.03	Dissolved Zinc mg/L DL: 0.005	Total Zinc mg/L DL: 0.005
De-ionized blank (no. 1)													
	8/31/1993									<0.030		<0.005	
	9/14/1993							<0.00001		<0.030		<0.005	
	9/20/1993							0.00003		<0.030		<0.005	
	5/4/1994							<0.00001		<0.030		<0.005	
	5/26/1994				<0.5			<0.00001		<0.030		<0.005	
	5/31/1994				<0.5			<0.00001		<0.030		<0.005	
	8/10/1994								<0.00001		<0.030		<0.005
	8/16/1994							<0.00001		<0.030		<0.005	
	8/24/1994							<0.00001		<0.030		<0.005	
	8/30/1994							<0.00001		<0.030		<0.005	
	9/6/1994							<0.00001		<0.030		<0.005	
	6/21/1995		<0.010					<0.00001		<0.030		<0.005	
	6/28/1995		<0.010					<0.00001		<0.030		<0.005	
	7/3/1995		<0.010					<0.00001		<0.030		<0.005	
	7/12/1995		<0.010					0.00001		<0.030		<0.005	
	9/27/1995		<0.010					<0.00001		<0.030		<0.005	
	10/5/1995		<0.010					<0.00001		<0.030		<0.005	
	10/18/1995		<0.010					0.00002		<0.030		<0.005	
	10/27/1995		<0.010					<0.00001		<0.030		<0.005	
	5/24/1996	<1	<0.010	<0.010	<0.5	2	<0.1	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	8/16/1996	5	<0.010	<0.010	<0.5	<1	<0.1	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	9/3/1996	5	<0.010	<0.010	0.7	1	0.3	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	10/14/1996	<1	<0.010	<0.010	0.6	<1	0.2	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	2/26/1997	<1	<0.010	<0.010	0.7	<1	<0.1	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
De-ionized blank (no. 2)													
	5/4/1994							<0.00001		<0.030		<0.005	
	5/26/1994				<0.5			<0.00001		<0.030		<0.005	
	5/31/1994				<0.5			<0.00001		<0.030		<0.005	
	8/10/1994								<0.00001		<0.030		<0.005
	8/16/1994							<0.00001		<0.030		<0.005	
	8/24/1994							<0.00001		<0.030		<0.005	
	8/30/1994							<0.00001		<0.030		<0.005	
	9/6/1994							<0.00001		<0.030		<0.005	
	6/21/1995		<0.010					<0.00001		<0.030		<0.005	
	6/28/1995		<0.010					<0.00001		<0.030		<0.005	
	7/3/1995		<0.010					<0.00001		<0.030		<0.005	
	7/13/1995		<0.010					0.00001		<0.030		<0.005	
	9/27/1995		<0.010					<0.00001		<0.030		<0.005	
	10/4/1995		<0.010					<0.00001		<0.030		<0.005	
	10/18/1995		<0.010					<0.00001		<0.030		<0.005	
	10/27/1995		<0.010					<0.00001		<0.030		<0.005	
	8/18/1996	6	<0.010	<0.010	0.9	<1	<0.1	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	10/14/1996	<1	<0.010	<0.010	0.6	<1	<0.1	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
ASL DI - travel blank													
	8/25/1994	3			<0.5	<1	0.13	0.00001	0.00001	<0.030	<0.030	<0.005	<0.005
	8/31/1994				<0.5	<1	<0.10						
	6/22/1995	3	<0.010	<0.010	<0.5	<1	<0.10	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	6/28/1995	<1	<0.010	<0.010	0.6	<1	<0.10	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	7/4/1995	<1	<0.010	<0.010	0.6	<1	<0.10	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005

Appendix Table B1: QA/QC Results Blanks 1992 to 1996

Site	Date	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.03	Dissolved Zinc mg/L DL: 0.005	Total Zinc mg/L DL: 0.005
	7/13/1995	<1	<0.010	<0.010	<0.5	<1	<0.10	<0.00001	0.00001	<0.030	<0.030	<0.005	<0.005
	7/24/1995	<1	<0.010	<0.010	<0.5	<1	0.55	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
	9/27/1995	<1		<0.010	<0.5	<1	<0.10		<0.00001		<0.030		<0.005
	10/27/1995	<1		<0.010	<0.5	<1	<0.10		<0.00001		<0.030		<0.005
	12/20/1995			<0.010					<0.00001		<0.030		<0.005
	3/6/1996	<10			<0.5	<1	<0.1						
	5/10/1996	<1		<0.010	<0.5	<1	0.1		<0.00001		<0.030		<0.005
	5/14/1996			<0.010					<0.00001		<0.030		<0.005
	5/29/1996	<1		<0.010	0.8	<1	<0.1		<0.00001		<0.030		<0.005
	6/7/1996	<1		<0.010	<0.5	<1	<0.1		<0.00001		<0.030		<0.005
	6/18/1996	<1		<0.010	<0.5	<1	<0.1		<0.00001		<0.030		<0.005
	6/27/1996	<1		<0.010	<0.5	2	<0.1		<0.00001		<0.030		<0.005
	7/31/1996	<1		<0.010	0.6	<1	<0.1		<0.00001		<0.030		<0.005
	8/6/1996	<1		<0.010	<0.5	2	<0.1		<0.00001		<0.030		<0.005
	8/22/1996	<1		<0.010	0.6	<1	<0.1		<0.00001		<0.030		<0.005

Appendix B2

Appendix Table B2 QAQC results Blanks 1997 to 1998

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Silver mg/L DL: 0.0001	Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.005	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.01	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.005
De-ionized blank (no. 1)																					
	5/7/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/8/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00007		<0.00005	
	5/8/1997		<0.00001		<0.00001		0.002		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/13/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00009		<0.00005	
	5/14/1997									<1											
	5/19/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		0.00005	
	5/20/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/26/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00006		<0.00005	
	5/27/1997		<0.00001		<0.00001		<0.001		<0.001	<1	<0.0001	<0.0001		<0.001		<0.001		0.00005		<0.00005	
	6/2/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	6/3/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	6/4/1997			<0.0001				<0.005				<0.0001			<0.10				<0.010		
	6/9/1997									<1											
	6/15/1997		<0.00001		<0.00001		<0.001		<0.001	<1	0.0001	<0.0001		<0.001		<0.001		0.00005		<0.00005	
	7/14/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	7/21/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	7/28/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	7/29/1997									1											
	7/30/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	8/4/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	8/12/1997									<1											
	9/14/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	9/15/1997									<1											
	9/16/1997		<0.00001				0.001				<0.0001			<0.001				<0.00005			
	9/21/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	9/22/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	9/23/1997									<1											
	9/28/1997									<1											
	9/29/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	9/30/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	10/5/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	10/12/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	11/16/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	12/17/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	1/18/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	1/20/1998									<1											
	2/17/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
De-ionized blank (no. 1)																					
	2/18/1998									<1											
	2/26/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	3/9/1998									<1											
	3/10/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	3/11/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	4/12/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	4/14/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	4/15/1998									<1											
	5/12/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	5/13/1998									<1											
	5/13/1998				<0.00001				0.006			<0.0001				<0.001				0.00035	
	5/20/1998									<1											
	5/27/1998									<1											
	6/2/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	6/9/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Silver mg/L DL: 0.0001	Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.005	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.01	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.005
	6/17/1998									<1											
	7/9/1998									<1											
	7/14/1998				<0.00001				0.001			<0.0001				<0.001				<0.00005	
	7/21/1998									<1											
	7/28/1998									<1											
	8/4/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	8/11/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	9/8/1998									<1											
De-ionized water blank (no. 2)																					
	5/7/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.0001		<0.00005	
	5/8/1997		<0.00001		<0.00001		<0.001		0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/13/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00011		<0.00005	
	5/14/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/19/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/20/1997									<1											
	5/26/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00007		<0.00005	
	5/27/1997		<0.00001		<0.00001		0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/28/1997									<1											
	6/2/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00009		<0.00005	
	6/3/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00011		<0.00005	
	7/14/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	7/21/1997		<0.00001				<0.001				<0.0001			<0.001				0.00017			
	7/29/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	8/4/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	8/12/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	10/6/1997									<1											
	10/13/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	11/17/1997									<1											
	12/17/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	1/20/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	5/13/1998				<0.00001				0.004			<0.0001				<0.001				<0.00005	
	5/13/1998									<1											
	6/17/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	7/14/1998									1											
	7/21/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	8/11/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
De-ionized blank (no. 3)																					
	5/8/1997									<1											
	5/13/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.0001		<0.00005	
	5/14/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00006		<0.00005	
	5/19/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/20/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		<0.00005		<0.00005	
	5/26/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00008		<0.00005	
	5/29/1997	<0.0001				<0.005					<0.0001		<0.10				<0.010				<0.005
	6/2/1997									1											
	6/3/1997		<0.00001		<0.00001		<0.001		<0.001		<0.0001	<0.0001		<0.001		<0.001		0.00007		<0.00005	
	7/14/1997									<1											
	8/12/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	10/7/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	10/14/1997									<1											
	11/15/1997		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	12/18/1997									1											
	5/13/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			
	7/14/1998		<0.00001				<0.001				<0.0001			<0.001				<0.00005			

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Silver mg/L DL: 0.0001	Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.005	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.01	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.005
	7/21/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	8/11/1998									<1											
ASL DI water - travel blank																					
	5/8/1997									<1											
	5/14/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/19/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/27/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/29/1997			<0.0001				<0.005		<1		<0.0001			<0.10				<0.010		
	6/3/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	6/4/1997			<0.0001				<0.005				<0.0001			<0.10				<0.010		
	6/10/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	6/15/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	7/14/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	7/21/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	7/30/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	7/30/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	7/31/1997									<1											
	7/31/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	8/4/1997				<0.00001				0.001	<1		<0.0001				<0.001				<0.00005	
	8/13/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	9/16/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	9/25/1997				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	9/30/1997				<0.00001				0.001			<0.0001				<0.001				<0.00005	
	10/14/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	11/15/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	12/18/1997				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	1/18/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	1/21/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	2/18/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	2/22/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	2/24/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	3/9/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	3/11/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	4/12/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	4/15/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/12/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/13/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/14/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	5/15/1998				<0.00001				<0.001			<0.0001				<0.001				<0.00005	
	5/22/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
ASL DI - travel blank																					
	6/2/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	6/2/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	6/11/1998				<0.00001				0.005	<1		<0.0001				<0.001				<0.00005	
	6/16/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	7/14/1998				<0.00001				<0.001	1		<0.0001				<0.001				<0.00005	
	7/21/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	7/28/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	8/4/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	
	8/11/1998				<0.00001				<0.001	<1		<0.0001				<0.001				<0.00005	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.1	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.001	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.0001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001
De-ionized blank (no. 1)																					
	5/7/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/8/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/8/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/13/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			0.0002		<0.0001		
	5/14/1997														<0.5					<2	
	5/19/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			0.0003		<0.0001		
	5/20/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/26/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/27/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005	<0.5		<0.0001		<0.0001	<2	
	6/2/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	6/3/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	6/4/1997		<0.005				<0.10			<0.050			<0.0002					<0.001			
	6/9/1997														<0.5					<2	
	6/15/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005	<0.5		<0.0001		<0.0001	<2	
	7/14/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	7/21/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	7/28/1997	<0.0005				<0.0005			<0.05			<0.00005					0.0001				
	7/29/1997														<0.5					<2	
	7/30/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	8/4/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	8/12/1997														<0.5					<2	
	9/14/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	9/15/1997														<0.5					<2	
	9/16/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	9/21/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	9/22/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	9/23/1997														<0.5					<2	
	9/28/1997														<0.5					<2	
	9/29/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	9/30/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	10/5/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	10/12/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	11/16/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	12/17/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	1/18/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	1/20/1998														<0.5					<2	
	2/17/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
De-ionized blank (no. 1)																					
	2/18/1998														<0.5					2	
	2/26/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	3/9/1998														<0.5					<2	
	3/10/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	3/11/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	4/12/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	4/14/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	4/15/1998														<0.5					<2	
	5/12/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	5/13/1998														<0.5					<2	
	5/13/1998			<0.0005				<0.0005		0.18				<0.00005					<0.0001		
	5/20/1998														<0.5					<2	
	5/27/1998														<0.5					<2	
	6/2/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	6/9/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.1	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.001	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.0001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001
	6/17/1998														<0.5					<2	
	7/9/1998														<0.5					<2	
	7/14/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/21/1998														<0.5					9	
	7/28/1998														<0.5					<2	
	8/4/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	8/11/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	9/8/1998														<0.5					<2	
De-ionized water blank (no. 2)																					
	5/7/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/8/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/13/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		0.0003		
	5/14/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			0.0002		<0.0001		
	5/19/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		0.0003		
	5/20/1997														<0.5					7	
	5/26/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		0.0001		
	5/27/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/28/1997														<0.5					2	
	6/2/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	6/3/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	7/14/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/21/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	7/29/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	8/4/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	8/12/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	10/6/1997														<0.5					<2	
	10/13/1997			<0.0005				<0.0005		<0.05				<0.00005					0.0001		
	11/17/1997														<0.5					<2	
	12/17/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	1/20/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	5/13/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	5/13/1998														<0.5					<2	
	6/17/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	7/14/1998														<0.5					<2	
	7/21/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	8/11/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
De-ionized blank (no. 3)																					
	5/8/1997														<0.5					<2	
	5/13/1997	<0.0005		<0.0005		<0.0005		<0.0005	0.17	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/14/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			0.0003		<0.0001		
	5/19/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			0.0001		0.0003		
	5/20/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		0.0003		
	5/26/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		<0.0001		
	5/29/1997				<0.10				0.189		<0.0002					<0.001					<0.001
	6/2/1997														<0.5					4	
	6/3/1997	<0.0005		<0.0005		<0.0005		<0.0005	<0.05	<0.05		<0.00005		<0.00005			<0.0001		0.0002		
	7/14/1997														<0.5					<2	
	8/12/1997			<0.0005				<0.0005		0.05				<0.00005					<0.0001		
	10/7/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	10/14/1997														<0.5					<2	
	11/15/1997	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	12/18/1997														<0.5					<2	
	5/13/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				
	7/14/1998	<0.0005				<0.0005			<0.05			<0.00005					<0.0001				

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.1	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.001	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.0001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001
	7/21/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	8/11/1998														<0.5					<2	
ASL DI water - travel blank																					
	5/8/1997														<0.5					<2	
	5/14/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				0.0001	<2	
	5/19/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/27/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/29/1997		<0.005				<0.10			<0.050			<0.0002		<0.5			<0.001		<2	
	6/3/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	6/4/1997		<0.005				<0.10			<0.050			<0.0002					<0.001			
	6/10/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	6/15/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/14/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/21/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/30/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	7/30/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	7/31/1997														<0.5					<2	
	7/31/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	8/4/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	8/13/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	9/16/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	9/25/1997			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	9/30/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	10/14/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	11/15/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	12/18/1997			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	1/18/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	1/21/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	2/18/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	2/22/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	2/24/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	3/9/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	3/11/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	4/12/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	4/15/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/12/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/13/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/14/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	5/15/1998			<0.0005				<0.0005		<0.05				<0.00005					<0.0001		
	5/22/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
ASL DI - travel blank																					
	6/2/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	6/2/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	6/11/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	6/16/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	7/14/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	7/21/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	7/28/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	8/4/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	
	8/11/1998			<0.0005				<0.0005		<0.05				<0.00005	<0.5				<0.0001	<2	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2	Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005
De-ionized blank (no. 1)																					
	5/7/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/8/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/8/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/13/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/14/1997								<0.02												
	5/19/1997	<0.0005		<0.0005		<0.0001		0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/20/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/26/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/27/1997	<0.0005		<0.0005		<0.0001		<0.0001	<0.02		<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	6/2/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	6/3/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	6/4/1997		<0.001				<0.001					<0.030								<0.050	
	6/9/1997								<0.02												
	6/15/1997	<0.0005		<0.0005		<0.0001		0.0002	<0.02		<0.03		<0.03	<0.05	<2	<2	<0.001	<0.001	<0.05	<0.05	
	7/14/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	7/21/1997			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2	<0.001	<0.001		<0.05	
	7/28/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	7/29/1997								<0.02												
	7/30/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	8/4/1997			<0.0005				<0.0001	<0.02				<0.03			<2		<0.001		<0.05	
	8/12/1997								<0.02												
	9/14/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	9/15/1997								<0.02												
	9/16/1997	<0.0005				0.0002					<0.03				<2		<0.001		<0.05		
	9/21/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	9/22/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	9/23/1997								<0.02												
	9/28/1997								<0.02												
	9/29/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	9/30/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	10/5/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	10/12/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	11/16/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	12/17/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	1/18/1998			<0.0005				0.0001					<0.03			<2		<0.001		<0.05	
	1/20/1998								0.05												
	2/17/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
De-ionized blank (no. 1)																					
	2/18/1998								<0.02												
	2/26/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	3/9/1998								<0.02												
	3/10/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	3/11/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	4/12/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	4/14/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
	4/15/1998								<0.02												
	5/12/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
	5/13/1998								<0.02												
	5/13/1998			<0.0005				0.0004					<0.03			<2		<0.001		<0.1	
	5/20/1998								<0.02												
	5/27/1998								<0.02												
	6/2/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.1	
	6/9/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2	Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005
	6/17/1998								<0.02												
	7/9/1998								<0.02												
	7/14/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.1	
	7/21/1998								<0.02												
	7/28/1998								<0.02												
	8/4/1998	<0.0005				<0.0005					<0.03				<2		<0.001		<0.1		
	8/11/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.1	
	9/8/1998								<0.02												
De-ionized water blank (no. 2)																					
	5/7/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/8/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/13/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/14/1997	<0.0005		<0.0005		<0.0001		0.0007			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/19/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/20/1997								<0.02												
	5/26/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/27/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/28/1997								<0.02												
	6/2/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	6/3/1997	<0.0005		<0.0005		0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	7/14/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	7/21/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	7/29/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	8/4/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	8/12/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	10/6/1997								<0.02												
	10/13/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	11/17/1997								<0.02												
	12/17/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	1/20/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	5/13/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.1	
	5/13/1998								<0.02												
	6/17/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
	7/14/1998								<0.02												
	7/21/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
	8/11/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
De-ionized blank (no. 3)																					
	5/8/1997								<0.02												
	5/13/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/14/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/19/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/20/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/26/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	5/29/1997				<0.001					<0.030					0.03				<0.050		<0.005
	6/2/1997								<0.02												
	6/3/1997	<0.0005		<0.0005		<0.0001		<0.0001			<0.01		<0.01		<2	<2	<0.001	<0.001	<0.05	<0.05	
	7/14/1997								<0.02												
	8/12/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	10/7/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	10/14/1997								<0.02												
	11/15/1997	<0.0005				<0.0001					<0.03				<2		<0.001		<0.05		
	12/18/1997								<0.02												
	5/13/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		
	7/14/1998	<0.0005				<0.0001					<0.03				<2		<0.001		<0.1		

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2	Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005
	7/21/1998			<0.0005				0.0001					<0.03			<2		<0.001		<0.1	
	8/11/1998								<0.02												
ASL DI water - travel blank																					
	5/8/1997								<0.02												
	5/14/1997			<0.0005				<0.0001	<0.02				<0.01	<0.05		<2		<0.001		<0.05	
	5/19/1997			<0.0005				<0.0001	<0.02				<0.01	<0.05		<2		<0.001		<0.05	
	5/27/1997			<0.0005				<0.0001	<0.02				<0.01	<0.05		<2		<0.001		<0.05	
	5/29/1997		<0.001				<0.001		<0.02			<0.030		<0.05						<0.050	
	6/3/1997			<0.0005				<0.0001					<0.01			<2		<0.001		<0.05	
	6/4/1997		<0.001				<0.001					<0.030								<0.050	
	6/10/1997			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	6/15/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	7/14/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	7/21/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	7/30/1997			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	7/30/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	7/31/1997								<0.02												
	7/31/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	8/4/1997			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	8/13/1997			<0.0005				<0.0001	<0.02				<0.03			<2		<0.001		<0.05	
	9/16/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	9/25/1997			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	9/30/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	10/14/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	11/15/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	12/18/1997			<0.0005				<0.0001					<0.03			<2		<0.001		<0.05	
	1/18/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	1/21/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	2/18/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	2/22/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	2/24/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	3/9/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	3/11/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	4/12/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.05	
	4/15/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	5/12/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	5/13/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	5/14/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	5/15/1998			<0.0005				<0.0001					<0.03			<2		<0.001		<0.1	
	5/22/1998			<0.0005				<0.0001	<0.02				<0.03			<2		<0.001		<0.1	
ASL DI - travel blank																					
	6/2/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	6/2/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	6/11/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	6/16/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	7/14/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	7/21/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	7/28/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	8/4/1998			<0.0005				<0.0005	<0.02				<0.03	<0.05		<2		<0.001		<0.1	
	8/11/1998			<0.0005				<0.0001	<0.02				<0.03	<0.05		<2		<0.001		<0.1	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.001	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
De-ionized blank (no. 1)																				
	5/7/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/8/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/8/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/13/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/14/1997										<0.005	<0.001	<0.005		<0.0001		<0.0001	<0.001	0.001	0.001
	5/19/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/20/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/26/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/27/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2	<0.005	<0.001	<0.005		<0.0001		<0.0001	<0.001	<0.001	<0.001
	6/2/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	6/3/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	6/4/1997		<0.005				<0.001									<0.001				
	6/9/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	6/15/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2	<0.005	<0.001	<0.005		0.0001		0.0001	<0.001	<0.001	<0.001
	7/14/1997	<0.00005				<0.00005			<2						<0.0001					
	7/21/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	7/28/1997	<0.00005				<0.00005			<2						<0.0001					
	7/29/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	7/30/1997			<0.00005				<0.00005		<2							<0.0001			
	8/4/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	0.002	0.002	0.002
	8/12/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	9/14/1997			<0.00005				<0.00005		<2							<0.0001			
	9/15/1997										<0.005	0.001	<0.005					<0.001	<0.001	<0.001
	9/16/1997	0.00008				<0.00005			<2						<0.0001					
	9/21/1997	<0.00005				<0.00005			<2						<0.0001					
	9/22/1997			<0.00005				<0.00005		<2							<0.0001			
	9/23/1997										<0.005	<0.001	<0.005					<0.001	0.003	<0.001
	9/28/1997										<0.005	<0.001	<0.005					0.002	0.002	0.002
	9/29/1997			<0.00005				<0.00005		<2							<0.0001			
	9/30/1997	0.00018				<0.00005			<2						<0.0001					
	10/5/1997			<0.00005				<0.00005		<2							<0.0001			
	10/12/1997	<0.00005				<0.00005			<2						<0.0001					
	11/16/1997			<0.00005				<0.00005		<2							<0.0001			
	12/17/1997			<0.00005				<0.00005		<2							<0.0001			
	1/18/1998			<0.00005				<0.00005		<2							<0.0001			
	1/20/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	2/17/1998	<0.00005				<0.00005			<2						<0.0001					
De-ionized blank (no. 1)																				
	2/18/1998										<0.005	<0.001	<0.005					<0.001	0.008	0.005
	2/26/1998			<0.00005				<0.00005		<2							<0.0001			
	3/9/1998										<0.005	<0.001	<0.005					<0.001	0.006	<0.001
	3/10/1998			<0.00005				<0.00005		<2							<0.0001			
	3/11/1998	<0.00005				<0.00005			<2						<0.0001					
	4/12/1998			<0.00005				<0.00005		<2							<0.0001			
	4/14/1998	<0.00005				<0.00005			<2						<0.0001					
	4/15/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	5/12/1998	<0.00005				<0.00005			<2						<0.0001					
	5/13/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	5/13/1998			0.00109				<0.00005		<2							0.0001			
	5/20/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	5/27/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	6/2/1998			<0.00005				<0.00005		<2							<0.0001			
	6/9/1998	<0.00005				<0.00005			<2						<0.0001					

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.001	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
	6/17/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	7/9/1998										<0.005	0.001	0.009					<0.001	0.003	<0.001
	7/14/1998			<0.00005				<0.00005		<2							<0.0001			
	7/21/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	7/28/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	8/4/1998	<0.00005				<0.00005			<2						<0.0005					
	8/11/1998			<0.00005				<0.00005		<2							<0.0002			
	9/8/1998										<0.005	<0.001	<0.005					0.001	0.003	0.002
De-ionized water blank (no. 2)																				
	5/7/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/8/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/13/1997	<0.00005		<0.00005		0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/14/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/19/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/20/1997										<0.005	<0.001	<0.005					0.001	0.001	0.001
	5/26/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/27/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/28/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	6/2/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	6/3/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	7/14/1997			<0.00005				<0.00005		<2							<0.0001			
	7/21/1997	<0.00005				<0.00005			<2						<0.0001					
	7/29/1997	<0.00005				<0.00005			<2						<0.0001					
	8/4/1997	<0.00005				<0.00005			<2						<0.0001					
	8/12/1997	<0.00005				<0.00005			<2						<0.0001					
	10/6/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	10/13/1997			<0.00005				<0.00005		<2							<0.0001			
	11/17/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	12/17/1997	<0.00005				<0.00005			<2						<0.0001					
	1/20/1998	0.00014				<0.00005			<2						<0.0001					
	5/13/1998			<0.00005				<0.00005		<2							<0.0001			
	5/13/1998										<0.005	<0.001	<0.005					<0.001	0.029	0.006
	6/17/1998	<0.00005				<0.00005			<2						<0.0001					
	7/14/1998										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	7/21/1998	<0.00005				<0.00005			<2						<0.0001					
	8/11/1998	<0.00005				<0.00005			<2						<0.0002					
De-ionized blank (no. 3)																				
	5/8/1997										<0.005	0.001	<0.005					<0.001	<0.001	<0.001
	5/13/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/14/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/19/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/20/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/26/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					<0.0001		<0.0001			
	5/29/1997				<0.001				<2					<0.001						
	6/2/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	6/3/1997	<0.00005		<0.00005		<0.00005		<0.00005	<2	<2					0.0001		<0.0001			
	7/14/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	8/12/1997			<0.00005				<0.00005		<2							<0.0001			
	10/7/1997	<0.00005				<0.00005			<2						<0.0001					
	10/14/1997										<0.005	<0.001	<0.005					<0.001	0.004	<0.001
	11/15/1997	<0.00005				<0.00005			<2						<0.0001					
	12/18/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	5/13/1998	<0.00005				<0.00005			<2						<0.0001					
	7/14/1998	<0.00005				<0.00005			<2						<0.0001					

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.001	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
	7/21/1998			<0.00005				<0.00005		<2							<0.0001			
	8/11/1998										<0.005	<0.001	<0.005					<0.001	0.001	<0.001
ASL DI water - travel blank																				
	5/8/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	5/14/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	5/19/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	0.001	0.001	0.001
	5/27/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	5/29/1997		<0.005				<0.001				<0.005	<0.001	<0.005			<0.001		<0.001	0.001	<0.001
	6/3/1997			<0.00005				<0.00005		<2							<0.0001			
	6/4/1997		<0.005				<0.001									<0.001				
	6/10/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				0.0001	<0.001	<0.001	<0.001
	6/15/1997			<0.00005				<0.00005		<2							0.0002			
	7/14/1997			<0.00005				<0.00005		<2							<0.0001			
	7/21/1997			<0.00005				<0.00005		<2							<0.0001			
	7/30/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	7/30/1997			<0.00005				<0.00005		<2							<0.0001			
	7/31/1997										<0.005	<0.001	<0.005					<0.001	<0.001	<0.001
	7/31/1997			<0.00005				<0.00005		<2							<0.0001			
	8/4/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	8/13/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	9/16/1997			<0.00005				<0.00005		<2							<0.0001			
	9/25/1997			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	9/30/1997			<0.00005				<0.00005		<2							<0.0001			
	10/14/1997			<0.00005				<0.00005		<2							<0.0001			
	11/15/1997			<0.00005				<0.00005		<2							<0.0001			
	12/18/1997			<0.00005				<0.00005		<2							<0.0001			
	1/18/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	1/21/1998			0.00009				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	2/18/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	2/22/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	2/24/1998			<0.00005				<0.00005		<2	0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	3/9/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	3/11/1998			<0.00005				<0.00005		<2	<0.005	0.001	0.007				<0.0001	<0.001	<0.001	<0.001
	4/12/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	4/15/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	5/12/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	5/13/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	5/14/1998			<0.00005				<0.00005		<2	<0.005	<0.001	0.01				<0.0001	<0.001	<0.001	<0.001
	5/15/1998			<0.00005				<0.00005		<2							<0.0001			
	5/22/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
ASL DI - travel blank																				
	6/2/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	0.001	0.001	0.001
	6/2/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	6/11/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	6/16/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	7/14/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	7/21/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	0.001	<0.001
	7/28/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0001	<0.001	<0.001	<0.001
	8/4/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0005	<0.001	<0.001	<0.001
	8/11/1998			<0.00005				<0.00005		<2	<0.005	<0.001	<0.005				<0.0002	<0.001	0.001	<0.001

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Lead mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001
De-ionized blank (no. 1)																	
	5/7/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/8/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/8/1997		<0.00005		<0.00005				0.00007		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/13/1997		<0.00005		<0.00005				<0.0005		<0.0005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/14/1997						5.5										
	5/19/1997		<0.00005		<0.00005				<0.00005		0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/20/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/26/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/27/1997		<0.00005		<0.00005		5.88		<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	6/2/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	6/3/1997		<0.00005		<0.00005				0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	6/4/1997			<0.001						<0.0001			<0.0005		<0.050		
	6/9/1997						5.63										
	6/15/1997		<0.00005		<0.00005		5.24		<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	7/14/1997		<0.00005						<0.00005			<0.0005	<0.0005	<0.05		<0.0001	
	7/21/1997				<0.00005		5.68				<0.00005		<0.0005		<0.05		<0.0001
	7/28/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	7/29/1997						5.43										
	7/30/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	8/4/1997				<0.00005		5.61				<0.00005		<0.0005		<0.05		<0.0001
	8/12/1997						5.19										
	9/14/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	9/15/1997						5.35										
	9/16/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	9/21/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	9/22/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	9/23/1997						6.66										
	9/28/1997						5.86										
	9/29/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	9/30/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	10/5/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	10/12/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	11/16/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	12/17/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	1/18/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	1/20/1998						5.81										
	2/17/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
De-ionized blank (no. 1)																	
	2/18/1998						5.98										
	2/26/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	3/9/1998						5.66										
	3/10/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	3/11/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	4/12/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	4/14/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	4/15/1998						5.13										
	5/12/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	5/13/1998						5.74										
	5/13/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	5/20/1998						5.05										
	5/27/1998						4.96										
	6/2/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	6/9/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Lead mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001
	6/17/1998						6.63										
	7/9/1998						5.42										
	7/14/1998				<0.00005						<0.00005		0.0007		<0.05		<0.0001
	7/21/1998						5.66										
	7/28/1998						4.88										
	8/4/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	8/11/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	9/8/1998						5.53										
De-ionized water blank (no. 2)																	
	5/7/1997		<0.00005		<0.00005				0.00009		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/8/1997		<0.00005		<0.00005				0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/13/1997		<0.00005		<0.00005				<0.0005		<0.0005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/14/1997		<0.00005		<0.00005				<0.0005		<0.0005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/19/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/20/1997						5.99										
	5/26/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/27/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/28/1997						5.84										
	6/2/1997		<0.00005		<0.00005				0.00006		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	6/3/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	0.0005	<0.05	<0.05	<0.0001	<0.0001
	7/14/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	7/21/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	7/29/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	8/4/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	8/12/1997		<0.00005						0.00005			<0.0005		<0.05		<0.0001	
	10/6/1997						6.6										
	10/13/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	11/17/1997						5.63										
	12/17/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	1/20/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	5/13/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	5/13/1998						4.88										
	6/17/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	7/14/1998						7.95										
	7/21/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	8/11/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
De-ionized blank (no. 3)																	
	5/8/1997						6.09										
	5/13/1997		<0.00005		<0.00005				<0.0005		<0.0005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/14/1997		<0.00005		<0.00005				<0.0005		<0.0005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/19/1997		<0.00005		<0.00005				0.00006		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/20/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/26/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	<0.0005	<0.05	<0.05	<0.0001	<0.0001
	5/29/1997	<0.001						<0.0001				<0.0005		<0.050			
	6/2/1997						5.58										
	6/3/1997		<0.00005		<0.00005				<0.00005		<0.00005	<0.0005	0.0005	<0.05	<0.05	<0.0001	<0.0001
	7/14/1997						5.7										
	8/12/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	10/7/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	10/14/1997						5.92										
	11/15/1997		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	12/18/1997						5.98										
	5/13/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	
	7/14/1998		<0.00005						<0.00005			<0.0005		<0.05		<0.0001	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Lead mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001
	7/21/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	8/11/1998						6.39										
ASL DI water - travel blank																	
	5/8/1997						5.98										
	5/14/1997				<0.00005		5.4				<0.0005		<0.0005		<0.05		<0.0001
	5/19/1997				<0.00005		6.69				<0.00005		<0.0005		<0.05		<0.0001
	5/27/1997				<0.00005		5.43				<0.00005		<0.0005		<0.05		<0.0001
	5/29/1997			<0.001			5.4			<0.0001			<0.0005		<0.050		
	6/3/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	6/4/1997			<0.001						<0.0001			<0.0005		<0.050		
	6/10/1997				<0.00005		6.37				<0.00005		<0.0005		<0.05		<0.0001
	6/15/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	7/14/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	7/21/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	7/30/1997				<0.00005		5.39				<0.00005		<0.0005		<0.05		<0.0001
	7/30/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	7/31/1997						5.81										
	7/31/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	8/4/1997				<0.00005		5.89				<0.00005		<0.0005		<0.05		<0.0001
	8/13/1997				<0.00005		5.55				<0.00005		<0.0005		<0.05		<0.0001
	9/16/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	9/25/1997				<0.00005		6				<0.00005		<0.0005		<0.05		<0.0001
	9/30/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	10/14/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	11/15/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	12/18/1997				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	1/18/1998				<0.00005		5.94				<0.00005		<0.0005		<0.05		<0.0001
	1/21/1998				<0.00005		5.11				<0.00005		<0.0005		<0.05		<0.0001
	2/18/1998				<0.00005		6.78				<0.00005		<0.0005		<0.05		<0.0001
	2/22/1998				<0.00005		5.49				<0.00005		<0.0005		<0.05		<0.0001
	2/24/1998				<0.00005		5.81				<0.00005		<0.0005		<0.05		<0.0001
	3/9/1998				<0.00005		5.31				<0.00005		<0.0005		<0.05		<0.0001
	3/11/1998				<0.00005		5.96				<0.00005		<0.0005		<0.05		<0.0001
	4/12/1998				<0.00005		5.33				<0.00005		<0.0005		<0.05		<0.0001
	4/15/1998				<0.00005		5.02				<0.00005		<0.0005		<0.05		<0.0001
	5/12/1998				<0.00005		6.08				<0.00005		<0.0005		<0.05		<0.0001
	5/13/1998				<0.00005		6.01				<0.00005		<0.0005		<0.05		<0.0001
	5/14/1998				<0.00005		4.89				<0.00005		<0.0005		<0.05		<0.0001
	5/15/1998				<0.00005						<0.00005		<0.0005		<0.05		<0.0001
	5/22/1998				<0.00005		4.55				<0.00005		<0.0005		<0.05		<0.0001
ASL DI - travel blank																	
	6/2/1998				<0.00005		6.87				<0.00005		<0.0005		<0.05		<0.0001
	6/2/1998				<0.00005		6.33				<0.00005		<0.0005		<0.05		<0.0001
	6/11/1998				<0.00005		7.4				<0.00005		<0.0005		<0.05		<0.0001
	6/16/1998				<0.00005		6.76				<0.00005		<0.0005		<0.05		<0.0001
	7/14/1998				<0.00005		7.86				<0.00005		<0.0005		<0.05		<0.0001
	7/21/1998				<0.00005		5.62				<0.00005		<0.0005		<0.05		<0.0001
	7/28/1998				<0.00005		4.86				<0.00005		<0.0005		<0.05		<0.0001
	8/4/1998				<0.00005		4.93				<0.00005		<0.0005		<0.05		<0.0001
	8/11/1998				<0.00005		5.83				<0.00005		<0.0005		<0.05		<0.0001

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.005	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.005
De-ionized blank (no. 1)																					
	5/7/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/8/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/8/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/13/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/14/1997	<1								<0.5	<1	<0.1				<0.001					
	5/19/1997			<0.0001		0.0002		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/20/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/26/1997			<0.0001		0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/27/1997	<1		<0.0001		<0.0001		<0.01	<0.01	<0.5	<1	0.3	<0.00001	<0.00001		<0.001		<0.001		<0.001	
	6/2/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	6/3/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	6/4/1997				<0.001				<0.010					<0.00001			<0.030				<0.005
	6/9/1997	<1								<0.5	<1	0.2									
	6/15/1997	<1		<0.0001		<0.0001		<0.01	<0.01	<0.5	<1	<0.1	<0.00001	<0.00001		<0.001		<0.001		<0.001	
	7/14/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	7/21/1997	<1				<0.0001	<1		<0.01	<0.5	<1	0.4		<0.00001				<0.001			
	7/28/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	7/29/1997	<1								<0.5	<1	0.9									
	7/30/1997					<0.0001			<0.01					<0.00001				<0.001			
	8/4/1997	<1				<0.0001			<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	8/12/1997	<1								<0.5	<1	0.5									
	9/14/1997					<0.0001			<0.01					<0.00001				<0.001			
	9/15/1997	<1								<0.5	<1	<0.1									
	9/16/1997			<0.0001				<0.01					<0.00001			<0.001				0.002	
	9/21/1997			0.0001				<0.01					<0.00001			<0.001				<0.001	
	9/22/1997					<0.0001			<0.01					<0.00001				<0.001			
	9/23/1997	<1								<0.5	<2	<0.1									
	9/28/1997	<1								<0.5	<1	<0.1									
	9/29/1997					0.0005			<0.01					<0.00001				<0.001			
	9/30/1997			0.0001				<0.01					<0.00001			<0.001				0.002	
	10/5/1997					<0.0001			<0.01					<0.00001				<0.001			
	10/12/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	11/16/1997					<0.0001			<0.01					<0.00001				<0.001			
	12/17/1997					<0.0001			<0.01					<0.00001				<0.001			
	1/18/1998					<0.0001			<0.01					<0.00001				<0.001			
	1/20/1998	<1								<0.5	<1	<0.1									
	2/17/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
De-ionized blank (no. 1)																					
	2/18/1998	<1								<0.5	<1	<0.1									
	2/26/1998					<0.0001			<0.01					<0.00001				<0.001			
	3/9/1998	<1								<0.5	<1	<0.1									
	3/10/1998					<0.0001			<0.01					<0.00001				<0.001			
	3/11/1998			<0.0001				<0.01					<0.00001			<0.001				0.001	
	4/12/1998					<0.0001			<0.01					<0.00001				<0.001			
	4/14/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	4/15/1998	<1					<1			<0.5	2	<0.1									
	5/12/1998			<0.005				<0.01					<0.00001			<0.001				<0.001	
	5/13/1998	<1								<0.5	<1	<0.1									
	5/13/1998					0.0003			<0.01					<0.00001				<0.001			
	5/20/1998	<1								0.6	<1	<0.1									
	5/27/1998	<1								<0.5	<1	0.1									
	6/2/1998					<0.0001			<0.01					<0.00001				<0.001			
	6/9/1998			<0.0001				<0.01					<0.00001			<0.001				0.002	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.005	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.005
	6/17/1998	<1								0.6	<1	<0.1									
	7/9/1998	<1								0.5	<1	<0.1									
	7/14/1998					<0.0001			<0.01					<0.00001				<0.001			
	7/21/1998	<1								<0.5	<1	<0.1									
	7/28/1998	<1								<0.5	<1	<0.1									
	8/4/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	8/11/1998					<0.0001			<0.01					<0.00001				<0.001			
	9/8/1998	<1								<0.5	<1	<0.1									
De-ionized water blank (no. 2)																					
	5/7/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/8/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/13/1997			<0.0001		0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/14/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/19/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/20/1997	<1								<0.5	<1	<0.1									
	5/26/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/27/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/28/1997	<1								<0.5	<1	0.2									
	6/2/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	6/3/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.002	
	7/14/1997					<0.0001			<0.01					<0.00001				<0.001			
	7/21/1997			<0.0001				<0.01					<0.00001			<0.001				0.001	
	7/29/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	8/4/1997			<0.0001				<0.01					<0.00001			<0.001				0.001	
	8/12/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	10/6/1997	<1								<0.5	<1	<0.1									
	10/13/1997					<0.0001			<0.01					<0.00001				<0.001			
	11/17/1997	<1								<0.5	<1	<0.1									
	12/17/1997			<0.0001				<0.01					<0.00001			<0.001				0.001	
	1/20/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	5/13/1998					<0.0001			<0.01					<0.00001				<0.001			
	5/13/1998	<1								<0.5	<1	<0.1									
	6/17/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	7/14/1998	<1								<0.5	<1	<0.1									
	7/21/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	8/11/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
De-ionized blank (no. 3)																					
	5/8/1997	<1								<0.5	<1	<0.1									
	5/13/1997			<0.0001		0.0002		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/14/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/19/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/20/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		<0.001	
	5/26/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.001	
	5/29/1997		0.001					<0.010					<0.00001		<0.030				<0.005		
	6/2/1997	<1								<0.5	<1	<0.1									
	6/3/1997			<0.0001		<0.0001		<0.01	<0.01				<0.00001	<0.00001		<0.001		<0.001		0.002	
	7/14/1997	<1								0.5	<1	<0.1									
	8/12/1997					<0.0001			<0.01					<0.00001				<0.001			
	10/7/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	10/14/1997	<1								<0.5	<1	<0.1									
	11/15/1997			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	12/18/1997	<1								<0.5	<1	<0.1									
	5/13/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	
	7/14/1998			<0.0001				<0.01					<0.00001			<0.001				<0.001	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.005	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.005
	7/21/1998					<0.0001			<0.01					<0.00001				<0.001			
	8/11/1998	<1								<0.5	<1	<0.1									
ASL DI water - travel blank																					
	5/8/1997	<1					<1			<0.5	<1	<0.1									
	5/14/1997	<1				<0.0001			<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	5/19/1997	<1				<0.0001	<1		<0.01	0.7	<1	<0.1		<0.00001				<0.001			
	5/27/1997	<1				<0.0001	<1		<0.01	<0.5	<1	0.2		<0.00001				<0.001			
	5/29/1997	<1			<0.001		<1		<0.010	<0.5	<1	0.1		<0.00001			<0.030				<0.005
	6/3/1997					<0.0001			<0.01					<0.00001				<0.001			
	6/4/1997				<0.001				<0.010					<0.00001			<0.030				<0.005
	6/10/1997	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	6/15/1997					<0.0001			<0.01					<0.00001				<0.001			
	7/14/1997					<0.0001			<0.01					<0.00001				<0.001			
	7/21/1997					<0.0001			<0.01					<0.00001				<0.001			
	7/30/1997	<1				<0.0001	<1		<0.01		<1	<0.1		<0.00001				<0.001			
	7/30/1997					<0.0001			<0.01					<0.00001				<0.001			
	7/31/1997	<1								<0.5	<1	<0.1									
	7/31/1997					<0.0001			<0.01					<0.00001				<0.001			
	8/4/1997	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	8/13/1997	<1				<0.0001			<0.01	1	<2	<0.1		<0.00001				<0.001			
	9/16/1997					<0.0001			<0.01					<0.00001				<0.001			
	9/25/1997	<1				<0.0001	<1		<0.01	<0.5	<1	0.6		<0.00001				<0.001			
	9/30/1997					<0.0001			<0.01					<0.00001				<0.001			
	10/14/1997					<0.0001			<0.01					<0.00001				<0.001			
	11/15/1997					<0.0001			<0.01					<0.00001				<0.001			
	12/18/1997					<0.0001			<0.01					<0.00001				<0.001			
	1/18/1998	<1				<0.0001			<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	1/21/1998	<1				<0.0001			<0.01	0.7	<1	<0.1		<0.00001				<0.001			
	2/18/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	2/22/1998	<1				<0.0001	<1		<0.01	<0.5	1	<0.1		<0.00001				<0.001			
	2/24/1998	<1				<0.0001	<1		<0.01	<0.5	<1	0.1		<0.00001				<0.001			
	3/9/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	3/11/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	4/12/1998	<1				<0.0001	<1		<0.01	<0.5	<1	0.4		<0.00001				<0.001			
	4/15/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	5/12/1998	<1				<0.005	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	5/13/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	5/14/1998	<1				<0.0001	<1		<0.01	0.5	<1	<0.1		<0.00001				<0.001			
	5/15/1998					<0.0001			<0.01					<0.00001				<0.001			
	5/22/1998	<1				<0.0001			<0.01	0.7	<1	<0.1		<0.00001				<0.001			
ASL DI - travel blank																					
	6/2/1998	<1				<0.0001	<1		<0.01	0.7	<1	<0.1		<0.00001				<0.001			
	6/2/1998	<1				<0.0001	<1		<0.01	<0.5	1	<0.1		<0.00001				<0.001			
	6/11/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	6/16/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	7/14/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	7/21/1998	<1				<0.0001	<1		<0.01	<0.5	1	<0.1		<0.00001				<0.001			
	7/28/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	8/4/1998	<1				<0.0001	<1		<0.01	<0.5	<1	<0.1		<0.00001				<0.001			
	8/11/1998	<1				<0.0001	<1		<0.01	<0.5	1	0.1		<0.00001				<0.001			

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Total Zinc mg/L DL: 0.001
De-ionized blank (no. 1)		
	5/7/1997	<0.001
	5/8/1997	<0.001
	5/8/1997	<0.001
	5/13/1997	<0.001
	5/14/1997	
	5/19/1997	0.001
	5/20/1997	<0.001
	5/26/1997	<0.001
	5/27/1997	0.001
	6/2/1997	<0.001
	6/3/1997	<0.001
	6/4/1997	
	6/9/1997	
	6/15/1997	<0.001
	7/14/1997	
	7/21/1997	<0.001
	7/28/1997	
	7/29/1997	
	7/30/1997	<0.001
	8/4/1997	<0.001
	8/12/1997	
	9/14/1997	<0.001
	9/15/1997	
	9/16/1997	
	9/21/1997	
	9/22/1997	<0.001
	9/23/1997	
	9/28/1997	
	9/29/1997	<0.001
	9/30/1997	
	10/5/1997	<0.001
	10/12/1997	
	11/16/1997	<0.001
	12/17/1997	<0.001
	1/18/1998	<0.001
	1/20/1998	
	2/17/1998	
De-ionized blank (no. 1)		
	2/18/1998	
	2/26/1998	<0.001
	3/9/1998	
	3/10/1998	<0.001
	3/11/1998	
	4/12/1998	<0.001
	4/14/1998	
	4/15/1998	
	5/12/1998	
	5/13/1998	
	5/13/1998	0.008
	5/20/1998	
	5/27/1998	
	6/2/1998	<0.001
	6/9/1998	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Total Zinc mg/L DL: 0.001
	6/17/1998	
	7/9/1998	
	7/14/1998	<0.001
	7/21/1998	
	7/28/1998	
	8/4/1998	
	8/11/1998	<0.001
	9/8/1998	
De-ionized water blank (no. 2)		
	5/7/1997	<0.001
	5/8/1997	<0.001
	5/13/1997	<0.001
	5/14/1997	<0.001
	5/19/1997	<0.001
	5/20/1997	
	5/26/1997	<0.001
	5/27/1997	<0.001
	5/28/1997	
	6/2/1997	<0.001
	6/3/1997	<0.001
	7/14/1997	<0.001
	7/21/1997	
	7/29/1997	
	8/4/1997	
	8/12/1997	
	10/6/1997	
	10/13/1997	<0.001
	11/17/1997	
	12/17/1997	
	1/20/1998	
	5/13/1998	<0.001
	5/13/1998	
	6/17/1998	
	7/14/1998	
	7/21/1998	
	8/11/1998	
De-ionized blank (no. 3)		
	5/8/1997	
	5/13/1997	<0.001
	5/14/1997	<0.001
	5/19/1997	<0.001
	5/20/1997	<0.001
	5/26/1997	<0.001
	5/29/1997	
	6/2/1997	
	6/3/1997	<0.001
	7/14/1997	
	8/12/1997	<0.001
	10/7/1997	
	10/14/1997	
	11/15/1997	
	12/18/1997	
	5/13/1998	
	7/14/1998	

Appendix Table B2: QA/QC Results Blanks 1997 to 1998

Site	Date	Total Zinc mg/L DL: 0.001
	7/21/1998	<0.001
	8/11/1998	
ASL DI water - travel blank		
	5/8/1997	
	5/14/1997	<0.001
	5/19/1997	<0.001
	5/27/1997	<0.001
	5/29/1997	
	6/3/1997	<0.001
	6/4/1997	
	6/10/1997	<0.001
	6/15/1997	<0.001
	7/14/1997	<0.001
	7/21/1997	<0.001
	7/30/1997	<0.001
	7/30/1997	<0.001
	7/31/1997	
	7/31/1997	<0.001
	8/4/1997	<0.001
	8/13/1997	<0.001
	9/16/1997	<0.001
	9/25/1997	<0.001
	9/30/1997	<0.001
	10/14/1997	<0.001
	11/15/1997	<0.001
	12/18/1997	<0.001
	1/18/1998	<0.001
	1/21/1998	<0.001
	2/18/1998	<0.001
	2/22/1998	<0.001
	2/24/1998	<0.001
	3/9/1998	<0.001
	3/11/1998	<0.001
	4/12/1998	<0.001
	4/15/1998	<0.001
	5/12/1998	<0.001
	5/13/1998	<0.001
	5/14/1998	<0.001
	5/15/1998	<0.001
	5/22/1998	<0.001
ASL DI - travel blank		
	6/2/1998	<0.001
	6/2/1998	<0.001
	6/11/1998	<0.001
	6/16/1998	<0.001
	7/14/1998	<0.001
	7/21/1998	<0.001
	7/28/1998	<0.001
	8/4/1998	<0.001
	8/11/1998	<0.001

Appendix B3

Appendix Table B2 QAQC results Blanks 2006

Appendix Table B3: QA/QC Results Blanks 2006

Parameter	Units	05-09-2006 FB	TB	05-16-2006 FB	TB	05-23-2006 FB	05-29-2006 FB	TB	06-07-2006 FB	TB	07-04-2006 TB	07-05-2006 FB	08-08-2006 TB	08-15-2006 TB	08-22-2006 TB	08-29-2006 TB	09-09-2006 TB	10-03-2006 TB	11-01-2006 TB
Alkalinity, Total (as CaCO3)	mg/L		<2.0	<2.0	<2.0						<2.0	<2.0	<1.0		<2.0	<2.0		<2.0	<2.0
Turbidity	NTU		<0.1	<0.10	<0.10						<0.10		0.12		<0.10	0.16		<0.10	<0.10
Conductivity (uS/cm)	uS/cm		<2.0	<2.0	<2.0						<2.0	<2.0	<2.0		<2.0	<2.0		<2.0	<2.0
Hardness CaCO3	mg/L		<0.54	<0.54	<0.54						<0.54	<0.54	<0.54			<0.54		<0.54	<0.50
pH	pH		5.68	5.5	5.47						5.59	5.66	5.68		5.75	5.68		5.68	5.47
Total Suspended Solids	mg/L		<3.0	<3.0	<3.0						<3.0	<3.0	<1.0		<1.0	<3.0		<3.0	<2.3
Total Dissolved Solids	mg/L		<10	<10	<10						<10	<10	<10		<1.0	<10		<10	<10
Dissolved Organic Carbon	mg/L			<0.50	<0.50						<0.50	<0.10			1.93				
Nitrate (as N)	mg/L		<0.005	<0.005	<0.005						<0.005	<0.005	<0.0050		<0.005	<0.005		<0.005	<0.005
Nitrite (as N)	mg/L		<0.001	<0.001	<0.001						<0.001	<0.001	<0.0010		<0.002	<0.001		<0.001	<0.001
Total Nitrogen N	mg/L			<0.05	<0.05						0.05	<0.05			<0.020			<0.05	
Total Kjeldahl Nitrogen N																			
Ammonia as N	mg/L		<0.005	<0.005	<0.005						<0.005	<0.005	<0.005		0.0053	<0.0050		<0.0050	<0.0050
Total Phosphate as P	mg/L		<0.002	<0.002	<0.002						<0.002	<0.002	0.0024		0.0021	<0.0020		<0.0020	<0.0020
Total Dissolved Phosphate as P	mg/L		<0.002	<0.002	<0.002						<0.002	<0.002	0.0015		0.0018	<0.0020		<0.0020	<0.0020
Dissolved ortho-Phosphate P	mg/L		<0.001	<0.001	<0.001						0.0051	<0.001	<0.001		0.0011	<0.001		<0.001	<0.001
Bromide (Br)	mg/L																		
Chloride (Cl)	mg/L		<0.50	<0.50	<0.50						<0.50	<0.50	<0.50		<0.50	<0.50		<0.50	<0.50
Fluoride (F)	mg/L		<0.02	<0.02	<0.02						<0.02	<0.02	<0.02		<0.02	<0.02		<0.02	<0.02
Sulphate (SO4)	mg/L		<0.50	<0.50	<0.50						<0.50	<0.50	<0.50		<1.0	<0.50		<0.50	<0.50
Aluminum (Al)-Dissolved	mg/L			<0.001	<0.001						<0.005	<0.005	<0.003						<0.001
Antimony (Sb)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Arsenic (As)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Barium (Ba)-Dissolved	mg/L			<0.00005	<0.00005						<0.00005	<0.00005	<0.00005						<0.00005
Beryllium (Be)-Dissolved	mg/L			<0.0005	<0.0005						<0.0005	<0.0005	<0.0005						<0.0005
Bismuth (Bi)-Dissolved	mg/L			<0.0005	<0.0005						<0.0005	<0.0005	<0.0005						<0.0005
Boron (B)-Dissolved	mg/L			<0.01	<0.01						<0.01	<0.01	<0.01						<0.010
Cadmium (Cd)-Dissolved	mg/L			<0.000017	<0.000017						<0.000017	<0.000017	<0.000017						<0.000017
Calcium (Ca)-Dissolved	mg/L			<0.05	<0.05						<0.05	<0.050	<0.05						<0.050
Chromium (Cr)-Dissolved	mg/L			<0.0005	<0.0005						<0.0005	<0.0005	<0.0005						<0.0005
Cobalt (Co)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Copper (Cu)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Iron (Fe)-Dissolved	mg/L			<0.03	<0.03						<0.03	<0.03	<0.03						<0.030
Lead (Pb)-Dissolved	mg/L			<0.00005	<0.00005						<0.00005	<0.00005	<0.00005						<0.00005
Lithium (Li)-Dissolved	mg/L			<0.005	<0.005						<0.005	<0.005	<0.005						<0.0050
Magnesium (Mg)-Dissolved	mg/L			<0.10	<0.10						<0.10	<0.10	<0.10						<0.10
Manganese (Mn)-Dissolved	mg/L			<0.00005	<0.00005						<0.00005	<0.00005	<0.00005						<0.00005
Molybdenum (Mo)-Dissolved	mg/L			<0.00005	<0.00005						<0.00005	<0.00005	<0.00005						<0.00005
Nickel (Ni)-Dissolved	mg/L			<0.0005	<0.0005						<0.0005	<0.0005	<0.0005						<0.0005
Phosphorus, Dissolved	mg/L			<0.30	<0.30						<0.30	<0.30	<0.30						<0.30
Potassium (K)-Dissolved	mg/L			<2.0	<2.0						<2.0	<2.0	<2.0						<2.0
Selenium (Se)-Dissolved	mg/L			<0.001	<0.001						<0.001	<0.001	<0.001						<0.001
Silicon (Si)-Dissolved	mg/L			<0.05	<0.05						<0.05	<0.05	<0.050						<0.050
Silver (Ag)-Dissolved	mg/L			<0.00001	<0.00001						<0.00001	<0.00001	<0.00001						<0.00001
Sodium (Na)-Dissolved	mg/L			<2.0	<2.0						<2.0	<2.0	<2.0						<2.0
Strontium (Sr)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Thallium (Tl)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Tin (Sn)-Dissolved	mg/L			<0.0001	<0.0001						<0.0001	<0.0001	<0.0001						<0.0001
Titanium (Ti)-Dissolved	mg/L			<0.01	<0.01						<0.01	<0.01	<0.01						<0.01
Uranium (U)-Dissolved	mg/L			<0.00001	<0.00001						<0.00001	<0.000010	<0.00001						<0.000010
Vanadium (V)-Dissolved	mg/L			<0.001	<0.001						<0.001	<0.001	<0.001						<0.001
Zinc (Zn)-Dissolved	mg/L			<0.001	<0.001						<0.001	<0.001	<0.001						<0.001
Aluminum (Al)-Total	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		<0.0010	<0.0010	<0.0010	<0.001
Antimony (Sb)-Total	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
Arsenic (As)-Total	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
Barium (Ba)-Total	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
Beryllium (Be)-Total	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
Bismuth (Bi)-Total	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
Boron (B), Total	mg/L	<0.01	<0.01	<0.010	<0.01	<0.01	<0.010	<0.010	<0.01	<0.01	<0.01	<0.010	0.01	0.01		<0.01	<0.01	<0.01	<0.01

Appendix Table B3: QA/QC Results Blanks 2006

Parameter	Units	05-09-2006 FB	TB	05-16-2006 FB	TB	05-23-2006 FB	05-29-2006 FB	TB	06-07-2006 FB	TB	07-04-2006 TB	07-05-2006 FB	08-08-2006 TB	08-15-2006 TB	08-22-2006 TB	08-29-2006 TB	09-09-2006 TB	10-03-2006 TB	11-01-2006 TB
Cadmium (Cd)-Total	mg/L	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017	<0.000017		<0.000017	<0.000017	<0.000017	<0.000017
Calcium (Ca)-Total	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Chromium (Cr)-Total	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		<0.0001	<0.0005	<0.0005	<0.0005
Cobalt (Co)-Total	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
Copper (Cu)-Total	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
Iron (Fe)-Total	mg/L	<0.030	<0.03	<0.03	<0.03	<0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030		<0.030	<0.03	<0.03	<0.03
Lead (Pb)-Total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005
Lithium (Li)-Total	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005
Magnesium (Mg)-Total	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		<0.10	<0.10	<0.10	<0.10
Manganese (Mn)-Total	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	0.000267
Molybdenum (Mo)-Total	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
Nickel (Ni)-Total	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
Phosphorus (P)-Total	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
Potassium (K)-Total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0
Selenium (Se)-Total	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
Silicon (Si)-Total	mg/L	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050
Silver (Ag)-Total	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
Sodium (Na)-Total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0		<2.0	<2.0	<2.0	<2.0
Strontium (Sr)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.00010	<0.00010		<0.0001	<0.00010	<0.00010	<0.0001
Thallium (Tl)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Tin (Sn)-Total	mg/L	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Titanium (Ti)-Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.010	<0.010
Uranium (U)-Total	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
Vanadium (V)-Total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.001		<0.001	<0.001	<0.001	<0.001
Zinc (Zn)-Total	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

FB = Field blank
TB = Travel blank

Appendix B4

**Appendix Table B4 QAQC results Duplicates 1992 to
1996**

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.0001	Dissolved Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.005	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.1	Dissolved Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.01	Dissolved Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.005	Dissolved Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.1	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.0002
W1 - Fish Creek (above Fish Lake)																					
	5/23/1996	Rep.1	<0.0001	<0.0001	0.011	0.022	70.5	0.0003	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	10.7	11	<0.0002	<0.0002
	5/23/1996	Rep.2	<0.0001	<0.0001	0.015	0.021	66.8	0.0003	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	10.9	11.9	<0.0002	<0.0002
		Difference (%)	–	–	30.8	4.7	5.4	0.0	0.0	–	–	–	–	–	–	–	–	1.9	7.9	–	–
	9/2/1996	Rep.1	<0.0001	<0.0001	0.007	0.058	132	0.0011	0.0012	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	20.9	21.7	<0.0002	<0.0002
	9/2/1996	Rep.2	<0.0001	<0.0001	0.006	0.052	132	0.0011	0.0012	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	21.4	21.1	<0.0002	<0.0002
		Difference (%)	–	–	15.4	10.9	0.0	0.0	0.0	–	–	–	–	–	–	–	–	2.4	2.8	–	–
W2 - Fish Creek (outlet of Fish Lake)																					
	5/23/1996	Rep.1	<0.0001	<0.0001	0.009	0.007	82.5	0.0003	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	13.6	14.2	<0.0002	<0.0002
	5/23/1996	Rep.2	<0.0001	<0.0001	<0.005	0.011	79.7	0.0003	0.0003	–	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	13.4	13.4	<0.0002	<0.0002
		Difference (%)	–	–	–	44.4	3.5	0.0	0.0	–	–	–	–	–	–	–	–	1.5	5.8	–	–
	9/2/1996	Rep.1	<0.0001	<0.0001	<0.005	0.018	86.5	0.0007	0.0006	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	14.6	14.7	<0.0002	<0.0002
	9/2/1996	Rep.2	<0.0001	<0.0001	0.005	0.018	86.1	0.0007	0.0006	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	14.9	14.8	<0.0002	<0.0002
		Difference (%)	–	–	–	0.0	0.5	0.0	0.0	–	–	–	–	–	–	–	–	2.0	0.7	–	–
W3 - Fish Creek (above Taseko River)																					
	5/23/1996	Rep.1	<0.0001	<0.0001	0.018	0.206	74.9	0.0008	0.0018	<0.1	<0.1	<0.01	<0.01	<0.005	<0.005	<0.1	<0.1	14	14.9	<0.0002	<0.0002
	5/23/1996	Rep.2	<0.0001	<0.0001	0.012	0.218	75.1	0.0008	0.0024	<0.1	<0.1	<0.01	<0.01	<0.005	<0.005	<0.1	<0.1	14	15.2	<0.0002	<0.0002
		Difference (%)	–	–	40.0	5.7	0.3	0.0	28.6	–	–	–	–	–	–	–	–	0.0	2.0	–	–
	8/29/1996	Rep.1	<0.0001	<0.0001	<0.005	0.008	135	0.0035	0.0038	<0.1	<0.1	<0.01	<0.01	<0.005	<0.005	<0.1	<0.1	31	30.6	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	<0.005	<0.005	133	0.0037	0.0037	<0.1	<0.1	<0.01	<0.01	<0.005	<0.005	<0.1	<0.1	30.8	31.1	<0.0002	<0.0002
		Difference (%)	–	–	–	–	1.5	5.6	2.7	–	–	–	–	–	–	–	–	0.6	1.6	–	–
W4 - Taseko River (d/s of Taseko Lake)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.084	0.64	17.9	0.0003	0.0005	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.55	7.78	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.105	0.655	17.8	0.0003	0.0005	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.66	7.81	<0.0002	<0.0002
		Difference (%)	–	–	22.2	2.3	0.6	0.0	0.0	–	–	–	–	–	–	–	–	1.4	0.4	–	–
W5 - Taseko River (above Fish Creek)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.089	0.739	20.1	0.0004	0.0006	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	8.01	8.07	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.097	0.624	19.3	0.0004	0.0006	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.92	7.96	<0.0002	<0.0002
		Difference (%)	–	–	8.6	16.9	4.1	0.0	0.0	–	–	–	–	–	–	–	–	1.1	1.4	–	–
W6 - Taseko River (below Fish Creek)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.09	0.467	18.4	0.0004	0.0006	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.83	7.45	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.084	0.8	18.7	0.0004	0.0006	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.91	7.79	<0.0002	<0.0002
		Difference (%)	–	–	6.9	52.6	1.6	0.0	0.0	–	–	–	–	–	–	–	–	1.0	4.5	–	–
W7 - Fish Creek (u/s of ore deposit)																					
	5/23/1996	Rep.1	<0.0001	<0.0001	0.007	0.016	80.6	0.0003	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	13.4	13.8	<0.0002	<0.0002
	5/23/1996	Rep.2	<0.0001	<0.0001	<0.005	0.016	80.7	0.0003	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	13.1	13.9	<0.0002	<0.0002
		Difference (%)	–	–	–	0.0	0.1	0.0	0.0	–	–	–	–	–	–	–	–	2.3	0.7	–	–
	9/2/1996	Rep.1	<0.0001	<0.0001	0.007	0.031	88.8	0.0007	0.0008	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	15.8	15.8	<0.0002	<0.0002
	9/2/1996	Rep.2	<0.0001	<0.0001	0.007	0.033	89.2	0.0007	0.0007	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	15.5	15.8	<0.0002	<0.0002
		Difference (%)	–	–	0.0	6.3	0.4	0.0	13.3	–	–	–	–	–	–	–	–	1.9	0.0	–	–
W8 - Fish Creek (d/s of ore deposit)																					
	5/23/1996	Rep.1	<0.0001	<0.0001	0.006	0.05	81.7	0.0004	0.0005	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	14.6	14.6	<0.0002	<0.0002
	5/23/1996	Rep.2	<0.0001	<0.0001	0.007	0.052	80	0.0004	0.0005	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	15.4	15.8	<0.0002	<0.0002

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Silver mg/L DL: 0.0001	Total Silver mg/L DL: 0.0001	Dissolved Aluminium mg/L DL: 0.005	Total Aluminium mg/L DL: 0.005	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.1	Total Boron mg/L DL: 0.1	Dissolved Barium mg/L DL: 0.01	Total Barium mg/L DL: 0.01	Dissolved Beryllium mg/L DL: 0.005	Total Beryllium mg/L DL: 0.005	Dissolved Bismuth mg/L DL: 0.1	Total Bismuth mg/L DL: 0.1	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05	Dissolved Cadmium mg/L DL: 0.0002	Total Cadmium mg/L DL: 0.0002
		Difference (%)	–	–	15.4	3.9	2.1	0.0	0.0	–	–	–	–	–	–	–	–	5.3	7.9	–	–
	8/29/1996	Rep.1	<0.0001	<0.0001	<0.005	0.016	134	0.0015	0.0017	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	30.4	31	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	<0.005	0.018	133	0.0014	0.0016	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	30.3	30.5	<0.0002	<0.0002
		Difference (%)	–	–	–	11.8	0.7	6.9	6.1	–	–	–	–	–	–	–	–	0.3	1.6	–	–
W9 - Taseko River (d/s of Big Onion Lake)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.126	0.679	17.8	0.0004	0.0005	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.6	7.19	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.111	0.548	17.2	0.0004	0.0006	<0.10	<0.10	<0.010	0.012	<0.005	<0.005	<0.10	<0.10	7.62	7.4	<0.0002	<0.0002
		Difference (%)	–	–	12.7	21.4	3.4	0.0	18.2	–	–	–	–	–	–	–	–	0.3	2.9	–	–
W10 - Big Onion Lake (at outlet)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	<0.005	0.347	144	0.0004	0.0005	<0.10	<0.10	<0.010	0.011	<0.005	<0.005	<0.10	<0.10	31.2	31.1	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	<0.005	0.053	146	0.0004	0.0004	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	31.2	31.6	<0.0002	<0.0002
		Difference (%)	–	–	–	147.0	1.4	0.0	22.2	–	–	–	–	–	–	–	–	0.0	1.6	–	–
W11 - Beece Creek (u/s of Taseko R confluence)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.042	0.183	9.4	0.0007	0.0009	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	2.91	2.95	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.043	0.186	9.6	0.0007	0.0008	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	2.76	2.96	<0.0002	<0.0002
		Difference (%)	–	–	2.4	1.6	2.1	0.0	11.8	–	–	–	–	–	–	–	–	5.3	0.3	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.045	0.199	7.9	0.0008	0.001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	2.65	2.66	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.056	0.208	8.3	0.0008	0.001	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	2.58	2.65	<0.0002	<0.0002
		Difference (%)	–	–	21.8	4.4	4.9	0.0	0.0	–	–	–	–	–	–	–	–	2.7	0.4	–	–
W13 - Vick Creek d/s Vick Lake																					
	8/29/1996	Rep.1	<0.0001	<0.0001	<0.005	<0.005	280	0.0007	0.0007	<0.10	<0.10	0.018	0.017	<0.005	<0.005	<0.10	<0.10	48.3	48.7	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	<0.005	<0.005	277	0.0007	0.0006	<0.10	<0.10	0.02	0.016	<0.005	<0.005	<0.10	<0.10	48.8	48.5	<0.0002	<0.0002
		Difference (%)	–	–	–	–	1.1	0.0	15.4	–	–	–	–	–	–	–	–	1.0	0.4	–	–
W14 - Taseko River (d/s of Beece Ck confluence)																					
	8/29/1996	Rep.1	<0.0001	<0.0001	0.065	0.374	12.5	0.0006	0.0008	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	4.38	4.71	<0.0002	<0.0002
	8/29/1996	Rep.2	<0.0001	<0.0001	0.069	0.399	12.7	0.0006	0.0008	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	4.43	4.51	<0.0002	<0.0002
		Difference (%)	–	–	6.0	6.5	1.6	0.0	0.0	–	–	–	–	–	–	–	–	1.1	4.3	–	–
W16 - Groundhog Creek Tributary																					
	9/3/1996	Rep.1	<0.0001	<0.0001	0.009	0.013	67.7	0.0002	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	11.4	11.3	<0.0002	<0.0002
	9/3/1996	Rep.2	<0.0001	<0.0001	0.009	0.013	69.7	0.0002	0.0003	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	11.3	11.3	<0.0002	<0.0002
		Difference (%)	–	–	0.0	0.0	2.9	0.0	0.0	–	–	–	–	–	–	–	–	0.9	0.0	–	–
W17 - Tête Angela East																					
	9/3/1996	Rep.1	<0.0001	<0.0001	<0.005	0.013	77.2	0.0006	0.0006	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	13.7	13.7	<0.0002	<0.0002
	9/3/1996	Rep.2	<0.0001	<0.0001	<0.005	0.013	75.4	0.0006	0.0006	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	14.1	14	<0.0002	<0.0002
		Difference (%)	–	–	–	0.0	2.4	0.0	0.0	–	–	–	–	–	–	–	–	2.9	2.2	–	–
W18 - Tête Angela West																					
	9/3/1996	Rep.1	<0.0001	<0.0001	<0.005	0.023	98.4	0.0012	0.0014	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	20.7	20.7	<0.0002	<0.0002
	9/3/1996	Rep.2	<0.0001	<0.0001	0.029	0.006	96.2	0.0014	0.0012	<0.10	<0.10	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	21.1	20.9	<0.0002	<0.0002
		Difference (%)	–	–	–	117.2	2.3	15.4	15.4	–	–	–	–	–	–	–	–	1.9	1.0	–	–

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.03	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.005
W1 - Fish Creek (above Fish Lake)																			
	5/23/1996	Rep.1	<0.5	<0.001	<0.001	130	<0.001	<0.001	<0.001	<0.001	0.04	0.114	0.152	63.5	0.69	8.95	9.31	0.013	0.02
	5/23/1996	Rep.2	<0.5	<0.001	<0.001	127	<0.001	<0.001	<0.001	<0.001	0.03	0.114	0.161	64.8	0.71	9.13	9.89	0.013	0.018
		Difference (%)	–	–	–	2.3	–	–	–	–	28.6	0.0	5.8	2.0	2.9	2.0	6.0	0.0	10.5
	9/2/1996	Rep.1	<0.5	<0.001	<0.001	240	<0.001	<0.001	<0.001	<0.001	0.08	0.267	0.633	120	0.79	16.6	17.1	0.057	0.171
	9/2/1996	Rep.2	<0.5	<0.001	<0.001	249	<0.001	<0.001	<0.001	<0.001	0.08	0.271	0.686	123	0.8	16.9	17	0.061	0.167
		Difference (%)	–	–	–	3.7	–	–	–	–	0.0	1.5	8.0	2.5	1.3	1.8	0.6	6.8	2.4
W2 - Fish Creek (outlet of Fish Lake)																			
	5/23/1996	Rep.1	<0.5	<0.001	<0.001	149	<0.001	<0.001	<0.001	<0.001	0.04	0.091	0.133	74.6	0.96	9.9	10.3	<0.005	0.009
	5/23/1996	Rep.2	<0.5	<0.001	<0.001	151	<0.001	<0.001	<0.001	0.001	0.04	0.086	0.124	74.1	1.07	9.89	9.94	<0.005	0.009
		Difference (%)	–	–	–	1.3	–	–	–	–	0.0	5.6	7.0	0.7	10.8	0.1	3.6	–	0.0
	9/2/1996	Rep.1	<0.5	<0.001	<0.001	153	<0.001	<0.001	<0.001	<0.001	0.07	0.089	0.132	79.6	0.61	10.5	10.5	0.01	0.015
	9/2/1996	Rep.2	<0.5	<0.001	<0.001	154	<0.001	<0.001	<0.001	<0.001	0.07	0.092	0.132	80.8	0.64	10.6	10.5	0.011	0.015
		Difference (%)	–	–	–	0.7	–	–	–	–	0.0	3.3	0.0	1.5	4.8	0.9	0.0	9.5	0.0
W3 - Fish Creek (above Taseko River)																			
	5/23/1996	Rep.1	<0.5	<0.001	<0.001	142	<0.001	<0.001	0.001	0.002	0.05	0.096	0.531	70.5	0.87	8.62	8.86	0.009	0.075
	5/23/1996	Rep.2	<0.5	<0.001	<0.001	143	<0.001	<0.001	<0.001	0.002	0.04	0.096	0.549	71.2	0.89	8.84	9.02	0.011	0.067
		Difference (%)	–	–	–	0.7	–	–	–	0.0	22.2	0.0	3.3	1.0	2.3	2.5	1.8	20.0	11.3
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	278	<0.001	<0.001	0.002	0.002	0.07	<0.03	<0.03	136	0.85	14.3	14.2	<0.005	0.005
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	280	<0.001	<0.001	0.002	0.002	0.08	<0.03	0.033	135	0.84	14.1	14.3	<0.005	<0.005
		Difference (%)	–	–	–	0.7	–	–	0.0	0.0	13.3	–	–	0.7	1.2	1.4	0.7	–	–
W4 - Taseko River (d/s of Taseko Lake)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	53.5	<0.001	<0.001	<0.001	0.003	0.04	0.066	0.6	21.9	0.53	0.753	0.957	<0.005	0.018
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	51.1	<0.001	<0.001	<0.001	0.003	0.04	0.086	0.541	22.3	0.55	0.759	0.978	0.005	0.017
		Difference (%)	–	–	–	4.6	–	–	–	0.0	0.0	26.3	10.3	1.8	3.7	0.8	2.2	–	5.7
W5 - Taseko River (above Fish Creek)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	55.8	<0.001	<0.001	<0.001	0.002	0.04	0.071	0.656	23.9	0.54	0.946	1.15	<0.005	0.018
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	56.3	<0.001	<0.001	0.001	0.003	0.04	0.076	0.584	23.6	0.54	0.932	1.11	<0.005	0.017
		Difference (%)	–	–	–	–	–	–	–	40.0	0.0	6.8	11.6	1.3	0.0	1.5	3.5	–	5.7
W6 - Taseko River (below Fish Creek)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	54.8	<0.001	<0.001	<0.001	0.002	0.04	0.067	0.325	23	0.53	0.846	0.887	<0.005	0.013
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	54.8	<0.001	<0.001	<0.001	0.003	0.05	0.065	0.447	23.1	0.54	0.822	0.97	<0.005	0.014
		Difference (%)	–	–	–	–	–	–	–	40.0	22.2	3.0	31.6	0.4	1.9	2.9	8.9	–	7.4
W7 - Fish Creek (u/s of ore deposit)																			
	5/23/1996	Rep.1	<0.5	<0.001	<0.001	148	<0.001	<0.001	<0.001	0.002	0.04	0.091	0.139	73.5	0.89	9.73	10.1	<0.005	0.01
	5/23/1996	Rep.2	<0.5	<0.001	<0.001	150	<0.001	<0.001	<0.001	<0.001	0.04	0.091	0.147	72.3	0.93	9.65	10.1	<0.005	0.012
		Difference (%)	–	–	–	1.3	–	–	–	–	0.0	0.0	5.6	1.6	4.4	0.8	0.0	–	18.2
	9/2/1996	Rep.1	<0.5	<0.001	<0.001	162	<0.001	<0.001	<0.001	<0.001	0.06	0.116	0.216	85	0.77	11.1	11.1	0.013	0.024
	9/2/1996	Rep.2	<0.5	<0.001	<0.001	163	<0.001	<0.001	<0.001	<0.001	0.06	0.109	0.214	83.8	0.77	11	11.1	0.013	0.024
		Difference (%)	–	–	–	0.6	–	–	–	–	0.0	6.2	0.9	1.4	0.0	0.9	0.0	0.0	0.0
W8 - Fish Creek (d/s of ore deposit)																			
	5/23/1996	Rep.1	<0.5	<0.001	<0.001	154	<0.001	<0.001	<0.001	<0.001	0.04	0.109	0.236	76.7	0.97	9.77	9.77	0.015	0.027
	5/23/1996	Rep.2	<0.5	<0.001	<0.001	155	<0.001	<0.001	0.001	<0.001	0.04	0.131	0.266	80	0.99	10.1	10.3	0.016	0.029

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.001	Total Cobalt mg/L DL: 0.001	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.001	Total Chromium mg/L DL: 0.001	Dissolved Copper mg/L DL: 0.001	Total Copper mg/L DL: 0.001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.03	Total Iron mg/L DL: 0.03	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.005	Total Manganese mg/L DL: 0.005
		Difference (%)	–	–	–	0.6	–	–	–	–	0.0	18.3	12.0	4.2	2.0	3.3	5.3	6.5	7.1
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	255	<0.001	<0.001	<0.001	<0.001	0.08	0.43	0.681	133	0.75	13.9	14.1	0.138	0.167
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	275	<0.001	<0.001	<0.001	<0.001	0.08	0.433	0.67	133	0.73	13.9	14	0.138	0.167
		Difference (%)	–	–	–	7.5	–	–	–	–	0.0	0.7	1.6	0.0	2.7	0.0	0.7	0.0	0.0
W9 - Taseko River (d/s of Big Onion Lake)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	55	<0.001	<0.001	<0.001	0.003	0.04	0.108	0.39	22.1	0.52	0.762	0.835	0.005	0.014
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	53.1	<0.001	<0.001	<0.001	0.003	0.05	0.091	0.456	22.4	0.54	0.818	0.883	<0.005	0.015
		Difference (%)	–	–	–	3.5	–	–	–	0.0	22.2	17.1	15.6	1.3	3.8	7.1	5.6	–	6.9
W10 - Big Onion Lake (at outlet)																			
	8/29/1996	Rep.1	0.7	<0.001	<0.001	268	<0.001	<0.001	<0.001	0.002	0.12	<0.030	0.45	136	0.87	14.1	13.9	<0.005	0.015
	8/29/1996	Rep.2	0.7	<0.001	<0.001	269	<0.001	<0.001	<0.001	<0.001	0.11	<0.030	0.086	136	0.88	14	14.2	<0.005	0.009
		Difference (%)	0.0	–	–	0.4	–	–	–	–	8.7	–	135.8	0.0	1.1	0.7	2.1	–	50.0
W11 - Beece Creek (u/s of Taseko R confluence)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	23.7	<0.001	<0.001	<0.001	<0.001	0.06	0.035	0.138	9.13	0.13	0.455	0.464	<0.005	<0.005
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	24.5	<0.001	<0.001	<0.001	<0.001	0.07	0.033	0.135	8.65	0.14	0.429	0.486	<0.005	<0.005
		Difference (%)	–	–	–	3.3	–	–	–	–	15.4	5.9	2.2	5.4	7.4	5.9	4.6	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	20.2	<0.001	<0.001	<0.001	<0.001	0.06	0.038	0.15	7.91	0.11	0.311	0.368	<0.005	<0.005
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	20.1	<0.001	<0.001	<0.001	<0.001	0.06	0.038	0.15	7.84	0.12	0.341	0.35	<0.005	<0.005
		Difference (%)	–	–	–	0.5	–	–	–	–	0.0	0.0	0.0	0.9	8.7	9.2	5.0	–	–
W13 - Vick Creek d/s Vick Lake																			
	8/29/1996	Rep.1	0.6	<0.001	<0.001	474	<0.001	<0.001	<0.001	<0.001	0.16	<0.030	<0.030	251	2	31.7	32.2	0.006	0.006
	8/29/1996	Rep.2	0.6	<0.001	<0.001	480	<0.001	<0.001	<0.001	0.001	0.16	<0.030	<0.030	254	2.01	32.1	32.1	0.006	0.006
		Difference (%)	0.0	–	–	1.3	–	–	–	–	0.0	–	–	1.2	0.5	1.3	0.3	0.0	0.0
W14 - Taseko River (d/s of Beece Ck confluence)																			
	8/29/1996	Rep.1	<0.5	<0.001	<0.001	34.5	<0.001	<0.001	<0.001	0.001	0.05	0.053	0.294	13.4	0.27	0.591	0.7	<0.005	0.009
	8/29/1996	Rep.2	<0.5	<0.001	<0.001	34.6	<0.001	<0.001	0.002	0.001	0.05	0.062	0.294	13.6	0.26	0.614	0.68	<0.005	0.009
		Difference (%)	–	–	–	0.3	–	–	–	0.0	0.0	15.7	0.0	1.5	3.8	3.8	2.9	–	0.0
W16 - Groundhog Creek Tributary																			
	9/3/1996	Rep.1	<0.5	<0.001	<0.001	126	<0.001	<0.001	<0.001	<0.001	0.05	0.714	0.872	66	0.33	9.09	8.93	0.024	0.042
	9/3/1996	Rep.2	<0.5	<0.001	<0.001	125	<0.001	<0.001	<0.001	<0.001	0.05	0.705	0.875	65.3	0.33	8.99	8.92	0.024	0.043
		Difference (%)	–	–	–	0.8	–	–	–	–	0.0	1.3	0.3	1.1	0.0	1.1	0.1	0.0	2.4
W17 - Tête Angela East																			
	9/3/1996	Rep.1	<0.5	<0.001	<0.001	141	<0.001	<0.001	<0.001	<0.001	0.06	0.103	0.149	67.1	0.42	7.99	8	0.006	0.007
	9/3/1996	Rep.2	<0.5	<0.001	<0.001	142	<0.001	<0.001	<0.001	<0.001	0.06	0.107	0.153	68.8	0.43	8.16	8.11	0.006	0.007
		Difference (%)	–	–	–	0.7	–	–	–	–	0.0	3.8	2.6	2.5	2.4	2.1	1.4	0.0	0.0
W18 - Tête Angela West																			
	9/3/1996	Rep.1	<0.5	<0.001	<0.001	179	<0.001	<0.001	<0.001	<0.001	0.06	0.346	0.585	92.1	0.39	9.81	9.81	0.047	0.052
	9/3/1996	Rep.2	<0.5	<0.001	<0.001	179	<0.001	<0.001	<0.001	<0.001	0.06	0.597	0.349	93.6	0.42	9.92	9.81	0.054	0.048
		Difference (%)	–	–	–	0.0	–	–	–	–	0.0	53.2	50.5	1.6	7.4	1.1	0.0	13.9	8.0

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.001	Dissolved Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.001	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.0001	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005
W1 - Fish Creek (above Fish Lake)																				
	5/23/1996	Rep.1	<0.001	<0.001	4.69	0.005	0.003	<0.005	0.002	0.002	0.011	0.025	0.011	<0.001	<0.001	7.36	0.0001	<0.0001	<0.0005	<0.0005
	5/23/1996	Rep.2	<0.001	<0.001	5	0.007	0.002	<0.005	0.002	0.002	0.01	0.022	0.011	<0.001	<0.001	7.54	0.0001	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	6.4	33.3	40.0	–	0.0	0.0	9.5	12.8	0.0	–	–	2.4	0.0	–	–	–
	9/2/1996	Rep.1	<0.001	<0.001	11.8	0.08	0.004	0.005	0.003	0.004	0.012	0.147	0.067	<0.001	<0.001	8.3	0.0006	<0.0001	<0.0005	0.0006
	9/2/1996	Rep.2	<0.001	<0.001	11.9	0.22	0.003	0.005	0.004	0.004	0.058	0.203	0.081	<0.001	<0.001	8.01	0.0005	<0.0001	<0.0005	0.0006
		Difference (%)	–	–	0.8	93.3	28.6	0.0	28.6	0.0	131.4	32.0	18.9	–	–	3.6	18.2	–	–	0.0
W2 - Fish Creek (outlet of Fish Lake)																				
	5/23/1996	Rep.1	<0.001	<0.001	5.7	0.005	0.002	<0.005	0.002	0.002	0.006	0.016	0.007	<0.001	<0.001	7.6	0.0002	<0.0001	<0.0005	<0.0005
	5/23/1996	Rep.2	<0.001	<0.001	5.66	<0.005	0.002	<0.005	0.002	0.002	0.004	0.016	0.004	<0.001	<0.001	7.68	0.0002	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	0.7	–	0.0	–	0.0	0.0	40.0	0.0		–	–	1.0	0.0	–	–	–
	9/2/1996	Rep.1	<0.001	<0.001	5.59	0.022	0.001	<0.005	0.002	0.002	0.007	0.024	0.014	<0.001	<0.001	8.24	0.0002	<0.0001	<0.0005	<0.0005
	9/2/1996	Rep.2	<0.001	<0.001	5.65	0.017	0.001	<0.005	0.002	0.002	0.006	0.024	0.023	<0.001	<0.001	8.22	0.0002	<0.0001	<0.0005	0.0005
		Difference (%)	–	–	1.1	25.6	0.0	–	0.0	0.0	15.4	0.0	48.6	–	–	0.2	0.0	–	–	–
W3 - Fish Creek (above Taseko River)					–															
	5/23/1996	Rep.1	<0.001	<0.001	5.23	<0.005	0.002	<0.005	0.002	0.002	0.006	0.044	0.006	<0.001	<0.001	7.72	0.0001	<0.0001	<0.0005	<0.0005
	5/23/1996	Rep.2	<0.001	<0.001	5.39	<0.005	0.002	<0.005	0.002	0.002	0.006	0.046	0.011	<0.001	<0.001	7.7	0.0002	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	3.0	–	0.0	–	0.0	0.0	0.0	4.4	–	–	–		66.7	–	–	–
	8/29/1996	Rep.1	0.001	0.001	9.34	0.006	0.002	0.347	<0.001	<0.001	0.014	0.016	0.014	<0.001	<0.001	8.19	0.0013	0.0012	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	9.18	0.005	0.003	0.364	<0.001	<0.001	0.014	0.014	0.014	<0.001	<0.001	8.22	0.0013	0.0012	<0.0005	<0.0005
		Difference (%)	0.0	0.0	1.7	18.2	40.0	4.8	–	–	0.0	13.3	0.0	–	–	0.4	0.0	0.0	–	–
W4 - Taseko River (d/s of Taseko Lake)																				
	8/29/1996	Rep.1	0.001	0.001	1.08	0.014	0.008	0.016	<0.001	<0.001	0.005	0.063	0.005	<0.001	<0.001	7.72	0.0002	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	1.06	0.033	0.008	0.016	<0.001	<0.001	0.005	0.067	0.005	<0.001	<0.001	7.71	0.0004	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	0.0	1.9	80.9	0.0	0.0	–	–	0.0	6.2	0.0	–	–	0.1	66.7	–	–	–
W5 - Taseko River (above Fish Creek)																				
	8/29/1996	Rep.1	0.001	0.001	1.19	0.019	0.007	0.024	<0.001	<0.001	0.005	0.06	0.005	<0.001	<0.001	7.72	0.0004	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	1.17	0.015	0.007	0.024	<0.001	<0.001	0.005	0.059	0.005	<0.001	<0.001	7.74	0.0004	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	0.0	1.7	23.5	0.0	0.0	–	–	0.0	1.7	0.0	–	–	0.3	0.0	–	–	–
W6 - Taseko River (below Fish Creek)																				
	8/29/1996	Rep.1	0.001	0.001	1.11	0.014	0.008	0.009	<0.001	<0.001	0.005	0.061	0.006	<0.001	<0.001	7.71	0.0004	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	1.1	0.015	0.008	0.011	<0.001	<0.001	0.004	0.067	0.004	<0.001	<0.001	7.69	0.0004	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	0.0	0.9	6.9	0.0	20.0	–	–	22.2	9.4	40.0	–	–	0.3	0.0	–	–	–
W7 - Fish Creek (u/s of ore deposit)																				
	5/23/1996	Rep.1	<0.001	<0.001	5.56	0.007	0.002	<0.005	0.002	0.002	0.004	0.017	0.004	<0.001	<0.001	7.54	0.0001	<0.0001	<0.0005	<0.0005
	5/23/1996	Rep.2	<0.001	<0.001	5.58	0.008	0.002	<0.005	0.002	0.002	0.006	0.019	0.008	<0.001	<0.001	7.6	0.0002	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	0.4	13.3	0.0	–	0.0	0.0	40.0	11.1	66.7	–	–	0.8	66.7	–	–	–
	9/2/1996	Rep.1	<0.001	<0.001	5.9	0.028	0.006	0.046	0.002	0.002	0.014	0.036	0.026	<0.001	<0.001	8.15	0.0003	<0.0001	<0.0005	<0.0005
	9/2/1996	Rep.2	<0.001	<0.001	5.78	0.031	0.004	0.034	0.002	0.002	0.02	0.041	0.029	<0.001	<0.001	7.97	0.0002	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	2.1	10.2	40.0	30.0	0.0	0.0	35.3	13.0	10.9	–	–	2.2	40.0	–	–	–
W8 - Fish Creek (d/s of ore deposit)																				
	5/23/1996	Rep.1	<0.001	<0.001	5.84	0.005	0.002	<0.005	0.002	0.002	0.006	0.029	0.006	<0.001	<0.001	7.54	<0.0001	<0.0001	<0.0005	0.0005
	5/23/1996	Rep.2	<0.001	<0.001	5.91	0.006	0.002	<0.005	0.002	0.002	0.008	0.021	0.008	<0.001	<0.001	7.57	0.0001	<0.0001	<0.0005	0.0005

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Molybdenum mg/L DL: 0.001	Total Molybdenum mg/L DL: 0.001	Dissolved Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.001	Total Nickel mg/L DL: 0.001	Ortho Phosphate mg/L DL: 0.001	Total Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.001	Total Lead mg/L DL: 0.001	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.0001	Total Antimony mg/L DL: 0.0001	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005
		Difference (%)	–	–	1.2	18.2	0.0	–	0.0	0.0	28.6	32.0	28.6	–	–	0.4	–	–	–	0.0
	8/29/1996	Rep.1	<0.001	<0.001	8.03	0.021	0.002	<0.005	0.002	0.002	0.019	0.048	0.028	<0.001	<0.001	7.72	0.0006	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	<0.001	<0.001	8.04	0.029	0.002	<0.005	0.002	0.002	0.021	0.047	0.03	<0.001	<0.001	7.71	0.0004	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	0.1	32.0	0.0	–	0.0	0.0	10.0	2.1	6.9	–	–	0.1	40.0	–	–	–
W9 - Taseko River (d/s of Big Onion Lake)																				
	8/29/1996	Rep.1	0.001	0.001	1.07	0.015	0.011	0.009	<0.001	<0.001	0.005	0.059	0.005	<0.001	<0.001	7.8	0.0003	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	1.07	0.022	0.013	0.01	<0.001	<0.001	0.005	0.059	0.005	<0.001	<0.001	7.76	0.0003	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	0.0	0.0	37.8	16.7	10.5	–	–	0.0	0.0	0.0	–	–	0.5	0.0	–	–	–
W10 - Big Onion Lake (at outlet)																				
	8/29/1996	Rep.1	<0.001	<0.001	7.86	0.011	0.002	<0.005	<0.001	<0.001	0.003	0.038	0.014	<0.001	<0.001	8.95	0.0006	0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	<0.001	<0.001	7.8	0.015	<0.001	<0.005	<0.001	<0.001	0.005	0.077	0.018	<0.001	<0.001	8.85	0.0003	0.0001	<0.0005	<0.0005
		Difference (%)	–	–	0.8	30.8	–	–	–	–	50.0	67.8	25.0	–	–	1.1	66.7	0.0	–	–
W11 - Beece Creek (u/s of Taseko R confluence)																				
	8/29/1996	Rep.1	<0.001	<0.001	0.88	<0.005	0.001	<0.005	<0.001	<0.001	0.003	0.012	0.003	<0.001	<0.001	6.69	0.0002	0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	<0.001	<0.001	0.87	0.006	0.001	<0.005	<0.001	<0.001	0.002	0.013	0.002	<0.001	<0.001	7.27	0.0002	0.0001	<0.0005	<0.0005
		Difference (%)	–	–	1.1	–	0.0	–	–	–	40.0	8.0	40.0	–	–	8.3	0.0	0.0	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																				
	8/29/1996	Rep.1	<0.001	<0.001	0.77	0.005	0.003	<0.005	<0.001	<0.001	0.002	0.013	0.002	<0.001	<0.001	7.3	0.0002	0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	<0.001	<0.001	0.8	<0.005	0.002	<0.005	<0.001	<0.001	0.01	0.026	0.01	<0.001	<0.001	7.1	0.0002	0.0001	<0.0005	<0.0005
		Difference (%)	–	–	3.8	–	40.0	–	–	–	133.3	66.7	133.3	–	–	2.8	0.0	0.0	–	–
W13 - Vick Creek d/s Vick Lake																				
	8/29/1996	Rep.1	0.001	0.001	14.5	<0.005	0.001	0.033	<0.001	<0.001	0.011	0.012	0.011	<0.001	<0.001	8.29	<0.0001	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	0.001	14.7	<0.005	0.002	0.033	<0.001	<0.001	0.01	0.012	0.01	<0.001	<0.001	8.3	<0.0001	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	0.0	1.4	–	66.7	0.0	–	–	9.5	0.0	9.5	–	–	0.1	–	–	–	–
W14 - Taseko River (d/s of Beece Ck confluence)																				
	8/29/1996	Rep.1	0.001	<0.001	1.02	0.006	0.004	<0.005	<0.001	<0.001	0.004	0.032	0.004	<0.001	<0.001	7.56	0.0004	<0.0001	<0.0005	<0.0005
	8/29/1996	Rep.2	0.001	<0.001	0.98	0.009	0.005	<0.005	<0.001	<0.001	0.003	0.028	0.003	<0.001	<0.001	7.57	0.0004	<0.0001	<0.0005	<0.0005
		Difference (%)	0.0	–	4.0	40.0	22.2	–	–	–	28.6	13.3	28.6	–	–	0.1	0.0	–	–	–
W16 - Groundhog Creek Tributary																				
	9/3/1996	Rep.1	<0.001	<0.001	3.16	0.007	0.004	0.017	0.001	0.001	0.007	0.027	0.02	<0.001	<0.001	7.63	0.0001	<0.0001	<0.0005	0.0027
	9/3/1996	Rep.2	<0.001	<0.001	3.21	0.008	0.003	0.018	0.001	0.001	0.006	0.024	0.019	<0.001	<0.001	7.6	0.0002	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	1.6	13.3	28.6	5.7	0.0	0.0	15.4	11.8	5.1	–	–	0.4	66.7	–	–	–
W17 - Tête Angela East																				
	9/3/1996	Rep.1	<0.001	<0.001	4.94	<0.005	0.001	0.005	<0.001	<0.001	0.004	0.007	0.004	<0.001	<0.001	8.01	<0.0001	<0.0001	<0.0005	<0.0005
	9/3/1996	Rep.2	<0.001	<0.001	5.04	<0.005	0.001	<0.005	<0.001	<0.001	0.004	0.007	0.004	<0.001	<0.001	8.02	0.0001	<0.0001	<0.0005	<0.0005
		Difference (%)	–	–	2.0	–	0.0	–	–	–	0.0	0.0	0.0	–	–	0.1	–	–	–	–
W18 - Tête Angela West																				
	9/3/1996	Rep.1	<0.001	<0.001	5.43	0.026	0.002	<0.005	0.002	0.002	0.012	0.028	0.014	<0.001	<0.001	7.73	0.0002	<0.0001	<0.0005	<0.0005
	9/3/1996	Rep.2	<0.001	<0.001	5.49	0.027	0.002	0.006	0.002	0.002	0.009	0.026	0.015	<0.001	<0.001	7.72	<0.0001	0.0002	<0.0005	0.0007
		Difference (%)	–	–	1.1	3.8	0.0	–	0.0	0.0	28.6	7.4	6.9	–	–	0.1	–	–	–	–

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.001	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.03	Dissolved Zinc mg/L DL: 0.005	Total Zinc mg/L DL: 0.005
W1 - Fish Creek (above Fish Lake)																			
	5/23/1996	Rep.1	7	6.93	<1.0	0.035	0.037	84	<0.010	<0.010	16.2	5	3	0.00002	0.00002	<0.030	<0.030	<0.005	<0.005
	5/23/1996	Rep.2	6.95	7.19	<1.0	0.037	0.04	82	<0.010	<0.010	16.2	5	2.1	0.00002	0.00002	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.7	3.7	–	5.6	7.8	2.4	–	–	0.0	0.0		0.0	0.0	–	–	–	–
	9/2/1996	Rep.1	6.38	6.57	<1.0	0.072	0.076	167	<0.010	<0.010	21.9	17	12.1	0.00026	0.00025	<0.030	<0.030	<0.005	<0.005
	9/2/1996	Rep.2	6.5	6.49	<1.0	0.074	0.075	167	<0.010	<0.010	21.5	15	6.1	0.00024	0.00023	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.9	1.2	–	2.7	1.3	0.0	–	–	1.8	12.5	65.9	8.0	8.3	–	–	–	–
W2 - Fish Creek (outlet of Fish Lake)																			
	5/23/1996	Rep.1	6.2	6.2	<1.0	0.046	0.049	104	<0.010	<0.010	12.4	2	1	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
	5/23/1996	Rep.2	6.21	6.01	1.1	0.046	0.046	100	<0.010	<0.010	12.4	4	1.1	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.2	3.1	–	0.0	6.3	3.9	–	–	0.0	66.7	9.5	0.0	0.0	–	–	–	–
	9/2/1996	Rep.1	7.39	7.43	<1.0	0.052	0.052	107	<0.010	<0.010	14.3	<1	2.4	0.00007	0.00006	<0.030	<0.030	<0.005	<0.005
	9/2/1996	Rep.2	7.49	7.49	<1.0	0.053	0.053	109	<0.010	<0.010	15.2	3	2.3	0.00007	0.00006	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.3	0.8	–	1.9	1.9	1.9	–	–	6.1	–	4.3	0.0	0.0	–	–	–	–
W3 - Fish Creek (above Taseko River)																			
	5/23/1996	Rep.1	6.1	6.36	2.8	0.055	0.057	99	<0.01	<0.01	13.4	23	8.8	0.00003	0.00004	<0.03	<0.03	<0.005	<0.005
	5/23/1996	Rep.2	6.25	6.46	2.5	0.053	0.057	99	<0.01	<0.01	13.7	23	8.9	0.00003	0.00004	<0.03	<0.03	<0.005	<0.005
		Difference (%)	2.4	1.6	11.3	3.7	0.0	0.0	–	–	2.2	0.0	1.1	0.0	0.0	–	–	–	–
	8/29/1996	Rep.1	8.46	8.4	19.1	0.159	0.158	193	<0.01	<0.01	4.2	3	0.1	0.00012	0.00012	<0.03	<0.03	<0.005	<0.005
	8/29/1996	Rep.2	8.35	8.4	19.2	0.158	0.159	191	<0.01	<0.01	3.1	3	0.2	0.00011	0.00011	<0.03	<0.03	<0.005	<0.005
		Difference (%)	1.3	0.0	0.5	0.6	0.6	1.0	–	–	30.1	0.0	66.7	8.7	8.7	–	–	–	–
W4 - Taseko River (d/s of Taseko Lake)																			
	8/29/1996	Rep.1	1.79	2.48	5.8	0.046	0.048	33	<0.010	0.028	0.7	9	17.3	0.00014	0.0002	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.85	2.45	6.5	0.046	0.048	34	<0.010	0.023	0.7	9	18	0.00015	0.00021	<0.030	<0.030	<0.005	<0.005
		Difference (%)	3.3	1.2	11.4	0.0	0.0	3.0	–	19.6	0.0	0.0	4.0	6.9	4.9	–	–	–	–
W5 - Taseko River (above Fish Creek)																			
	8/29/1996	Rep.1	1.92	2.68	6.5	0.046	0.048	36	<0.010	0.028	0.7	7	16.3	0.00015	0.0002	<0.030	<0.030	<0.005	0.005
	8/29/1996	Rep.2	1.93	2.59	6.5	0.046	0.048	36	<0.010	0.025	0.6	8	17.6	0.00015	0.0002	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.5	3.4	0.0	0.0	0.0	0.0	–	11.3	15.4	13.3	7.7	0.0	0.0	–	–	–	–
W6 - Taseko River (below Fish Creek)																			
	8/29/1996	Rep.1	1.88	2.2	6.5	0.046	0.044	35	<0.010	0.013	0.6	8	16.9	0.00015	0.00019	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.88	2.38	6.5	0.046	0.046	35	<0.010	0.018	0.6	6	16.6	0.00015	0.0002	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.0	7.9	0.0	0.0	4.4	0.0	–	32.3	0.0	28.6	1.8	0.0	5.1	–	–	–	–
W7 - Fish Creek (u/s of ore deposit)																			
	5/23/1996	Rep.1	6.22	6.17	1.1	0.046	0.048	100	<0.010	<0.010	11.7	4	1.4	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
	5/23/1996	Rep.2	6.12	6.2	1.1	0.046	0.047	101	<0.010	<0.010	12.7	3	1.8	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.6	0.5	0.0	0.0	2.1	1.0	–	–	8.2	28.6	25.0	0.0	0.0	–	–	–	–
	9/2/1996	Rep.1	5.77	5.95	<1.0	0.054	0.054	115	<0.010	<0.010	15.5	2	2	0.00006	0.00007	<0.030	<0.030	<0.005	<0.005
	9/2/1996	Rep.2	5.69	5.84	<1.0	0.054	0.054	113	<0.010	<0.010	16.4	7	2.7	0.00006	0.00007	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.4	1.9	–	0.0	0.0	1.8	–	–	5.6	111.1	29.8	0.0	0.0	–	–	–	–
W8 - Fish Creek (d/s of ore deposit)																			
	5/23/1996	Rep.1	6.1	6.15	2.2	0.053	0.053	104	<0.010	<0.010	12.3	7	2.8	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
	5/23/1996	Rep.2	6.25	6.47	2.5	0.056	0.056	105	<0.010	<0.010	12.6	6	2.2	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005

Appendix Table B4: QA/QC Results Duplicates 1992 to 1996

Site	Date		Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.001	Total Strontium mg/L DL: 0.001	Dissolved Solids mg/L DL: 1	Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.03	Total Vanadium mg/L DL: 0.03	Dissolved Zinc mg/L DL: 0.005	Total Zinc mg/L DL: 0.005
		Difference (%)	2.4	5.1	12.8	5.5	5.5	1.0	–	–	2.4	15.4	24.0	0.0	0.0	–	–	–	–
	8/29/1996	Rep.1	8.88	9.09	15.6	0.136	0.137	192	<0.010	<0.010	9.9	1	2	0.0001	0.00009	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	8.89	9.02	15.9	0.136	0.137	192	<0.010	<0.010	10.2	1	1.6	0.0001	0.0001	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.1	0.8	1.9	0.0	0.0	0.0	–	–	3.0	0.0	22.2	0.0	10.5	–	–	–	–
W9 - Taseko River (d/s of Big Onion Lake)																			
	8/29/1996	Rep.1	1.84	2.28	6.5	0.045	0.044	34	<0.010	0.018	0.8	7	18	0.00015	0.00019	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.82	2.35	6.5	0.046	0.045	33	<0.010	0.023	0.6	7	19.3	0.00015	0.0002	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.1	3.0	0.0	2.2	2.2	3.0	–	24.4	28.6	0.0	7.0	0.0	5.1	–	–	–	–
W10 - Big Onion Lake (at outlet)																			
	8/29/1996	Rep.1	6.14	6.3	6.3	0.163	0.16	188	<0.010	<0.010	9.4	9	5.2	0.00006	0.00007	<0.030	<0.030	<0.005	0.007
	8/29/1996	Rep.2	6.15	6.45	6.4	0.163	0.163	188	<0.010	<0.010	8.7	24	10	0.00006	0.00007	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.2	2.4	1.6	0.0	1.9	0.0	–	–	7.7	90.9	63.2	0.0	0.0	–	–	–	–
W11 - Beece Creek (u/s of Taseko R confluence)																			
	8/29/1996	Rep.1	1.76	1.94	1.5	0.022	0.022	15	<0.010	<0.010	0.6	3	2.8	0.00002	0.00003	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.74	1.93	1.5	0.021	0.022	15	<0.010	<0.010	0.5	3	2.7	0.00002	0.00004	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.1	0.5	0.0	4.7	0.0	0.0	–	–	18.2	0.0	3.6	0.0	28.6	–	–	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																			
	8/29/1996	Rep.1	1.68	1.85	1.4	0.021	0.021	12	<0.010	<0.010	0.7	3	3	0.00002	0.00004	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.68	1.86	1.4	0.021	0.021	13	<0.010	<0.010	0.6	3	3	0.00003	0.00004	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.0	0.5	0.0	0.0	0.0	8.0	–	–	15.4	0.0	0.0	40.0	0.0	–	–	–	–
W13 - Vick Creek d/s Vick Lake																			
	8/29/1996	Rep.1	8.76	8.92	9.1	0.334	0.335	330	<0.010	<0.010	<0.5	1	0.2	0.00072	0.00071	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	8.87	8.9	8.8	0.335	0.334	329	<0.010	<0.010	<0.5	1	0.2	0.00072	0.00072	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.2	0.2	3.4	0.3	0.3	0.3	–	–	–	0.0	0.0	0.0	1.4	–	–	–	–
W14 - Taseko River (d/s of Beece Ck confluence)																			
	8/29/1996	Rep.1	1.85	2.16	3.1	0.029	0.032	22	<0.010	<0.010	1	5	6.9	0.00006	0.00009	<0.030	<0.030	<0.005	<0.005
	8/29/1996	Rep.2	1.83	2.1	3.1	0.029	0.03	21	<0.010	<0.010	0.5	6	7.6	0.00006	0.00009	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.1	2.8	0.0	0.0	6.5	4.7	–	–	66.7	18.2	9.7	0.0	0.0	–	–	–	–
W16 - Groundhog Creek Tributary																			
	9/3/1996	Rep.1	2.7	2.68	<1.0	0.04	0.04	82	<0.010	<0.010	16.5	<1	2.2	0.00003	0.00003	<0.030	<0.030	<0.005	<0.005
	9/3/1996	Rep.2	2.69	2.68	<1.0	0.04	0.04	83	<0.010	<0.010	16.5	3	1.9	0.00003	0.00003	<0.030	<0.030	<0.005	<0.005
		Difference (%)	0.4	0.0	–	0.0	0.0	1.2	–	–	0.0	–	14.6	0.0	0.0	–	–	–	–
W17 - Tête Angela East																			
	9/3/1996	Rep.1	8.47	8.49	1.1	0.054	0.054	94	<0.010	<0.010	3.4	4	0.7	0.00007	0.00007	<0.030	<0.030	<0.005	<0.005
	9/3/1996	Rep.2	8.61	8.61	1.2	0.054	0.054	93	<0.010	<0.010	2.9	1	0.7	0.00007	0.00007	<0.030	<0.030	<0.005	<0.005
		Difference (%)	1.6	1.4	8.7	0.0	0.0	1.1	–	–	15.9	120.0	0.0	0.0	0.0	–	–	–	–
W18 - Tête Angela West																			
	9/3/1996	Rep.1	6.44	6.57	1.2	0.087	0.087	120	<0.010	<0.010	12	4	3.6	0.00013	0.00013	<0.030	<0.030	<0.005	<0.005
	9/3/1996	Rep.2	6.63	6.45	1.2	0.088	0.087	118	<0.010	<0.010	10.7	1	3.5	0.00014	0.00013	<0.030	<0.030	<0.005	<0.005
		Difference (%)	2.9	1.8	0.0	1.1	0.0	1.7	–	–	11.5	120.0	2.8	7.4	0.0	–	–	–	–

Appendix B5 Appendix Table B5 QAQC results Duplicates 1997 to 1998

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05
W1 - Fish Creek (above Fish Lake)																			
	5/19/1997	Rep.1	<0.00001	<0.00001	0.006	0.02	82	0.0003	0.0003	0.003	0.003	0.00101	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	12.6	12.7
	5/19/1997	Rep.2	<0.00001	<0.00001	0.006	0.021	81	0.0003	0.0003	0.003	0.003	0.00099	0.00113	<0.0005	<0.0005	<0.0005	<0.0005	12.7	12.9
		Difference (%)	–	–	0.0	4.9	1.2	0.0	0.0	0.0	0.0	2.0	2.7	–	–	–	–	0.8	1.6
	9/16/1997	Rep.1	<0.00001	<0.00001	0.009	0.04	166	0.0007	0.0008	0.004	0.004	0.00118	0.00196	<0.0005	<0.0005	<0.0005	<0.0005	24.5	24.4
	9/16/1997	Rep.2	<0.00001	<0.00001	0.009	0.045	165	0.0007	0.0008	0.003	0.004	0.00119	0.00151	<0.0005	<0.0005	<0.0005	<0.0005	25	24.7
		Difference (%)	–	–	0.0	11.8	0.6	0.0	0.0	28.6	0.0	0.8	25.9	–	–	–	–	2.0	1.2
W2 - Fish Creek (outlet of Fish Lake)																			
	5/13/1997	Rep.1	<0.00001	<0.00001	0.002	0.008	76	0.0002	0.0003	0.003	0.003	0.0014	0.00149	<0.0005	<0.0005	<0.0005	<0.0005	10.8	10.5
	5/13/1997	Rep.2	<0.00001	<0.00001	0.002	0.011	74	0.0003	0.0002	0.003	0.003	0.00147	0.00152	<0.0005	<0.0005	<0.0005	<0.0005	11.4	10.7
		Difference (%)	–	–	0.0	-31.6	2.7	-40.0	40.0	0.0	0.0	4.9	2.0	–	–	–	–	5.4	1.9
	9/22/1997	Rep.1	<0.00001	<0.00001	0.015	0.064	92	0.0005	0.0005	0.006	0.006	0.00223	0.00262	<0.0005	<0.0005	<0.0005	<0.0005	16.2	16.3
	9/22/1997	Rep.2	<0.00001	<0.00001	0.014	0.062	89	0.0005	0.0005	0.005	0.005	0.00217	0.00268	<0.0005	<0.0005	<0.0005	<0.0005	16.1	16.2
		Difference (%)	–	–	6.9	3.2	3.3	0.0	0.0	18.2	18.2	2.7	2.3	–	–	–	–	0.6	0.6
W3 - Fish Creek (above Taseko River)																			
	5/26/1997	Rep.1	<0.00001	<0.00001	0.006	0.037	83	0.0008	0.0008	0.007	0.007	0.00209	0.00241	<0.0005	<0.0005	<0.0005	<0.0005	14.8	14.5
	5/26/1997	Rep.2	<0.00001	<0.00001	0.006	0.027	83	0.0008	0.0008	0.007	0.007	0.00204	0.00244	<0.0005	<0.0005	<0.0005	<0.0005	14.9	14.8
		Difference (%)	–	–	0.0	31.3	0.0	0.0	0.0	0.0	0.0	2.4	1.2	–	–	–	–	0.7	2.0
	10/13/1997	Rep.1	<0.00001	<0.00001	0.001	0.004	130	0.0029	0.0027	0.048	0.047	0.00902	0.00852	<0.0005	<0.0005	<0.0005	<0.0005	33.2	33.4
	10/13/1997	Rep.2	<0.00001	<0.00001	0.001	0.005	131	0.0026	0.0027	0.042	0.042	0.00892	0.00867	<0.0005	<0.0005	<0.0005	<0.0005	34.7	33.7
		Difference (%)	–	–	0.0	22.2	0.8	10.9	0.0	13.3	11.2	1.1	1.7	–	–	–	–	4.4	0.9
W4 - Taseko River (d/s of Taseko Lake)																			
	7/29/1997	Rep.1	<0.00001	<0.00001	0.079	0.44	20	0.0003	0.0004	0.012	0.012	0.00808	0.0139	<0.0005	<0.0005	<0.0005	<0.0005	7.86	7.98
	7/29/1997	Rep.2	<0.00001	<0.00001	0.077	0.437	20	0.0003	0.0004	0.013	0.013	0.00798	0.0136	<0.0005	<0.0005	<0.0005	<0.0005	7.98	8.02
		Difference (%)	–	–	2.6	0.7	0.0	0.0	0.0	8.0	8.0	1.2	2.2	–	–	–	–	1.5	0.5
	9/28/1997	Rep.1	<0.00001	<0.00001	0.095	1.07	16	0.0003	0.0005	0.01	0.01	0.00767	0.0176	<0.0005	<0.0005	<0.0005	<0.0005	7.21	7.42
	9/28/1997	Rep.2	<0.00001	<0.00001	0.098	1.01	16	0.0003	0.0005	0.01	0.01	0.00754	0.018	<0.0005	<0.0005	<0.0005	<0.0005	6.94	7.57
		Difference (%)	–	–	3.1	5.8	0.0	0.0	0.0	0.0	0.0	1.7	2.2	–	–	–	–	3.8	2.0
W5 - Taseko River (above Fish Creek)																			
	8/4/1997	Rep.1	<0.00001	<0.00001	0.088	0.439	23	0.0004	0.0005	0.012	0.012	0.00836	0.0131	<0.0005	<0.0005	<0.0005	<0.0005	8.17	8.26
	8/4/1997	Rep.2	<0.00001	<0.00001	0.087	0.411	22	0.0004	0.0005	0.012	0.012	0.00813	0.0131	<0.0005	<0.0005	<0.0005	<0.0005	8.11	8.31
		Difference (%)	–	–	1.1	6.6	4.4	0.0	0.0	0.0	0.0	2.8	0.0	–	–	–	–	0.7	0.6
	9/22/1997	Rep.1	<0.00001	<0.00001	0.117	0.773	18	0.0004	0.0005	0.011	0.011	0.00753	0.0151	<0.0005	<0.0005	<0.0005	<0.0005	8.03	7.94
	9/22/1997	Rep.2	<0.00001	<0.00001	0.116	1.02	18	0.0004	0.0005	0.011	0.011	0.00743	0.0168	<0.0005	<0.0005	<0.0005	<0.0005	7.91	8.02
		Difference (%)	–	–	0.9	27.6	0.0	0.0	0.0	0.0	0.0	1.3	10.7	–	–	–	–	1.5	1.0
W6 - Taseko River (below Fish Creek)																			
	8/12/1997	Rep.1	<0.00001	<0.00001	0.105	0.499	20	0.0003	0.0005	0.011	0.012	0.00799	0.0136	<0.0005	<0.0005	<0.0005	<0.0005	8.12	8.05
	8/12/1997	Rep.2	<0.00001	<0.00001	0.11	0.455	20	0.0003	0.0004	0.011	0.011	0.00802	0.0132	<0.0005	<0.0005	<0.0005	<0.0005	8.1	8.04
		Difference (%)	–	–	4.7	9.2	0.0	0.0	22.2	0.0	8.7	0.4	3.0	–	–	–	–	0.2	0.1
	10/6/1997	Rep.1	<0.00001	<0.00001	0.114	0.728	17	0.0003	0.0004	0.011	0.011	0.00804	0.0165	<0.0005	<0.0005	<0.0005	<0.0005	7.43	7.65
	10/6/1997	Rep.2	<0.00001	<0.00001	0.117	0.726	17	0.0003	0.0005	0.012	0.011	0.00782	0.0164	<0.0005	<0.0005	<0.0005	<0.0005	7.39	7.61
		Difference (%)	–	–	2.6	0.3	0.0	0.0	22.2	8.7	0.0	2.8	0.6	–	–	–	–	0.5	0.5
W8 - Fish Creek (d/s of ore deposit)																			

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05
	5/7/1997	Rep.1	<0.00001	<0.00001	0.005	0.04	86	0.0005	0.0005	0.006	0.006	0.00218	0.00253	<0.0005	<0.0005	<0.0005	<0.0005	14.2	14.2
	5/7/1997	Rep.2	<0.00001	<0.00001	0.005	0.04	83	0.0004	0.0005	0.006	0.005	0.00219	0.00251	<0.0005	<0.0005	<0.0005	<0.0005	14.6	14.2
		Difference (%)	–	–	0.0	0.0	3.6	22.2	0.0	0.0	18.2	0.5	0.8	–	–	–	–	-2.8	0.0
	10/6/1997	Rep.1	<0.00001	<0.00001	0.003	0.012	135	0.0006	0.0008	0.013	0.013	0.00394	0.00428	<0.0005	<0.0005	<0.0005	<0.0005	37.9	36.4
	10/6/1997	Rep.2	<0.00001	<0.00001	0.004	0.012	134	0.0006	0.0008	0.013	0.013	0.00403	0.00426	<0.0005	<0.0005	<0.0005	<0.0005	37.1	36.6
		Difference (%)	–	–	28.6	0.0	0.7	0.0	0.0	0.0	0.0	2.3	0.5	–	–	–	–	2.1	-0.5
W9 - Taseko River (d/s of Big Onion Lake)																			
	7/14/1997	Rep.1	<0.00001	<0.00001	0.057	0.402	21	0.0003	0.0004	0.013	0.013	0.008	0.0122	<0.0005	<0.0005	<0.0005	<0.0005	8.61	8.57
	7/14/1997	Rep.2	<0.00001	<0.00001	0.066	0.418	22	0.0003	0.0004	0.014	0.013	0.00799	0.0124	<0.0005	<0.0005	<0.0005	<0.0005	8.91	8.68
		Difference (%)	–	–	14.6	3.9	4.7	0.0	0.0	7.4	0.0	0.1	1.6	–	–	–	–	3.4	1.3
	9/28/1997	Rep.1	<0.00001	0.00001	0.099	0.98	16	0.0003	0.0005	0.011	0.011	0.00739	0.0184	<0.0005	<0.0005	<0.0005	<0.0005	6.88	7.23
	9/28/1997	Rep.2	<0.00001	<0.00001	0.107	0.947	16	0.0003	0.0005	0.01	0.01	0.00775	0.0174	<0.0005	<0.0005	<0.0005	<0.0005	7.35	7.39
		Difference (%)	–	–	7.8	3.4	0.0	0.0	0.0	9.5	9.5	4.8	5.6	–	–	–	–	6.6	2.2
W10 - Big Onion Lake (at outlet)																			
	6/2/1997	Rep.1	<0.00001	<0.00001	0.003	0.031	165	0.0004	0.0004	0.074	0.071	0.0114	0.0118	<0.0005	<0.0005	<0.0005	<0.0005	35.2	34.4
	6/2/1997	Rep.2	<0.00001	<0.00001	0.004	0.026	164	0.0004	0.0004	0.075	0.075	0.0119	0.0116	<0.0005	<0.0005	<0.0005	<0.0005	35.1	34.6
		Difference (%)	–	–	28.6	17.5	0.6	0.0	0.0	1.3	5.5	4.3	1.7	–	–	–	–	0.3	0.6
	9/14/1997	Rep.1	<0.00001	<0.00001	0.007	0.058	132	0.0004	0.0004	0.068	0.064	0.01	0.0109	<0.0005	<0.0005	<0.0005	<0.0005	27.1	28.2
	9/14/1997	Rep.2	<0.00001	<0.00001	0.01	0.073	131	0.0004	0.0004	0.067	0.064	0.0102	0.011	<0.0005	<0.0005	<0.0005	<0.0005	26.4	27.5
		Difference (%)	–	–	35.3	22.9	0.8	0.0	0.0	1.5	0.0	2.0	-0.9	–	–	–	–	2.6	2.5
W11 - Beece Creek (u/s of Taseko R confluence)																			
	6/2/1997	Rep.1	<0.00001	<0.00001	0.053	0.222	14	0.0006	0.0008	0.004	0.004	0.00114	0.00228	<0.0005	<0.0005	<0.0005	<0.0005	3.78	3.86
	6/2/1997	Rep.2	<0.00001	<0.00001	0.053	0.211	14	0.0006	0.0007	0.004	0.004	0.00112	0.00217	<0.0005	<0.0005	<0.0005	<0.0005	3.84	3.86
		Difference (%)	–	–	0.0	5.1	0.0	0.0	13.3	0.0	0.0	1.8	4.9	–	–	–	–	1.6	0.0
	10/5/1997	Rep.1	<0.00001	<0.00001	0.027	0.061	12	0.0006	0.0006	0.004	0.004	0.00103	0.00126	<0.0005	<0.0005	<0.0005	<0.0005	3.94	3.96
	10/5/1997	Rep.2	<0.00001	<0.00001	0.028	0.057	12	0.0006	0.0006	0.005	0.004	0.00104	0.00124	<0.0005	<0.0005	<0.0005	<0.0005	4.1	3.95
		Difference (%)	–	–	3.6	6.8	0.0	0.0	0.0	22.2	0.0	1.0	1.6	–	–	–	–	4.0	0.3
W12 - Beece Creek (u/s of Wasp Lake confluence)																			
	5/26/1997	Rep.1	<0.00001	<0.00001	0.078	0.215	15	0.0007	0.0009	0.004	0.004	0.00102	0.00178	<0.0005	<0.0005	<0.0005	<0.0005	4.4	4.35
	5/26/1997	Rep.2	<0.00001	<0.00001	0.079	0.213	14	0.0007	0.0009	0.004	0.004	0.00101	0.00178	<0.0005	<0.0005	<0.0005	<0.0005	4.44	4.5
		Difference (%)	–	–	-1.3	0.9	6.9	0.0	0.0	0.0	0.0	1.0	0.0	–	–	–	–	0.9	3.4
	9/21/1997	Rep.1	<0.00001	<0.00001	0.041	0.124	12	0.0007	0.0008	0.004	0.004	0.00082	0.00121	<0.0005	<0.0005	<0.0005	<0.0005	3.85	3.89
	9/21/1997	Rep.2	<0.00001	<0.00001	0.041	0.12	11	0.0007	0.0008	0.004	0.004	0.00083	0.00125	<0.0005	<0.0005	<0.0005	<0.0005	3.93	3.96
		Difference (%)	–	–	0.0	3.3	8.7	0.0	0.0	0.0	0.0	1.2	3.3	–	–	–	–	2.1	1.8
W13 - Vick Creek d/s Vick Lake																			
	6/2/1997	Rep.1	<0.00001	<0.00001	0.002	0.006	261	0.0007	0.0007	0.038	0.039	0.0203	0.0202	<0.0005	<0.0005	<0.0005	<0.0005	43.5	44.9
	6/2/1997	Rep.2	<0.00001	<0.00001	0.002	0.009	263	0.0007	0.0006	0.039	0.039	0.0203	0.0205	<0.0005	<0.0005	<0.0005	<0.0005	43.7	43.5
		Difference (%)	–	–	0.0	-40.0	-0.8	0.0	15.4	-2.6	0.0	0.0	1.5	–	–	–	–	0.5	3.2
	9/22/1997	Rep.1	<0.00001	<0.00001	0.002	0.012	271	0.0006	0.0005	0.034	0.035	0.0204	0.0198	<0.0005	<0.0005	<0.0005	<0.0005	47	46.6
	9/22/1997	Rep.2	<0.00001	<0.00001	0.002	0.01	270	0.0005	0.0005	0.044	0.043	0.021	0.0204	<0.0005	<0.0005	<0.0005	<0.0005	46.8	46.5
		Difference (%)	–	–	0.0	18.2	0.4	18.2	0.0	25.6	20.5	2.9	3.0	–	–	–	–	0.4	0.2

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05
W14 - Taseko River (d/s of Beece Ck confluence)																			
	10/13/1997	Rep.1	<0.00001	<0.00001	0.087	0.99	15	0.0003	0.0005	0.009	0.009	0.00687	0.0172	<0.0005	<0.0005	<0.0005	<0.0005	7.07	7.38
	10/13/1997	Rep.2	<0.00001	<0.00001	0.094	0.848	17	0.0003	0.0005	0.011	0.011	0.00693	0.0151	<0.0005	<0.0005	<0.0005	<0.0005	7.06	7.5
		Difference (%)	–	–	7.7	15.5	12.5	0.0	0.0	20.0	20.0	0.9	13.0	–	–	–	–	0.1	-1.6
W16 - Groundhog Creek Tributary																			
	5/13/1997	Rep.1	<0.00001	<0.00001	0.021	0.028	38	0.0001	0.0001	0.002	0.002	0.00178	0.00202	<0.0005	<0.0005	<0.0005	<0.0005	5.57	5.51
	5/13/1997	Rep.2	<0.00001	<0.00001	0.022	0.028	35	0.0001	0.0001	0.002	0.002	0.00179	0.00201	<0.0005	<0.0005	<0.0005	<0.0005	5.61	5.49
		Difference (%)	–	–	4.7	0.0	8.2	0.0	0.0	0.0	0.0	0.6	0.5	–	–	–	–	0.7	0.4
	9/30/1997	Rep.1	<0.00001	<0.00001	0.004	0.007	101	0.0002	0.0002	0.003	0.003	0.00166	0.00206	<0.0005	<0.0005	<0.0005	<0.0005	15	14.8
	9/30/1997	Rep.2	<0.00001	<0.00001	0.004	0.008	99	0.0001	0.0002	0.003	0.003	0.00165	0.00202	<0.0005	<0.0005	<0.0005	<0.0005	14.5	14.6
		Difference (%)	–	–	0.0	13.3	2.0	66.7	0.0	0.0	0.0	0.6	2.0	–	–	–	–	3.4	1.4
W17 - Tête Angela East																			
	5/27/1997	Rep.1	<0.00001	<0.00001	0.012	0.014	68	0.0008	0.0008	0.004	0.004	0.00144	0.0015	<0.0005	<0.0005	<0.0005	<0.0005	14	13.8
	5/27/1997	Rep.2	<0.00001	<0.00001	0.011	0.014	68	0.0008	0.0008	0.004	0.004	0.00145	0.00148	<0.0005	<0.0005	<0.0005	<0.0005	13.8	14.2
		Difference (%)	–	–	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.3	–	–	–	–	1.4	-2.9
	10/7/1997	Rep.1	<0.00001	<0.00001	0.005	0.025	71	0.0005	0.0005	0.003	0.003	0.00194	0.00206	<0.0005	<0.0005	<0.0005	<0.0005	13.4	13.3
	10/7/1997	Rep.2	<0.00001	<0.00001	0.006	0.067	71	0.0005	0.0005	0.003	0.003	0.00201	0.00237	<0.0005	<0.0005	<0.0005	<0.0005	13.2	12.9
		Difference (%)	–	–	18.2	91.3	0.0	0.0	0.0	0.0	0.0	3.5	14.0	–	–	–	–	1.5	3.1
W18 - Tête Angela West																			
	5/19/1997	Rep.1	<0.00001	<0.00001	0.03	0.05	43	0.0002	0.0003	0.001	0.001	0.0014	0.00163	<0.0005	<0.0005	<0.0005	<0.0005	7.48	7.48
	5/19/1997	Rep.2	<0.00001	<0.00001	0.031	0.047	44	0.0003	0.0003	0.001	0.001	0.00141	0.00169	<0.0005	<0.0005	<0.0005	<0.0005	7.4	7.58
		Difference (%)	–	–	3.3	6.2	2.3	40.0	0.0	0.0	0.0	0.7	3.6	–	–	–	–	1.1	-1.3
	10/14/1997	Rep.1	<0.00001	<0.00001	0.006	0.022	74	0.0004	0.0004	0.006	0.006	0.00156	0.00163	<0.0005	<0.0005	<0.0005	<0.0005	16	15.3
	10/14/1997	Rep.2	<0.00001	<0.00001	0.005	0.02	73	0.0004	0.0004	0.005	0.006	0.00156	0.00164	<0.0005	<0.0005	<0.0005	<0.0005	15.9	15.2
		Difference (%)	–	–	18.2	9.5	1.4	0.0	0.0	18.2	0.0	0.0	0.6	–	–	–	–	0.6	0.7
W19 - Taseko River (at Davidson Bridge)																			
	7/21/1997	Rep.1	<0.00001	<0.00001	0.074	0.53	20	0.0003	0.0005	0.013	0.013	0.00795	0.0144	<0.0005	<0.0005	<0.0005	<0.0005	8.18	8.17
	7/21/1997	Rep.2	<0.00001	<0.00001	0.078	0.586	20	0.0003	0.0005	0.013	0.013	0.00804	0.0144	<0.0005	<0.0005	<0.0005	<0.0005	8.09	8.18
		Difference (%)	–	–	5.3	10.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	–	–	–	–	1.1	-0.1
	9/15/1997	Rep.1	<0.00001	<0.00001	0.121	0.997	16	0.0003	0.0005	0.01	0.011	0.00787	0.0194	<0.0005	<0.0005	<0.0005	<0.0005	7.39	7.71
W19	9/15/1997	Rep.2	<0.00001	<0.00001	0.12	0.98	17	0.0003	0.0005	0.01	0.01	0.00785	0.0176	<0.0005	<0.0005	<0.0005	<0.0005	7.39	7.77
		Difference (%)	–	–	0.8	1.7	6.1	0.0	0.0	0.0	9.5	0.3	9.7	–	–	–	–	0.0	-0.8
W20 - Taseko R (d/s Tête Angela)																			
	9/30/1997	Rep.1	<0.00001	<0.00001	0.113	0.884	17	0.0003	0.0004	0.012	0.012	0.00802	0.017	<0.0005	<0.0005	<0.0005	<0.0005	7.48	7.82
	9/30/1997	Rep.2	<0.00001	<0.00001	0.109	0.974	17	0.0003	0.0005	0.012	0.012	0.00794	0.018	<0.0005	<0.0005	<0.0005	<0.0005	7.71	7.71
		Difference (%)	–	–	3.6	-9.7	0.0	0.0	22.2	0.0	0.0	1.0	5.7	–	–	–	–	3.0	1.4
	7/28/1998	Rep.1	<0.00001	0.00001	0.082	1.5	17	0.0003	0.0009	0.01	0.01	0.00714	0.0245	<0.0005	<0.0005	<0.0005	<0.0005	7.1	7.72
	7/28/1998	Rep.2	<0.00001	0.00001	0.091	1.4	17	0.0004	0.0008	0.011	0.01	0.00746	0.0244	<0.0005	<0.0005	<0.0005	<0.0005	7.41	7.73
		Difference (%)	–	–	10.4	6.9	0.0	28.6	11.8	9.5	0.0	4.4	0.4	–	–	–	–	4.3	0.1
W21 - Groundwater Seepage 1																			
	10/13/1997	Rep.1	<0.00001	<0.00001	0.002	0.005	173	0.0003	0.0003	0.03	0.03	0.00432	0.00439	<0.0005	<0.0005	<0.0005	<0.0005	26.4	27.2
	10/13/1997	Rep.2	<0.00001	<0.00001	0.001	0.024	174	0.0002	0.0003	0.031	0.031	0.00449	0.0046	<0.0005	<0.0005	<0.0005	<0.0005	27.2	26
		Difference (%)	–	–	66.7	131.0	0.6	40.0	0.0	3.3	3.3	3.9	4.7	–	–	–	–	3.0	4.5
W23 - Vick Creek																			
	5/20/1998	Rep.1																	

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Silver mg/L DL: 0.00001	Total Silver mg/L DL: 0.00001	Dissolved Aluminium mg/L DL: 0.001	Total Aluminium mg/L DL: 0.001	Total Alkalinity mg/L DL: 1	Dissolved Arsenic mg/L DL: 0.0001	Total Arsenic mg/L DL: 0.0001	Dissolved Boron mg/L DL: 0.001	Total Boron mg/L DL: 0.001	Dissolved Barium mg/L DL: 0.00005	Total Barium mg/L DL: 0.00005	Dissolved Beryllium mg/L DL: 0.0005	Total Beryllium mg/L DL: 0.0005	Dissolved Bismuth mg/L DL: 0.0005	Total Bismuth mg/L DL: 0.0005	Dissolved Calcium mg/L DL: 0.05	Total Calcium mg/L DL: 0.05
	5/20/1998	Rep.2	<0.00001	<0.00001	0.008	0.004	102	0.0005	0.0005	0.014	0.014	0.00305	0.00306	<0.0005	<0.0005	<0.0005	<0.0005	22.2	22.5
		Difference (%)	<0.00001	<0.00001	0.01	0.004	102	0.0006	0.0006	0.013	0.013	0.00308	0.00303	<0.0005	<0.0005	<0.0005	<0.0005	22.3	22.2
			–	–	22.2	0.0	0.0	18.2	18.2	7.4	7.4	1.0	1.0	–	–	–	–	0.4	1.3
W24 - Upper Groundhog Creek																			
	6/9/1998	Rep.1	<0.00001	<0.00001	0.003	0.022	99	0.0013	0.0014	0.01	0.01	0.00165	0.00199	<0.0005	<0.0005	<0.0005	<0.0005	15.8	16.1
	6/9/1998	Rep.2	<0.00001	<0.00001	0.002	0.021	102	0.0013	0.0013	0.01	0.01	0.00165	0.00198	<0.0005	<0.0005	<0.0005	<0.0005	16.1	15.9
		Difference (%)	–	–	40.0	4.7	3.0	0.0	7.4	0.0	0.0	0.0	0.5	–	–	–	–	1.9	1.3
	8/4/1998	Rep.1	<0.00001	<0.00001	0.002	0.012	134	0.0026	0.0025	0.013	0.013	0.00152	0.00174	<0.0005	<0.0005	<0.0005	<0.0005	18.8	18.9
	8/4/1998	Rep.2	<0.00001	<0.00001	0.003	0.013	136	0.0025	0.0025	0.013	0.014	0.00152	0.00173	<0.0005	<0.0005	<0.0005	<0.0005	18.9	18.4
		Difference (%)	–	–	40.0	8.0	1.5	3.9	0.0	0.0	7.4	0.0	0.6	–	–	–	–	0.5	2.7

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.0001	Specific Cond (Field) µS/cm DL: 10	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2
W1 - Fish Creek (above Fish Lake)																			
	5/19/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0002	0.0002		147	<0.0005	<0.0005	0.0005	0.0006	0.05	0.2	0.27	73	<2	<2
	5/19/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0003		146	<0.0005	<0.0005	0.0005	0.0006	0.05	0.2	0.27	74.2	<2	<2
		Difference (%)	–	–	–	–	40.0		0.7	–	–	0.0	0.0	0.0	0.0	0.0	1.6	–	–
	9/16/1997	Rep.1	<0.00005	<0.00005	0.6	0.0002	0.0003	306	303	<0.0005	0.0005	0.0011	0.0016	0.15	0.14	0.27	143	<2	<2
	9/16/1997	Rep.2	<0.00005	<0.00005	0.7	0.0002	0.0003	306	303	<0.0005	0.0006	0.001	0.0011	0.11	0.16	0.27	145	<2	<2
		Difference (%)	–	–	15.4	0.0	0.0	0.0	0.0	–	18.2	9.5	37.0	30.8	13.3	0.0	-1.4	–	–
W2 - Fish Creek (outlet of Fish Lake)																			
	5/13/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0002	<0.0001	161	131	<0.0005	<0.0005	0.0004	0.0005	0.04	0.11	0.14	59.8	<2	<2
	5/13/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0004	0.0002	161	131	<0.0005	<0.0005	0.0004	0.0005	0.04	0.11	0.15	62.3	<2	<2
		Difference (%)	–	–	–	66.7	–	0.0	0.0	–	–	0.0	0.0	0.0	0.0	6.9	4.1	–	–
	9/22/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0001	0.0001	114	177	<0.0005	<0.0005	0.0007	0.0008	0.1	0.16	0.25	84.1	<2	<2
	9/22/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0001	114	178	<0.0005	<0.0005	0.0007	0.0007	0.06	0.15	0.25	83.9	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.6	–	–	0.0	13.3	50.0	6.5	0.0	0.2	–	–
W3 - Fish Creek (above Taseko River)																			
	5/26/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001		156	<0.0005	<0.0005	0.001	0.0011	0.05	0.14	0.22	74.4	<2	<2
	5/26/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0002		155	<0.0005	<0.0005	0.001	0.0011	0.04	0.14	0.21	74.4	<2	<2
		Difference (%)	–	–	–	–	–		0.6	–	–	0.0	0.0	22.2	0.0	4.7	0.0	–	–
	10/13/1997	Rep.1	<0.00005	<0.00005	1	0.0004	<0.0001	298	338	0.0006	<0.0005	0.0015	0.0014	0.18	<0.03	<0.03	151	<2	<2
	10/13/1997	Rep.2	<0.00005	<0.00005	0.8	<0.0001	<0.0001	298	338	<0.0005	<0.0005	0.0013	0.0016	0.08	<0.03	<0.03	157	<2	<2
		Difference (%)	–	–	22.2	–	–	0.0	0.0	–	–	14.3	13.3	76.9	–	–	3.9	–	–
W4 - Taseko River (d/s of Taseko Lake)																			
	7/29/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0003	58	57	<0.0005	<0.0005	0.0006	0.002	0.04	0.05	0.44	23.2	<2	<2
	7/29/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0003	58	57	<0.0005	<0.0005	0.0006	0.0019	0.04	0.04	0.44	23.5	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.0	–	–	0.0	5.1	0.0	22.2	0.0	-1.3	–	–
	9/28/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0005	49	54	<0.0005	0.0008	0.0006	0.0029	0.03	0.06	0.63	21.1	<2	<2
	9/28/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0005	0.0014	49	55	<0.0005	0.0008	0.0006	0.0028	0.03	0.06	0.6	20.4	<2	<2
		Difference (%)	–	–	–	–	94.7	0.0	1.8	–	0.0	0.0	3.5	0.0	0.0	4.9	3.4	–	–
W5 - Taseko River (above Fish Creek)																			
	8/4/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0002	40	59	<0.0005	<0.0005	0.0006	0.0018	0.02	0.06	0.36	24.9	<2	<2
	8/4/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0002	40	59	<0.0005	<0.0005	0.0006	0.0019	0.03	0.06	0.32	25.6	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.0	–	–	0.0	5.4	40.0	0.0	11.8	-2.8	–	–
	9/22/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0004	59	62	<0.0005	<0.0005	0.0006	0.0023	<0.02	0.07	0.5	24.4	<2	<2
	9/22/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0004	59	63	<0.0005	0.0005	0.0006	0.0029	<0.02	0.07	0.55	24	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	1.6	–	–	0.0	23.1	–	0.0	9.5	1.7	–	–
W6 - Taseko River (below Fish Creek)																			
	8/12/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0002		61	<0.0005	<0.0005	0.0006	0.0018	<0.02	0.07	0.42	24.1	<2	<2
	8/12/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0002		61	<0.0005	<0.0005	0.0006	0.0018	<0.02	0.07	0.4	24	<2	<2
		Difference (%)	–	–	–	–	0.0		0.0	–	–	0.0	0.0	–	0.0	4.9	0.4	–	–
	10/6/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0006	54	60	<0.0005	0.0006	0.0006	0.0024	0.02	0.07	0.57	22.4	<2	<2
	10/6/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0004	54	60	<0.0005	0.0005	0.0006	0.0023	0.04	0.07	0.59	22.2	<2	<2
		Difference (%)	–	–	–	–	40.0	0.0	0.0	–	18.2	0.0	4.3	66.7	0.0	-3.4	0.9	–	–
W8 - Fish Creek (d/s of ore deposit)																			

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.0001	Specific Cond (Field) µS/cm DL: 10	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2
	5/7/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0001	165	150	<0.0005	<0.0005	0.0006	0.0007	0.04	0.19	0.32	72.4	<2	<2
	5/7/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0002	0.0001	165	150	<0.0005	<0.0005	0.0006	0.0008	0.06	0.2	0.32	74.3	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.0	–	–	0.0	13.3	40.0	5.1	0.0	2.6	–	–
	10/6/1997	Rep.1	<0.00005	<0.00005	0.8	0.0002	0.0002	360	389	<0.0005	<0.0005	0.0004	0.0006	0.07	0.26	0.7	175	<2	<2
	10/6/1997	Rep.2	<0.00005	<0.00005	0.8	0.0004	0.0001	360	388	<0.0005	<0.0005	0.0005	0.0005	0.06	0.25	0.71	172	<2	<2
		Difference (%)	–	–	0.0	66.7	66.7	0.0	0.3	–	–	22.2	18.2	15.4	3.9	1.4	1.7	–	–
W9 - Taseko River (d/s of Big Onion Lake)																			
	7/14/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0002	59	58	<0.0005	<0.0005	0.0005	0.0015	0.05	<0.03	0.32	25.4	<2	<2
	7/14/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0001	0.0002	59	58	<0.0005	<0.0005	0.0005	0.0015	0.05	0.04	0.29	26.3	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.0	–	–	0.0	0.0	0.0	–	9.8	3.5	–	–
	9/28/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0003	0.0008	48	57	<0.0005	0.0007	0.0006	0.0027	<0.02	0.06	0.55	20.2	<2	<2
	9/28/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0006	0.0007	48	56	<0.0005	0.0007	0.0006	0.0026	<0.02	0.06	0.55	21.4	<2	<2
		Difference (%)	–	–	–	66.7	13.3	0.0	1.8	–	0.0	0.0	3.8	–	0.0	0.0	5.8	–	–
W10 - Big Onion Lake (at outlet)																			
	6/2/1997	Rep.1	<0.00005	<0.00005	1.3	<0.0001	<0.0001	390	292	<0.0005	<0.0005	0.0005	0.0006	0.11	<0.01	0.04	147	<2	<2
	6/2/1997	Rep.2	<0.00005	<0.00005	1.3	<0.0001	<0.0001	390	294	<0.0005	<0.0005	0.0005	0.0005	0.1	<0.01	0.04	146	<2	<2
		Difference (%)	–	–	0.0	–	–	0.0	0.7	–	–	0.0	18.2	9.5	–	0.0	0.7	–	–
	9/14/1997	Rep.1	<0.00005	<0.00005	0.6	<0.0001	0.0001	265	258	<0.0005	<0.0005	0.0006	0.0007	0.14	<0.03	0.1	130	<2	<2
	9/14/1997	Rep.2	<0.00005	<0.00005	0.5	<0.0001	<0.0001	265	259	<0.0005	<0.0005	0.0005	0.0007	0.13	<0.03	0.08	126	<2	<2
		Difference (%)	–	–	18.2	–	–	0.0	0.4	–	–	18.2	0.0	7.4	–	22.2	3.1	–	–
W11 - Beece Creek (u/s of Taseko R confluence)																			
	6/2/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0003	30	34	<0.0005	<0.0005	0.0009	0.0014	0.07	0.03	0.17	12.6	<2	<2
	6/2/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0001	30	33	<0.0005	<0.0005	0.0009	0.0013	0.07	0.03	0.18	12.8	<2	<2
		Difference (%)	–	–	–	–	100.0	0.0	3.0	–	–	0.0	7.4	0.0	0.0	5.7	1.6	–	–
	10/5/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	27	38	<0.0005	<0.0005	0.0004	0.0005	0.06	<0.03	0.05	12.7	<2	<2
	10/5/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	27	39	<0.0005	<0.0005	0.0004	0.0005	0.15	<0.03	0.05	13.1	<2	<2
		Difference (%)	–	–	–	–	–	0.0	2.6	–	–	0.0	0.0	85.7	–	0.0	3.1	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																			
	5/26/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001		37	<0.0005	<0.0005	0.0012	0.0016	0.08	0.05	0.14	14.1	<2	<2
	5/26/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0001		38	<0.0005	<0.0005	0.0012	0.0015	0.07	0.05	0.15	14.2	<2	<2
		Difference (%)	–	–	–	–	–		2.7	–	–	0.0	6.5	13.3	0.0	6.9	0.7	–	–
	9/21/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	31	35	<0.0005	<0.0005	0.0005	0.0006	0.07	<0.03	0.07	11.9	<2	<2
	9/21/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	31	35	<0.0005	<0.0005	0.0004	0.0006	0.07	<0.03	0.08	12	<2	<2
		Difference (%)	–	–	–	–	–	0.0	0.0	–	–	22.2	0.0	0.0	–	13.3	0.8	–	–
W13 - Vick Creek d/s Vick Lake																			
	6/2/1997	Rep.1	<0.00005	<0.00005	1.2	<0.0001	<0.0001	460	449	0.0007	0.0007	0.0008	0.0008	0.39	<0.01	<0.01	222	3	3
	6/2/1997	Rep.2	<0.00005	<0.00005	1.3	<0.0001	0.0001	460	449	0.0007	0.0006	0.0008	0.0008	0.17	<0.01	<0.01	223	<2	2
		Difference (%)	–	–	-8.0	–	–	0.0	0.0	0.0	15.4	0.0	0.0	78.6	–	–	-0.4	–	40.0
	9/22/1997	Rep.1	<0.00005	<0.00005	0.7	<0.0001	<0.0001	487	483	0.0006	0.0006	0.0007	0.0008	0.17	<0.03	<0.03	246	2	3
	9/22/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	487	483	0.0006	0.0006	0.0007	0.0007	<0.02	<0.03	<0.03	245	3	3
		Difference (%)	–	–	–	–	–	0.0	0.0	0.0	0.0	0.0	13.3	–	–	–	0.4	40.0	0.0

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.0001	Specific Cond (Field) µS/cm DL: 10	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2
W14 - Taseko River (d/s of Breece Ck confluence)																			
	10/13/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0004	46	57	<0.0005	0.0005	0.0005	0.0022	0.04	0.05	0.58	20.8	<2	<2
	10/13/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0004	46	57	<0.0005	<0.0005	0.0006	0.0024	0.06	0.05	0.61	20.9	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	0.0	–	–	18.2	8.7	40.0	0.0	5.0	0.5	–	–
W16 - Groundhog Creek Tributary																			
	5/13/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0001	0.0003	64	67	<0.0005	<0.0005	0.0006	0.0006	0.04	0.51	0.68	33.3	<2	<2
	5/13/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0003	0.0003	64	67	<0.0005	<0.0005	0.0006	0.0007	0.04	0.51	0.67	33.5	<2	<2
		Difference (%)	–	–	–	100.0	0.0	0.0	0.0	–	–	0.0	15.4	0.0	0.0	1.5	0.6	–	–
	9/30/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0007	0.0002	164	192	<0.0005	<0.0005	0.0002	0.0004	0.1	0.38	0.55	90	<2	<2
	9/30/1997	Rep.2	<0.00005	<0.00005	<0.5	0.0001	0.0002	164	195	<0.0005	<0.0005	0.0002	0.0003	<0.02	0.36	0.53	87.6	<2	<2
		Difference (%)	–	–	–	150.0	0.0	0.0	1.6	–	–	0.0	28.6	–	5.4	3.7	2.7	–	–
W17 - Tête Angela East																			
	5/27/1997	Rep.1	<0.00005	<0.00005	<0.5	0.0002	<0.0001		128	0.0007	0.0007	0.0012	0.0013	0.05	0.15	0.18	62.9	<2	<2
	5/27/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001		128	0.0007	0.0006	0.0012	0.0013	0.04	0.14	0.18	62.5	<2	<2
		Difference (%)	–	–	–	–	–		0.0	0.0	15.4	0.0	0.0	22.2	6.9	0.0	0.6	–	–
	10/7/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0006	131	151	0.0008	0.001	0.0004	0.0005	0.09	0.11	0.16	67.5	<2	<2
	10/7/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0001	131	151	0.001	0.0011	0.0004	0.0006	0.06	0.11	0.21	66.8	<2	<2
		Difference (%)	–	–	–	–	142.9	0.0	0.0	22.2	9.5	0.0	18.2	40.0	0.0	27.0	1.0	–	–
W18 - Tête Angela West																			
	5/19/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001		78	0.0006	0.0006	0.0007	0.0007	0.04	0.16	0.21	36.5	<2	<2
	5/19/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001		74	0.0006	0.0006	0.0007	0.0007	0.04	0.16	0.21	36.3	<2	<2
		Difference (%)	–	–	–	–	–		5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	–	–
	10/14/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0004	131	164	0.0006	0.0006	0.001	0.001	0.05	0.13	0.18	72.9	<2	<2
	10/14/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0005	131	165	<0.0005	<0.0005	0.0009	0.0009	0.05	0.12	0.17	72.8	<2	<2
		Difference (%)	–	–	–	–	22.2	0.0	0.6	–	–	10.5	10.5	0.0	8.0	5.7	0.1	–	–
W19 - Taseko River (at Davidson Bridge)																			
	7/21/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0003	60	58	<0.0005	<0.0005	0.0006	0.0019	0.04	0.04	0.48	24.2	<2	<2
	7/21/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0003	60	59	<0.0005	<0.0005	0.0006	0.0019	0.03	0.04	0.43	24	<2	<2
		Difference (%)	–	–	–	–	0.0	0.0	1.7	–	–	0.0	0.0	28.6	0.0	11.0	0.8	–	–
	9/15/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0006	161	58	<0.0005	0.0006	0.0006	0.0033	0.02	0.09	0.69	21.8	<2	<2
W19	9/15/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0004	161	58	<0.0005	<0.0005	0.0006	0.0027	<0.02	0.09	0.69	21.8	<2	<2
		Difference (%)	–	–	–	–	40.0	0.0	0.0	–	–	0.0	20.0	–	0.0	0.0	0.0	–	–
W20 - Taseko R (d/s Tête Angela)																			
	9/30/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0004	51	59	<0.0005	0.0006	0.0006	0.0026	0.03	0.07	0.45	22.2	<2	<2
	9/30/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.001	51	59	<0.0005	0.0006	0.0006	0.0026	0.03	0.07	0.44	22.9	<2	<2
		Difference (%)	–	–	–	–	85.7	0.0	0.0	–	0.0	0.0	0.0	0.0	0.0	2.2	3.1	–	–
	7/28/1998	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0008	47	48	<0.0005	0.0011	0.0006	0.004	0.03	0.05	1.31	20.9	<2	<2
	7/28/1998	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	0.0009	47	48	<0.0005	0.0011	0.0007	0.004	0.02	0.06	1.35	21.7	<2	<2
		Difference (%)	–	–	–	–	11.8	0.0	0.0	–	0.0	15.4	0.0	40.0	18.2	3.0	3.8	–	–
W21 - Groundwater Seepage 1																			
	10/13/1997	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	294	322	0.0005	0.0005	0.0003	0.0004	0.1	<0.03	<0.03	142	4	3
	10/13/1997	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	294	322	<0.0005	0.0006	0.0003	0.0005	0.11	<0.03	<0.03	146	3	3
		Difference (%)	–	–	–	–	–	0.0	0.0	–	18.2	0.0	22.2	9.5	–	–	2.8	28.6	0.0
W23 - Vick Creek																			
	5/20/1998	Rep.1																	

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Cadmium mg/L DL: 0.00005	Total Cadmium mg/L DL: 0.00005	Dissolved Chloride mg/L DL: 0.5	Dissolved Cobalt mg/L DL: 0.0001	Total Cobalt mg/L DL: 0.0001	Specific Cond (Field) µS/cm DL: 10	Specific Cond µmhos/cm DL: 1	Dissolved Chromium mg/L DL: 0.0005	Total Chromium mg/L DL: 0.0005	Dissolved Copper mg/L DL: 0.0001	Total Copper mg/L DL: 0.0001	Dissolved Fluoride mg/L DL: 0.02	Dissolved Iron mg/L DL: 0.01	Total Iron mg/L DL: 0.01	Total Hardness mg/L DL: 0.05	Dissolved Potassium mg/L DL: 2	Total Potassium mg/L DL: 2
	5/20/1998	Rep.2	<0.00005	<0.00005	1.8	<0.0001	<0.0001	160	203	<0.0005	<0.0005	0.0006	0.0008	0.09	<0.03	<0.03	89.6	<2	<2
		Difference (%)	<0.00005	<0.00005	1.7	<0.0001	<0.0001	160	203	0.0006	<0.0005	0.0006	0.0008	0.09	<0.03	<0.03	89.9	<2	<2
			–	–	5.7	–	–	0.0	0.0	–	–	0.0	0.0	0.0	–	–	0.3	–	–
W24 - Upper Groundhog Creek																			
	6/9/1998	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	0.0001	182	187	<0.0005	<0.0005	0.0006	0.0007	0.05	0.11	0.2	89.5	<2	<2
	6/9/1998	Rep.2	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	182	188	<0.0005	<0.0005	0.0006	0.0007	0.05	0.11	0.2	90.6	<2	<2
		Difference (%)	–	–	–	–	–	0.0	0.5	–	–	0.0	0.0	0.0	0.0	0.0	1.2	–	–
	8/4/1998	Rep.1	<0.00005	<0.00005	<0.5	<0.0001	<0.0001	237	250	0.0005	<0.0005	<0.0005	0.0005	0.07	0.16	0.24	111	<2	<2
	8/4/1998	Rep.2	<0.00005	<0.00005	0.6	<0.0001	<0.0001	237	242	<0.0005	<0.0005	<0.0005	<0.0005	0.08	0.16	0.23	112	<2	<2
		Difference (%)	–	–	–	–	–	0.0	3.3	–	–	–	–	13.3	0.0	4.3	0.9	–	–

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
W1 - Fish Creek (above Fish Lake)																			
	5/19/1997	Rep.1	<0.001	<0.001	10.1	10.3	0.0155	0.0234	0.00022	0.00021	5	5	0.007	0.001	0.005	0.0027	0.0026	0.005	0.014
	5/19/1997	Rep.2	<0.001	<0.001	10.3	10.3	0.0154	0.0242	0.0002	0.00021	5	5	0.005	0.001	0.005	0.0026	0.0027	0.005	0.013
		Difference (%)	–	–	2.0	0.0	0.6	3.4	9.5	0.0	0.0	0.0	33.3	0.0	0.0	3.8	3.8	0.0	7.4
	9/16/1997	Rep.1	<0.001	<0.001	19.9	19.6	0.0805	0.148	0.00112	0.00117	15	14	<0.005	<0.001	<0.005	0.0047	0.005	0.003	0.018
	9/16/1997	Rep.2	<0.001	<0.001	20.1	20.1	0.0789	0.144	0.00114	0.00111	15	15	0.008	0.001	<0.005	0.0047	0.005	0.003	0.02
		Difference (%)	–	–	1.0	2.5	2.0	2.7	1.8	5.3	0.0	6.9	–	–	–	0.0	0.0	0.0	10.5
W2 - Fish Creek (outlet of Fish Lake)																			
	5/13/1997	Rep.1	<0.001	<0.001	7.96	7.62	0.00518	0.0113	0.0002	0.00079	4	4	0.048	0.002	0.006	0.0015	0.0016	0.001	0.002
	5/13/1997	Rep.2	<0.001	<0.001	8.21	7.7	0.00518	0.0116	0.0002	0.00023	5	4	0.043	0.002	0.009	0.0017	0.0016	0.001	0.008
		Difference (%)	–	–	3.1	1.0	0.0	2.6	0.0	109.8	22.2	0.0	11.0	0.0	40.0	12.5	0.0	0.0	120.0
	9/22/1997	Rep.1	<0.001	<0.001	10.6	10.7	0.0219	0.0247	0.00027	0.00025	6	6	0.039	0.002	0.014	0.0019	0.0019	0.004	0.005
	9/22/1997	Rep.2	<0.001	<0.001	10.6	10.7	0.0158	0.0268	0.00026	0.00025	6	6	0.039	0.002	0.013	0.0019	0.0019	0.004	0.006
		Difference (%)	–	–	0.0	0.0	32.4	8.2	3.8	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0	18.2
W3 - Fish Creek (above Taseko River)																			
	5/26/1997	Rep.1	<0.001	<0.001	9.07	8.7	0.0046	0.0196	0.00032	0.00033	5	5	<0.005	0.001	0.008	0.0019	0.002	0.003	0.003
	5/26/1997	Rep.2	<0.001	<0.001	9.01	8.98	0.00469	0.0197	0.00031	0.0003	5	5	<0.005	<0.001	<0.005	0.002	0.002	0.003	0.003
		Difference (%)	–	–	0.7	3.2	1.9	0.5	3.2	9.5	0.0	0.0	–	–	–	5.1	0.0	0.0	0.0
	10/13/1997	Rep.1	0.001	0.001	16.5	16.6	0.00061	0.00144	0.00126	0.00119	11	11	<0.005	0.001	0.107	0.0006	0.0006	0.002	0.004
	10/13/1997	Rep.2	<0.001	<0.001	17	16.7	0.00053	0.00139	0.00118	0.00118	11	11	<0.005	0.001	0.102	0.0006	0.0005	0.002	0.004
		Difference (%)	–	–	3.0	0.6	14.0	3.5	6.6	0.8	0.0	0.0	–	0.0	4.8	0.0	18.2	0.0	0.0
W4 - Taseko River (d/s of Taseko Lake)																			
	7/29/1997	Rep.1	<0.001	<0.001	0.88	1.04	0.00339	0.0134	0.00127	0.00125	<2	<2	0.013	0.001	0.016	0.0002	0.0004	<0.001	0.003
	7/29/1997	Rep.2	<0.001	<0.001	0.87	1.04	0.00326	0.0133	0.00128	0.00126	<2	<2	0.007	0.001	0.017	<0.0001	0.0004	<0.001	0.007
		Difference (%)	–	–	1.1	0.0	3.9	0.7	-0.8	-0.8	–	–	60.0	0.0	6.1	–	0.0	–	80.0
	9/28/1997	Rep.1	<0.001	0.001	0.75	1	0.00332	0.0245	0.00127	0.00127	<2	<2	0.01	0.001	0.015	<0.0001	0.0007	0.003	0.003
	9/28/1997	Rep.2	<0.001	0.001	0.74	0.97	0.00342	0.0223	0.00126	0.00121	<2	<2	0.021	0.001	0.016	<0.0001	0.0007	0.003	0.003
		Difference (%)	–	–	1.3	3.0	3.0	9.4	0.8	4.8	–	–	71.0	0.0	6.5	–	0.0	0.0	0.0
W5 - Taseko River (above Fish Creek)																			
	8/4/1997	Rep.1	<0.001	<0.001	1.09	1.22	0.00239	0.0112	0.00128	0.00116	<2	<2	0.014	<0.001	0.014	<0.0001	0.0003	<0.001	0.001
	8/4/1997	Rep.2	<0.001	<0.001	1.09	1.18	0.00231	0.0109	0.00128	0.00113	<2	<2	0.011	0.001	0.013	<0.0001	0.0003	<0.001	0.002
		Difference (%)	–	–	0.0	3.3	3.4	2.7	0.0	2.6	–	–	24.0	–	7.4	–	0.0	–	66.7
	9/22/1997	Rep.1	<0.001	<0.001	1.07	1.19	0.00216	0.0168	0.00124	0.00122	<2	<2	<0.005	<0.001	0.01	<0.0001	0.0004	0.002	0.002
	9/22/1997	Rep.2	<0.001	0.001	1.04	1.2	0.00213	0.0193	0.00125	0.00121	<2	<2	<0.005	<0.001	0.011	<0.0001	0.0006	0.002	0.002
		Difference (%)	–	–	2.8	0.8	1.4	13.9	0.8	0.8	–	–	–	–	-9.5	–	40.0	0.0	0.0
W6 - Taseko River (below Fish Creek)																			
	8/12/1997	Rep.1	<0.001	<0.001	0.92	1.03	0.00277	0.0121	0.00129	0.00129	<2	<2	0.013	0.003	0.015	<0.0001	0.0003	<0.001	0.002
	8/12/1997	Rep.2	<0.001	<0.001	0.92	1.02	0.00282	0.0117	0.00129	0.00124	<2	<2	<0.005	<0.001	0.015	<0.0001	0.0003	<0.001	0.002
		Difference (%)	–	–	0.0	1.0	1.8	3.4	0.0	4.0	–	–	–	–	0.0	–	0.0	–	0.0
	10/6/1997	Rep.1	<0.001	<0.001	0.93	1.09	0.0036	0.0188	0.00129	0.00124	<2	<2	<0.005	0.001	0.011	<0.0001	0.0005	0.001	0.002
	10/6/1997	Rep.2	<0.001	<0.001	0.91	1.1	0.00371	0.0189	0.00129	0.00122	<2	<2	<0.005	<0.001	0.011	<0.0001	0.0005	<0.001	<0.001
		Difference (%)	–	–	2.2	0.9	3.0	0.5	0.0	1.6	–	–	–	–	0.0	–	0.0	–	–
W8 - Fish Creek (d/s of ore deposit)																			

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
	5/7/1997	Rep.1	<0.001	<0.001	8.96	8.83	0.0336	0.0467	0.0003	0.0003	5	5	0.014	0.001	0.007	0.0017	0.0018	0.003	0.004
	5/7/1997	Rep.2	<0.001	<0.001	9.18	8.84	0.0319	0.0458	0.00029	0.0003	5	5	0.014	0.001	0.009	0.0016	0.0018	0.003	0.013
		Difference (%)	–	–	2.4	0.1	5.2	1.9	3.4	0.0	0.0	0.0	0.0	0.0	25.0	6.1	0.0	0.0	105.9
	10/6/1997	Rep.1	<0.001	<0.001	19.5	18.9	0.293	0.322	0.00043	0.00045	12	11	0.017	0.001	0.005	0.001	0.0012	0.005	0.005
	10/6/1997	Rep.2	<0.001	<0.001	19.3	18.9	0.296	0.319	0.00043	0.00042	12	12	0.015	0.001	0.005	0.0012	0.0011	0.011	0.016
		Difference (%)	–	–	1.0	0.0	1.0	0.9	0.0	6.9	0.0	8.7	12.5	0.0	0.0	18.2	8.7	75.0	104.8
W9 - Taseko River (d/s of Big Onion Lake)																			
	7/14/1997	Rep.1	<0.001	<0.001	0.95	1.04	0.00226	0.0106	0.00124	0.00126	<2	<2	0.009	0.004	0.023	<0.0001	0.0003	0.001	0.003
	7/14/1997	Rep.2	<0.001	<0.001	0.98	1.01	0.00241	0.0108	0.00119	0.00132	<2	<2	0.007	0.002	0.017	<0.0001	0.0003	0.001	0.003
		Difference (%)	–	–	3.1	2.9	6.4	1.9	4.1	4.7	–	–	25.0	66.7	30.0	–	0.0	0.0	0.0
	9/28/1997	Rep.1	<0.001	0.001	0.73	0.98	0.00287	0.0229	0.00126	0.00126	<2	<2	0.012	0.001	0.014	<0.0001	0.0006	0.003	0.003
	9/28/1997	Rep.2	<0.001	0.001	0.75	0.98	0.00288	0.0225	0.00128	0.00125	<2	<2	0.012	<0.001	0.013	<0.0001	0.0006	0.002	0.002
		Difference (%)	–	–	2.7	0.0	0.3	1.8	1.6	0.8	–	–	0.0	–	7.4	–	0.0	40.0	40.0
W10 - Big Onion Lake (at outlet)																			
	6/2/1997	Rep.1	<0.001	<0.001	14.3	13.8	0.00122	0.0068	0.0004	0.00042	8	8	0.016	0.001	<0.005	0.0002	0.0002	0.003	0.007
	6/2/1997	Rep.2	<0.001	<0.001	14.2	13.8	0.00127	0.00733	0.00042	0.00043	8	8	0.017	<0.001	<0.005	0.0002	0.0003	<0.001	0.008
		Difference (%)	–	–	0.7	0.0	4.0	7.5	4.9	2.4	0.0	0.0	6.1	–	–	0.0	40.0	–	13.3
	9/14/1997	Rep.1	<0.001	<0.001	14.9	15	0.00105	0.00903	0.00045	0.0004	9	9	<0.005	0.001	0.005	0.0002	0.0002	0.002	0.011
	9/14/1997	Rep.2	<0.001	<0.001	14.5	14.4	0.00108	0.00924	0.00043	0.00042	9	8	<0.005	<0.001	<0.005	0.0002	0.0002	0.001	0.01
		Difference (%)	–	–	2.7	4.1	2.8	2.3	4.5	4.9	0.0	11.8	–	–	–	0.0	0.0	66.7	9.5
W11 - Beece Creek (u/s of Taseko R confluence)																			
	6/2/1997	Rep.1	<0.001	<0.001	0.76	0.78	0.00079	0.00545	0.00074	0.00075	<2	<2	0.015	0.001	0.027	<0.0001	0.0002	<0.001	0.004
	6/2/1997	Rep.2	<0.001	<0.001	0.77	0.79	0.0008	0.00505	0.00075	0.00074	<2	<2	<0.005	0.001	0.03	<0.0001	0.0002	0.006	0.006
		Difference (%)	–	–	1.3	1.3	1.3	7.6	1.3	1.3	–	–	–	0.0	10.5	–	0.0	–	40.0
	10/5/1997	Rep.1	<0.001	<0.001	0.69	0.7	0.00059	0.00137	0.00114	0.00113	<2	<2	<0.005	<0.001	0.009	<0.0001	0.0001	<0.001	<0.001
	10/5/1997	Rep.2	<0.001	<0.001	0.7	0.7	0.00062	0.00132	0.00111	0.00113	<2	<2	<0.005	0.001	0.011	<0.0001	<0.0001	<0.001	<0.001
		Difference (%)	–	–	1.4	0.0	5.0	3.7	2.7	0.0	–	–	–	–	20.0	–	–	–	–
W12 - Beece Creek (u/s of Wasp Lake confluence)																			
	5/26/1997	Rep.1	<0.001	<0.001	0.76	0.76	0.00114	0.00397	0.00095	0.00093	<2	<2	<0.005	<0.001	0.017	0.0001	0.0002	0.001	0.001
	5/26/1997	Rep.2	<0.001	<0.001	0.76	0.79	0.00115	0.00407	0.00096	0.00093	<2	<2	<0.005	<0.001	0.019	0.0001	0.0002	<0.001	<0.001
		Difference (%)	–	–	0.0	3.9	0.9	2.5	1.0	0.0	–	–	–	–	11.1	0.0	0.0	–	–
	9/21/1997	Rep.1	<0.001	<0.001	0.54	0.56	0.00077	0.00232	0.00113	0.00112	<2	<2	<0.005	0.001	0.024	<0.0001	<0.0001	0.001	0.002
	9/21/1997	Rep.2	<0.001	<0.001	0.53	0.55	0.00077	0.00242	0.00114	0.00113	<2	<2	<0.005	0.001	0.023	<0.0001	<0.0001	0.002	0.003
		Difference (%)	–	–	1.9	1.8	0.0	4.2	0.9	0.9	–	–	–	0.0	4.3	–	–	66.7	40.0
W13 - Vick Creek d/s Vick Lake																			
	6/2/1997	Rep.1	0.002	0.002	27.5	28.2	0.00226	0.00363	0.00148	0.00146	14	15	<0.005	0.001	0.04	0.0003	0.0003	0.009	0.011
	6/2/1997	Rep.2	0.002	0.002	27.7	27.7	0.00227	0.00373	0.0015	0.00147	14	14	<0.005	<0.001	0.03	0.0003	0.0003	0.009	0.011
		Difference (%)	0.0	0.0	0.7	1.8	0.4	2.7	1.3	0.7	0.0	6.9	–	–	28.6	0.0	0.0	0.0	0.0
	9/22/1997	Rep.1	0.002	0.002	31.3	31.1	0.00558	0.00685	0.00134	0.00133	15	15	<0.005	<0.001	0.022	0.0005	0.0006	0.003	0.006
	9/22/1997	Rep.2	0.003	0.003	31.1	31.1	0.006	0.00667	0.0013	0.00133	15	15	<0.005	<0.001	0.012	0.0002	0.0002	0.003	0.003
		Difference (%)	-40.0	-40.0	0.6	0.0	7.3	2.7	3.0	0.0	0.0	0.0	–	–	58.8	85.7	100.0	0.0	66.7

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
W14 - Taseko River (d/s of Beece Ck confluence)																			
	10/13/1997	Rep.1	<0.001	<0.001	0.77	1.03	0.00226	0.0192	0.00126	0.00123	<2	<2	0.009	0.001	0.014	<0.0001	0.0005	0.002	0.003
	10/13/1997	Rep.2	<0.001	0.001	0.8	1.04	0.00272	0.0202	0.00126	0.00126	<2	<2	0.007	<0.001	0.015	<0.0001	0.0005	<0.001	<0.001
		Difference (%)	–	–	3.8	1.0	18.5	5.1	0.0	2.4	–	–	25.0	–	6.9	–	0.0	–	–
W16 - Groundhog Creek Tributary																			
	5/13/1997	Rep.1	<0.001	<0.001	4.7	4.62	0.0259	0.0431	0.0001	0.00014	<2	<2	0.033	<0.001	<0.005	0.0013	0.0013	0.002	0.002
	5/13/1997	Rep.2	<0.001	<0.001	4.74	4.57	0.0268	0.0406	0.0001	0.0001	<2	<2	0.03	0.001	0.01	0.0013	0.0013	0.002	0.003
		Difference (%)	–	–	0.8	1.1	3.4	6.0	0.0	33.3	–	–	9.5	–	–	0.0	0.0	0.0	40.0
	9/30/1997	Rep.1	<0.001	<0.001	12.7	12.5	0.0544	0.0833	0.00027	0.00034	6	5	<0.005	0.001	0.007	0.0007	0.0007	0.003	0.004
	9/30/1997	Rep.2	<0.001	<0.001	12.5	12.5	0.0546	0.0891	0.00027	0.00027	5	5	<0.005	<0.001	0.005	0.0006	0.0007	0.003	0.005
		Difference (%)	–	–	1.6	0.0	0.4	6.7	0.0	23.0	18.2	0.0	–	–	33.3	15.4	0.0	0.0	22.2
W17 - Tête Angela East																			
	5/27/1997	Rep.1	<0.001	<0.001	6.79	6.81	0.00897	0.0104	0.00027	0.00028	4	4	<0.005	<0.001	<0.005	0.0021	0.0022	0.002	0.002
	5/27/1997	Rep.2	<0.001	<0.001	6.78	6.88	0.00904	0.0105	0.00028	0.00028	4	4	<0.005	<0.001	<0.005	0.0021	0.0021	0.002	0.002
		Difference (%)	–	–	0.1	1.0	0.8	1.0	3.6	0.0	0.0	0.0	–	–	–	0.0	4.7	0.0	0.0
	10/7/1997	Rep.1	<0.001	<0.001	8.29	8.25	0.00583	0.01	0.00027	0.00026	5	5	<0.005	<0.001	<0.005	0.0006	0.0007	0.002	0.005
	10/7/1997	Rep.2	<0.001	<0.001	8.23	8.04	0.00601	0.0174	0.00028	0.00026	5	5	<0.005	<0.001	<0.005	0.0006	0.0009	0.002	0.004
		Difference (%)	–	–	0.7	2.6	3.0	54.0	3.6	0.0	0.0	0.0	–	–	–	0.0	25.0	0.0	22.2
W18 - Tête Angela West																			
	5/19/1997	Rep.1	<0.001	<0.001	4.33	4.34	0.00274	0.00882	0.00009	0.00009	2	2	<0.005	<0.001	0.005	0.0012	0.0013	0.003	0.003
	5/19/1997	Rep.2	<0.001	<0.001	4.32	4.38	0.00277	0.00915	0.00009	0.0001	2	2	<0.005	<0.001	0.007	0.0013	0.0013	0.003	0.003
		Difference (%)	–	–	0.2	0.9	1.1	3.7	0.0	10.5	0.0	0.0	–	–	33.3	-8.0	0.0	0.0	0.0
	10/14/1997	Rep.1	<0.001	<0.001	8.01	7.83	0.0156	0.0176	0.00025	0.00023	5	5	<0.005	0.001	<0.005	0.0014	0.0014	<0.001	<0.001
	10/14/1997	Rep.2	<0.001	<0.001	8.06	7.76	0.0153	0.0171	0.00024	0.00024	5	5	<0.005	0.001	<0.005	0.0014	0.0015	0.002	0.002
		Difference (%)	–	–	0.6	0.9	1.9	2.9	4.1	4.3	0.0	0.0	–	0.0	–	0.0	6.9	–	–
W19 - Taseko River (at Davidson Bridge)																			
	7/21/1997	Rep.1	<0.001	<0.001	0.92	1.06	0.00184	0.0126	0.00122	0.00131	<2	<2	0.007	<0.001	0.015	0.0001	0.0005	<0.001	0.001
	7/21/1997	Rep.2	<0.001	<0.001	0.92	1.05	0.00184	0.0133	0.00121	0.00131	<2	<2	0.008	<0.001	0.016	0.0001	0.0004	<0.001	0.001
		Difference (%)	–	–	0.0	0.9	0.0	5.4	0.8	0.0	–	–	13.3	–	6.5	0.0	22.2	–	0.0
	9/15/1997	Rep.1	<0.001	0.001	0.81	1.07	0.00229	0.021	0.00126	0.00119	<2	<2	0.01	0.001	<0.005	<0.0001	0.0007	0.002	0.003
W19	9/15/1997	Rep.2	<0.001	0.001	0.81	1.06	0.00224	0.0208	0.00126	0.00122	<2	<2	0.01	<0.001	<0.005	<0.0001	0.0006	0.002	0.008
		Difference (%)	–	0.0	0.0	0.9	2.2	1.0	0.0	2.5	–	–	0.0	–	–	–	15.4	0.0	90.9
W20 - Taseko R (d/s Tête Angela)																			
	9/30/1997	Rep.1	<0.001	0.001	0.86	1.05	0.00195	0.0203	0.00126	0.0012	<2	<2	0.011	<0.001	0.01	<0.0001	0.0005	0.004	0.004
	9/30/1997	Rep.2	<0.001	0.001	0.88	1.03	0.00189	0.021	0.00121	0.0012	<2	<2	0.014	0.001	0.01	<0.0001	0.0005	0.003	0.003
		Difference (%)	–	0.0	2.3	1.9	3.1	3.4	4.0	0.0	–	–	24.0	–	0.0	–	0.0	28.6	28.6
	7/28/1998	Rep.1	<0.001	0.002	0.8	1.3	0.00177	0.0415	0.00126	0.00118	<2	<2	0.031	0.002	<0.005	<0.0001	0.0012	<0.001	0.001
	7/28/1998	Rep.2	<0.001	0.002	0.8	1.3	0.00194	0.0423	0.00133	0.00115	<2	<2	0.031	0.001	<0.005	<0.0001	0.0012	<0.001	<0.001
		Difference (%)	–	0.0	0.0	0.0	9.2	1.9	5.4	2.6	–	–	0.0	66.7	–	–	0.0	–	–
W21 - Groundwater Seepage 1																			
	10/13/1997	Rep.1	0.003	0.003	18.6	18.6	0.00011	0.00041	0.00077	0.00075	13	13	<0.005	0.001	0.056	<0.0001	<0.0001	0.002	0.004
	10/13/1997	Rep.2	0.003	0.003	19	18.4	0.00007	0.00264	0.00075	0.00071	13	13	<0.005	0.002	0.055	<0.0001	<0.0001	0.002	0.003
		Difference (%)	0.0	0.0	2.1	1.1	44.4	146.2	2.6	5.5	0.0	0.0	–	66.7	1.8	–	–	0.0	28.6
W23 - Vick Creek																			
	5/20/1998	Rep.1																	

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Lithium mg/L DL: 0.001	Total Lithium mg/L DL: 0.001	Dissolved Magnesium mg/L DL: 0.05	Total Magnesium mg/L DL: 0.05	Dissolved Manganese mg/L DL: 0.00005	Total Manganese mg/L DL: 0.00005	Dissolved Molybdenum mg/L DL: 0.00005	Total Molybdenum mg/L DL: 0.00005	Dissolved Sodium mg/L DL: 2	Total Sodium mg/L DL: 2	Ammonia Nitrogen mg/L DL: 0.005	Nitrite Nitrogen mg/L DL: 0.001	Nitrate Nitrogen mg/L DL: 0.005	Dissolved Nickel mg/L DL: 0.0001	Total Nickel mg/L DL: 0.0001	Ortho Phosphate mg/L DL: 0.001	Dissolved Phosphate mg/L DL: 0.001
	5/20/1998	Rep.2	<0.001	<0.001	8.3	8.4	0.00118	0.00178	0.00048	0.00052	6	6	0.014	<0.001	<0.005	0.0005	0.0007	<0.001	<0.001
		Difference (%)	<0.001	<0.001	8.3	8.3	0.00117	0.00181	0.00047	0.00051	6	6	<0.005	<0.001	<0.005	0.0005	0.0007	<0.001	<0.001
			–	–	0.0	1.2	0.9	1.7	2.1	1.9	0.0	0.0	–	–	–	0.0	0.0	–	–
W24 - Upper Groundhog Creek																			
	6/9/1998	Rep.1	<0.001	<0.001	12.1	12.2	0.0173	0.0364	0.00028	0.00028	8	8	<0.005	<0.001	<0.005	0.002	0.0022	0.007	0.014
	6/9/1998	Rep.2	<0.001	<0.001	12.3	12.2	0.0179	0.0363	0.00027	0.00028	8	8	<0.005	0.001	<0.005	0.0021	0.0022	0.008	0.008
		Difference (%)	–	–	1.6	0.0	3.4	0.3	3.6	0.0	0.0	0.0	–	–	–	4.9	0.0	13.3	54.5
	8/4/1998	Rep.1	<0.001	<0.001	15.6	15.7	0.0329	0.0488	0.00058	0.0006	15	15	0.007	0.001	0.02	0.0014	0.0015	0.018	0.028
	8/4/1998	Rep.2	<0.001	<0.001	15.7	15.3	0.0329	0.0454	0.00059	0.00061	15	14	0.008	0.002	0.023	0.0015	0.0013	0.014	0.028
		Difference (%)	–	–	0.6	2.6	0.0	7.2	1.7	1.7	0.0	6.9	13.3	66.7	14.0	6.9	14.3	25.0	0.0

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Total Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Temperature °C
W1 - Fish Creek (above Fish Lake)																				
	5/19/1997	Rep.1	0.018	<0.00005	<0.00005	7.3	7.45	0.0001	<0.00005	<0.0005	<0.0005	7.13	7.26	<0.0001	<0.0001	<1	0.0325	0.0322	99	3.5
	5/19/1997	Rep.2	0.017	<0.00005	<0.00005	7.3	7.45	0.00008	<0.00005	0.0007	0.0005	7.23	7.32	<0.0001	<0.0001	<1	0.0322	0.0327	99	3.5
		Difference (%)	5.7	–	–	0.0	0.0	22.2	–	–	–	1.4	0.8	–	–	–	0.9	1.5	0.0	0.0
	9/16/1997	Rep.1	0.034	<0.00005	0.00016	7.93	8.01	0.00008	0.0001	<0.0005	<0.0005	3.81	3.87	<0.0001	0.0002	<1	0.076	0.0759	199	12
	9/16/1997	Rep.2	0.033	<0.00005	<0.00005	7.93	8	0.00009	0.00008	<0.0005	<0.0005	3.9	3.98	<0.0001	<0.0001	<1	0.0757	0.0765	200	12
		Difference (%)	3.0	–	–	0.0	0.1	-11.8	22.2	–	–	2.3	2.8	–	–	–	0.4	0.8	0.5	0.0
W2 - Fish Creek (outlet of Fish Lake)																				
	5/13/1997	Rep.1	0.016	<0.00005	<0.00005	7.53	7.42	<0.0005	<0.0005	<0.0005	<0.0005	5.55	5.32	<0.0001	<0.0001	<1	0.0336	0.0332	87	6.5
	5/13/1997	Rep.2	0.017	<0.00005	<0.00005	7.53	7.45	<0.0005	<0.0005	<0.0005	<0.0005	5.74	5.37	<0.0001	<0.0001	<1	0.0341	0.0339	87	6.5
		Difference (%)	6.1	–	–	0.0	-0.4	–	–	–	–	3.4	0.9	–	–	–	1.5	2.1	0.0	0.0
	9/22/1997	Rep.1	0.008	<0.00005	<0.00005	7.64	7.45	<0.00005	<0.00005	<0.0005	<0.0005	6.1	6.2	<0.0001	<0.0001	<1	0.0472	0.0467	113	13.5
	9/22/1997	Rep.2	0.01	<0.00005	<0.00005	7.64	7.48	<0.00005	<0.00005	<0.0005	<0.0005	5.88	6.16	<0.0001	<0.0001	<1	0.0477	0.047	111	13.5
		Difference (%)	22.2	–	–	0.0	-0.4	–	–	–	–	3.7	0.6	–	–	–	1.1	0.6	1.8	0.0
W3 - Fish Creek (above Taseko River)																				
	5/26/1997	Rep.1	0.017	<0.00005	<0.00005	8.23	7.76	0.00007	0.00007	<0.0005	0.0006	6.76	6.55	<0.0001	<0.0001	3	0.0551	0.0549	104	10.6
	5/26/1997	Rep.2	0.017	<0.00005	<0.00005	8.23	7.75	0.00006	0.00007	<0.0005	0.0006	6.76	6.77	<0.0001	<0.0001	3	0.057	0.0574	104	10.6
		Difference (%)	0.0	–	–	0.0	0.1	15.4	0.0	–	0.0	0.0	3.3	–	–	0.0	3.4	-4.5	0.0	0.0
	10/13/1997	Rep.1	0.006	<0.00005	<0.00005	8.04	7.64	0.00103	0.00098	<0.0005	<0.0005	6.41	6.45	<0.0001	<0.0001	44	0.178	0.169	228	4.4
	10/13/1997	Rep.2	0.007	<0.00005	<0.00005	8.04	7.66	0.00099	0.00098	<0.0005	<0.0005	6.55	6.47	<0.0001	<0.0001	44	0.17	0.172	230	4.4
		Difference (%)	15.4	–	–	0.0	-0.3	4.0	0.0	–	–	2.2	0.3	–	–	0.0	4.6	1.8	0.9	0.0
W4 - Taseko River (d/s of Taseko Lake)																				
	7/29/1997	Rep.1	0.02	<0.00005	0.00014	7.49	6.75	0.00006	0.00005	<0.0005	<0.0005	2.03	2.55	<0.0001	<0.0001	7	0.043	0.0442	31	12.8
	7/29/1997	Rep.2	0.02	<0.00005	0.00012	7.49	6.83	0.00005	0.00006	<0.0005	<0.0005	2.07	2.48	<0.0001	<0.0001	7	0.043	0.0448	32	12.8
		Difference (%)	0.0	–	15.4	0.0	-1.2	18.2	-18.2	–	–	2.0	2.8	–	–	0.0	0.0	1.3	3.2	0.0
	9/28/1997	Rep.1	0.042	<0.00005	0.00027	7.56	7	0.00006	0.00008	<0.0005	<0.0005	1.83	2.98	<0.0001	<0.0001	6	0.0381	0.0434	28	9.9
	9/28/1997	Rep.2	0.041	<0.00005	0.00024	7.56	6.97	0.00006	0.00007	<0.0005	<0.0005	1.8	2.71	<0.0001	<0.0001	6	0.0394	0.0411	27	9.9
		Difference (%)	2.4	–	11.8	0.0	0.4	0.0	13.3	–	–	1.7	9.5	–	–	0.0	3.4	5.4	3.6	0.0
W5 - Taseko River (above Fish Creek)				–																
	8/4/1997	Rep.1	0.018	<0.00005	0.00011	8.6	6.95	0.00006	0.00006	<0.0005	<0.0005	2.09	2.42	<0.0001	<0.0001	7	0.0448	0.0457	35	15
	8/4/1997	Rep.2	0.017	<0.00005	0.00011	8.6	7.05	0.00006	0.00006	<0.0005	<0.0005	2.07	2.38	<0.0001	<0.0001	7	0.0449	0.046	38	15
		Difference (%)	5.7	–	0.0	0.0	-1.4	0.0	0.0	–	–	1.0	1.7	–	–	0.0	0.2	0.7	-8.2	0.0
	9/22/1997	Rep.1	0.036	<0.00005	0.00018	7.2	7.17	<0.00005	<0.00005	<0.0005	<0.0005	1.99	2.5	<0.0001	<0.0001	6	0.0412	0.0433	33	11.8
	9/22/1997	Rep.2	0.04	<0.00005	0.00021	7.2	6.63	<0.00005	<0.00005	<0.0005	<0.0005	1.96	2.72	<0.0001	<0.0001	6	0.0415	0.0442	33	11.8
		Difference (%)	10.5	–	-15.4	0.0	7.8	#VALUE!	–	–	–	1.5	8.4	–	–	0.0	0.7	2.1	0.0	0.0
W6 - Taseko River (below Fish Creek)																				
	8/12/1997	Rep.1	0.017	<0.00005	0.00015		6.83	0.00006	0.00007	<0.0005	<0.0005	2.06	2.52	<0.0001	<0.0001	6	0.0411	0.0428	34	
	8/12/1997	Rep.2	0.017	<0.00005	0.00014		6.83	0.00006	0.00006	<0.0005	<0.0005	2.06	2.47	<0.0001	<0.0001	7	0.0415	0.0424	31	
		Difference (%)	0.0	–	6.9		0.0	0.0	15.4	–	–	0.0	2.0	–	–	15.4	1.0	0.9	9.2	
	10/6/1997	Rep.1	0.037	<0.00005	0.00019	8	7.26	0.00006	0.00006	<0.0005	<0.0005	1.84	2.51	<0.0001	<0.0001	6	0.0413	0.0433	31	8.5
	10/6/1997	Rep.2	0.036	0.00005	0.00019	8	7.13	0.00005	0.00006	<0.0005	<0.0005	1.84	2.54	<0.0001	<0.0001	6	0.0404	0.042	29	8.5
		Difference (%)	2.7	–	0.0	0.0	1.8	18.2	0.0	–	–	0.0	1.2	–	–	0.0	2.2	3.0	6.7	0.0
W8 - Fish Creek (d/s of ore deposit)																				

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Total Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Temperature °C
	5/7/1997	Rep.1	0.025	<0.00005	<0.00005	8.38	7.65	0.00018	<0.00005	<0.0005	0.0006	6.51	6.42	<0.0001	<0.0001	3	0.0566	0.0568	104	10.8
	5/7/1997	Rep.2	0.025	<0.00005	<0.00005	8.38	7.63	0.0002	0.0001	<0.0005	0.0006	6.55	6.38	<0.0001	<0.0001	3	0.0556	0.056	104	10.8
		Difference (%)	0.0	–	–	0.0	0.3	-10.5	–	–	0.0	0.6	0.6	–	–	0.0	1.8	1.4	0.0	0.0
	10/6/1997	Rep.1	0.018	<0.00005	<0.00005	7.78	7.46	<0.00005	0.00005	<0.0005	<0.0005	8.41	8.15	<0.0001	<0.0001	68	0.177	0.18	275	4.6
	10/6/1997	Rep.2	0.033	<0.00005	<0.00005	7.78	7.26	<0.00005	<0.00005	<0.0005	<0.0005	8.32	8.19	<0.0001	<0.0001	68	0.175	0.177	272	4.6
		Difference (%)	-58.8	–	–	0.0	2.7	–	–	–	–	1.1	0.5	–	–	0.0	1.1	1.7	1.1	0.0
W9 - Taseko River (d/s of Big Onion Lake)																				
	7/14/1997	Rep.1	0.011	<0.00005	0.00013	7.69	6.86	0.00015	0.00007	<0.0005	<0.0005	2.07	2.32	<0.0001	<0.0001	7	0.0466	0.0457	34	12
	7/14/1997	Rep.2	0.011	<0.00005	0.00011	7.69	7	0.00022	0.00007	<0.0005	<0.0005	2.1	2.29	<0.0001	<0.0001	7	0.0454	0.0471	35	12
		Difference (%)	0.0	–	16.7	0.0	2.0	37.8	0.0	–	–	1.4	1.3	–	–	0.0	2.6	3.0	-2.9	0.0
	9/28/1997	Rep.1	0.038	<0.00005	0.00024	7.7	7.04	0.00006	0.00009	<0.0005	<0.0005	1.73	2.63	<0.0001	<0.0001	6	0.0387	0.0425	27	11.6
	9/28/1997	Rep.2	0.04	<0.00005	0.00023	7.7	7.07	0.00012	0.00008	<0.0005	<0.0005	1.78	2.69	<0.0001	<0.0001	6	0.0398	0.0429	28	11.6
		Difference (%)	5.1	–	4.3	0.0	0.4	66.7	11.8	–	–	2.8	2.3	–	–	0.0	2.8	0.9	-3.6	0.0
W10 - Big Onion Lake (at outlet)																				
	6/2/1997	Rep.1	0.018	<0.00005	<0.00005	8.26	8.09	0.00014	0.00017	<0.0005	0.0008	6.4	6.26	<0.0001	<0.0001	5	0.177	0.175	191	15.1
	6/2/1997	Rep.2	0.019	<0.00005	<0.00005	8.26	8.06	0.00013	0.00014	0.0006	0.0006	6.36	6.23	<0.0001	<0.0001	5	0.177	0.177	191	15.1
		Difference (%)	5.4	–	–	0.0	0.4	7.4	19.4	–	28.6	0.6	0.5	–	–	0.0	0.0	1.1	0.0	0.0
	9/14/1997	Rep.1	0.036	<0.00005	<0.00005		8.47	0.00014	0.00014	<0.0005	<0.0005	6.54	6.71	<0.0001	<0.0001	5	0.14	0.143	167	15
	9/14/1997	Rep.2	0.019	<0.00005	0.00005		8.51	0.00014	0.00014	<0.0005	<0.0005	6.44	6.42	<0.0001	<0.0001	5	0.14	0.143	166	15
		Difference (%)	61.8	–	–		0.5	0.0	0.0	–	–	1.5	4.4	–	–	0.0	0.0	0.0	0.6	0.0
W11 - Beece Creek (u/s of Taseko R confluence)																				
	6/2/1997	Rep.1	0.011	<0.00005	0.00013	7.53	6.88	0.00015	0.00011	<0.0005	<0.0005	2.68	2.86	<0.0001	<0.0001	2	0.0231	0.024	19	4.5
	6/2/1997	Rep.2	0.011	<0.00005	0.00013	7.53	6.71	0.00017	0.0001	<0.0005	<0.0005	2.71	2.89	<0.0001	<0.0001	2	0.0231	0.024	19	4.5
		Difference (%)	0.0	–	0.0	0.0	2.5	12.5	9.5	–	–	1.1	1.0	–	–	0.0	0.0	0.0	0.0	0.0
	10/5/1997	Rep.1	0.003	<0.00005	<0.00005	7.76	6.39	0.00013	0.00013	<0.0005	<0.0005	2.52	2.55	<0.0001	<0.0001	2	0.0239	0.0241	17	5.1
	10/5/1997	Rep.2	0.003	<0.00005	<0.00005	7.76	6.53	0.00015	0.00018	<0.0005	<0.0005	2.53	2.55	<0.0001	<0.0001	2	0.0245	0.0243	17	5.1
		Difference (%)	0.0	–	–	0.0	2.2	14.3	32.3	–	–	0.4	0.0	–	–	0.0	2.5	0.8	0.0	0.0
W12 - Beece Creek (u/s of Wasp Lake confluence)																				
	5/26/1997	Rep.1	0.012	<0.00005	0.0001	7.27	6.76	0.00009	0.00008	<0.0005	<0.0005	3.13	3.22	<0.0001	<0.0001	2	0.0255	0.026	22	4.5
	5/26/1997	Rep.2	0.011	<0.00005	0.0001	7.27	6.86	0.00007	0.00008	<0.0005	<0.0005	3.15	3.32	<0.0001	<0.0001	2	0.0249	0.026	22	4.5
		Difference (%)	8.7	–	0.0	0.0	1.5	25.0	0.0	–	–	0.6	3.1	–	–	0.0	2.4	0.0	0.0	0.0
	9/21/1997	Rep.1	0.005	<0.00005	0.00007	7.51	6.85	0.00012	0.00013	<0.0005	<0.0005	2.54	2.67	<0.0001	<0.0001	2	0.0217	0.0219	17	5
	9/21/1997	Rep.2	0.007	<0.00005	0.00006	7.51	6.82	0.00011	0.00012	<0.0005	<0.0005	2.58	2.69	<0.0001	<0.0001	2	0.0218	0.022	16	5
		Difference (%)	33.3	–	15.4	0.0	0.4	8.7	8.0	–	–	1.6	0.7	–	–	0.0	0.5	0.5	6.1	0.0
W13 - Vick Creek d/s Vick Lake																				
	6/2/1997	Rep.1	0.012	<0.00005	<0.00005	8.06	7.95	0.00009	0.00006	<0.0005	<0.0005	7.85	8.06	<0.0001	<0.0001	9	0.316	0.317	312	4.9
	6/2/1997	Rep.2	0.012	<0.00005	<0.00005	8.06	7.95	0.00009	0.00006	<0.0005	<0.0005	7.93	7.89	<0.0001	<0.0001	9	0.32	0.317	310	4.9
		Difference (%)	0.0	–	–	0.0	0.0	0.0	0.0	–	–	1.0	2.1	–	–	0.0	1.3	0.0	0.6	0.0
	9/22/1997	Rep.1	0.007	<0.00005	<0.00005	7.68	7.91	<0.00005	<0.00005	<0.0005	<0.0005	8.27	8.21	<0.0001	<0.0001	13	0.293	0.284	334	7
	9/22/1997	Rep.2	0.008	<0.00005	<0.00005	7.68	7.93	<0.00005	<0.00005	<0.0005	<0.0005	8.2	8.22	<0.0001	<0.0001	3	0.288	0.289	319	7
		Difference (%)	13.3	–	–	0.0	0.3	–	–	–	–	0.9	0.1	–	–	125.0	1.7	1.7	4.6	0.0

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Total Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Temperature °C
W14 - Taseko River (d/s of Beece Ck confluence)																				
	10/13/1997	Rep.1	0.027	<0.00005	0.00021	8.2	7.13	0.00006	0.00006	<0.0005	<0.0005	1.82	2.6	<0.0001	<0.0001	6	0.0386	0.0419	29	7.8
	10/13/1997	Rep.2	0.03	<0.00005	0.00017	8.2	7.02	0.00007	0.00008	<0.0005	<0.0005	1.8	2.69	<0.0001	<0.0001	6	0.0379	0.0405	28	7.8
		Difference (%)	10.5	–	21.1	0.0	1.6	15.4	28.6	–	–	1.1	3.4	–	–	0.0	1.8	3.4	3.5	0.0
W16 - Groundhog Creek Tributary																				
	5/13/1997	Rep.1	0.022	<0.00005	<0.00005	7.14	6.89	<0.0005	<0.0005	<0.0005	<0.0005	2.79	2.71	<0.0001	<0.0001	<1	0.0165	0.0166	47	6
	5/13/1997	Rep.2	0.022	<0.00005	<0.00005	7.14	6.88	<0.0005	<0.0005	<0.0005	<0.0005	2.8	2.69	<0.0001	<0.0001	<1	0.0167	0.0167	47	6
		Difference (%)	0.0	–	–	0.0	0.1	–	–	–	–	0.4	0.7	–	–	–	1.2	0.6	0.0	0.0
	9/30/1997	Rep.1	0.014	<0.00005	<0.00005	7.91	7.58	<0.00005	<0.00005	<0.0005	<0.0005	4.93	4.87	<0.0001	<0.0001	<1	0.0442	0.0446	122	6.2
	9/30/1997	Rep.2	0.015	<0.00005	<0.00005	7.91	7.65	<0.00005	<0.00005	<0.0005	<0.0005	4.83	4.84	<0.0001	<0.0001	<1	0.044	0.0433	119	6.2
		Difference (%)	6.9	–	–	0.0	0.9	–	–	–	–	2.0	0.6	–	–	–	0.5	3.0	2.5	0.0
W17 - Tête Angela East																				
	5/27/1997	Rep.1	0.002	<0.00005	<0.00005	7.43	7.46	<0.00005	<0.00005	<0.0005	<0.0005	7.51	7.53	<0.0001	<0.0001	1	0.0496	0.0512	83	6.1
	5/27/1997	Rep.2	0.01	<0.00005	<0.00005	7.43	7.42	<0.00005	<0.00005	<0.0005	<0.0005	7.48	7.63	<0.0001	<0.0001	1	0.0504	0.0507	83	6.1
		Difference (%)	133.3	–	–	0.0	0.5	–	–	–	–	0.4	1.3	–	–	0.0	1.6	1.0	0.0	0.0
	10/7/1997	Rep.1	0.006	<0.00005	<0.00005	8.28	7.51	<0.00005	<0.00005	<0.0005	<0.0005	8.74	8.69	<0.0001	<0.0001	2	0.0502	0.0496	90	2.9
	10/7/1997	Rep.2	0.006	<0.00005	<0.00005	8.28	7.51	<0.00005	<0.00005	<0.0005	<0.0005	8.66	8.46	<0.0001	<0.0001	2	0.0503	0.0494	90	2.9
		Difference (%)	0.0	–	–	0.0	0.0	–	–	–	–	0.9	2.7	–	–	0.0	0.2	0.4	0.0	0.0
W18 - Tête Angela West																				
	5/19/1997	Rep.1	0.013	<0.00005	<0.00005	7.35	7.3	0.00009	<0.00005	<0.0005	<0.0005	5.71	5.73	<0.0001	<0.0001	<1	0.0246	0.0259	54	2
	5/19/1997	Rep.2	0.014	<0.00005	<0.00005	7.35	7.14	0.00009	<0.00005	<0.0005	<0.0005	5.65	5.76	<0.0001	<0.0001	<1	0.025	0.0258	54	2
		Difference (%)	7.4	–	–	0.0	2.2	0.0	–	–	–	1.1	0.5	–	–	–	1.6	0.4	0.0	0.0
	10/14/1997	Rep.1	0.005	<0.00005	<0.00005	7.37	7.24	0.00006	0.00007	<0.0005	<0.0005	7.67	7.58	<0.0001	<0.0001	7	0.0592	0.0588	98	3.9
	10/14/1997	Rep.2	0.002	<0.00005	<0.00005	7.37	7.32	0.00006	0.00006	<0.0005	<0.0005	7.75	7.52	<0.0001	<0.0001	7	0.0599	0.059	98	3.9
		Difference (%)	85.7	–	–	0.0	1.1	0.0	15.4	–	–	1.0	0.8	–	–	0.0	1.2	0.3	0.0	0.0
W19 - Taseko River (at Davidson Bridge)																				
	7/21/1997	Rep.1	0.011	<0.00005	0.0002	7.48	7.18	0.00033	0.00007	<0.0005	<0.0005	1.99	2.45	<0.0001	<0.0001	7	0.0448	0.0459	33	12
	7/21/1997	Rep.2	0.011	<0.00005	0.00013	7.48	7.19	0.00035	0.00006	<0.0005	<0.0005	2	2.49	<0.0001	<0.0001	7	0.0445	0.0457	32	12
		Difference (%)	0.0	–	42.4	0.0	0.1	5.9	15.4	–	–	0.5	1.6	–	–	0.0	0.7	0.4	3.1	0.0
	9/15/1997	Rep.1	0.021	<0.00005	0.00032	7.71	7.12	0.00006	0.0001	<0.0005	<0.0005	1.84	2.74	<0.0001	0.0001	6	0.0377	0.0404	30	10.5
W19	9/15/1997	Rep.2	0.024	<0.00005	0.00022	7.71	7.1	0.00006	0.00007	<0.0005	<0.0005	1.83	2.75	<0.0001	<0.0001	6	0.0392	0.0404	31	10.5
		Difference (%)	13.3	–	37.0	0.0	0.3	0.0	35.3	–	–	0.5	0.4	–	–	0.0	3.9	0.0	3.3	0.0
W20 - Taseko R (d/s Tête Angela)																				
	9/30/1997	Rep.1	0.035	<0.00005	0.00019	7.85	7.01	0.00005	0.00007	<0.0005	<0.0005	1.86	2.46	<0.0001	<0.0001	6	0.0411	0.0435	29	8.7
	9/30/1997	Rep.2	0.034	<0.00005	0.00021	7.85	7.07	0.00005	0.00007	<0.0005	<0.0005	1.87	2.42	<0.0001	<0.0001	6	0.0407	0.0432	29	8.7
		Difference (%)	2.9	–	10.0	0.0	-0.9	0.0	0.0	–	–	0.5	1.6	–	–	0.0	1.0	0.7	0.0	0.0
	7/28/1998	Rep.1	0.072	<0.00005	0.00048	7.01	6.95	0.00005	0.00008	<0.0005	<0.0005	1.82	3.9	<0.0001	<0.0001	6	0.038	0.0448	30	14
	7/28/1998	Rep.2	0.072	<0.00005	0.00048	7.01	7.09	0.00005	0.00007	<0.0005	<0.0005	1.86	3.72	<0.0001	<0.0001	6	0.0394	0.0447	31	14
		Difference (%)	0.0	–	0.0	0.0	2.0	0.0	13.3	–	–	2.2	4.7	–	–	0.0	3.6	0.2	3.3	0.0
W21 - Groundwater Seepage 1																				
	10/13/1997	Rep.1	0.004	<0.00005	<0.00005	8.27	7.67	<0.00005	0.00005	<0.0005	<0.0005	10.3	10.4	<0.0001	<0.0001	4	0.155	0.154	209	5.9
	10/13/1997	Rep.2	0.004	<0.00005	<0.00005	8.27	7.71	<0.00005	<0.00005	<0.0005	<0.0005	10.5	10.2	<0.0001	<0.0001	4	0.155	0.155	210	5.9
		Difference (%)	0.0	–	–	0.0	0.5	–	–	–	–	1.9	1.9	–	–	0.0	0.0	0.6	0.5	0.0
W23 - Vick Creek																				
	5/20/1998	Rep.1																		

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Total Phosphate mg/L DL: 0.001	Dissolved Lead mg/L DL: 0.00005	Total Lead mg/L DL: 0.00005	Field pH pH unit	Lab pH pH unit DL: 0.2	Dissolved Antimony mg/L DL: 0.00005	Total Antimony mg/L DL: 0.00005	Dissolved Selenium mg/L DL: 0.0005	Total Selenium mg/L DL: 0.0005	Dissolved Silicon mg/L DL: .05	Total Silicon mg/L DL: .05	Dissolved Tin mg/L DL: 0.0001	Total Tin mg/L DL: 0.0001	Dissolved Sulphate mg/L DL: 1	Dissolved Strontium mg/L DL: 0.0001	Total Strontium mg/L DL: 0.0001	Dissolved Solids mg/L DL: 1	Temperature °C
	5/20/1998	Rep.2	0.003	<0.00005	0.00005	7.8	7.64	0.00005	0.00005	<0.0005	<0.0005	5.09	5.14	<0.0001	0.0002	2	0.0957	0.0956	129	4
		Difference (%)	<0.001	<0.00005	0.00008	7.8	7.69	0.00005	0.00005	<0.0005	<0.0005	5.16	5.1	<0.0001	0.0001	2	0.098	0.0967	129	4
			–	–	46.2	0.0	0.7	0.0	0.0	–	–	1.4	0.8	–	66.7	0.0	2.4	1.1	0.0	0.0
W24 - Upper Groundhog Creek																				
	6/9/1998	Rep.1	0.024	<0.00005	<0.00005	8.5	7.98	<0.00005	0.00005	<0.0005	<0.0005	7.3	7.42	<0.0001	<0.0001	<1	0.0365	0.0373	119	12
	6/9/1998	Rep.2	0.019	<0.00005	<0.00005	8.5	8.01	<0.00005	<0.00005	<0.0005	<0.0005	7.37	7.42	<0.0001	<0.0001	<1	0.0367	0.037	120	12
		Difference (%)	23.3	–	–	0.0	0.4	–	–	–	–	1.0	0.0	–	–	–	0.5	0.8	-0.8	0.0
	8/4/1998	Rep.1	0.035	<0.00005	<0.00005	7.77	8.03	<0.00005	<0.00005	<0.0005	<0.0005	8.33	8.38	<0.0001	<0.0001	2	0.039	0.0387	166	7.7
	8/4/1998	Rep.2	0.035	<0.00005	<0.00005	7.77	8.02	<0.00005	<0.00005	<0.0005	<0.0005	8.38	8.2	<0.0001	<0.0001	2	0.0391	0.0385	168	7.7
		Difference (%)	0.0	–	–	0.0	0.1	–	–	–	–	0.6	2.2	–	–	0.0	0.3	0.5	1.2	0.0

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.001
W1 - Fish Creek (above Fish Lake)													
	5/19/1997	Rep.1	<0.01	<0.01	13.2	<1	1.1	0.00003	0.00003	<0.001	<0.001	<0.001	<0.001
	5/19/1997	Rep.2	<0.01	<0.01	13.5	<1	1.7	0.00003	0.00003	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	2.2	–	42.9	0.0	0.0	–	–	–	–
	9/16/1997	Rep.1	<0.01	<0.01	21	8	2.9	0.00045	0.00044	0.001	0.002	0.002	0.005
	9/16/1997	Rep.2	<0.01	<0.01	21.8	6	3	0.00046	0.00046	0.001	0.002	0.003	0.003
		Difference (%)	–	–	3.7	28.6	3.4	2.2	4.4	0.0	0.0	40.0	50.0
W2 - Fish Creek (outlet of Fish Lake)													
	5/13/1997	Rep.1	<0.01	<0.01	10.3	3	0.5	0.00003	0.00003	<0.001	<0.001	<0.001	0.002
	5/13/1997	Rep.2	<0.01	<0.01	9.9	3	0.4	0.00004	0.00003	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	4.0	0.0	22.2	28.6	0.0	–	–	–	–
	9/22/1997	Rep.1	<0.01	<0.01	14.6	5	2.1	0.00007	0.00007	0.001	0.001	0.003	0.005
	9/22/1997	Rep.2	<0.01	<0.01	14.7	6	2.6	0.00007	0.00007	0.001	0.001	0.002	0.005
		Difference (%)	–	–	-0.7	18.2	21.3	0.0	0.0	0.0	0.0	40.0	0.0
W3 - Fish Creek (above Taseko River)													
	5/26/1997	Rep.1	<0.01	<0.01	12.9	4	1.4	0.00004	0.00004	<0.001	<0.001	<0.001	<0.001
	5/26/1997	Rep.2	<0.01	<0.01	12.8	3	1.2	0.00004	0.00004	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	0.8	28.6	15.4	0.0	0.0	–	–	–	–
	10/13/1997	Rep.1	<0.01	<0.01	6.2	2	0.3	0.00019	0.00018	<0.001	<0.001	0.004	0.001
	10/13/1997	Rep.2	<0.01	<0.01	5.9	2	0.2	0.00018	0.00018	<0.001	<0.001	0.01	0.001
		Difference (%)	–	–	5.0	0.0	40.0	5.4	0.0	–	–	–	–
W4 - Taseko River (d/s of Taseko Lake)													
	7/29/1997	Rep.1	<0.01	0.02	1	6	16.1	0.00016	0.00018	<0.001	0.001	<0.001	0.003
	7/29/1997	Rep.2	<0.01	0.02	0.9	7	14.4	0.00016	0.00018	<0.001	0.001	0.001	0.002
		Difference (%)	–	0.0	10.5	15.4	11.1	0.0	0.0	–	0.0	–	40.0
	9/28/1997	Rep.1	<0.01	0.04	1.3	10	26.9	0.00014	0.00019	<0.001	0.002	0.004	0.006
	9/28/1997	Rep.2	<0.01	0.04	1.3	7	27.8	0.00014	0.00019	<0.001	0.002	<0.001	0.004
		Difference (%)	–	0.0	0.0	35.3	3.3	0.0	0.0	–	0.0	–	–
W5 - Taseko River (above Fish Creek)													
	8/4/1997	Rep.1	<0.01	0.02	1.3	9	13	0.00021	0.00018	<0.001	<0.001	0.002	0.002
	8/4/1997	Rep.2	<0.01	0.02	1.2	4	12.9	0.00018	0.00024	<0.001	<0.001	<0.001	0.003
		Difference (%)	–	0.0	8.0	76.9	0.8	15.4	28.6	–	–	–	40.0
	9/22/1997	Rep.1	<0.01	0.03	1.2	8	23	0.00015	0.00018	<0.001	0.002	0.004	0.006
	9/22/1997	Rep.2	<0.01	0.03	1.4	9	23.9	0.00015	0.00019	<0.001	0.002	<0.001	0.004
		Difference (%)	–	0.0	15.4	11.8	3.8	0.0	5.4	–	0.0	–	40.0
W6 - Taseko River (below Fish Creek)													
	8/12/1997	Rep.1	<0.01	0.02	1	6	15.5	0.00017	0.00017	<0.001	0.001	<0.001	0.002
	8/12/1997	Rep.2	<0.01	0.02	1.4	6	15.6	0.00016	0.00018	<0.001	0.001	<0.001	0.001
		Difference (%)	–	0.0	33.3	0.0	0.6	6.1	5.7	–	0.0	–	66.7
	10/6/1997	Rep.1	<0.01	0.03	1.1	8	23	0.00016	0.00019	<0.001	0.002	0.001	0.006
	10/6/1997	Rep.2	<0.01	0.03	1.2	3	24.2	0.00016	0.00019	<0.001	0.002	0.001	0.004
		Difference (%)	–	0.0	8.7	90.9	5.1	0.0	0.0	–	0.0	0.0	40.0
W8 - Fish Creek (d/s of ore deposit)													

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.001
	5/7/1997	Rep.1	<0.01	<0.01	11.5	3	1.6	0.00005	0.00004	<0.001	<0.001	<0.001	<0.001
	5/7/1997	Rep.2	<0.01	<0.01	11.9	1	1.7	0.00004	0.00004	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	3.4	100.0	6.1	22.2	0.0	–	–	–	–
	10/6/1997	Rep.1	<0.01	<0.01	9.3	4	4	0.00012	0.00011	<0.001	<0.001	0.002	0.003
	10/6/1997	Rep.2	<0.01	<0.01	9.5	6	4.2	0.00012	0.00011	<0.001	<0.001	0.003	0.002
		Difference (%)	–	–	2.1	40.0	4.9	0.0	0.0	–	–	40.0	40.0
W9 - Taseko River (d/s of Big Onion Lake)													
	7/14/1997	Rep.1	<0.01	0.02	1.1	1	10.9	0.00016	0.00015	<0.001	<0.001	<0.001	0.004
	7/14/1997	Rep.2	<0.01	0.01	1.1	2	10.4	0.00016	0.00016	<0.001	<0.001	<0.001	0.002
		Difference (%)	–	66.7	0.0	66.7	4.7	0.0	6.5	–	–	–	66.7
	9/28/1997	Rep.1	<0.01	0.04	1.3	7	25.8	0.00015	0.00019	<0.001	0.002	0.004	0.006
	9/28/1997	Rep.2	<0.01	0.04	1.3	11	25.8	0.00015	0.00019	<0.001	0.002	0.003	0.004
		Difference (%)	–	0.0	0.0	44.4	0.0	0.0	0.0	–	0.0	28.6	40.0
W10 - Big Onion Lake (at outlet)													
	6/2/1997	Rep.1	<0.01	<0.01	11.1	4	2.1	0.00006	0.00006	0.001	0.001	0.002	0.003
	6/2/1997	Rep.2	<0.01	<0.01	11.4	3	2.3	0.00007	0.00006	0.001	0.001	0.001	0.001
		Difference (%)	–	–	2.7	28.6	9.1	15.4	0.0	0.0	0.0	66.7	100.0
	9/14/1997	Rep.1	<0.01	<0.01	16.2	22	12.8	0.00006	0.00006	0.001	0.002	<0.001	0.003
	9/14/1997	Rep.2	<0.01	<0.01	17.2	21	13.1	0.00006	0.00006	0.001	0.002	<0.001	0.002
		Difference (%)	–	–	6.0	4.7	2.3	0.0	0.0	0.0	0.0	–	40.0
W11 - Beece Creek (u/s of Taseko R confluence)													
	6/2/1997	Rep.1	<0.01	<0.01	3.7	9	5.2	0.00007	0.00008	<0.001	<0.001	<0.001	0.002
	6/2/1997	Rep.2	<0.01	<0.01	4.1	9	4.5	0.00007	0.00008	<0.001	<0.001	<0.001	0.002
		Difference (%)	–	–	10.3	0.0	14.4	0.0	0.0	–	–	–	0.0
	10/5/1997	Rep.1	<0.01	<0.01	1.2	<1	1.5	0.00003	0.00004	<0.001	<0.001	0.001	0.001
	10/5/1997	Rep.2	<0.01	<0.01	1.3	<1	1.3	0.00003	0.00004	<0.001	<0.001	0.002	0.003
		Difference (%)	–	–	8.0	–	14.3	0.0	0.0	–	–	66.7	100.0
W12 - Beece Creek (u/s of Wasp Lake confluence)													
	5/26/1997	Rep.1	<0.01	<0.01	6.3	5	2.3	0.00011	0.00013	<0.001	<0.001	<0.001	<0.001
	5/26/1997	Rep.2	<0.01	<0.01	6.1	4	2.6	0.00011	0.00013	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	3.2	22.2	12.2	0.0	0.0	–	–	–	–
	9/21/1997	Rep.1	<0.01	<0.01	1.2	<2	1.9	0.00003	0.00004	<0.001	<0.001	<0.001	0.001
	9/21/1997	Rep.2	<0.01	<0.01	1.2	<2	1.8	0.00003	0.00004	<0.001	<0.001	0.003	<0.001
		Difference (%)	–	–	0.0	–	5.4	0.0	0.0	–	–	–	–
W13 - Vick Creek d/s Vick Lake													
	6/2/1997	Rep.1	<0.01	<0.01	4.4	<1	0.4	0.0008	0.00079	<0.001	<0.001	<0.001	<0.001
	6/2/1997	Rep.2	<0.01	<0.01	3.6	<1	0.3	0.0008	0.00079	<0.001	<0.001	0.002	0.002
		Difference (%)	–	–	20.0	–	28.6	0.0	0.0	–	–	–	–
	9/22/1997	Rep.1	<0.01	<0.01	5.4	<2	0.1	0.00072	0.00072	<0.001	<0.001	<0.001	<0.001
	9/22/1997	Rep.2	<0.01	<0.01	5.5	<2	0.1	0.00072	0.00072	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	1.8	–	0.0	0.0	0.0	–	–	–	–

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.001
W14 - Taseko River (d/s of Beece Ck confluence)													
	10/13/1997	Rep.1	<0.01	0.03	1.1	8	19.2	0.00013	0.00017	<0.001	0.002	<0.001	0.003
	10/13/1997	Rep.2	<0.01	0.02	1.1	5	18.5	0.00014	0.00017	<0.001	0.002	0.002	0.004
		Difference (%)	–	40.0	0.0	46.2	3.7	7.4	0.0	–	0.0	–	28.6
W16 - Groundhog Creek Tributary													
	5/13/1997	Rep.1	<0.01	<0.01	13.7	2	1.2	0.00001	0.00001	<0.001	<0.001	0.002	0.002
	5/13/1997	Rep.2	<0.01	<0.01	14.5	5	1.1	0.00001	0.00001	<0.001	<0.001	0.002	0.002
		Difference (%)	–	–	5.7	85.7	8.7	0.0	0.0	–	–	0.0	0.0
	9/30/1997	Rep.1	<0.01	<0.01	7.5	3	2	0.00013	0.00012	<0.001	<0.001	0.003	0.003
	9/30/1997	Rep.2	<0.01	<0.01	7.4	2	2.1	0.00013	0.00012	<0.001	<0.001	0.004	0.003
		Difference (%)	–	–	1.3	-40.0	4.9	0.0	0.0	–	–	28.6	0.0
W17 - Tête Angela East													
	5/27/1997	Rep.1	<0.01	<0.01	16.4	3	0.5	0.00004	0.00004	0.001	0.001	<0.001	<0.001
	5/27/1997	Rep.2	<0.01	<0.01	16.2	3	0.6	0.00004	0.00004	0.001	0.001	<0.001	<0.001
		Difference (%)	–	–	1.2	0.0	18.2	0.0	0.0	0.0	0.0	–	–
	10/7/1997	Rep.1	<0.01	<0.01	4.1	<1	0.6	0.00008	0.00008	0.001	0.002	0.002	0.003
	10/7/1997	Rep.2	<0.01	<0.01	4.6	<1	0.6	0.00008	0.00008	0.002	0.002	0.004	0.002
		Difference (%)	–	–	11.5	–	0.0	0.0	0.0	66.7	0.0	66.7	40.0
W18 - Tête Angela West													
	5/19/1997	Rep.1	<0.01	<0.01	13.8	3	1.2	0.00002	0.00002	<0.001	<0.001	<0.001	<0.001
	5/19/1997	Rep.2	<0.01	<0.01	13	<1	0.9	0.00002	0.00002	<0.001	<0.001	<0.001	<0.001
		Difference (%)	–	–	6.0	–	28.6	0.0	0.0	–	–	–	–
	10/14/1997	Rep.1	<0.01	<0.01	8.9	<1	0.8	0.00003	0.00003	<0.001	<0.001	0.003	<0.001
	10/14/1997	Rep.2	<0.01	<0.01	8.9	<1	0.9	0.00003	0.00003	<0.001	<0.001	0.001	0.001
		Difference (%)	–	–	0.0	–	11.8	0.0	0.0	–	–	100.0	–
W19 - Taseko River (at Davidson Bridge)													
	7/21/1997	Rep.1	<0.01	0.02	1.2	6	14.1	0.00016	0.00018	<0.001	0.001	0.002	0.004
	7/21/1997	Rep.2	<0.01	0.02	1.2	4	13.7	0.00016	0.00018	<0.001	0.001	<0.001	0.002
		Difference (%)	–	0.0	0.0	40.0	2.9	0.0	0.0	–	0.0	–	66.7
	9/15/1997	Rep.1	<0.01	0.04	1	7	22.4	0.00013	0.00017	<0.001	0.002	0.001	0.008
W19	9/15/1997	Rep.2	<0.01	0.03	1.1	10	23.4	0.00013	0.00017	<0.001	0.002	0.002	0.005
		Difference (%)	–	28.6	9.5	35.3	4.4	0.0	0.0	–	0.0	66.7	46.2
W20 - Taseko R (d/s Tête Angela)													
	9/30/1997	Rep.1	<0.01	0.03	1.3	6	22.9	0.00013	0.00017	<0.001	0.002	0.007	0.005
	9/30/1997	Rep.2	<0.01	0.03	1.2	7	22.6	0.00013	0.00016	<0.001	0.002	0.005	0.004
		Difference (%)	–	0.0	8.0	15.4	1.3	0.0	6.1	–	0.0	33.3	22.2
	7/28/1998	Rep.1	<0.01	0.05	0.8	23	34.6	0.00012	0.00023	<0.001	0.004	<0.001	0.005
	7/28/1998	Rep.2	<0.01	0.05	1.2	23	35.2	0.00012	0.00023	<0.001	0.004	<0.001	0.006
		Difference (%)	–	0.0	40.0	0.0	1.7	0.0	0.0	–	0.0	–	18.2
W21 - Groundwater Seepage 1													
	10/13/1997	Rep.1	<0.01	<0.01	4.1	5	0.1	0.00031	0.00031	<0.001	<0.001	0.001	<0.001
	10/13/1997	Rep.2	<0.01	<0.01	4	<1	<0.1	0.00031	0.0003	<0.001	<0.001	0.001	0.001
		Difference (%)	–	–	2.5	–	–	0.0	3.3	–	–	0.0	–
W23 - Vick Creek													
	5/20/1998	Rep.1											

Appendix Table B5: QA/QC Results Duplicates 1997 to 1998

Site	Date		Dissolved Titanium mg/L DL: 0.01	Total Titanium mg/L DL: 0.01	Total Organic C mg/L DL: 0.5	Total Suspended Solids mg/L DL: 1	Lab Turbidity NTU DL: 0.1	Dissolved Uranium mg/L DL: 0.00001	Total Uranium mg/L DL: 0.00001	Dissolved Vanadium mg/L DL: 0.001	Total Vanadium mg/L DL: 0.001	Dissolved Zinc mg/L DL: 0.001	Total Zinc mg/L DL: 0.001
	5/20/1998	Rep.2	<0.01	<0.01	26.9	<1	0.6	<0.00001	<0.00001	<0.001	<0.001	<0.001	0.002
		Difference (%)	<0.01	<0.01	27	<1	0.8	<0.00001	<0.00001	<0.001	<0.001	0.001	0.003
			–	–	0.4	–	28.6	–	–	–	–	–	40.0
W24 - Upper Groundhog Creek													
	6/9/1998	Rep.1	<0.01	<0.01	12.6	2	1.5	0.00004	0.00004	0.001	0.001	<0.001	<0.001
	6/9/1998	Rep.2	<0.01	<0.01	11.6	2	1.8	0.00004	0.00004	0.001	0.001	<0.001	<0.001
		Difference (%)	–	–	8.3	0.0	18.2	0.0	0.0	0.0	0.0	–	–
	8/4/1998	Rep.1	<0.01	<0.01	5.9	3	1	0.00011	0.00011	0.002	0.002	<0.001	<0.001
	8/4/1998	Rep.2	<0.01	<0.01	5.9	5	1	0.00011	0.0001	0.002	0.001	<0.001	<0.001
		Difference (%)	–	–	0.0	50.0	0.0	0.0	9.5	0.0	66.7	–	–

Appendix B6

Appendix Table B6 QAQC results Duplicates 2006

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	05-09-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	05-16-2006 W1 Rep. 1	W1 Rep. 2	% Diff.	05-23-2006 WB Rep. 1	WB Rep. 2	% Diff.	05-29-2006 W13 Rep. 1	W13 Rep. 2	% Diff.
Alkalinity, Total (as CaCO3)	mg/L	20.4	22.4	9.3	91.4	98.6	7.6	151	154	2.0	221	217	1.8
Turbidity	NTU	17.2	16.7	2.9	2.61	2.62	0.4	0.51	0.48	6.1	0.44	0.38	14.6
Conductivity (uS/cm)	uS/cm	71.1	71.2	0.1	75	75.7	0.9	282	289	2.5	382	380	0.5
Hardness CaCO3	mg/L	33.1	32.6	1.5	90.6	91.8	1.3	151	150	0.7	207	209	1.0
pH	pH	7.76	7.75	0.1	7.94	8.09	1.9	8.21	8.17	0.5	8.36	8.37	0.1
Total Suspended Solids	mg/L	<3.0	<3.0	–	3.5	4.5	25.0				<3.0	<3.0	–
Total Dissolved Solids	mg/L	49	54	9.7	136	124	9.2				244	238	2.5
Dissolved Organic Carbon	mg/L	2.60	2.40	8.0	13.9	13.9	0.0	8.41	8.38	0.4	8.09	8	1.1
Nitrate (as N)	mg/L	0.0147	0.0141	4.2	0.0065	0.0063	3.1	<0.005	<0.005	–	<0.005	<0.005	–
Nitrite (as N)	mg/L	<0.0010	<0.0010	–	0.0010	0.0010	0.0	<0.001	<0.001	–	<0.001	<0.001	–
Total Nitrogen N	mg/L				0.82	0.82	0.0	0.4	0.4	0.0			
Total Kjeldahl Nitrogen N													
Ammonia as N	mg/L	0.0167	0.0100	50.2	0.0233	0.0247	5.8	<0.005	<0.005	–	<0.005	<0.005	–
Total Phosphate as P	mg/L	0.0157	0.0156	0.6	0.0345	0.0223	43.0	0.0027	0.0025	7.7			
Total Dissolved Phosphate as P	mg/L	0.0025	0.0020	22.2	0.0168	0.0128	27.0	<0.002	0.0021	–			
Dissolved ortho-Phosphate P	mg/L	0.0011	<0.0010	–	0.0060	0.0069	14.0	<0.001	<0.001	–			
Bromide (Br)	mg/L							<0.05	<0.05	–			
Chloride (Cl)	mg/L	<0.50	<0.50	–	<0.50	<0.50	–	0.59	0.59	0.0	1.02	1.02	0.0
Fluoride (F)	mg/L	0.030	0.030	0.0	0.061	0.061	0.0	0.076	0.073	4.0	0.162	0.162	0.0
Sulphate (SO4)	mg/L	7.72	7.71	0.1	4.81	4.76	1.0	5.97	6.03	1.0	8.81	8.79	0.2
Aluminum (Al)-Dissolved	mg/L	0.138	0.130	6.0	0.0029	0.0023	23.1				0.0136	0.0105	25.7
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Arsenic (As)-Dissolved	mg/L	0.00037	0.00036	2.7	0.00056	0.00058	3.5				0.00061	0.00062	1.6
Barium (Ba)-Dissolved	mg/L	0.00931	0.00934	0.3	0.00277	0.00266	4.1				0.0168	0.0168	0.0
Beryllium (Be)-Dissolved	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Bismuth (Bi)-Dissolved	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Boron (B)-Dissolved	mg/L	0.012	0.012	0.0	<0.010	<0.010	–				0.031	0.032	3.2
Cadmium (Cd)-Dissolved	mg/L	<0.000017	0.000017	–	<0.000017	<0.000017	–				<0.000017	<0.000017	–
Calcium (Ca)-Dissolved	mg/L	10.4	10.2	1.9	18.3	18.5	1.1	35.1	34.9	0.6	41.4	41.8	1.0
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Copper (Cu)-Dissolved	mg/L	0.00068	0.00064	6.1	0.00072	0.00068	5.7				0.00069	0.00069	0.0
Iron (Fe)-Dissolved	mg/L	0.102	0.096	6.1	0.170	0.184	7.9				<0.030	<0.030	–
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	–	<0.000050	<0.000050	–				<0.00005	<0.00005	–
Lithium (Li)-Dissolved	mg/L	<0.0050	<0.0050	–	<0.0050	<0.0050	–				<0.005	<0.005	–
Magnesium (Mg)-Dissolved	mg/L	1.76	1.73	1.7	10.9	11.1	1.8	15.3	15.2	0.7	25.1	25.4	1.2
Manganese (Mn)-Dissolved	mg/L	0.00220	0.00214	2.8	0.0346	0.0326	6.0				0.000345	0.000354	2.6
Molybdenum (Mo)-Dissolved	mg/L	0.00131	0.00130	0.8	0.000334	0.000319	4.6				0.00145	0.00143	1.4
Nickel (Ni)-Dissolved	mg/L	<0.00050	<0.00050	–	0.00202	0.00206	2.0				<0.0005	<0.0005	–
Phosphorus, Dissolved	mg/L	<0.30	<0.30	–	<0.30	<0.30	–				<0.30	<0.30	–
Potassium (K)-Dissolved	mg/L	<2.0	<2.0	–	<2.0	<2.0	–				<2.0	<2.0	–
Selenium (Se)-Dissolved	mg/L	<0.0010	<0.0010	–	<0.0010	<0.0010	–				<0.001	<0.001	–
Silicon (Si)-Dissolved	mg/L	2.37	2.31	2.6	7.42	7.46	0.5				6.81	6.93	1.7
Silver (Ag)-Dissolved	mg/L	<0.000010	<0.000010	–	<0.000010	<0.000010	–				0.000014	<0.00001	–
Sodium (Na)-Dissolved	mg/L	<2.0	<2.0	–	6.9	7.0	1.4				14.9	15.1	1.3
Strontium (Sr)-Dissolved	mg/L	0.0514	0.0500	2.8	0.0636	0.0630	0.9				0.257	0.259	0.8
Thallium (Tl)-Dissolved	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Tin (Sn)-Dissolved	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	05-09-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	05-16-2006 W1 Rep. 1	W1 Rep. 2	% Diff.	05-23-2006 WB Rep. 1	WB Rep. 2	% Diff.	05-29-2006 W13 Rep. 1	W13 Rep. 2	% Diff.
Titanium (Ti)-Dissolved	mg/L	<0.010	<0.010	–	<0.010	<0.010	–				<0.01	<0.01	–
Uranium (U)-Dissolved	mg/L	0.000150	0.000146	2.7	0.000057	0.000054	5.4				0.000632	0.000634	0.3
Vanadium (V)-Dissolved	mg/L	<0.0010	<0.0010	–	<0.0010	<0.0010	–				<0.001	<0.001	–
Zinc (Zn)-Dissolved	mg/L	<0.0010	<0.0010	–	<0.0010	<0.0010	–				<0.001	<0.001	–
Aluminum (Al)-Total	mg/L	0.415	0.401	3.4	0.0351	0.0417	17.2				0.0046	0.005	8.3
Antimony (Sb)-Total	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Arsenic (As)-Total	mg/L	0.00046	0.00046	0.0	0.00066	0.00065	1.5				0.00066	0.00068	3.0
Barium (Ba)-Total	mg/L	0.0141	0.0140	0.7	0.00324	0.00319	1.6				0.017	0.0171	0.6
Beryllium (Be)-Total	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Bismuth (Bi)-Total	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Boron (B), Total	mg/L	0.012	0.013	8.0	<0.010	<0.010	–				0.033	0.032	3.1
Cadmium (Cd)-Total	mg/L	<0.000017	<0.000017	–	<0.000017	<0.000017	–				<0.000017	<0.000017	–
Calcium (Ca)-Total	mg/L	10.4	10.4	0.0	18.6	18.4	1.1				42.2	41.6	1.4
Chromium (Cr)-Total	mg/L	<0.00050	<0.00050	–	<0.00050	<0.00050	–				<0.0005	<0.0005	–
Cobalt (Co)-Total	mg/L	0.00021	0.00019	10.0	0.00014	0.00015	6.9				<0.0001	<0.0001	–
Copper (Cu)-Total	mg/L	0.00176	0.00174	1.1	0.00081	0.00089	9.4				0.00072	0.00071	1.4
Iron (Fe)-Total	mg/L	0.327	0.327	0.0	0.376	0.366	2.7				<0.030	<0.030	–
Lead (Pb)-Total	mg/L	0.000107	0.000102	4.8	<0.000050	<0.000050	–				<0.00005	<0.00005	–
Lithium (Li)-Total	mg/L	<0.0050	<0.0050	–	<0.0050	<0.0050	–				<0.005	<0.005	–
Magnesium (Mg)-Total	mg/L	1.90	1.87	1.6	11.1	10.9	1.8				25.6	25.3	1.2
Manganese (Mn)-Total	mg/L	0.00973	0.00916	6.0	0.0650	0.0646	0.6				0.00159	0.00159	0.0
Molybdenum (Mo)-Total	mg/L	0.00117	0.00109	7.1	0.000310	0.000331	6.6				0.00139	0.00137	1.4
Nickel (Ni)-Total	mg/L	<0.00050	<0.00050	–	0.00214	0.00210	1.9				0.00051	<0.0005	–
Phosphorus (P)-Total	mg/L	<0.30	<0.30	–	<0.30	<0.30	–				<0.30	<0.30	–
Potassium (K)-Total	mg/L	<2.0	<2.0	–	<2.0	<2.0	–				<2.0	<2.0	–
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	–	<0.0010	<0.0010	–				<0.001	<0.001	–
Silicon (Si)-Total	mg/L	2.51	2.57	2.4	7.54	7.54	0.0				7.05	6.99	0.9
Silver (Ag)-Total	mg/L	<0.000010	<0.000010	–	<0.000010	<0.000010	–				0.00001	<0.00001	–
Sodium (Na)-Total	mg/L	<2.0	<2.0	–	6.8	6.9	1.5				15.2	15.1	0.7
Strontium (Sr)-Total	mg/L	0.0516	0.0522	1.2	0.0630	0.0628	0.3				0.261	0.262	0.4
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Tin (Sn)-Total	mg/L	<0.00010	<0.00010	–	<0.00010	<0.00010	–				<0.0001	<0.0001	–
Titanium (Ti)-Total	mg/L	0.016	0.021	27.0	<0.010	<0.010	–				<0.01	<0.01	–
Uranium (U)-Total	mg/L	0.000183	0.000177	3.3	0.000062	0.000058	6.7				0.00061	0.000625	2.4
Vanadium (V)-Total	mg/L	<0.0010	<0.0010	–	0.0011	0.0011	0.0				<0.001	<0.001	–
Zinc (Zn)-Total	mg/L	0.0016	0.0015	6.5	<0.0010	0.0010	–				<0.001	<0.001	–

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	06-07-2006 WC Rep. 1	WC Rep. 2	% Diff.	07-05-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	08-08-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	08-15-2006 W2 Rep. 1	W2 Rep. 2	% Diff.	08-22-2006 W2 Rep. 1	W2 Rep. 2	% Diff.
Alkalinity, Total (as CaCO3)	mg/L	121	119	1.7	19.5	19.5	0.0	17.1	17.2	0.6	95.6	93.1	2.6	92.8	90.7	2.3
Turbidity	NTU	1.77	1.78	0.6	18.3	19.1	4.3	50.1	49.9	0.4	4.8	4.66	3.0	6.69	6.79	1.5
Conductivity (uS/cm)	uS/cm	213	214	0.5	59.3	59	0.5	52.7	52.9	0.4	166	168	1.2	162	–	–
Hardness CaCO3	mg/L	120	121	0.8	26.9	26.4	1.9	24.5	24	2.1	83.3	84.3	1.2	81.5	81	0.6
pH	pH	8.25	8.25	0.0	7.73	7.63	1.3	7.78	7.76	0.3	8.2	7.7	6.3	8.09	8.13	0.5
Total Suspended Solids	mg/L	<3.0	<3.0	–	5.5	6	8.7	7.1	7.1	0.0				10	9.5	5.1
Total Dissolved Solids	mg/L	136	144	5.7	50	50	0.0	56	58	3.5	125	123	1.6	117	126	7.4
Dissolved Organic Carbon	mg/L													16.4	17.8	8.2
Nitrate (as N)	mg/L	<0.005	<0.005	–	-	-	–	0.0076	0.0084	10.0	0.0148	0.0157	5.9	0.0209	0.0218	4.2
Nitrite (as N)	mg/L	<0.001	<0.001	–	-	-	–	<0.001	<0.001	–	0.0033	0.0033	0.0	0.0043	0.0042	2.4
Total Nitrogen N	mg/L													0.5	0.53	5.8
Total Kjeldahl Nitrogen N																
Ammonia as N	mg/L				<0.005	<0.005	–	<0.005	<0.005	–	0.035	0.036	2.8	0.0526	0.0526	0.0
Total Phosphate as P	mg/L				0.0323	0.0361	11.1	0.0272	0.0262	3.7	0.0464	0.0403	14.1	0.0753	0.0559	29.6
Total Dissolved Phosphate as P	mg/L				<0.002	<0.002	–	0.0037	0.0027	31.3	0.0135	0.0131	3.0	0.019	0.019	0.0
Dissolved ortho-Phosphate P	mg/L	0.0072	0.0069	4.3	0.0012	<0.001	–	0.0101	0.0091	10.4	0.0032	0.0033	3.1	0.0029	0.0025	14.8
Bromide (Br)	mg/L															
Chloride (Cl)	mg/L	<0.50	<0.50	–	-	-	–	<0.50	<0.50	–	<0.50	<0.50	–	1.07	1.07	0.0
Fluoride (F)	mg/L	0.08	0.08	0.0	-	-	–	0.023	0.023	0.0	0.054	0.055	1.8	0.065	0.063	3.1
Sulphate (SO4)	mg/L	1.03	1.02	1.0	-	-	–	6.86	6.87	0.1	0.62	0.63	1.6	<1.0	<1.0	–
Aluminum (Al)-Dissolved	mg/L	0.0103	0.0084	20.3	0.167	0.174	4.1	0.295	0.281	4.9	<0.0030	<0.003	–	<0.004	<0.004	–
Antimony (Sb)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Arsenic (As)-Dissolved	mg/L	0.00092	0.00091	1.1	0.00036	0.00038	5.4	0.00041	0.0004	2.5	0.00051	0.00051	0.0	0.0007	0.00067	4.4
Barium (Ba)-Dissolved	mg/L	0.00458	0.00451	1.5	0.00974	0.0102	4.6	0.011	0.0109	0.9	0.00181	0.00183	1.1	0.00202	0.00212	4.8
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Bismuth (Bi)-Dissolved	mg/L	<0.0005	<0.0005	–	<0.00050	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Boron (B)-Dissolved	mg/L	<0.01	<0.01	–	0.012	0.012	0.0	<0.01	<0.01	–	<0.01	<0.01	–	<0.01	<0.01	–
Cadmium (Cd)-Dissolved	mg/L	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.00017	<0.00017	–
Calcium (Ca)-Dissolved	mg/L	22.5	22.6	0.4	9.11	8.97	1.5	8.39	8.21	2.2	15.7	16	1.9	15.1	15.1	0.0
Chromium (Cr)-Dissolved	mg/L	<0.0009	<0.00090	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Cobalt (Co)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	0.0001	<0.0001	–	<0.0001	<0.0001	–	0.00012	0.00012	0.0
Copper (Cu)-Dissolved	mg/L	0.00098	0.00099	1.0	0.00081	0.00084	3.6	0.00097	0.00098	1.0	0.00115	0.00123	6.7	0.00087	0.00096	9.8
Iron (Fe)-Dissolved	mg/L	0.228	0.23	0.9	0.133	0.131	1.5	0.182	0.183	0.5	0.058	0.055	5.3	0.08	0.081	1.2
Lead (Pb)-Dissolved	mg/L	<0.00005	0.000091	–	<0.000050	<0.000050	–	0.000061	0.000063	3.2	<0.00005	<0.00005	–	0.000057	0.000067	16.1
Lithium (Li)-Dissolved	mg/L	<0.005	<0.0050	–	<0.0050	<0.0050	–	<0.005	<0.005	–	<0.005	<0.005	–	<0.005	<0.005	–
Magnesium (Mg)-Dissolved	mg/L	15.5	15.6	0.6	1	0.98	2.0	0.86	0.85	1.2	10.7	10.8	0.9	10.6	10.5	0.9
Manganese (Mn)-Dissolved	mg/L	0.005	0.00468	6.6	0.00364	0.00393	7.7	0.0049	0.00491	0.2	0.000924	0.000867	6.4	0.00155	0.0016	3.2
Molybdenum (Mo)-Dissolved	mg/L	0.000488	0.000459	6.1	0.00145	0.00149	2.7	0.00139	0.00139	0.0	0.000276	0.0003	8.3	0.000319	0.000344	7.5
Nickel (Ni)-Dissolved	mg/L	0.00227	0.00223	1.8	<0.0005	<0.0005	–	<0.0005	<0.0005	–	0.00181	0.00181	0.0	0.00185	0.00191	3.2
Phosphorus, Dissolved	mg/L	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–
Potassium (K)-Dissolved	mg/L	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–
Selenium (Se)-Dissolved	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Silicon (Si)-Dissolved	mg/L	8.69	8.78	1.0	1.87	1.88	0.5	1.9	1.87	1.6	6.28	6.36	1.3	6.11	6.01	1.7
Silver (Ag)-Dissolved	mg/L	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–
Sodium (Na)-Dissolved	mg/L	6.3	6.4	1.6	<2.0	<2.0	–	<2.0	<2.0	–	6.4	6.6	3.1	6.5	6.5	0.0
Strontium (Sr)-Dissolved	mg/L	0.102	0.0995	2.5	0.0455	0.047	3.2	0.0413	0.0408	1.2	0.0437	0.0445	1.8	0.0482	0.0502	4.1
Thallium (Tl)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Tin (Sn)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	06-07-2006 WC Rep. 1	WC Rep. 2	% Diff.	07-05-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	08-08-2006 W6 Rep. 1	W6 Rep. 2	% Diff.	08-15-2006 W2 Rep. 1	W2 Rep. 2	% Diff.	08-22-2006 W2 Rep. 1	W2 Rep. 2	% Diff.
Titanium (Ti)-Dissolved	mg/L	<0.01	<0.01	–	<0.01	<0.01	–	0.011	0.012	8.7	<0.01	<0.01	–	<0.01	<0.01	–
Uranium (U)-Dissolved	mg/L	0.000078	0.000084	7.4	0.00017	0.000179	5.2	0.000165	0.000162	1.8	0.00007	0.000075	6.9	0.000082	0.000081	1.2
Vanadium (V)-Dissolved	mg/L	0.0012	0.0011	8.7	<0.001	<0.001	–	<0.001	<0.001	–	0.0014	0.0014	0.0	0.0018	0.0018	0.0
Zinc (Zn)-Dissolved	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.0010	–	<0.001	<0.001	–	<0.001	<0.001	–
																–
Aluminum (Al)-Total	mg/L	0.0332	0.0338	1.8	1.07	0.992	7.6	2.5	2.56	2.4	0.066	0.0671	1.7	0.109	0.107	1.9
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	0.00023	0.00022	4.4
Arsenic (As)-Total	mg/L	0.00087	0.00087	0.0	0.00061	0.00058	5.0	0.0008	0.00083	3.7	0.00064	0.00058	9.8	0.00068	0.00064	6.1
Barium (Ba)-Total	mg/L	0.00498	0.005	0.4	0.0202	0.019	6.1	0.0294	0.0309	5.0	0.00314	0.00306	2.6	0.0643	0.061	5.3
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Bismuth (Bi)-Total	mg/L	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Boron (B), Total	mg/L	<0.01	<0.010	–	0.014	0.013	7.4	0.01	0.011	9.5	0.01	0.01	0.0	0.01	0.01	0.0
Cadmium (Cd)-Total	mg/L	<0.000017	<0.000017	–	0.000017	<0.000017	–	0.000019	0.000031	48.0	<0.000017	<0.000017	–	<0.000017	0.00002	–
Calcium (Ca)-Total	mg/L	22.3	21.9	1.8	9.42	9.2	2.4	9.07	9.04	0.3	15.2	15.4	1.3	15.5	15	3.3
Chromium (Cr)-Total	mg/L	<0.0005	<0.0005	–	0.00068	0.0006	12.5	0.00125	0.00146	15.5	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Cobalt (Co)-Total	mg/L	0.00012	0.00011	8.7	0.00044	0.00043	2.3	0.00094	0.00098	4.2	0.00014	0.00015	6.9	0.00018	0.00018	0.0
Copper (Cu)-Total	mg/L	0.00105	0.00107	1.9	0.00275	0.00275	0.0	0.00455	0.00501	9.6	0.00146	0.00145	0.7	0.00135	0.00129	4.5
Iron (Fe)-Total	mg/L	0.332	0.33	0.6	0.758	0.733	3.4	1.76	1.77	0.6	0.221	0.237	7.0	0.296	0.288	2.7
Lead (Pb)-Total	mg/L	<0.00005	<0.000050	–	0.000236	0.00023	2.6	0.000426	0.000492	14.4	0.000108	0.000097	10.7	0.000077	0.000068	12.4
Lithium (Li)-Total	mg/L	<0.005	<0.0050	–	<0.005	<0.005	–	<0.005	<0.005	–	<0.005	<0.005	–	<0.005	<0.005	–
Magnesium (Mg)-Total	mg/L	15.2	15.1	0.7	1.28	1.26	1.6	1.63	1.62	0.6	10.2	10.4	1.9	10.8	10.4	3.8
Manganese (Mn)-Total	mg/L	0.0273	0.0275	0.7	0.0207	0.0198	4.4	0.0415	0.0431	3.8	0.017	0.0169	0.6	0.0252	0.024	4.9
Molybdenum (Mo)-Total	mg/L	0.000458	0.000472	3.0	0.00148	0.00142	4.1	0.00137	0.00142	3.6	0.000314	0.000319	1.6	0.00034	0.000357	4.9
Nickel (Ni)-Total	mg/L	0.00231	0.00239	3.4	0.00087	0.00068	24.5	0.00123	0.00146	17.1	0.00224	0.00215	4.1	0.00245	0.0023	6.3
Phosphorus (P)-Total	mg/L	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–
Potassium (K)-Total	mg/L	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–
Selenium (Se)-Total	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Silicon (Si)-Total	mg/L	8.64	8.54	1.2	3.09	2.98	3.6	5.12	5.13	0.2	6.26	6.23	0.5	6.53	6.25	4.4
Silver (Ag)-Total	mg/L	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–
Sodium (Na)-Total	mg/L	6.3	6.2	1.6	<2.0	<2.0	–	<2.0	<2.0	–	6.2	6.2	0.0	6.7	6.4	4.6
Strontium (Sr)-Total	mg/L	0.101	0.101	0.0	0.0533	0.0513	3.8	0.0484	0.0495	2.2	0.0475	0.0471	0.8	0.0531	0.0508	4.4
Thallium (Tl)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Tin (Sn)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.00010	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Titanium (Ti)-Total	mg/L	<0.01	<0.01	–	0.045	0.041	9.3	0.12	0.12	0.0	<0.01	<0.01	–	<0.01	<0.01	–
Uranium (U)-Total	mg/L	0.000087	0.000085	2.3	0.000245	0.000237	3.3	0.000245	0.000246	0.4	0.000084	0.000084	0.0	0.000089	0.000084	5.8
Vanadium (V)-Total	mg/L	0.0013	0.0013	0.0	0.0022	0.0021	4.7	0.0046	0.0049	6.3	0.002	0.0018	10.5	0.0022	0.0021	4.7
Zinc (Zn)-Total	mg/L	<0.001	<0.001	–	<0.005	<0.005	–	0.0064	0.0064	0.0	<0.005	<0.005	–	<0.003	<0.003	–

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	08-29-2006 W2 Rep. 1	W2 Rep. 2	% Diff.	09-09-2006 W8 Rep. 1	W8 Rep. 2	% Diff.	WA Rep. 1	WA Rep. 2	% Diff.	11-01-2006 W6 Rep. 1	W6 Rep. 2	% Diff.
Alkalinity, Total (as CaCO3)	mg/L	92.6	94.9	2.5	173	171	1.2	17.6	17.8	1.1	151	159	5.2
Turbidity	NTU	8.48	9.71	13.5	12.4	12.2	1.6	30.5	32.6	6.7	1.70	1.71	0.6
Conductivity (uS/cm)	uS/cm	169	169	0.0	389	387	0.5	50.6	52.9	4.4			
Hardness CaCO3	mg/L	82	82.8	1.0	188	188	0.0	25	24.7	1.2			
pH	pH	8.13	8.16	0.4	8.25	8.26	0.1	6.84	7.12	4.0			
Total Suspended Solids	mg/L	9.7	8.7	10.9	4.3	5.3	20.8	7.5	10.5	33.3			
Total Dissolved Solids	mg/L	130	138	6.0	248	254	2.4	56	57	1.8			
Dissolved Organic Carbon	mg/L										<0.50	<0.50	–
Nitrate (as N)	mg/L	0.0129	0.0136	5.3	<0.005	<0.005	–	0.0139	0.014	0.7	0.0133	0.0130	2.3
Nitrite (as N)	mg/L	0.0026	0.0021	21.3	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Total Nitrogen N	mg/L							<0.05	<0.05	–			
Total Kjeldahl Nitrogen N													
Ammonia as N	mg/L	0.0667	0.0653	2.1	0.0207	0.022	6.1	0.0193	0.0187	3.2	<0.0050	<0.0050	–
Total Phosphate as P	mg/L	0.055	0.0682	21.4	0.0525	0.0548	4.3	0.0185	0.0191	3.2	0.0186	0.0162	13.8
Total Dissolved Phosphate as P	mg/L	0.014	0.014	0.0	0.0167	0.0148	12.1	0.0022	0.0023	4.4	0.0028	0.0028	0.0
Dissolved ortho-Phosphate P	mg/L	0.0014	0.0016	13.3	0.0086	0.0092	6.7	<0.001	<0.001	–			
Bromide (Br)	mg/L												
Chloride (Cl)	mg/L	<0.50	<0.50	–	0.88	0.86	2.3	<0.50	<0.50	–	<0.50	<0.50	–
Fluoride (F)	mg/L	0.065	0.067	3.0	0.095	0.092	3.2	0.025	0.025	0.0	0.028	0.028	0.0
Sulphate (SO4)	mg/L	0.57	0.63	10.0	48.2	47.3	1.9	7.41	7.4	0.1	7.24	7.22	0.3
Aluminum (Al)-Dissolved	mg/L	<0.005	<0.005	–	<0.003	<0.003	–	0.276	0.291	5.3	0.196	0.197	0.5
Antimony (Sb)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Arsenic (As)-Dissolved	mg/L	0.00063	0.00066	4.7	0.00118	0.00118	0.0	0.00036	0.00038	5.4	0.00036	0.00035	2.8
Barium (Ba)-Dissolved	mg/L	0.00202	0.00215	6.2	0.00274	0.0027	1.5	0.0113	0.0115	1.8	0.0106	0.0106	0.0
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Bismuth (Bi)-Dissolved	mg/L	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Boron (B)-Dissolved	mg/L	<0.01	<0.01	–	0.017	0.018	5.7	<0.010	0.01	–	0.012	0.011	8.7
Cadmium (Cd)-Dissolved	mg/L	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–
Calcium (Ca)-Dissolved	mg/L	15.2	15.3	0.7	40.5	40.6	0.2	8.53	8.45	0.9	8.76	8.89	1.5
Chromium (Cr)-Dissolved	mg/L	<0.0005	<0.0005	–	<0.00050	<0.00050	–	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Cobalt (Co)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Copper (Cu)-Dissolved	mg/L	0.0007	0.00074	5.6	0.00061	0.00067	9.4	0.00084	0.00084	0.0	0.00080	0.00073	9.2
Iron (Fe)-Dissolved	mg/L	0.053	0.054	1.9	<0.030	<0.030	–	0.189	0.195	3.1	0.159	0.168	5.5
Lead (Pb)-Dissolved	mg/L	<0.00005	<0.00005	–	<0.000050	<0.000050	–	0.000063	0.000058	8.3	0.000059	<0.000050	–
Lithium (Li)-Dissolved	mg/L	<0.005	<0.005	–	<0.0050	<0.0050	–	<0.0050	<0.0050	–	<0.0050	<0.0050	–
Magnesium (Mg)-Dissolved	mg/L	10.7	10.8	0.9	21	21	0.0	0.89	0.88	1.1	1.10	1.11	0.9
Manganese (Mn)-Dissolved	mg/L	0.000494	0.000562	12.9	0.101	0.099	2.0	0.00455	0.00479	5.1	0.00331	0.00324	2.1
Molybdenum (Mo)-Dissolved	mg/L	0.000321	0.000334	4.0	0.000853	0.000825	3.3	0.00144	0.00139	3.5	0.00133	0.00135	1.5
Nickel (Ni)-Dissolved	mg/L	0.00179	0.00182	1.7	0.00115	0.0011	4.4	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Phosphorus, Dissolved	mg/L	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–
Potassium (K)-Dissolved	mg/L	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–
Selenium (Se)-Dissolved	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Silicon (Si)-Dissolved	mg/L	6.19	6.23	0.6	9.03	9.12	1.0	1.93	1.95	1.0	2.25	2.27	0.9
Silver (Ag)-Dissolved	mg/L	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–
Sodium (Na)-Dissolved	mg/L	5.9	6	1.7	14.3	14.4	0.7	<2.0	<2.0	–	<2.0	<2.0	–
Strontium (Sr)-Dissolved	mg/L	0.0477	0.0501	4.9	0.237	0.237	0.0	0.0407	0.0416	2.2	0.0464	0.0462	0.4
Thallium (Tl)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Tin (Sn)-Dissolved	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–

Appendix Table B6: QA/QC Results Duplicates 2006

Parameter	Units	08-29-2006 W2 Rep. 1	W2 Rep. 2	% Diff.	09-09-2006 W8 Rep. 1	W8 Rep. 2	% Diff.	WA Rep. 1	WA Rep. 2	% Diff.	11-01-2006 W6 Rep. 1	W6 Rep. 2	% Diff.
Titanium (Ti)-Dissolved	mg/L	<0.01	<0.01	–	<0.01	<0.01	–	0.013	0.013	0.0	0.010	0.011	9.5
Uranium (U)-Dissolved	mg/L	0.000093	0.000094	1.1	0.000173	0.000169	2.3	0.000167	0.000168	0.6	0.000168	0.000167	0.6
Vanadium (V)-Dissolved	mg/L	0.0018	0.0019	5.4	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Zinc (Zn)-Dissolved	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Aluminum (Al)-Total	mg/L	0.101	0.0971	3.9	0.0239	0.0199	18.3	2.1	2.02	3.9	1.61	1.48	8.4
Antimony (Sb)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	0.00013	<0.0001	–	0.00018	<0.0001	–
Arsenic (As)-Total	mg/L	0.00076	0.00071	6.8	0.00279	0.00289	3.5	0.00067	0.00067	0.0	0.00058	0.00058	0.0
Barium (Ba)-Total	mg/L	0.00279	0.00281	0.7	0.00465	0.00479	3.0	0.0277	0.0273	1.5	0.0226	0.0222	1.8
Beryllium (Be)-Total	mg/L	<0.0005	<0.0005	–	<0.00050	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Bismuth (Bi)-Total	mg/L	<0.0005	<0.0005	–	<0.00050	<0.0005	–	<0.0005	<0.0005	–	<0.0005	<0.0005	–
Boron (B), Total	mg/L	<0.01	<0.01	–	0.018	0.018	0.0	0.011	0.012	8.7	0.014	0.014	0.0
Cadmium (Cd)-Total	mg/L	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	0.000020	–
Calcium (Ca)-Total	mg/L	14.4	15.7	8.6	41.9	41.5	1.0	9.1	9.23	1.4	9.14	9.12	0.2
Chromium (Cr)-Total	mg/L	<0.0001	<0.0005	–	<0.0001	<0.0001	–	0.00125	0.00122	2.4	0.00112	0.00100	11.3
Cobalt (Co)-Total	mg/L	0.00021	0.0002	4.9	0.00016	0.00016	0.0	0.00076	0.00077	1.3	0.00054	0.00050	7.7
Copper (Cu)-Total	mg/L	0.00115	0.00108	6.3	0.00069	0.00071	2.9	0.00381	0.00387	1.6	0.00298	0.00286	4.1
Iron (Fe)-Total	mg/L	0.293	0.309	5.3	2.01	1.98	1.5	1.48	1.41	4.8	0.991	0.950	4.2
Lead (Pb)-Total	mg/L	0.000065	0.000055	16.7	<0.00005	<0.00005	–	0.000347	0.000369	6.1	<0.0003	<0.0003	–
Lithium (Li)-Total	mg/L	<0.005	<0.005	–	<0.005	<0.005	–	<0.005	<0.005	–	<0.005	<0.005	–
Magnesium (Mg)-Total	mg/L	10.2	11.2	9.3	21.7	21.5	0.9	1.53	1.51	1.3	1.51	1.47	2.7
Manganese (Mn)-Total	mg/L	0.0287	0.0281	2.1	0.328	0.339	3.3	0.0343	0.0343	0.0	0.0243	0.0224	8.1
Molybdenum (Mo)-Total	mg/L	0.000334	0.000347	3.8	0.000811	0.000826	1.8	0.00144	0.00144	0.0	0.00121	0.00121	0.0
Nickel (Ni)-Total	mg/L	0.00261	0.00237	9.6	0.0012	0.00128	6.5	0.00099	0.00117	16.7	0.00080	0.00073	9.2
Phosphorus (P)-Total	mg/L	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–	<0.30	<0.30	–
Potassium (K)-Total	mg/L	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–
Selenium (Se)-Total	mg/L	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–	<0.001	<0.001	–
Silicon (Si)-Total	mg/L	6.18	6.62	6.9	9.61	9.49	1.3	4.96	4.59	7.7	4.51	4.14	8.6
Silver (Ag)-Total	mg/L	<0.00001	<0.00001	–	<0.00001	<0.00001	–	<0.00001	<0.00001	–	0.000012	<0.00001	–
Sodium (Na)-Total	mg/L	5.6	6.2	10.2	14.7	14.6	0.7	<2.0	<2.0	–	<2.0	<2.0	–
Strontium (Sr)-Total	mg/L	0.0531	0.0506	4.8	0.229	0.237	3.4	0.0502	0.0503	0.2	0.0548	0.0546	0.4
Thallium (Tl)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Tin (Sn)-Total	mg/L	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–	<0.0001	<0.0001	–
Titanium (Ti)-Total	mg/L	<0.01	<0.01	–	<0.01	<0.01	–	0.106	0.098	7.8	0.070	0.065	7.4
Uranium (U)-Total	mg/L	0.000094	0.000101	7.2	0.000168	0.000169	0.6	0.000252	0.000251	0.4	0.000238	0.000230	3.4
Vanadium (V)-Total	mg/L	0.0024	0.0024	0.0	0.0012	0.0013	8.0	0.004	0.004	0.0	0.0029	0.0027	7.1
Zinc (Zn)-Total	mg/L	<0.003	<0.003	–	<0.001	<0.001	–	<0.006	0.0061	–	<0.0050	<0.0050	–

Appendix B7

Appendix Table B7 QAQC results Triplicates 2006

Appendix Table B7: QA/QC Results Triplicates 2006

Location	Site	Date	Lab cond. umhos/cm	T. Hardness mg/L	Lab pH	T. Alkalinity mg/L	Turbidity NTU	DOC	Dis. solids mg/L	TSS mg/L	D. Chloride mg/L	D. Fluoride mg/L	D. Sulphate mg/L	Ammonia-N mg/L	Nitrate-N mg/L	Nitrite-N mg/L	Ortho-Phosphate mg/L	D. Phosphate mg/L	T. Phosphate mg/L	D. Al mg/L
DL pre-PRS DL 1997-1998/2006			DL: 1	DL: 0.05	DL: 0.2	DL: 1	DL: 0.1		DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1	DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.005 DL: 0.001
Replicate1	W6	11/1/2006	57.2	26.4	6.99	21.7	29.0	0.75	41	4.0	<0.50	0.028	7.24	<0.0050	0.0133	<0.010	0.0011	<0.0020	0.014	0.196
Replicate2	W6	11/1/2006	61.4	26.8	7.97	21.2	29.0	0.66	55	3.0	<0.50	0.028	7.17	<0.0050	0.0130	<0.010	<0.0010	0.0029	0.0146	0.152
Replicate3	W6	11/1/2006	61.1	26.7	7.85	22.0	29.1	0.67	56	4.0	<0.50	0.027	7.18	0.0147	0.0139	<0.010	<0.0010	0.0027	0.0149	0.259
Mean	W6	11/1/2006	59.9	26.6	7.60	21.63	29.0	0.69	51.0	3.7	–	0.03	7.20	–	0.0134	–	–	–	0.0145	0.202
PRSD (%)			3.9	0.8	7.0	1.9	0.2	7.1	16.4	15.7	–	2.1	0.5	–	3.4	–	–	–	3.2	26.6
Replicate1	W5	11/1/2006	59.6	25.8	7.78	19.6	28.5	0.68	55	5.5	<0.50	0.027	7.12	0.0167	0.0124	<0.010	<0.010	0.0026	0.0140	0.168
Replicate2	W5	11/1/2006	59.5	26.4	7.74	20.1	29.2	0.66	55	5.0	<0.50	0.026	7.14	0.0173	0.0129	<0.010	<0.010	0.0031	0.0148	0.435
Replicate3	W5	11/1/2006	59.4	26.0	7.69	20.1	28.3	0.58	56	4.5	<0.50	0.027	7.14	<0.0050	0.0119	<0.010	0.0022	0.0021	0.0153	0.203
Mean	W5	11/1/2006	59.5	26.1	7.74	19.9	28.7	0.64	55	5.0	–	0.027	7.13	–	0.0124	–	0.0022	0.0026	0.0147	0.269
PRSD (%)			0.2	1.2	0.6	1.4	1.6	8.3	1.0	10.0	–	2.2	0.2	–	4.0	–	–	19.2	4.5	54.0
Replicate1	WA	11/1/2006	55.4	24.3	7.61	18.3	33.0	0.54	47	10.5	<0.50	0.025	7.12	<0.0050	0.0140	<0.010	<0.010	0.0028	0.0186	0.313
Replicate2	WA	11/1/2006	55.5	24.2	7.6	18.2	31.9	0.58	53	4.5	<0.50	0.025	7.10	<0.0050	0.0141	<0.010	<0.010	0.0029	0.0160	0.260
Replicate3	WA	11/1/2006	56.0	24.7	7.58	18.1	33.4	0.63	51	7.5	<0.50	0.025	7.10	<0.0050	0.0150	<0.010	<0.010	0.0033	0.0179	0.244
Mean	WA	11/1/2006	55.6	24.4	7.60	18.2	32.8	0.58	50	7.5	–	0.025	7.11	–	0.0144	–	<0.010	0.0030	0.0175	0.272
PRSD (%)			0.6	1.1	0.2	0.5	2.4	7.7	6.1	40.0	–	0.0	0.2	–	3.8	–	–	8.8	7.7	13.3
Replicate1	W3	11/1/2006	412	194	8.21	151	0.85	3.81	263	<2.3	1.04	0.063	70.0	<0.0050	0.0419	<0.0010	0.0040	0.0060	0.0119	0.0011
Replicate2	W3	11/1/2006	412	193	8.23	154	0.76	3.94	261	<2.3	1.04	0.067	70.0	<0.0050	0.0417	<0.0010	0.0039	0.0065	0.0103	<0.0010
Replicate3	W3	11/1/2006	412	195	8.24	165	0.39	3.82	263	<2.3	1.04	0.067	70.4	<0.0050	0.0402	<0.0010	0.0036	0.0060	0.0077	<0.0010
Mean	W3	11/1/2006	412	194	8.23	157	0.67	3.86	262	–	1.04	0.066	70.1	–	0.0413	–	0.0038	0.0062	0.0100	–
PRSD (%)			0.0	0.5	0.2	4.7	36.6	1.9	0.4	–	0.0	3.5	0.3	–	2.3	–	5.4	4.7	21.3	–
Replicate1	W2	11/2/2006	202	95.7	8.09	112	11.90	17.2	144	30.5	<0.50	0.066	0.68	0.746	0.076	0.0066	0.0055	0.0266	0.1670	0.0020
Replicate2	W2	11/2/2006	202	97.2	8.10	114	1.87	17.0	147	<2.3	<0.50	0.069	0.66	0.622	0.078	0.0065	0.0076	0.0271	0.0623	0.0045
Replicate3	W2	11/2/2006	202	94.9	8.08	111	1.70	17.2	143	<2.3	<0.50	0.065	0.65	0.622	0.078	0.0065	0.0069	0.0267	0.0644	0.0019
Mean	W2	11/2/2006	202	95.9	8.09	112	5.16	17.1	145	–	–	0.067	0.66	0.663	0.077	0.0065	0.0067	0.0268	0.0979	0.0028
PRSD (%)			0.0	1.2	0.1	1.4	113.3	0.7	1.4	–	–	3.1	2.3	10.8	1.3	0.9	16.0	1.0	61.1	52.6

Appendix Table B7: QA/QC Results Triplicates 2006

Location	Site	Date	T. Aluminium mg/L DL: 0.005 DL: 0.001	D. Antimony mg/L DL: 0.00005	T. Antimony mg/L DL: 0.00005	D. Arsenic mg/L DL: 0.0001	T. Arsenic mg/L DL: 0.0001	D. Barium mg/L DL: 0.01 DL: 0.00005	T. Barium mg/L DL: 0.01 DL: 0.00005	D. Beryllium mg/L DL: 0.005 DL: 0.0005	T. Beryllium mg/L DL: 0.005 DL: 0.0005	Dis. Bismuth mg/L DL: 0.1 DL: 0.0005	T. Bismuth mg/L DL: 0.1 DL: 0.0005	D. Boron mg/L DL: 0.1 DL: 0.001	T. Boron mg/L DL: 0.1 DL: 0.001	D. Cadmium mg/L DL: 0.0002 DL: 0.00005	T. Cadmium mg/L DL: 0.0002 DL: 0.00005	D. Calcium mg/L DL: 0.05	T. Calcium mg/L DL: 0.05
DL pre-PRS DL 1997-1998/2006																			
Replicate1	W6	11/1/2006	1.31	<0.00010	0.00017	0.00036	0.00055	0.0106	0.0206	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	8.76	8.76
Replicate2	W6	11/1/2006	1.61	<0.00010	0.00018	0.00034	0.00058	0.0108	0.0226	<0.00050	<0.00050	<0.00050	<0.00050	0.011	0.014	<0.000017	<0.000017	8.91	9.14
Replicate3	W6	11/1/2006	1.32	<0.00010	<0.00010	0.00037	0.00056	0.0114	0.0213	<0.00050	<0.00050	<0.00050	<0.00050	0.013	0.013	<0.000017	0.000019	8.82	9.03
Mean	W6	11/1/2006	1.41	–	–	0.00036	0.00056	0.0109	0.0215	–	–	–	–	0.012	0.013	–	–	8.83	8.98
PRSD (%)			12.1	–	–	4.3	2.7	3.8	4.7	–	–	–	–	8.3	4.3	–	–	0.9	2.2
Replicate1	W5	11/1/2006	1.49	<0.00010	0.00021	0.00034	0.00054	0.0118	0.0218	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	8.64	9.91
Replicate2	W5	11/1/2006	1.25	<0.00010	0.00010	0.00039	0.00055	0.0142	0.0209	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.014	<0.000017	<0.000017	8.72	8.75
Replicate3	W5	11/1/2006	1.41	<0.00010	0.00014	0.00034	0.00057	0.0140	0.0225	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.014	<0.000017	0.000019	8.71	9.09
Mean	W5	11/1/2006	1.38	–	0.00015	0.00036	0.00055	0.0133	0.0217	–	–	–	–	0.012	0.014	–	–	8.69	9.25
PRSD (%)			8.8	–	37.1	8.1	2.8	10.0	3.7	–	–	–	–	0.0	4.2	–	–	0.5	6.4
Replicate1	WA	11/1/2006	1.82	<0.00010	<0.00010	0.00037	0.0006	0.0122	0.0247	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.014	<0.000017	0.000029	8.25	8.65
Replicate2	WA	11/1/2006	2.10	<0.00010	0.00023	0.00035	0.00062	0.0114	0.0272	<0.00050	<0.00050	<0.00050	<0.00050	0.011	0.014	<0.000017	<0.000017	8.22	8.90
Replicate3	WA	11/1/2006	2.11	<0.00010	<0.00010	0.00034	0.00062	0.0114	0.0271	<0.00050	<0.00050	<0.00050	<0.00050	0.011	0.013	<0.000017	0.000250	8.39	8.56
Mean	WA	11/1/2006	2.01	–	–	0.00035	0.00061	0.0117	0.0263	–	–	–	–	0.0113	0.0137	–	–	8.29	8.70
PRSD (%)			8.2	–	–	4.3	1.9	4.0	5.4	–	–	–	–	5.1	4.2	–	–	1.1	2.0
Replicate1	W3	11/1/2006	<0.051	0.00109	0.00110	0.00317	0.00373	0.0101	0.01060	<0.00050	<0.0005	<0.00050	<0.00050	0.065	0.071	<0.000017	<0.000017	43.5	42.3
Replicate2	W3	11/1/2006	0.0046	0.00108	0.00103	0.00313	0.00313	0.0099	0.00989	<0.00050	<0.0005	<0.00050	<0.00050	0.066	0.059	<0.000017	<0.000017	43.2	44.5
Replicate3	W3	11/1/2006	0.0048	0.00108	0.00107	0.00308	0.00308	0.0100	0.01020	<0.00050	<0.0005	<0.00050	<0.00050	0.065	0.059	<0.000017	<0.000017	43.8	44.6
Mean	W3	11/1/2006	0.0116	0.00108	0.00107	0.00313	0.00331	0.0100	0.01023	–	–	–	–	0.0653	0.063	–	–	43.5	43.8
PRSD (%)			1.2	0.5	3.3	1.4	10.9	0.8	3.5	–	–	–	–	0.9	11.0	–	–	0.7	3.0
Replicate1	W2	11/2/2006	0.0129	<0.00010	<0.00010	0.00052	0.00056	0.00283	0.00309	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.00017	17.7	18.5
Replicate2	W2	11/2/2006	0.0176	<0.00010	<0.00010	0.00056	0.00055	0.00328	0.00325	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	0.000022	18.2	18.2
Replicate3	W2	11/2/2006	0.0094	<0.00010	<0.00010	0.00054	0.00055	0.00276	0.00308	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.6	18.1
Mean	W2	11/2/2006	0.0133	–	–	0.00054	0.00055	0.00296	0.00314	–	–	–	–	–	–	–	–	17.8	18.3
PRSD (%)			30.9	–	–	3.7	1.0	9.5	3.0	–	–	–	–	–	–	–	–	1.8	1.1

Appendix Table B7: QA/QC Results Triplicates 2006

Location	Site	Date	D. Chromium mg/L DL: 0.001 DL: 0.0005	T. Chromium mg/L DL: 0.001 DL: 0.0005	D. Cobalt mg/L DL: 0.001 DL: 0.0001	T. Cobalt mg/L DL: 0.001 DL: 0.0001	D. Copper mg/L DL: 0.0001	T. Copper mg/L DL: 0.001 DL: 0.0001	D. Iron mg/L DL: 0.03 DL: 0.01	T. Iron mg/L DL: 0.03 DL: 0.01	D. Lead mg/L DL: 0.001 DL: 0.00005	T. Lead mg/L DL: 0.001 DL: 0.00005	D. Lithium mg/L DL: 0.001	T. Lithium mg/L DL: 0.001	D. Magnesium mg/L DL: 0.05	T. Magnesium mg/L DL: 0.05	D. Manganese mg/L DL: 0.005 DL: 0.00005	T. Manganese mg/L DL: 0.005 DL: 0.00005
DL pre-PRS DL 1997-1998/2006																		
Replicate1	W6	11/1/2006	<0.00050	0.0012	<0.00010	0.00047	0.0008	0.00274	0.159	0.855	0.000059	<0.00030	<0.0050	<0.0050	1.10	1.40	0.00331	0.0208
Replicate2	W6	11/1/2006	<0.00050	0.00112	<0.00010	0.00054	0.00064	0.00298	0.149	0.991	<0.000050	<0.00030	<0.0050	<0.0050	1.10	1.51	0.00313	0.0243
Replicate3	W6	11/1/2006	<0.00050	0.00089	<0.00010	0.00045	0.00086	0.00288	0.230	0.857	0.000055	<0.00030	<0.0050	<0.0050	1.13	1.42	0.00435	0.0206
Mean	W6	11/1/2006	–	0.00107	–	0.00049	0.00077	0.00287	0.1793	0.901	–	–	–	–	1.11	1.44	0.00360	0.0219
PRSD (%)			–	15.0	–	9.7	14.8	4.2	24.6	8.7	–	–	–	–	1.6	4.1	18.3	9.5
Replicate1	W5	11/1/2006	<0.00050	0.00097	<0.00010	0.00051	0.00071	0.00319	0.126	0.957	<0.000050	<0.00030	<0.0050	<0.0050	1.02	1.43	0.00253	0.0229
Replicate2	W5	11/1/2006	<0.00050	0.00090	0.00018	0.00045	0.00141	0.00292	0.363	0.854	0.0001288	<0.00030	<0.0050	<0.0050	1.13	1.33	0.00745	0.0205
Replicate3	W5	11/1/2006	<0.00050	0.00103	<0.00010	0.0005	0.00071	0.00285	0.184	0.965	<0.000050	<0.00030	<0.0050	<0.0050	1.05	1.41	0.00328	0.0224
Mean	W5	11/1/2006	–	0.00097	–	0.00049	0.00094	0.00299	0.224	0.925	–	–	–	–	1.07	1.39	0.00442	0.02193
PRSD (%)			–	6.7	–	6.6	42.8	6.0	55.1	6.7	–	–	–	–	5.3	3.8	60.0	5.8
Replicate1	WA	11/1/2006	<0.00050	0.00113	0.0012	0.00060	0.00099	0.00332	0.238	1.09	0.000074	<0.00030	<0.0050	<0.0050	0.90	1.32	0.0049	0.0267
Replicate2	WA	11/1/2006	<0.00050	0.00125	<0.00010	0.00067	0.00090	0.00352	0.216	1.21	0.000058	<0.00040	<0.0050	<0.0050	0.89	1.38	0.0042	0.0294
Replicate3	WA	11/1/2006	<0.00050	0.00131	<0.00010	0.00070	0.00097	0.00350	0.217	1.32	0.000062	<0.00040	<0.0050	<0.0050	0.91	1.41	0.0040	0.0300
Mean	WA	11/1/2006	–	0.00123	–	0.00066	0.00095	0.00345	0.224	1.21	0.000065	–	–	–	0.90	1.37	0.0044	0.0287
PRSD (%)			–	7.5	–	7.8	5.0	3.2	5.6	9.5	12.9	–	–	–	1.1	3.3	10.9	6.1
Replicate1	W3	11/1/2006	<0.00050	<0.00050	<0.00010	0.00011	0.0010	<0.0020	<0.030	0.106	<0.000050	<0.000070	<0.0050	<0.0050	20.7	20.10	0.000128	0.01090
Replicate2	W3	11/1/2006	<0.00050	<0.00050	<0.00010	<0.00010	0.0011	0.00108	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	20.6	21.20	0.000150	0.00169
Replicate3	W3	11/1/2006	<0.00050	<0.00050	<0.00010	<0.00010	0.0011	0.00104	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	20.8	21.00	0.000170	0.00117
Mean	W3	11/1/2006	–	–	–	–	0.0010	0.00104	–	–	–	–	–	–	20.7	20.77	0.000149	0.00459
PRSD (%)			–	–	–	–	3.6	2.7	–	–	–	–	–	–	0.5	2.8	14.1	119.3
Replicate1	W2	11/2/2006	<0.00050	<0.00050	<0.00010	0.00014	0.00085	0.00082	0.122	0.285	<0.000050	<0.000050	<0.0050	<0.0050	12.5	12.9	0.00134	0.0274
Replicate2	W2	11/2/2006	<0.00050	<0.00050	<0.00010	0.00013	0.00099	0.00090	0.136	0.299	<0.000050	0.000061	<0.0050	<0.0050	12.6	12.7	0.00149	0.0290
Replicate3	W2	11/2/2006	<0.00050	<0.00050	<0.00010	0.00013	0.00075	0.00071	0.115	0.277	<0.000050	<0.000050	<0.0050	<0.0050	12.4	12.7	0.00149	0.0286
Mean	W2	11/2/2006	–	–	–	0.00013	0.00086	0.00081	0.124	0.287	–	–	–	–	12.5	12.8	0.00144	0.0283
PRSD (%)			–	–	–	4.3	14.0	11.8	8.6	3.9	–	–	–	–	0.8	0.9	6.0	2.9

Appendix Table B7: QA/QC Results Triplicates 2006

Location	Site	Date	D. Molybdenum mg/L DL: 0.001 DL: 0.00005	T. Molybdenum mg/L DL: 0.001 DL: 0.00005	D. Nickel mg/L DL: 0.001 DL: 0.0001	T. Nickel mg/L DL: 0.001 DL: 0.0001	D. Phosphorus mg/L	T. Phosphorus mg/L	D. Potassium mg/L	T. Potassium mg/L DL: 2	D. Selenium mg/L DL: 0.0005	T. Selenium mg/L DL: 0.0005	D. Silicon mg/L	T. Silicon mg/L DL: .05	D. Silver mg/L DL: 0.0001 DL: 0.00001	T. Silver mg/L DL: 0.0001 DL: 0.00001	D. Sodium mg/L DL: 2
DL pre-PRS DL 1997-1998/2006																	
Replicate1	W6	11/1/2006	0.00133	0.00117	<0.0005	0.00073	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.25	3.97	<0.000010	<0.000010	<2.0
Replicate2	W6	11/1/2006	0.00134	0.00121	<0.0005	0.00080	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.22	4.51	<0.000010	0.000012	<2.0
Replicate3	W6	11/1/2006	0.00135	0.00115	<0.0005	0.00071	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.41	3.96	<0.000010	<0.000010	<2.0
Mean	W6	11/1/2006	0.00134	0.00118	–	0.00075	–	–	–	–	–	–	2.29	4.15	–	–	–
PRSD (%)			0.7	2.6	–	6.3	–	–	–	–	–	–	4.5	7.6	–	–	–
Replicate1	W5	11/1/2006	0.00132	0.00126	<0.0005	0.00075	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.14	4.15	<0.000010	<0.000010	<2.0
Replicate2	W5	11/1/2006	0.00137	0.00121	<0.0005	0.00067	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.62	3.71	<0.000010	0.000011	<2.0
Replicate3	W5	11/1/2006	0.00128	0.00127	<0.0005	0.00073	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.25	4.02	<0.000010	0.000012	<2.0
Mean	W5	11/1/2006	0.00132	0.00125	–	0.00072	–	–	–	–	–	–	2.34	3.96	–	–	–
PRSD (%)			3.4	2.6	–	5.8	–	–	–	–	–	–	10.8	5.7	–	–	–
Replicate1	WA	11/1/2006	0.00142	0.00141	<0.0005	0.00082	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.25	4.49	<0.000010	<0.000010	<2.0
Replicate2	WA	11/1/2006	0.00140	0.00141	<0.0005	0.00098	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.20	5.13	<0.000010	<0.000010	<2.0
Replicate3	WA	11/1/2006	0.00137	0.00136	<0.0005	0.00096	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.22	5.21	<0.000010	<0.000010	<2.0
Mean	WA	11/1/2006	0.00140	0.00139	–	0.00092	–	–	–	–	–	–	2.22	4.94	–	–	–
PRSD (%)			1.8	2.1	–	9.5	–	–	–	–	–	–	1.1	8.0	–	–	–
Replicate1	W3	11/1/2006	0.00156	0.00148	<0.00050	0.00095	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	6.55	6.50	<0.000010	<0.000010	14.7
Replicate2	W3	11/1/2006	0.00154	0.00139	0.00051	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	6.51	6.69	<0.000010	<0.000010	14.5
Replicate3	W3	11/1/2006	0.00154	0.00143	0.00054	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	6.68	6.77	<0.000010	<0.000010	14.7
Mean	W3	11/1/2006	0.001547	0.00143	–	–	–	–	–	–	–	–	6.58	6.65	–	–	14.6
PRSD (%)			0.7	3.1	–	–	–	–	–	–	–	–	1.4	2.1	–	–	0.8
Replicate1	W2	11/2/2006	0.000362	0.000326	0.00202	0.00215	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	8.28	8.57	<0.000010	<0.000010	8.3
Replicate2	W2	11/2/2006	0.000360	0.000306	0.00215	0.00216	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	8.45	8.53	<0.000010	<0.000010	8.3
Replicate3	W2	11/2/2006	0.000342	0.000322	0.00210	0.00214	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	8.28	8.50	<0.000010	<0.000010	8.3
Mean	W2	11/2/2006	0.000355	0.000318	0.00209	0.00215	–	–	–	–	–	–	8.34	8.53	–	–	8.3
PRSD (%)			3.1	3.3	3.1	0.5	–	–	–	–	–	–	1.2	0.4	–	–	0.0

Appendix Table B7: QA/QC Results Triplicates 2006

Location	Site	Date	T. Sodium mg/L	D. Strontium mg/L	T. Strontium mg/L	D. Thallium	T. Thallium	D. Tin mg/L	T. Tin mg/L	D. Titanium mg/L	T. Titanium mg/L	D. Uranium mg/L	T. Uranium mg/L	D. Vanadium mg/L	T. Vanadium mg/L	D. Zinc mg/L	T. Zinc mg/L
DL pre-PRS DL 1997-1998/2006			DL: 2	DL: 0.001 DL: 0.0001	DL: 0.001 DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001	DL: 0.03 DL: 0.001	DL: 0.03 DL: 0.001	DL: 0.005 DL: 0.001	DL: 0.005 DL: 0.001
Replicate1	W6	11/1/2006	<2.0	0.0464	0.0517	<0.00010	<0.00010	<0.00010	<0.00010	0.01	0.06	0.000168	0.000227	<0.0010	0.0026	<0.0010	<0.0050
Replicate2	W6	11/1/2006	<2.0	0.044	0.0548	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.07	0.000143	0.000238	<0.0010	0.0029	<0.0010	<0.0050
Replicate3	W6	11/1/2006	<2.0	0.0481	0.0533	<0.00010	<0.00010	<0.00010	<0.00010	0.015	0.059	0.000173	0.000228	<0.0010	0.0028	<0.0010	<0.0050
Mean	W6	11/1/2006	–	0.0462	0.0533	–	–	–	–	–	0.063	0.000161	0.000231	–	0.0028	–	–
PRSD (%)			–	4.5	2.9	–	–	–	–	–	9.7	10.0	2.6	–	5.5	–	–
Replicate1	W5	11/1/2006	<2.0	0.046	0.0525	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.066	0.000165	0.000223	<0.0010	0.0028	<0.0010	<0.0050
Replicate2	W5	11/1/2006	<2.0	0.0477	0.0516	<0.00010	<0.00010	<0.00010	<0.00010	0.021	0.055	0.000179	0.000232	0.001	0.0024	0.0019	<0.0050
Replicate3	W5	11/1/2006	<2.0	0.0427	0.0533	<0.00010	<0.00010	<0.00010	<0.00010	0.012	0.064	0.000162	0.000233	<0.0010	0.0027	<0.0010	<0.0050
Mean	W5	11/1/2006	–	0.0455	0.0525	–	–	–	–	–	0.062	0.000169	0.000229	–	0.0026	–	–
PRSD (%)			–	5.6	1.6	–	–	–	–	–	9.5	5.4	2.4	–	7.9	–	–
			–														
Replicate1	WA	11/1/2006	<2.0	0.0419	0.0514	<0.00010	<0.00010	<0.00010	<0.00010	0.016	0.077	0.000183	0.000249	<0.0010	0.0032	<0.0010	<0.0050
Replicate2	WA	11/1/2006	<2.0	0.0413	0.0540	<0.00010	<0.00010	<0.00010	<0.00010	0.015	0.089	0.000175	0.000252	<0.0010	0.0037	<0.0010	<0.0060
Replicate3	WA	11/1/2006	<2.0	0.0410	0.0511	<0.00010	<0.00010	<0.00010	<0.00010	0.014	0.095	0.000176	0.000243	<0.0010	0.0038	0.0015	<0.0060
Mean	WA	11/1/2006	–	0.0414	0.0522	–	–	–	–	0.015	0.087	0.000178	0.000248	–	0.00357	–	–
PRSD (%)			–	1.1	3.1	–	–	–	–	6.7	10.5	2.4	1.8	–	9.0	–	–
Replicate1	W3	11/1/2006	14.3	0.253	0.257	<0.00010	<0.0001	<0.00010	<0.00010	<0.010	<0.010	0.000301	0.000310	<0.0010	<0.001	<0.0010	<0.0030
Replicate2	W3	11/1/2006	15.0	0.256	0.245	<0.00010	<0.0001	<0.00010	<0.00010	<0.010	<0.010	0.000309	0.000278	<0.0010	<0.001	<0.0010	<0.0010
Replicate3	W3	11/1/2006	14.9	0.257	0.246	<0.00010	<0.0001	<0.00010	<0.00010	<0.010	<0.010	0.000305	0.000263	<0.0010	<0.001	<0.0010	<0.0010
Mean	W3	11/1/2006	14.7	0.255	0.249	–	–	–	–	–	–	0.000305	0.000284	–	–	<0.0010	<0.0010
PRSD (%)			2.6	0.8	2.7	–	–	–	–	–	–	1.3	8.5	–	–	–	–
Replicate1	W2	11/2/2006	8.6	0.0601	0.0602	<0.00010	<0.0001	<0.00010	<0.0001	<0.010	<0.010	0.000088	0.000081	0.0011	0.0013	0.0014	0.0013
Replicate2	W2	11/2/2006	8.4	0.0613	0.0585	<0.00010	<0.0001	<0.00010	<0.0001	<0.010	<0.010	0.000089	0.000081	0.0011	0.0013	0.0019	0.0014
Replicate3	W2	11/2/2006	8.4	0.0603	0.0608	<0.00010	<0.0001	<0.00010	<0.0001	<0.010	<0.010	0.000083	0.000089	0.0011	0.0014	<0.0010	<0.0010
Mean	W2	11/2/2006	8.5	0.0606	0.0598	–	–	–	–	–	–	0.000087	0.000084	0.0011	0.0013	–	–
PRSD (%)			1.4	1.1	2.0	–	–	–	–	–	–	3.7	5.5	0.0	4.3	–	–

Appendix B8

Appendix Table B8 Raw Data Streams 1992 to 2006

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W1	5/31/1992				183	97.9		7.43	99.7	3.9			152	6	1	0.06	<1.0
Fish C.	W1	6/30/1992				198	103		6.21	110	2.4			166	3	0.6	0.06	<1.0
Fish C.	W1	7/30/1992				212	121		7.87	117	2.28			178	3	0.9	0.06	<1.0
Fish C.	W1	8/30/1992				196	99.4		7.76	112	3.01			169	7	0.6	0.07	<1.0
Fish C.	W1	10/4/1992				178	88.1		7.83	100	5.4			150	10	0.5	0.05	1.3
Fish C.	W1	10/28/1992				170	84.4		7.62	91.3	1.93			139	2	0.7	0.05	<1.0
Fish C.	W1	12/1/1992				274	136		7.18	154	4.01			235	5	0.5	0.05	1.4
Fish C.	W1	1/7/1993				415	203		7.33	237	8.2			356	20	2.8	0.09	<5.0
Fish C.	W1	1/27/1993				452	216		7.63	262	22.7			386	23	0.5	0.09	<1.0
Fish C.	W1	3/2/1993				547	245		7.52	324	36			479	31	4.7	0.12	<1.0
Fish C.	W1	3/31/1993				270	126		7.78	157	6.2			216	6	2	0.05	<1.0
Fish C.	W1	5/5/1993				134	60.3		7.75	68.9	1.39			102	3	1.2	0.05	2.3
Fish C.	W1	5/13/1993				158	78.3		7.65	85.4	1.25			120	3	0.8	0.06	2.5
Fish C.	W1	5/19/1993				186	86.6		7.81	98.2	2.6			142	5	1.4	0.06	3.5
Fish C.	W1	5/27/1993				191	88.3		7.9	107	2.96			117	5	1.2	0.06	3.4
Fish C.	W1	6/3/1993				217	102		7.6	118	2			129	5	1.1	0.07	1.4
Fish C.	W1	8/17/1993				200	105		7.4	111	2.8			133	3	0.5	0.06	2.9
Fish C.	W1	8/24/1993				211	107		7.35	115	3.84			137	7	1	0.06	1.2
Fish C.	W1	8/31/1993				223	115		7.58	120	3.47			144	3	0.9	0.06	2.3
Fish C.	W1	9/14/1993				241	108		7.59	123	5.77		17	168	10	1	0.06	2
Fish C.	W1	9/20/1993				240	112		7.45	124	4.22			149	9	0.9	0.05	2.4
Fish C.	W1	5/4/1994				123	64		7.33	68.4	0.69			84	1	0.9	0.07	3.4
Fish C.	W1	5/11/1994				147	73.4		7.51	78.2	1.33			95	4	1	0.05	3.5
Fish C.	W1	5/17/1994				140	70.2		7.64	69.5	2.8			88	12	0.7	0.06	4.1
Fish C.	W1	5/26/1994				165	84.3		7.6	85.9	1.32		138	227	2	1	0.06	3.9
Fish C.	W1	5/31/1994				172	87.9		7.74	95.8	1.91		16	112	3	0.8	0.06	4
Fish C.	W1	8/10/1994				226	116		8.8	127	4.5		21.2	151	12	1.4	0.1	4
Fish C.	W1	8/16/1994				230	116		9.06	132	5.52		23.1	156	9	1.3	0.09	3.5
Fish C.	W1	8/24/1994				217	113		9.52	125	16.6		33.5	161	37	1.5	0.11	3
Fish C.	W1	8/30/1994				224	110		9.6	133	7.7		24.3	155	17	1.4	0.08	3.1
Fish C.	W1	9/6/1994				228	110		9.55	129	8.5		26.1	187	19	1.3	0.14	3.2
Fish C.	W1	6/21/1995				206	109		7.86	117	1.85		15.4	145	3	1	0.07	2.9
Fish C.	W1	6/28/1995				212	111		8.46	121	3.14		17.6	153	7	1.1	0.09	3.4
Fish C.	W1	7/4/1995				212	117		8.95	121	3.38		18.2	142	7	1.3	0.08	2.8
Fish C.	W1	7/13/1995				209	105		8.93	119	17.4		20	140	87	0.6	0.08	2.7
Fish C.	W1	7/18/1995				165	86.5		9.58	99.8	6.9		15.7	115	51	0.9	0.08	2.4
Fish C.	W1	9/27/1995				242	113		8.25	143	4.85		14.8	171	8	1.8	0.08	3.3
Fish C.	W1	10/4/1995				241	107		8.15	137	3.48		15.2	165	7	1.2	0.09	2.6
Fish C.	W1	10/11/1995				239	111		8.48	132	4		15.8	158	5	1.7	0.09	<1.0
Fish C.	W1	10/18/1995				207	106		7.73	114	1.5		14.4	144	<1	1.6	0.08	2.4
Fish C.	W1	10/27/1995				184	93.8		7.53	100	4.6		13.6	125	12	1.2	0.06	<1.0
Fish C.	W1	4/22/1996				144	66.9		7.56	75.3	1.1		17.4	91	<1	1.1	0.05	1
Fish C.	W1	5/1/1996				157	79.7		7.34	81.9	1.3		14.2	107	1	0.7	0.06	1.8
Fish C.	W1	5/8/1996				151	72.9		7.34	79.9	0.9		14.6	103	<1	0.9	0.04	1.2
Fish C.	W1	5/15/1996				140	70.6		7.24	69.8	2		16.3	90	<1	1.2	0.05	2.6
Fish C.	W1	5/23/1996				126	62.9		7.21	69.7	2.4		18.3	85	3	0.5	0.02	<1.0
Fish C.	W1	8/6/1996				248	121		7.88	140	2.3		19	166	5	0.5	0.07	<1.0
Fish C.	W1	8/16/1996				237	119		7.06	139	7.8		23.7	154	22	0.5	0.07	<1.0
Fish C.	W1	8/24/1996				245	118		8.14	133	10		19.8	163	15	0.5	0.07	<1.0
Fish C.	W1	9/2/1996				240	123		8.16	128	10.5		23.1	167	14	0.5	0.08	<1.0
Fish C.	W1	9/5/1996				240	112		7.91	132	10		20.6	162	13	0.5	0.12	<1.0

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W1	5/31/1992	0.085	<0.005	0.001	0.027	0.029	0.04	0.038	0.21	<0.0001	<0.0001	0.0002	0.0011	<0.010
Fish C.	W1	6/30/1992	0.07	<0.005	<0.001	0.028	0.037	0.039	0.018	0.078	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W1	7/30/1992	0.018	<0.005	<0.001	0.048	0.05	0.065	<0.005	0.018	<0.0001	<0.0001	0.0005	0.0005	<0.010
Fish C.	W1	8/30/1992	0.091	<0.005	<0.001	0.026	0.044	0.057	0.011	0.075	<0.0001	<0.0001	0.0005	0.0005	<0.010
Fish C.	W1	10/4/1992	0.042	0.02	<0.001	0.023	0.042	0.047	0.045	0.159	<0.0001	<0.0001	0.0001	0.0002	<0.010
Fish C.	W1	10/28/1992	0.091	0.114	0.001	0.014	0.022	0.033	0.017	0.05	<0.0001	0.0001	<0.0001	0.0001	<0.010
Fish C.	W1	12/1/1992	0.191	0.014	0.011	0.026	0.06	0.063	0.014	0.098	<0.0002	<0.0002	0.0004	0.0004	<0.010
Fish C.	W1	1/7/1993	0.349*	<0.005	<0.001	0.072	0.202	0.202	0.009	0.074	<0.0001	<0.0001	0.0013	0.0014	0.015
Fish C.	W1	1/27/1993	0.519*	0.05	0.03	0.078	0.084	0.15	0.053	0.186	0.0001	0.0002	0.0018	0.0021	0.01
Fish C.	W1	3/2/1993	0.017	<0.005	0.004	0.028	0.043	0.35	0.011	0.047	<0.0001	<0.0001	0.0007	0.0018	<0.010
Fish C.	W1	3/31/1993	0.025	0.139	0.001	0.078	0.096	0.185	0.008	0.065	<0.0001	<0.0001	0.0004	0.0005	<0.010
Fish C.	W1	5/5/1993	0.018	0.012	<0.001	0.011	0.025	0.028	0.014	0.09	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W1	5/13/1993	0.049	<0.005	<0.001	0.012	0.027	0.03	0.028	0.043	<0.0001	0.0001	0.0001	0.0001	<0.010
Fish C.	W1	5/19/1993	0.036	<0.005	0.001	0.02	0.034	0.045	0.021	0.094	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	5/27/1993	0.025	<0.005	<0.001	0.02	0.039	0.045	<0.005	0.046	<0.0001	0.0001	0.0002	0.0003	<0.010
Fish C.	W1	6/3/1993	0.029	<0.005	<0.001	0.02	0.029	0.05	0.01	0.023	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W1	8/17/1993	0.039	<0.005	0.002	0.025	0.041	0.041	0.018	0.067	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W1	8/24/1993	0.055	<0.005	0.006	0.034	0.04	0.058	0.012	0.133	<0.0001	0.0002	0.0002	0.0004	<0.010
Fish C.	W1	8/31/1993	0.058	<0.005	0.001	0.02	0.02	0.046	0.006	0.032	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W1	9/14/1993	0.1	0.038	0.008	0.034	0.063	0.094	<0.005	0.054	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W1	9/20/1993	0.02	<0.005	<0.001	0.019	0.032	0.045	0.007	0.047	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W1	5/4/1994	<0.005	<0.005	0.002	0.005	0.014	0.019	0.012	0.032	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	5/11/1994	0.005	<0.005	0.003	0.005	0.02	0.022	0.011	0.034	<0.0001	<0.0001	<0.0001	0.0001	<0.010
Fish C.	W1	5/17/1994	<0.005	<0.005	0.002	0.011	0.014	0.044	0.012	0.173	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W1	5/26/1994	0.022	<0.005	0.004	0.011	0.014	0.016	0.009	0.44	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	5/31/1994	0.026	0.005	0.003	0.011	0.019	0.028	0.012	0.056	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	8/10/1994	0.27	0.005	0.003	0.076	0.087	0.154	0.007	0.497	<0.0001	<0.0001	0.0006	0.0008	<0.010
Fish C.	W1	8/16/1994	0.085	<0.005	0.003	0.008	0.047	0.107	0.015	0.059	<0.0002	<0.0002	0.0005	0.0006	<0.010
Fish C.	W1	8/24/1994	0.22	<0.005	0.003	0.019	0.019	0.13	<0.005	0.048	<0.0001	<0.0001	0.0006	0.0006	<0.010
Fish C.	W1	8/30/1994	0.02	0.005	0.002	0.007	0.007	0.11	0.005	0.098	<0.0001	<0.0001	0.0005	0.0006	<0.010
Fish C.	W1	9/6/1994	0.02	0.007	0.004	0.008	0.034	0.108	<0.005	0.122	<0.0001	<0.0001	0.0005	0.0005	<0.010
Fish C.	W1	6/21/1995	0.023	<0.005	0.002	0.012	0.013	0.031	0.007	0.07	<0.0001	0.0001	0.0002	0.0002	<0.010
Fish C.	W1	6/28/1995	0.023	<0.005	0.002	0.008	0.022	0.053	0.029	0.091	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W1	7/4/1995	0.024	<0.005	0.003	0.015	0.028	0.047	0.027	0.073	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W1	7/13/1995	0.41	<0.005	0.003	0.029	0.059	0.161	0.015	1.05	<0.0001	<0.0001	0.0005	0.0004	<0.010
Fish C.	W1	7/18/1995	0.013	<0.005	0.001	0.003	0.004	0.065	0.02	0.079	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	9/27/1995	0.057	<0.005	0.002	0.006	0.023	0.057	0.01	0.079	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W1	10/4/1995	0.045	<0.005	0.002	0.007	0.023	0.048	0.026	0.014	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W1	10/11/1995	0.035	<0.005	0.003	0.006	0.023	0.046	0.008	0.06	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W1	10/18/1995	0.01	<0.005	0.002	0.014	0.014	0.014	0.015	0.104	<0.0001	0.0001	0.0001	0.0001	<0.010
Fish C.	W1	10/27/1995	0.027	<0.005	0.004	0.007	0.014	0.018	0.028	0.086	<0.0001	0.0001	<0.0001	<0.0001	<0.010
Fish C.	W1	4/22/1996	0.006	<0.005	0.003	<0.001	0.006	0.006	0.012	0.021	<0.0001	<0.0001	0.0003	0.0004	<0.010
Fish C.	W1	5/1/1996	<0.005	<0.005	0.002	0.005	0.014	0.02	0.017	0.035	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W1	5/8/1996	0.005	<0.005	0.001	0.009	0.009	0.019	0.019	0.045	<0.0001	<0.0001	0.0001	<0.0001	<0.010
Fish C.	W1	5/15/1996	0.009	<0.005	0.002	<0.001	0.005	0.023	0.022	0.048	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W1	5/23/1996	0.007	<0.005	0.002	0.007	0.007	0.015	0.012	0.021	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W1	8/6/1996	0.038	<0.005	0.002	0.019	0.026	0.042	0.01	0.034	0.0002	<0.0001	0.0006	0.0006	<0.010
Fish C.	W1	8/16/1996	0.126	0.005	0.001	0.041	0.059	0.132	0.007	0.043	0.0005	<0.0001	0.0007	0.0009	<0.010
Fish C.	W1	8/24/1996	0.51*	<0.005	0.002	0.042	0.066	0.171	<0.005	0.062	<0.0001	<0.0001	0.0007	0.0008	<0.010
Fish C.	W1	9/2/1996	0.14	0.005	0.003	0.02	0.067	0.149	0.018	0.056	0.0007	<0.0001	0.0012	0.0003	<0.010
Fish C.	W1	9/5/1996	0.16	0.005	0.002	0.027	0.054	0.13	0.008	0.064	0.0004	<0.0001	0.0009	0.0002	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W1	5/31/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17	17	<0.001	<0.001
Fish C.	W1	6/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.9	18.9	<0.001	<0.001
Fish C.	W1	7/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.9	21.5	<0.001	<0.001
Fish C.	W1	8/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.5	19.2	<0.001	<0.001
Fish C.	W1	10/4/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	16.4	<0.001	<0.001
Fish C.	W1	10/28/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16	16.8	<0.001	<0.001
Fish C.	W1	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	25.4	25.7	<0.001	<0.001
Fish C.	W1	1/7/1993	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	38.7	39.8	<0.001	0.001
Fish C.	W1	1/27/1993	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	39.6	40.3	<0.001	<0.001
Fish C.	W1	3/2/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	47.3	50.8	0.001	0.002
Fish C.	W1	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.4	22.6	<0.001	0.001
Fish C.	W1	5/5/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.6	10.6	<0.001	<0.001
Fish C.	W1	5/13/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.8	14.1	<0.001	<0.001
Fish C.	W1	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.5	15.8	<0.001	<0.001
Fish C.	W1	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	15.9	<0.001	<0.001
Fish C.	W1	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.7	18.7	<0.001	<0.001
Fish C.	W1	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.4	20.6	<0.001	<0.001
Fish C.	W1	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.8	20	<0.001	<0.001
Fish C.	W1	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.2	21.8	<0.001	<0.001
Fish C.	W1	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.6	20.4	<0.001	<0.001
Fish C.	W1	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.6	20.9	<0.001	<0.001
Fish C.	W1	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.6	10.6	<0.001	<0.001
Fish C.	W1	5/11/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.7	12.7	<0.001	<0.001
Fish C.	W1	5/17/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.2	<0.001	<0.001
Fish C.	W1	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.5	14.7	<0.001	0.002
Fish C.	W1	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.1	15.1	<0.001	<0.001
Fish C.	W1	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.5	25.3	<0.001	0.001
Fish C.	W1	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.4	19.4	<0.001	0.001
Fish C.	W1	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.8	19.9	<0.001	<0.001
Fish C.	W1	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.7	18.9	<0.001	<0.001
Fish C.	W1	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.4	18.5	<0.001	<0.001
Fish C.	W1	6/21/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.2	19.3	<0.001	<0.001
Fish C.	W1	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.9	19.8	<0.001	<0.001
Fish C.	W1	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.7	21.1	<0.001	<0.001
Fish C.	W1	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.2	18.5	<0.001	<0.001
Fish C.	W1	7/18/1995	0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.6	15.6	<0.001	<0.001
Fish C.	W1	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.7	19.8	<0.001	<0.001
Fish C.	W1	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.7	19.4	<0.001	<0.001
Fish C.	W1	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.2	20	<0.001	<0.001
Fish C.	W1	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.2	18.1	<0.001	<0.001
Fish C.	W1	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.1	15.9	<0.001	<0.001
Fish C.	W1	4/22/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.4	11.9	<0.001	<0.001
Fish C.	W1	5/1/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.7	13.9	<0.001	<0.001
Fish C.	W1	5/8/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.6	<0.001	<0.001
Fish C.	W1	5/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.6	11.4	<0.001	<0.001
Fish C.	W1	5/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.9	11.8	<0.001	<0.001
Fish C.	W1	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.2	21.1	<0.001	<0.001
Fish C.	W1	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0004	20.4	20.7	<0.001	<0.001
Fish C.	W1	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.2	20.5	<0.001	<0.001
Fish C.	W1	9/2/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.4	21.5	<0.001	<0.001
Fish C.	W1	9/5/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.3	19.7	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W1	5/31/1992	<0.001	<0.001	0.002	0.002	0.283	0.495	<0.001	0.001			13.5	13.8	0.074	0.125
Fish C.	W1	6/30/1992	<0.001	<0.001	0.002	0.002	0.395	0.494	<0.001	<0.001			13.6	13.6	0.212	0.214
Fish C.	W1	7/30/1992	<0.001	<0.001	0.003	0.009*	0.3	0.355	<0.001	<0.001			16.6	16.9	0.114	0.129
Fish C.	W1	8/30/1992	<0.001	<0.001	<0.001	<0.001	0.139	0.289	<0.001	<0.001			12.9	13.5	0.038	0.06
Fish C.	W1	10/4/1992	<0.001	<0.001	0.005*	0.005*	0.266	0.454	<0.001	<0.001			11.6	11.6	0.076	0.082
Fish C.	W1	10/28/1992	<0.001	<0.001	<0.001	<0.001	0.226	0.296	<0.001	<0.001			10.8	11.4	0.033	0.037
Fish C.	W1	12/1/1992	<0.001	<0.001	0.001	0.001	0.45	0.778	<0.001	<0.001			17.7	17.9	0.286	0.301
Fish C.	W1	1/7/1993	0.003	0.003	<0.001	<0.001	5.03*	6.38	<0.001	<0.001			25.8	26.5	1.55	1.55
Fish C.	W1	1/27/1993	0.003	0.003	0.001	0.001	8.43*	11.9	<0.001	<0.001			28.4	28.4	4.18	4.18
Fish C.	W1	3/2/1993	<0.001	0.003	0.001	0.003	0.22	6.58	<0.001	<0.001			30.7	32.9	4.4	4.83
Fish C.	W1	3/31/1993	<0.001	0.001	0.002	0.007*	1.81	2.53	<0.001	<0.001			17.1	17.1	0.527	0.552
Fish C.	W1	5/5/1993	<0.001	<0.001	0.001	0.003	0.291	0.399	<0.001	<0.001			8.22	8.22	0.024	0.029
Fish C.	W1	5/13/1993	<0.001	<0.001	<0.001	<0.001	0.189	0.285	<0.001	<0.001			10.6	10.8	0.036	0.051
Fish C.	W1	5/19/1993	<0.001	<0.001	0.001	0.001	0.198	0.312	<0.001	<0.001			11.6	11.8	0.061	0.082
Fish C.	W1	5/27/1993	<0.001	<0.001	<0.001	0.002	0.097	0.257	<0.001	<0.001			11.8	11.8	0.011	0.075
Fish C.	W1	6/3/1993	<0.001	<0.001	<0.001	<0.001	0.204	0.324	<0.001	<0.001			13.4	13.4	0.04	0.062
Fish C.	W1	8/17/1993	<0.001	<0.001	<0.001	<0.001	0.335	0.495	<0.001	<0.001			13.2	13.4	0.053	0.081
Fish C.	W1	8/24/1993	<0.001	<0.001	0.003	0.005	0.442	0.749	<0.001	<0.001			14	14	0.057	0.107
Fish C.	W1	8/31/1993	<0.001	<0.001	<0.001	0.001	0.322	0.574	<0.001	<0.001			15.2	15.3	0.074	0.134
Fish C.	W1	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.381	0.877	<0.001	<0.001			14.3	14.8	0.089	0.207
Fish C.	W1	9/20/1993	<0.001	<0.001	<0.001	<0.001	0.325	0.622	<0.001	<0.001			14.9	15.1	0.072	0.117
Fish C.	W1	5/4/1994	<0.001	<0.001	<0.001*	<0.001*	0.097	0.142	<0.001	<0.001			9.1	9.11	<0.005	0.009
Fish C.	W1	5/11/1994	<0.001	<0.001	<0.001	<0.001	0.131	0.187	<0.001	<0.001			10.1	10.1	0.007	0.017
Fish C.	W1	5/17/1994	<0.001	<0.001	<0.001	0.001	0.1	0.413	<0.001	<0.001			9.64	9.66	<0.005	0.076
Fish C.	W1	5/26/1994	<0.001	<0.001	0.001	0.001	0.184	0.72	<0.001	<0.001			11.7	11.7	0.021	0.111
Fish C.	W1	5/31/1994	<0.001	<0.001	<0.001	<0.001	0.235	0.326	<0.001	<0.001			12.2	12.2	0.022	0.032
Fish C.	W1	8/10/1994	<0.001	0.002	<0.001	0.004	0.242	1.97	<0.001	<0.001			15.7	17.1	0.071	0.259
Fish C.	W1	8/16/1994	<0.001	<0.001	<0.001	0.002	0.273	0.493	<0.001	<0.001			16.5	16.5	0.063	0.107
Fish C.	W1	8/24/1994	<0.001	<0.001	<0.001	0.002	0.179	0.434	<0.001	<0.001			16.2	16.9	0.031	0.128
Fish C.	W1	8/30/1994	<0.001	<0.001	<0.001	<0.001	0.165	0.479	<0.001	<0.001			15.4	15.6	0.026	0.137
Fish C.	W1	9/6/1994	<0.001	<0.001	<0.001	<0.001	0.139	0.482	<0.001	<0.001			15.5	15.5	0.022	0.144
Fish C.	W1	6/21/1995	0.001	0.001	<0.001	<0.001	0.268	0.389	<0.001	0.001			14.8	14.9	0.041	0.052
Fish C.	W1	6/28/1995	<0.001	<0.001	<0.001	0.001	0.251	0.451	<0.001	<0.001			14.9	14.8	0.042	0.09
Fish C.	W1	7/4/1995	<0.001	<0.001	<0.001	<0.001	0.175	0.42	<0.001	<0.001			15.8	15.9	0.029	0.104
Fish C.	W1	7/13/1995	<0.001	<0.001	<0.001	0.001	0.272	0.576	<0.001	<0.001			14.4	14.6	0.046	0.121
Fish C.	W1	7/18/1995	<0.001	<0.001	<0.001	<0.001	0.037	0.387	<0.001	<0.001			11.5	11.7	0.006	0.088
Fish C.	W1	9/27/1995	<0.001	<0.001	<0.001	<0.001	0.14	0.335	<0.001	<0.001			15.4	15.5	0.016	0.083
Fish C.	W1	10/4/1995	<0.001	<0.001	<0.001	<0.001	0.125	0.116	<0.001	<0.001			14.8	15.4	0.016	0.008
Fish C.	W1	10/11/1995	<0.001	<0.001	<0.001	<0.001	0.141	0.283	<0.001	<0.001			15.2	15.7	0.007	0.034
Fish C.	W1	10/18/1995	<0.001	<0.001	<0.001	<0.001	0.278	0.45	<0.001	<0.001			14.6	14.7	0.025	0.036
Fish C.	W1	10/27/1995	<0.001	<0.001	<0.001	<0.001	0.25	0.357	<0.001	<0.001			13	13	0.017	0.022
Fish C.	W1	4/22/1996	<0.001	<0.001	<0.001	<0.001	0.246	0.307	<0.001	<0.001			9.32	9.71	0.007	0.013
Fish C.	W1	5/1/1996	<0.001	<0.001	0.002	0.001	0.184	0.222	<0.001	<0.001			11	11.1	0.014	0.015
Fish C.	W1	5/8/1996	<0.001	<0.001	<0.001	<0.001	0.119	0.181	<0.001	<0.001			10.3	10.6	0.008	0.015
Fish C.	W1	5/15/1996	<0.001	<0.001	0.001	0.001	0.121	0.205	<0.001	<0.001			10.1	10.1	0.009	0.022
Fish C.	W1	5/23/1996	<0.001	<0.001	<0.001	<0.001	0.126	0.168	<0.001	<0.001			8.69	9.82	0.013	0.021
Fish C.	W1	8/6/1996	<0.001	<0.001	<0.001	0.001	0.248	0.429	<0.001	<0.001			16.4	16.4	0.028	0.044
Fish C.	W1	8/16/1996	<0.001	<0.001	<0.001	0.001	0.167	0.723	<0.001	<0.001			16.5	16.1	0.052	0.124
Fish C.	W1	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.116	0.445	<0.001	<0.001			16.4	16.8	0.02	0.13
Fish C.	W1	9/2/1996	<0.001	<0.001	<0.001	<0.001	0.276	0.611	<0.001	<0.001			16.9	16.7	0.055	0.137
Fish C.	W1	9/5/1996	<0.001	<0.001	<0.001	<0.001	0.244	0.626	<0.001	<0.001			15.5	15.5	0.065	0.279

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W1	5/31/1992	<0.001	<0.001	0.003	0.004			0.72		<0.0005	<0.0005	6.49	6.54
Fish C.	W1	6/30/1992	<0.001	<0.001	0.003	0.003			0.78		<0.0005	<0.0005	4.64	4.64
Fish C.	W1	7/30/1992	<0.001	<0.001	0.003	0.004			0.62		<0.0005	<0.0005	8.23	8.3
Fish C.	W1	8/30/1992	<0.001	<0.001	0.003	0.003			0.92		<0.0005	<0.0005	6.21	6.58
Fish C.	W1	10/4/1992	<0.001	<0.001	0.002	0.002			0.83		<0.0005	<0.0005	6.57	6.67
Fish C.	W1	10/28/1992	<0.001	<0.001	0.002	0.002			0.62		<0.0005	<0.0005	6.79	7.34
Fish C.	W1	12/1/1992	<0.001	<0.001	0.003	0.003			0.81		<0.0005	<0.0005	9.14	9.24
Fish C.	W1	1/7/1993	<0.001	<0.001	0.004	0.005			1.8		<0.0005	<0.0005	15.7	16.4
Fish C.	W1	1/27/1993	<0.001	<0.001	0.006	0.006			2.03		<0.0005	<0.0005	16	16.2
Fish C.	W1	3/2/1993	<0.001	<0.001	0.006	0.006			2.87		<0.0005	<0.0005	15.2	16.9
Fish C.	W1	3/31/1993	<0.001	0.001	0.004	0.004			3.98		<0.0005	<0.0005	7.1	7.28
Fish C.	W1	5/5/1993	<0.001	<0.001	0.001	0.002			1.28		<0.0005	<0.0005	5.04	5.04
Fish C.	W1	5/13/1993	<0.001	0.001	0.001	0.002			1.13		<0.0005	<0.0005	5.63	5.81
Fish C.	W1	5/19/1993	<0.001	0.001	0.002	0.002			1.07		<0.0005	<0.0005	5.98	6.24
Fish C.	W1	5/27/1993	<0.001	<0.001	0.002	0.003			0.88		<0.0005	<0.0005	5.37	5.37
Fish C.	W1	6/3/1993	<0.001	<0.001	0.001	0.001			1.18		<0.0005	<0.0005	6.99	7
Fish C.	W1	8/17/1993	<0.001	<0.001	0.002	0.006			0.6		<0.0005	<0.0005	9.03	9.19
Fish C.	W1	8/24/1993	<0.001	<0.001	0.004	0.004			0.67		<0.0005	<0.0005	9.35	9.48
Fish C.	W1	8/31/1993	<0.001	0.002	0.003	0.003			0.59		<0.0005	<0.0005	8.59	8.88
Fish C.	W1	9/14/1993	<0.001	<0.001	0.003	0.003			0.74		<0.0005	<0.0005	7.05	7.52
Fish C.	W1	9/20/1993	<0.001	<0.001	0.003	0.003			0.62		<0.0005	<0.0005	6.98	7.27
Fish C.	W1	5/4/1994	<0.001	<0.001	0.002	0.002			0.58		<0.0005	<0.0005	7.25	7.26
Fish C.	W1	5/11/1994	<0.001	<0.001	0.002	0.003			0.53		<0.0005	<0.0005	8.03	8.03
Fish C.	W1	5/17/1994	<0.001	<0.001	0.002	0.003			0.52		<0.0005	<0.0005	7.18	7.84
Fish C.	W1	5/26/1994	<0.001	<0.001	0.003	0.005			0.55		<0.0005	<0.0005	9.03	9.18
Fish C.	W1	5/31/1994	<0.001	<0.001	0.003	0.003			0.59		<0.0005	<0.0005	8.72	8.72
Fish C.	W1	8/10/1994	<0.001	<0.001	0.004	0.006			0.47		<0.0005	<0.0005	4.67	5.65
Fish C.	W1	8/16/1994	0.002	0.002	0.003	0.004			0.45		<0.0005	<0.0005	3.31	3.46
Fish C.	W1	8/24/1994	<0.001	<0.001	0.003	0.003			0.37		<0.0005	<0.0005	2.09	2.4
Fish C.	W1	8/30/1994	0.001	0.001	0.003	0.004			0.38		<0.0005	<0.0005	2.05	2.71
Fish C.	W1	9/6/1994	0.001	0.001	0.003	0.003			0.31		<0.0005	<0.0005	2.28	2.55
Fish C.	W1	6/21/1995	<0.001	<0.001	0.003	0.004			0.75		<0.0005	<0.0005	8.32	8.54
Fish C.	W1	6/28/1995	<0.001	<0.001	0.003	0.003			0.68		<0.0005	<0.0005	6.23	6.34
Fish C.	W1	7/4/1995	0.001	0.001	0.003	0.003			0.71		<0.0005	<0.0005	4.27	4.64
Fish C.	W1	7/13/1995	<0.001	<0.001	0.006	0.003			1.04		<0.0005	<0.0005	2.25	2.67
Fish C.	W1	7/18/1995	<0.001	<0.001	0.001	0.002			0.67		<0.0005	<0.0005	3.54	3.21
Fish C.	W1	9/27/1995	<0.001	<0.001	0.002	0.003			1.26		<0.0005	<0.0005	5.4	5.62
Fish C.	W1	10/4/1995	<0.001	0.001	0.003	0.003			1.24		<0.0005	<0.0005	5.22	5.58
Fish C.	W1	10/11/1995	<0.001	0.001	0.003	0.003			0.94		<0.0005	<0.0005	5.12	5.5
Fish C.	W1	10/18/1995	<0.001	<0.001	0.003	0.003			1.53		<0.0005	<0.0005	8.26	8.37
Fish C.	W1	10/27/1995	<0.001	<0.001	0.001	0.002			1.16		<0.0005	<0.0005	7.86	7.95
Fish C.	W1	4/22/1996	<0.001	<0.001	0.002	0.002			1.23		<0.0005	<0.0005	5.66	5.8
Fish C.	W1	5/1/1996	<0.001	<0.001	0.002	0.003			0.97		<0.0005	<0.0005	6.63	6.64
Fish C.	W1	5/8/1996	<0.001	<0.001	0.002	0.002			0.78		<0.0005	<0.0005	6.48	6.62
Fish C.	W1	5/15/1996	<0.001	<0.001	0.003	0.003			0.75		<0.0005	<0.0005	6.81	6.84
Fish C.	W1	5/23/1996	0.001	<0.001	0.002	0.003			0.76		<0.0005	<0.0005	7.05	7.21
Fish C.	W1	8/6/1996	<0.001	<0.001	0.004	0.004			0.56		<0.0005	0.0005	6.07	6.6
Fish C.	W1	8/16/1996	<0.001	<0.001	0.003	0.004			0.66		<0.0005	<0.0005	6.29	6.23
Fish C.	W1	8/24/1996	<0.001	<0.001	0.003	0.003			0.65		<0.0005	<0.0005	5.49	5.75
Fish C.	W1	9/2/1996	<0.001	<0.001	0.003	0.004			0.78		<0.0005	<0.0005	6.49	6.36
Fish C.	W1	9/5/1996	<0.001	<0.001	0.003	0.004			1.17		<0.0005	<0.0005	6.33	6.41

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W1	5/31/1992	<0.0001	<0.0001	5.91		0.058	0.058							0.00025	0.00025
Fish C.	W1	6/30/1992	<0.0001	<0.0001	7.29		0.061	0.061							0.00008	0.00008
Fish C.	W1	7/30/1992	<0.0001	<0.0001	6.27		0.071	0.071							<0.00005	<0.00005
Fish C.	W1	8/30/1992	<0.0001	<0.0001	8.59		0.055	0.055							0.00008	0.0001
Fish C.	W1	10/4/1992	<0.0001	<0.0001	6.64		0.054	0.054							0.00005	0.00006
Fish C.	W1	10/28/1992	<0.0001	<0.0001	7.04		0.047	0.047							0.00007	0.00008
Fish C.	W1	12/1/1992	<0.0001	<0.0001	14.5		0.082	0.082							0.00008	0.00009
Fish C.	W1	1/7/1993	<0.0001	<0.0001	17.8		0.129	0.131							0.00014	0.00014
Fish C.	W1	1/27/1993	<0.0001	<0.0001	19.3		0.14	0.142							0.00008	0.00008
Fish C.	W1	3/2/1993	<0.0001	0.0002	25.4		0.151	0.16							0.0001	0.00011
Fish C.	W1	3/31/1993	<0.0001	<0.0001	13.5		0.076	0.08							0.00009	0.00009
Fish C.	W1	5/5/1993	<0.0001	<0.0001	5.22		0.034	0.034							<0.00005	<0.00005
Fish C.	W1	5/13/1993	<0.0001	<0.0001	6.18		0.034	0.034							0.00004	0.00005
Fish C.	W1	5/19/1993	<0.0001	<0.0001	7.04		0.043	0.052							0.00004	0.00005
Fish C.	W1	5/27/1993	<0.0001	<0.0001	8.71		0.058	0.058							0.00007	0.00007
Fish C.	W1	6/3/1993	<0.0001	<0.0001	9.96		0.061	0.061							0.00007	0.00007
Fish C.	W1	8/17/1993	<0.0001	<0.0001	7.14		0.06	0.06							0.00003	0.00003
Fish C.	W1	8/24/1993	<0.0001	<0.0001	8.06		0.064	0.064							0.00004	0.00005
Fish C.	W1	8/31/1993	<0.0001	<0.0001	6.93		0.067	0.067							0.00007	0.00007
Fish C.	W1	9/14/1993	<0.0001	<0.0001	10.4		0.064	0.065							0.00004	0.00004
Fish C.	W1	9/20/1993	<0.0001	<0.0001	9.67		0.064	0.066							0.00006	0.00006
Fish C.	W1	5/4/1994	<0.0001	<0.0001	3.91		0.03	0.031							0.00001	0.00002
Fish C.	W1	5/11/1994	<0.0001	<0.0001	4.45		0.036	0.036							0.00001	0.00002
Fish C.	W1	5/17/1994	<0.0001	<0.0001	4.7		0.036	0.036							<0.00001	<0.00001
Fish C.	W1	5/26/1994	<0.0001	<0.0001	5.22		0.043	0.044							0.00003	0.00004
Fish C.	W1	5/31/1994	<0.0001	<0.0001	5.7		0.044	0.044							0.00002	0.00004
Fish C.	W1	8/10/1994	<0.0001	<0.0001	10.2		0.066	0.076							0.00024	0.00028
Fish C.	W1	8/16/1994	<0.0001	<0.0001	12.4		0.065	0.065							0.0003	0.0003
Fish C.	W1	8/24/1994	<0.0001	<0.0001	12.5		0.061	0.065							0.00023	0.00023
Fish C.	W1	8/30/1994	<0.0001	<0.0001	12		0.06	0.06							0.00025	0.00025
Fish C.	W1	9/6/1994	<0.0001	<0.0001	13.5		0.058	0.059							0.00022	0.0003
Fish C.	W1	6/21/1995	<0.0001	<0.0001	7.77		0.063	0.064					<0.010	<0.010	0.00007	0.00007
Fish C.	W1	6/28/1995	<0.0001	<0.0001	8.25		0.065	0.065					<0.010	<0.010	0.00024	0.00024
Fish C.	W1	7/4/1995	<0.0001	<0.0001	9.51		0.069	0.07					<0.010	<0.010	0.00025	0.00027
Fish C.	W1	7/13/1995	<0.0001	<0.0001	10.6		0.063	0.064					<0.010	<0.010	0.00023	0.00028
Fish C.	W1	7/18/1995	<0.0001	<0.0001	7.7		0.057	0.059					<0.010	<0.010	0.00013	0.00013
Fish C.	W1	9/27/1995	<0.0001	<0.0001	12.6		0.067	0.068					<0.010	<0.010	0.00018	0.00017
Fish C.	W1	10/4/1995	<0.0001	<0.0001	13.4		0.068	0.069					<0.010	<0.010	0.00021	0.00021
Fish C.	W1	10/11/1995	<0.0001	<0.0001	12.4		0.065	0.068					<0.010	<0.010	0.00022	0.00022
Fish C.	W1	10/18/1995	<0.0001	<0.0001	9.23		0.06	0.06					<0.010	<0.010	0.00041	0.00007
Fish C.	W1	10/27/1995	<0.0001	<0.0001	8.94		0.048	0.048					<0.010	<0.010	0.00006	0.00006
Fish C.	W1	4/22/1996	<0.0001	<0.0001	3.68		0.034	0.036					<0.010	<0.010	0.00003	0.00004
Fish C.	W1	5/1/1996	<0.0001	<0.0001	5.31		0.041	0.041					<0.010	<0.010	0.00004	0.00004
Fish C.	W1	5/8/1996	<0.0001	<0.0001	5.39		0.038	0.038					<0.010	<0.010	0.00003	0.00003
Fish C.	W1	5/15/1996	<0.0001	<0.0001	5.01		0.042	0.042					<0.010	<0.010	0.00003	0.00003
Fish C.	W1	5/23/1996	<0.0001	<0.0001	4.62		0.036	0.04					<0.010	<0.010	0.00002	0.00002
Fish C.	W1	8/6/1996	<0.0001	<0.0001	9.55		0.073	0.073					<0.010	<0.010	0.00021	0.00021
Fish C.	W1	8/16/1996	<0.0001	<0.0001	9.24		0.073	0.073					<0.010	<0.010	0.00023	0.00024
Fish C.	W1	8/24/1996	<0.0001	<0.0001	10.5		0.064	0.07					<0.010	<0.010	0.00027	0.00026
Fish C.	W1	9/2/1996	<0.0001	<0.0001	12		0.074	0.075					<0.010	<0.010	0.00027	0.00023
Fish C.	W1	9/5/1996	<0.0001	<0.0001	10.5		0.066	0.066					<0.010	<0.010	0.00022	0.00021

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W1	5/31/1992	<0.030	<0.030	<0.005	0.012
Fish C.	W1	6/30/1992	<0.030	<0.030	<0.005	0.029
Fish C.	W1	7/30/1992	<0.030	<0.030	<0.005	0.005
Fish C.	W1	8/30/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/4/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/28/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	12/1/1992	<0.030	<0.030	<0.005	0.017
Fish C.	W1	1/7/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	1/27/1993	<0.030	<0.030	<0.005	0.005
Fish C.	W1	3/2/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	3/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/5/1993	<0.030	<0.030	<0.005	0.005
Fish C.	W1	5/13/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/19/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/27/1993	<0.030	<0.030	0.019*	0.019
Fish C.	W1	6/3/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/17/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/24/1993	<0.030	<0.030	<0.005	0.016
Fish C.	W1	8/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/14/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/20/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/4/1994	<0.030	<0.030	<0.005	0.009
Fish C.	W1	5/11/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/17/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/26/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/31/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/10/1994	<0.030	<0.030	<0.005	0.01
Fish C.	W1	8/16/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/24/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/30/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/6/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	6/21/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	6/28/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	7/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	7/13/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	7/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/11/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	10/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	4/22/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/1/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/8/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/15/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/6/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/16/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	8/24/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/2/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	9/5/1996	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W1	2/26/1997				408	190		7.45	226	10.8		18	262	9	1.4	0.08	<1
Fish C.	W1	5/8/1997	4	12.8		122	61.7	7.62	7.31	72	1.7		13.1	82	2	0.6	0.04	1
Fish C.	W1	5/14/1997	11.5			139	68.8	7.37	7.48	79	0.9		12.7	95	4	0.5	0.06	1
Fish C.	W1	5/19/1997	3.5			147	73.4	7.3	7.41	82	1.2		12.7	99	1	0.5	0.05	1
Fish C.	W1	5/27/1997	10.1			149	74.5	7.68	7.64	85	1.4		31.9	112	5	0.5	0.06	1
Fish C.	W1	6/3/1997	9.6			169	85.4	7.7	7.6	94	1.5		16.1	117	11	0.9	0.06	1
Fish C.	W1	7/28/1997	18			215	112	7.5	7.53	130	1.8		18	152	2	0.5	0.09	1
Fish C.	W1	9/16/1997	12			303	145	7.93	7.98	166	2.8		20.8	199	2	0.7	0.15	1
Fish C.	W1	9/23/1997	14			296	141		7.89	165	2.2		19.7	195	3	0.5	0.11	1
Fish C.	W1	9/30/1997	7.1			302	136	8.24	7.82	163	6.7		17.9	191	4	0.5	0.13	1
Fish C.	W1	10/7/1997	5.6			303	138	8.52	7.67	162	4		19	195	3	1.8	0.11	1
Fish C.	W1	10/14/1997	7.4			306	132	8.14	7.62	164	2.3		16.7	190	2	2	0.1	1
Fish C.	W1	11/17/1997	0.9			414	185	7.7	7.02	233	4.4		13.4	295	3	4.9	0.09	3
Fish C.	W1	12/20/1997	0.3			471	186	7.13	7	251	7.5		15.9	289	9	6.1	0.09	2
Fish C.	W1	1/21/1998				491	216		7.2	270	20.6		16	368	17	7.5	0.12	1
Fish C.	W1	2/17/1998	0.4			523	229		7.22	300	35.2		22.4	375	40			1
Fish C.	W1	3/11/1998	0.6			596	268		7.33	349	65.1		22.2	450	27	7.4	0.11	3
Fish C.	W1	4/15/1998	0.6			240	117	7.54	7.89	136	17.6		11.2	162	25	0.7	0.08	1
Fish C.	W1	5/9/2006	7.1	10.8	142.6	134	69.0		8.05	73.1	1.23	14.3		105	3.1	<0.50	0.041	<0.50
Fish C.	W1	5/16/2006	12.0	8.9	149.4	146	74.5		8.41	75.0	2.14	11.8		102	<3.0	<0.50	0.059	0.55
Fish C.	W1	5/24/2006	12.0	10.5	160.2	160	84.5		8.11	86.8	3.33	15.7		117	9.6	<0.50	0.045	<0.50
Fish C.	W1	5/29/2006	11.7	9.5	103.6	137	73.4		8.03	75.2	1.83	18.5		125	<3.0	<0.50	0.053	<0.50
Fish C.	W1	6/7/2006	11.8	8.7	161.5	160	90.3		7.90	97.1	1.21	19.8		132	<3.0	<0.50	0.048	<0.50
Fish C.	W1	7/5/2006	19.3	3.0	236.9	229	115		8.12	120	3.33	18.3		176	<3.0	<0.50	0.077	<0.50
Fish C.	W2	5/31/1992				149	77.6		7.81	78.6	1.3			121	<1	0.8	0.05	<1.0
Fish C.	W2	6/30/1992				152	78.5		6.51	83.2	0.44			126	4	0.9	0.05	<1.0
Fish C.	W2	7/30/1992				159	84.5		8.23	84.6	1.24			129	<1	0.8	0.05	<1.0
Fish C.	W2	8/30/1992				163	84.9		8.2	94.7	2.65			144	1	0.5	0.06	1.1
Fish C.	W2	10/4/1992				167	83		7.81	94.3	1.8			140	1	0.5	0.05	<1.0
Fish C.	W2	10/28/1992				163	83.9		7.69	86.8	1.66			134	3	0.5	0.05	1.3
Fish C.	W2	12/1/1992				169	88.6		7.56	92.5	0.51			142	<1	0.5	0.04	1.2
Fish C.	W2	1/7/1993				183	91.3		7.64	102	0.71			155	<1	0.7	0.06	2.1
Fish C.	W2	1/27/1993				184	88.3		7.59	97.3	0.8			146	1	0.6	0.05	<1.0
Fish C.	W2	3/2/1993				191	100		7.63	103	0.53			158	1	0.6	0.06	<1.0
Fish C.	W2	3/31/1993				198	101		7.82	113	0.77			158	3	0.7	0.06	3.8
Fish C.	W2	5/5/1993				164	74.5		7.7	83.7	0.72			125	1	1	0.05	2.2
Fish C.	W2	5/13/1993				169	85.6		7.67	90.4	1.15			128	2	0.5	0.06	3.8
Fish C.	W2	5/19/1993				173	83.3		7.96	94	1			134	3	1	0.05	1.9
Fish C.	W2	5/27/1993				172	82.4		7.98	95.3	2.51			104	2	1.8	0.05	2.4
Fish C.	W2	6/3/1993				171	81		7.8	91.4	1.6			100	4	0.9	0.05	2.9
Fish C.	W2	8/17/1993				169	86.5		8.3	93.3	1.05			113	3	0.5	0.05	3.3
Fish C.	W2	8/24/1993				172	86.5		7.9	95.1	0.93			115	3	0.9	0.05	2.7
Fish C.	W2	8/31/1993				172	86.2		7.69	91.6	1.77			109	<1	0.7	0.05	1.6
Fish C.	W2	9/14/1993				193	82.4		7.82	91.8	1.37		11.8	126	6	0.5	0.05	2.6
Fish C.	W2	9/20/1993				239	86.3		7.62	93	1.4			116	3	0.6	0.05	1.6
Fish C.	W2	5/4/1994				120	59.6		7.27	64	0.91			79	<1	0.7	0.05	3
Fish C.	W2	5/11/1994				137	65.8		7.46	72.7	0.98			87	<1	0.7	0.05	2.3
Fish C.	W2	5/18/1994				153	69.4		7.68	77.1	0.58			92	4	0.6	0.05	2.1
Fish C.	W2	5/26/1994				152	72.8		7.75	79.4	0.74		13.1	93	2	0.7	0.06	2.8
Fish C.	W2	5/31/1994				151	75.9		7.84	81.4	1.11		11.3	105	<1	0.9	0.06	4.1
Fish C.	W2	8/10/1994				162	85.5		8.1	88.5	2.5		14.3	107	3	0.9	0.82	3.6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W1	2/26/1997	0.28	0.047	0.004	0.026	0.042	0.103	<0.005	0.068	<0.0001	<0.0001	0.0007	0.001	<0.010
Fish C.	W1	5/8/1997	0.007	0.009	0.001	0.005	0.006	0.029	0.007	0.041	0.00009	0.00005	0.0003	0.0003	0.00143
Fish C.	W1	5/14/1997	0.007	0.008	0.001	0.003	0.004	0.022	0.006	0.033	0.0005	0.0005	0.0003	0.0003	0.00134
Fish C.	W1	5/19/1997	0.007	0.007	0.001	0.004	0.005	0.017	0.005	0.032	0.00011	0.00005	0.0003	0.0003	0.00096
Fish C.	W1	5/27/1997	0.005	0.005	0.001	0.004	0.004	0.005	0.006	0.026	0.00006	0.00005	0.0003	0.0003	0.00107
Fish C.	W1	6/3/1997	0.006	0.005	0.001	0.005	0.015	0.019	0.008	0.038	0.00006	0.00006	0.0004	0.0004	0.00123
Fish C.	W1	7/28/1997	0.015	0.007	0.001	0.007	0.019	0.023	0.007	0.024	0.00005	0.00005	0.0005	0.0005	0.00178
Fish C.	W1	9/16/1997	0.006	0.005	0.001	0.003	0.024	0.027	0.009	0.044	0.00008	0.00009	0.0007	0.0007	0.00117
Fish C.	W1	9/23/1997	0.016	0.03	0.001	0.002	0.003	0.005	0.006	0.034	0.00005	0.00005	0.0007	0.0007	0.00125
Fish C.	W1	9/30/1997	0.005	0.005	0.001	0.006	0.006	0.018	0.009	0.178	0.00009	0.0001	0.0007	0.0008	0.00216
Fish C.	W1	10/7/1997	0.015	0.005	0.001	0.008	0.008	0.01	0.006	0.034	0.00006	0.00007	0.0006	0.0006	0.0016
Fish C.	W1	10/14/1997	0.015	0.005	0.001	0.001	0.002	0.002	0.005	0.029	0.00006	0.00006	0.0005	0.0005	0.00143
Fish C.	W1	11/17/1997	0.005	0.005	0.001	0.006	0.021	0.042	0.003	0.009	0.00011	0.00011	0.0005	0.0007	0.00265
Fish C.	W1	12/20/1997	0.146	0.005	0.001	0.039	0.057	0.168	0.003	0.003	0.00007	0.00007	0.001	0.0022	0.00447
Fish C.	W1	1/21/1998	0.28	0.005	0.004	0.033	0.053	0.073	0.002	0.004	0.00007	0.00007	0.0031	0.003	0.0169
Fish C.	W1	2/17/1998	1.08	0.005	0.003	0.081	0.094	0.565		0.007		0.00007		0.005	
Fish C.	W1	3/11/1998	0.284	0.005	0.003	0.008	0.008	0.282	0.002	0.01	0.00008	0.0001	0.0022	0.0038	0.00577
Fish C.	W1	4/15/1998	0.005	0.005	0.001	0.004	0.004	0.012	0.003	0.022	0.00005	0.00005	0.0004	0.0008	0.00127
Fish C.	W1	5/9/2006	<0.0050	<0.0050	<0.0010	<0.0010	0.0148	0.0186	0.0062	0.0233	<0.00010	<0.00010	0.00027	0.00028	0.00143
Fish C.	W1	5/16/2006	<0.0050	0.0077	<0.0010	0.0027	0.0056	0.0249	0.0058	0.0329	<0.00010	<0.00010	0.00027	0.00030	0.00142
Fish C.	W1	5/24/2006	0.0067	<0.0050	<0.0010	0.0104	0.0123	0.0219	0.0070	0.0618	<0.00010	<0.00010	0.00032	0.00035	0.00140
Fish C.	W1	5/29/2006	0.0100	<0.0050	<0.0010	0.0041	0.0160	0.0270	0.0103	0.0660	<0.00010	<0.00010	0.00031	0.00034	0.00153
Fish C.	W1	6/7/2006	0.0080	<0.0050	<0.0010	0.0060	0.0073	0.0230	0.0096	0.0308	<0.00010	<0.00010	0.00041	0.00039	0.00128
Fish C.	W1	7/5/2006	0.0347	0.0057	<0.0010	0.0128	0.0252	0.0349	<0.0050	0.0140	<0.00010	<0.00010	0.00064	0.00071	0.00150
Fish C.	W2	5/31/1992	0.025	<0.005	<0.001	0.004	0.005	0.008	0.055	0.17	<0.0001	0.0001	0.0001	0.0014	<0.010
Fish C.	W2	6/30/1992	0.155	<0.005	<0.001	0.005	0.007	0.008	0.01	0.033	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	7/30/1992	0.096	<0.005	0.003	0.007	0.021	0.039	<0.005	<0.005	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	8/30/1992	0.053	0.011	<0.001	0.006	0.015	0.025	0.006	0.074	<0.0001	<0.0001	0.0004	0.0005	<0.010
Fish C.	W2	10/4/1992	0.049	0.034	<0.001	0.019	0.024	0.032	0.019	0.073	<0.0001	<0.0001	0.0005	0.0005	<0.010
Fish C.	W2	10/28/1992	0.08	0.132	<0.001	0.011	0.015	0.028	0.007	0.047	<0.0001	<0.0001	0.0003	0.0005	<0.010
Fish C.	W2	12/1/1992	0.03	0.058	0.015	0.007	0.018	0.018	<0.005	0.009	<0.0002	<0.0002	0.0002	0.0002	<0.010
Fish C.	W2	1/7/1993	0.006	0.13	<0.001	0.003	0.003	0.015	<0.005	0.009	<0.0001	<0.0001	0.0003	0.0004	<0.010
Fish C.	W2	1/27/1993	<0.005	0.149	0.002	0.012	0.022	0.026	0.005	0.013	<0.0001	0.0001	0.0002	0.0002	<0.010
Fish C.	W2	3/2/1993	0.005	0.139	<0.001	0.009	0.017	0.019	0.006	0.007	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W2	3/31/1993	0.011	0.1	<0.001	0.008	0.014	0.016	0.006	0.008	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	5/5/1993	0.019	0.012	<0.001	0.007	0.017	0.018	0.007	0.082	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	5/13/1993	0.011	<0.005	<0.001	0.007	0.017	0.019	0.007	0.042	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	5/19/1993	0.021	<0.005	0.003	0.007	0.019	0.019	0.019	0.08	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	5/27/1993	0.014	<0.005	<0.001	0.007	0.019	0.022	0.009	0.225	<0.0001	<0.0001	<0.0001	0.0002	<0.010
Fish C.	W2	6/3/1993	0.036	<0.005	<0.001	0.004	0.011	0.02	0.011	0.023	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	8/17/1993	0.019	<0.005	0.003	0.004	0.016	0.017	0.02	0.031	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W2	8/24/1993	0.017	<0.005	0.004	0.006	0.014	0.015	0.007	0.014	<0.0001	0.0002	0.0001	0.0001	<0.010
Fish C.	W2	8/31/1993	0.035	<0.005	0.004	0.006	0.014	0.017	<0.005	<0.005	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	9/14/1993	0.027	<0.005	<0.001	0.006	0.015	0.018	<0.005	0.025	<0.0001	<0.0001	0.0001	0.0002	<0.010
Fish C.	W2	9/20/1993	0.026	0.011	0.003	0.006	0.01	0.019	<0.005	0.015	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W2	5/4/1994	<0.005	<0.005	0.003	0.002	0.014	0.019	0.025	0.037	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	5/11/1994	0.022	<0.005	0.003	0.001	0.009	0.016	0.008	0.021	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	5/18/1994	0.011	<0.005	0.002	0.002	0.003	0.013	0.006	0.018	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	5/26/1994	0.023	<0.005	0.003	0.008	0.008	0.012	<0.005	0.016	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W2	5/31/1994	0.017	<0.005	0.002	0.003	0.003	0.005	<0.005	0.017	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	8/10/1994	0.051	<0.005	0.002	0.013	0.016	0.049	0.005	0.102	<0.0001	<0.0001	0.0004	0.0004	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W1	2/26/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	32.5	32.1	<0.001	<0.001
Fish C.	W1	5/8/1997	0.0018	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	10.4	10.3	0.0005	0.0005
Fish C.	W1	5/14/1997	0.00151	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	11.7	11.5	0.0005	0.0005
Fish C.	W1	5/19/1997	0.0013	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	12.5	12.5	0.0005	0.0005
Fish C.	W1	5/27/1997	0.00128	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	13	12.8	0.0006	0.0005
Fish C.	W1	6/3/1997	0.00147	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	15	14.7	0.0006	0.0006
Fish C.	W1	7/28/1997	0.00185	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	19.5	19.3	0.0007	0.0006
Fish C.	W1	9/16/1997	0.00162	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	24.8	24.1	0.0005	0.0005
Fish C.	W1	9/23/1997	0.00152	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	24.2	24.2	0.0006	0.0006
Fish C.	W1	9/30/1997	0.00362	0.0005	0.0005	0.0005	0.0005	0.007	0.006	0.00005	0.00005	23.1	22.4	0.0007	0.0009
Fish C.	W1	10/7/1997	0.00189	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	23.4	23.3	0.0007	0.0006
Fish C.	W1	10/14/1997	0.00171	0.0005	0.0005	0.0005	0.0005	0.009	0.008	0.00005	0.00005	22.6	22.8	0.0008	0.0006
Fish C.	W1	11/17/1997	0.00293	0.0005	0.0005	0.0005	0.0005	0.019	0.019	0.00005	0.00005	32.2	33.2	0.0005	0.001
Fish C.	W1	12/20/1997	0.0118	0.0005	0.0005	0.0005	0.0005	0.015	0.014	0.00005	0.00005	33.2	35.5		
Fish C.	W1	1/21/1998	0.0166	0.0005	0.0005	0.0005	0.0005	0.022	0.022	0.00005	0.00005	39.1	39.3	0.0007	0.0006
Fish C.	W1	2/17/1998	0.0193		0.0005		0.0005		0.019		0.00005		39.6		0.0006
Fish C.	W1	3/11/1998	0.0124	0.0005	0.0005	0.0005	0.0005	0.021	0.021	0.00005	0.00005	41.9	43.5	0.0011	0.0012
Fish C.	W1	4/15/1998	0.00304	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	20.5	21.8	0.0005	0.0006
Fish C.	W1	5/9/2006	0.00158	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	11.4	12.0	<0.00050	<0.00050
Fish C.	W1	5/16/2006	0.00167	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	12.9	12.4	<0.00050	<0.00050
Fish C.	W1	5/24/2006	0.00181	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.7	14.3	<0.00050	0.00054
Fish C.	W1	5/29/2006	0.00224	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	12.3	12.4	0.00084	0.00060
Fish C.	W1	6/7/2006	0.00167	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	0.000105	15.8	15.2	<0.00090	0.00086
Fish C.	W1	7/5/2006	0.00231	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	20.1	21.7	<0.00050	<0.00050
Fish C.	W2	5/31/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.4	<0.001	<0.001
Fish C.	W2	6/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.8	14.8	<0.001	<0.001
Fish C.	W2	7/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.9	14.9	<0.001	<0.001
Fish C.	W2	8/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.3	16.3	<0.001	<0.001
Fish C.	W2	10/4/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.6	16.1	<0.001	<0.001
Fish C.	W2	10/28/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	16.7	<0.001	<0.001
Fish C.	W2	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.1	17.2	<0.001	<0.001
Fish C.	W2	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.5	18.1	<0.001	<0.001
Fish C.	W2	1/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.3	16.4	<0.001	<0.001
Fish C.	W2	3/2/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.6	20	<0.001	<0.001
Fish C.	W2	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.4	19.6	<0.001	<0.001
Fish C.	W2	5/5/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.3	<0.001	<0.001
Fish C.	W2	5/13/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.1	16.4	<0.001	<0.001
Fish C.	W2	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.8	16.2	<0.001	<0.001
Fish C.	W2	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.4	15.4	<0.001	<0.001
Fish C.	W2	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.7	15.7	<0.001	<0.001
Fish C.	W2	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.6	17.6	<0.001	<0.001
Fish C.	W2	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.7	16.7	<0.001	<0.001
Fish C.	W2	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.8	17.2	<0.001	<0.001
Fish C.	W2	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.7	16.1	<0.001	<0.001
Fish C.	W2	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.8	16.9	<0.001	<0.001
Fish C.	W2	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.6	10.6	<0.001	<0.001
Fish C.	W2	5/11/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.3	<0.001	<0.001
Fish C.	W2	5/18/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.3	13.7	<0.001	<0.001
Fish C.	W2	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.5	13.5	<0.001	<0.001
Fish C.	W2	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.1	14.1	<0.001	<0.001
Fish C.	W2	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.7	17.2	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W1	2/26/1997	<0.001	0.001	0.001	0.001	0.928	2.14	<0.001	<0.001			26.5	26	0.745	0.734
Fish C.	W1	5/8/1997	0.0002	0.0002	0.0007	0.0009	0.38	0.51	0.00005	0.00005	0.001	0.001	8.66	8.51	0.0113	0.0367
Fish C.	W1	5/14/1997	0.0004	0.0004	0.0007	0.0008	0.2	0.29	0.00005	0.00005	0.001	0.001	9.62	9.3	0.0116	0.0255
Fish C.	W1	5/19/1997	0.0003	0.0003	0.0005	0.0011	0.2	0.3	0.00005	0.00005	0.001	0.001	10.2	10.1	0.0149	0.0323
Fish C.	W1	5/27/1997	0.0001	0.0001	0.0007	0.0008	0.15	0.23	0.00005	0.00005	0.001	0.001	10.2	9.98	0.0137	0.027
Fish C.	W1	6/3/1997	0.0003	0.0002	0.0008	0.0009	0.22	0.32	0.00005	0.00005	0.001	0.001	11.7	11.4	0.0249	0.0392
Fish C.	W1	7/28/1997	0.0001	0.0002	0.0007	0.0008	0.23	0.3	0.00005	0.00005	0.001	0.001	15.3	14.8	0.0542	0.0661
Fish C.	W1	9/16/1997	0.0003	0.0003	0.0011	0.0012	0.14	0.28	0.00005	0.00005	0.001	0.001	20.1	19.5	0.0836	0.15
Fish C.	W1	9/23/1997	0.0002	0.0002	0.001	0.001	0.16	0.3	0.00005	0.00005	0.001	0.001	19.4	19.4	0.089	0.139
Fish C.	W1	9/30/1997	0.0004	0.0013	0.0013	0.0016	0.14	0.48	0.00005	0.00008	0.001	0.001	19.1	18.7	0.148	0.171
Fish C.	W1	10/7/1997	0.0006	0.0006	0.001	0.001	0.18	0.35	0.00005	0.00005	0.001	0.001	19.2	19.1	0.0848	0.115
Fish C.	W1	10/14/1997	0.0004	0.0006	0.0009	0.0009	0.17	0.34	0.00005	0.00005	0.001	0.001	18.3	18.5	0.0736	0.113
Fish C.	W1	11/17/1997	0.0007	0.0007	0.0006	0.0006	0.37	0.95	0.00005	0.00005	0.001	0.001	25.4	25.9	0.738	0.783
Fish C.	W1	12/20/1997	0.0016	0.0048	0.0005	0.0005	1.38	5.87	0.00005	0.00005	0.001	0.001	25	25.5	2.81	8.14
Fish C.	W1	1/21/1998	0.0046	0.0048	0.0003	0.0004	10.2	10.4	0.00005	0.00005	0.001	0.001	28.8	28.8	5.49	5.48
Fish C.	W1	2/17/1998		0.0064		0.0007		15.2		0.00005		0.001		29.3		10.5
Fish C.	W1	3/11/1998	0.0044	0.0048	0.0005	0.0011	1.12	7.67	0.00005	0.00009	0.001	0.001	39.8	39.2	4.57	4.82
Fish C.	W1	4/15/1998	0.0001	0.0004	0.0008	0.0012	0.45	2.51	0.00005	0.00011	0.001	0.001	16.1	16.6	0.0291	0.163
Fish C.	W1	5/9/2006	<0.00010	0.00010	0.00095	0.00094	0.129	0.196	<0.000050	<0.000050	<0.0050	<0.0050	9.82	10.3	0.00785	0.0167
Fish C.	W1	5/16/2006	<0.00010	0.00011	0.00104	0.00103	0.129	0.240	<0.000050	<0.000050	<0.0050	<0.0050	10.3	10.0	0.00782	0.0200
Fish C.	W1	5/24/2006	<0.00010	0.00017	<0.0010	0.00113	0.184	0.326	<0.000050	<0.000050	<0.0050	<0.0050	11.6	10.9	0.0131	0.0324
Fish C.	W1	5/29/2006	<0.00010	0.00021	0.00103	0.00115	0.105	0.239	<0.000050	<0.000050	<0.0050	<0.0050	10.4	10.5	0.00521	0.0440
Fish C.	W1	6/7/2006	<0.00010	0.00016	0.00094	0.00106	0.225	0.302	<0.000050	<0.000050	<0.0050	<0.0050	12.4	11.8	0.00464	0.0423
Fish C.	W1	7/5/2006	0.00011	0.00027	0.00099	0.00107	0.134	0.315	<0.000050	<0.000050	<0.0050	<0.0050	15.6	16.8	0.00548	0.123
Fish C.	W2	5/31/1992	<0.001	<0.001	0.002	0.002	0.114	0.172	<0.001	<0.001			10.2	10.5	<0.005	0.009
Fish C.	W2	6/30/1992	<0.001	<0.001	<0.001	0.002	0.072	0.104	<0.001	<0.001			10.1	10.1	0.008	0.009
Fish C.	W2	7/30/1992	<0.001	<0.001	<0.001	0.005*	0.034	0.035	<0.001	0.003			11.5	11.5	0.005	0.01
Fish C.	W2	8/30/1992	<0.001	<0.001	0.001	0.001	0.08	0.138	<0.001	<0.001			10.8	10.8	0.008	0.015
Fish C.	W2	10/4/1992	<0.001	<0.001	<0.001	<0.001	0.168	0.22	<0.001	<0.001			10.7	11.2	0.017	0.017
Fish C.	W2	10/28/1992	<0.001	<0.001	<0.001	<0.001	0.11	0.171	<0.001	<0.001			10.5	10.9	0.007	0.009
Fish C.	W2	12/1/1992	<0.001	<0.001	<0.001	<0.001	0.074	0.108	<0.001	<0.001			11.1	11.3	<0.005	<0.005
Fish C.	W2	1/7/1993	<0.001	<0.001	<0.001	<0.001	0.093	0.189	<0.001	<0.001			11.6	12.1	0.005	0.005
Fish C.	W2	1/27/1993	<0.001	<0.001	<0.001	0.001	0.073	0.252	<0.001	<0.001			11.6	11.6	0.008	0.008
Fish C.	W2	3/2/1993	<0.001	<0.001	<0.001	0.001	0.086	0.123	<0.001	<0.001			12.4	12.7	0.014	0.021
Fish C.	W2	3/31/1993	<0.001	<0.001	<0.001	<0.001	0.07	0.098	<0.001	<0.001			12.7	13	0.01	0.015
Fish C.	W2	5/5/1993	<0.001	<0.001	<0.001	0.001	0.066	0.121	<0.001	<0.001			9.44	9.44	<0.005	0.014
Fish C.	W2	5/13/1993	<0.001	<0.001	<0.001	<0.001	0.074	0.134	<0.001	<0.001			11	11.3	<0.005	0.021
Fish C.	W2	5/19/1993	<0.001	<0.001	<0.001	<0.001	0.055	0.11	<0.001	<0.001			10.6	10.9	<0.005	0.014
Fish C.	W2	5/27/1993	<0.001	<0.001	<0.001	<0.001	0.034	0.222	<0.001	<0.001			10.7	10.7	<0.005	0.012
Fish C.	W2	6/3/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.053	<0.001	<0.001			10.2	10.2	<0.005	0.007
Fish C.	W2	8/17/1993	<0.001	<0.001	<0.001	<0.001	0.045	0.069	<0.001	<0.001			10.3	10.3	<0.005	0.01
Fish C.	W2	8/24/1993	<0.001	<0.001	<0.001	<0.001	0.046	0.069	<0.001	<0.001			10.8	10.8	<0.005	0.011
Fish C.	W2	8/31/1993	<0.001	<0.001	<0.001	<0.001	0.04	0.04	<0.001	<0.001			10.8	11.1	<0.005	<0.005
Fish C.	W2	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.046	0.092	<0.001	<0.001			10.5	10.7	<0.005	0.013
Fish C.	W2	9/20/1993	<0.001	<0.001	<0.001	<0.001	0.059	0.088	<0.001	<0.001			10.7	10.7	0.012	0.022
Fish C.	W2	5/4/1994	<0.001	<0.001	<0.001*	<0.001*	0.115	0.159	<0.001	<0.001			8.03	8.03	<0.005	0.006
Fish C.	W2	5/11/1994	<0.001	<0.001	<0.001	<0.001	0.086	0.134	<0.001	<0.001			8.58	8.59	<0.005	0.012
Fish C.	W2	5/18/1994	<0.001	<0.001	<0.001	<0.001	0.115	0.163	<0.001	<0.001			9.41	9.41	0.012	0.02
Fish C.	W2	5/26/1994	<0.001	<0.001	<0.001	<0.001	0.077	0.119	<0.001	<0.001			9.51	9.55	<0.005	0.006
Fish C.	W2	5/31/1994	<0.001	<0.001	<0.001	<0.001	0.085	0.129	<0.001	<0.001			9.87	9.87	<0.005	0.009
Fish C.	W2	8/10/1994	<0.001	<0.001	<0.001	0.001	0.07	0.156	<0.001	<0.001			10.6	10.8	0.007	0.014

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W1	2/26/1997	<0.001	<0.001	0.006	0.007			2.86		<0.0005	<0.0005	11.4	11.3
Fish C.	W1	5/8/1997	0.0003	0.00031	0.0026	0.0029			2		0.0005	0.0005	5.79	5.7
Fish C.	W1	5/14/1997	0.00025	0.00026	0.0028	0.0029					0.0005	0.0007	6.38	6.4
Fish C.	W1	5/19/1997	0.00022	0.00021	0.0026	0.0029					0.0005	0.0005	7.15	7.09
Fish C.	W1	5/27/1997	0.0002	0.00022	0.0031	0.0032					0.0005	0.0005	7.77	7.62
Fish C.	W1	6/3/1997	0.00026	0.00027	0.0036	0.0038					0.0005	0.0008	8.53	8.35
Fish C.	W1	7/28/1997	0.00039	0.00042	0.0038	0.0039					0.0005	0.0005	9.79	9.54
Fish C.	W1	9/16/1997	0.00111	0.00115	0.0046	0.0048					0.0005	0.0005	3.87	3.88
Fish C.	W1	9/23/1997	0.00107	0.00106	0.0044	0.0045					0.0005	0.0005	3.82	3.92
Fish C.	W1	9/30/1997	0.00119	0.00117	0.0044	0.0048					0.0005	0.0005	3.09	3.48
Fish C.	W1	10/7/1997	0.0011	0.00109	0.0037	0.0038					0.0005	0.0005	3.67	3.75
Fish C.	W1	10/14/1997	0.00092	0.00094	0.0035	0.0037					0.0005	0.0005	4.13	4.25
Fish C.	W1	11/17/1997	0.00093	0.00095	0.0034	0.0035					0.0005	0.0005	11.5	11.8
Fish C.	W1	12/20/1997	0.00133	0.00208	0.0038	0.0053					0.0005	0.0005	10.7	11.6
Fish C.	W1	1/21/1998	0.00226	0.00233	0.004	0.0046			2		0.0005	0.0005	13.3	13.3
Fish C.	W1	2/17/1998		0.00214		0.0051						0.0005		13.7
Fish C.	W1	3/11/1998	0.00232	0.00235	0.0073	0.0077			4	4	0.0005	0.0005	13.1	13.7
Fish C.	W1	4/15/1998	0.00043	0.00051	0.0028	0.0033			2		0.0005	0.0005	8.73	9.63
Fish C.	W1	5/9/2006	0.000203	0.000211	0.00305	0.00296	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.44	5.67
Fish C.	W1	5/16/2006	0.000223	0.000232	0.00310	0.00321	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.60	6.52
Fish C.	W1	5/24/2006	0.000256	0.000242	0.00355	0.00376	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.53	6.41
Fish C.	W1	5/29/2006	0.000201	0.000189	0.00367	0.00385	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.93	7.15
Fish C.	W1	6/7/2006	0.000202	0.000228	0.00373	0.00401	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.98	7.59
Fish C.	W1	7/5/2006	0.000744	0.000759	0.00502	0.00512	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.20	6.72
Fish C.	W2	5/31/1992	<0.001	<0.001	0.002	0.002			0.82		<0.0005	<0.0005	6.67	6.67
Fish C.	W2	6/30/1992	<0.001	<0.001	0.001	0.002			0.71		<0.0005	<0.0005	7.46	7.46
Fish C.	W2	7/30/1992	<0.001	<0.001	0.002	0.002			0.73		<0.0005	<0.0005	7.42	7.42
Fish C.	W2	8/30/1992	<0.001	<0.001	<0.001	<0.001			0.85		<0.0005	<0.0005	8.36	8.36
Fish C.	W2	10/4/1992	<0.001	<0.001	0.001	0.002			0.84		<0.0005	<0.0005	8.39	8.7
Fish C.	W2	10/28/1992	<0.001	<0.001	0.002	0.002			0.82		<0.0005	<0.0005	8.55	8.83
Fish C.	W2	12/1/1992	<0.001	<0.001	<0.001	0.002			0.73		<0.0005	<0.0005	8.69	8.8
Fish C.	W2	1/7/1993	<0.001	<0.001	0.002	0.002			0.82		<0.0005	<0.0005	9.53	9.96
Fish C.	W2	1/27/1993	<0.001	0.001	0.002	0.002			0.84		<0.0005	<0.0005	8.09	8.97
Fish C.	W2	3/2/1993	<0.001	<0.001	0.002	0.003			0.9		<0.0005	<0.0005	9.95	10.1
Fish C.	W2	3/31/1993	<0.001	<0.001	0.002	0.002			1.04		<0.0005	<0.0005	9.7	9.91
Fish C.	W2	5/5/1993	<0.001	<0.001	<0.001	0.001			0.82		<0.0005	<0.0005	7.38	7.38
Fish C.	W2	5/13/1993	<0.001	<0.001	<0.001	0.002			0.8		<0.0005	<0.0005	8.37	8.56
Fish C.	W2	5/19/1993	<0.001	<0.001	0.001	0.001			0.86		<0.0005	<0.0005	8.13	8.35
Fish C.	W2	5/27/1993	<0.001	<0.001	0.001	0.002			0.8		<0.0005	<0.0005	7.94	8.18
Fish C.	W2	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.89		<0.0005	<0.0005	7	7.8
Fish C.	W2	8/17/1993	0.001	0.001	0.001	0.002			0.75		<0.0005	<0.0005	7.43	7.43
Fish C.	W2	8/24/1993	<0.001	<0.001	0.002	0.002			0.81		<0.0005	<0.0005	7.62	7.62
Fish C.	W2	8/31/1993	<0.001	0.001	<0.001	<0.001			0.66		<0.0005	<0.0005	7.91	8.21
Fish C.	W2	9/14/1993	<0.001	<0.001	0.001	0.001			0.86		<0.0005	<0.0005	7.73	7.95
Fish C.	W2	9/20/1993	<0.001	<0.001	0.001	0.001			0.84		<0.0005	<0.0005	8.15	8.15
Fish C.	W2	5/4/1994	<0.001	<0.001	0.002	0.002			0.85		<0.0005	<0.0005	6.32	6.33
Fish C.	W2	5/11/1994	<0.001	<0.001	0.002	0.002			0.71		<0.0005	<0.0005	6.76	6.76
Fish C.	W2	5/18/1994	<0.001	<0.001	<0.001	0.001			0.74		<0.0005	<0.0005	7	7.01
Fish C.	W2	5/26/1994	<0.001	<0.001	0.002	0.002			0.78		<0.0005	<0.0005	7.44	7.47
Fish C.	W2	5/31/1994	<0.001	<0.001	0.002	0.002			0.8		<0.0005	<0.0005	7.63	7.63
Fish C.	W2	8/10/1994	<0.001	<0.001	0.002	0.002			0.58		<0.0005	<0.0005	8.63	8.9

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W1	2/26/1997	<0.0001	<0.0001	18.4		0.113	0.113					<0.010	<0.010	0.00042	0.00045
Fish C.	W1	5/8/1997	0.00001	0.00001	4	4	0.0305	0.0307			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W1	5/14/1997	0.00001	0.00001	4	4	0.0316	0.0319			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Fish C.	W1	5/19/1997	0.00001	0.00001	5	5	0.0317	0.0329			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Fish C.	W1	5/27/1997	0.00001	0.00001	5	5	0.0346	0.0338			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Fish C.	W1	6/3/1997	0.00001	0.00001	6	6	0.044	0.0429			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W1	7/28/1997	0.00001	0.00001	7	7	0.0555	0.0553			0.0001	0.0001	0.01	0.01	0.00009	0.00009
Fish C.	W1	9/16/1997	0.00001	0.00001	15	14	0.0763	0.0759			0.0001	0.0001	0.01	0.01	0.00045	0.00044
Fish C.	W1	9/23/1997	0.00001	0.00001	14	14	0.0696	0.071			0.0001	0.0001	0.01	0.01	0.00034	0.00033
Fish C.	W1	9/30/1997	0.00001	0.00001	15	15	0.0737	0.0718			0.0001	0.0001	0.01	0.01	0.00041	0.00039
Fish C.	W1	10/7/1997	0.00001	0.00001	15	15	0.0758	0.0743			0.0001	0.0001	0.01	0.01	0.00034	0.00033
Fish C.	W1	10/14/1997	0.00001	0.00001	15	15	0.0737	0.0737			0.0001	0.0001	0.01	0.01	0.00029	0.00028
Fish C.	W1	11/17/1997	0.00001	0.00001	26	27	0.112	0.112			0.0001	0.0001	0.01	0.01	0.00019	0.00019
Fish C.	W1	12/20/1997	0.00001	0.00001	26	30	0.119	0.13			0.0001	0.0001	0.01	0.01	0.00021	0.00023
Fish C.	W1	1/21/1998	0.00001	0.00001	34	34	0.107	0.105			0.0001	0.0001	0.01	0.01	0.00023	0.00023
Fish C.	W1	2/17/1998		0.00001	31	30		0.142				0.0001		0.01		0.00017
Fish C.	W1	3/11/1998	0.00001	0.00001	41	40	0.136	0.14			0.0001	0.0001	0.01	0.01	0.00068	0.00065
Fish C.	W1	4/15/1998	0.00001	0.00001	12	12	0.0626	0.0657			0.0001	0.0001	0.01	0.01	0.0002	0.00024
Fish C.	W1	5/9/2006	<0.000010	<0.000010	5.3	5.6	0.0343	0.0343	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000046	0.000046
Fish C.	W1	5/16/2006	<0.000010	<0.000010	6.8	6.7	0.0350	0.0354	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000053	0.000054
Fish C.	W1	5/24/2006	<0.000010	<0.000010	7.5	7.6	0.0411	0.0417	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000078	0.000085
Fish C.	W1	5/29/2006	0.000276	0.000720	6.9	7.0	0.0347	0.0356	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000037	0.000046
Fish C.	W1	6/7/2006	<0.000010	<0.000010	7.2	6.8	0.0423	0.0429	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000062	0.000066
Fish C.	W1	7/5/2006	<0.000010	<0.000010	10.2	11.0	0.0677	0.0698	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000169	0.000168
Fish C.	W2	5/31/1992	<0.0001	<0.0001	4.88		0.047	0.049							0.00013	0.00013
Fish C.	W2	6/30/1992	<0.0001	<0.0001	5.17		0.039	0.039							<0.00005	<0.00005
Fish C.	W2	7/30/1992	<0.0001	<0.0001	5.04		0.049	0.049							<0.00005	<0.00005
Fish C.	W2	8/30/1992	<0.0001	<0.0001	6.87		0.038	0.038							0.00005	0.00006
Fish C.	W2	10/4/1992	<0.0001	<0.0001	5.48		0.054	0.058							0.00007	0.00007
Fish C.	W2	10/28/1992	<0.0001	<0.0001	5.9		0.047	0.047							0.00007	0.00009
Fish C.	W2	12/1/1992	<0.0001	<0.0001	6.36		0.044	0.044							<0.00005	0.00013
Fish C.	W2	1/7/1993	<0.0001	<0.0001	6.29		0.057	0.057							<0.00005	0.00005
Fish C.	W2	1/27/1993	<0.0001	<0.0001	6.12		0.04	0.04							<0.00005	0.00005
Fish C.	W2	3/2/1993	<0.0001	<0.0001	6.75		0.063	0.063							0.00005	0.00006
Fish C.	W2	3/31/1993	<0.0001	<0.0001	7.3		0.063	0.064							0.00005	0.00005
Fish C.	W2	5/5/1993	<0.0001	<0.0001	5.38		0.036	0.036							<0.00005	<0.00005
Fish C.	W2	5/13/1993	<0.0001	<0.0001	5.47		0.052	0.052							0.00003	0.00003
Fish C.	W2	5/19/1993	<0.0001	<0.0001	5.36		0.034	0.034							0.00003	0.00004
Fish C.	W2	5/27/1993	<0.0001	<0.0001	6.52		0.055	0.055							0.00005	0.00005
Fish C.	W2	6/3/1993	<0.0001	<0.0001	6.03		0.051	0.051							0.00005	0.00005
Fish C.	W2	8/17/1993	<0.0001	<0.0001	5.94		0.049	0.049							0.00003	0.00003
Fish C.	W2	8/24/1993	<0.0001	<0.0001	6.62		0.051	0.051							0.00004	0.00005
Fish C.	W2	8/31/1993	<0.0001	0.0017	5.22		0.052	0.054							0.00004	0.00006
Fish C.	W2	9/14/1993	<0.0001	<0.0001	7.54		0.049	0.051							0.00004	0.00005
Fish C.	W2	9/20/1993	<0.0001	<0.0001	6.48		0.054	0.054							0.00003	0.00004
Fish C.	W2	5/4/1994	<0.0001	<0.0001	3.74		0.034	0.034							0.00001	0.00002
Fish C.	W2	5/11/1994	<0.0001	<0.0001	4.33		0.038	0.038							0.00002	0.00003
Fish C.	W2	5/18/1994	<0.0001	<0.0001	5.15		0.036	0.043							0.00002	0.00006
Fish C.	W2	5/26/1994	<0.0001	<0.0001	5.15		0.043	0.043							0.00002	0.00003
Fish C.	W2	5/31/1994	<0.0001	<0.0001	5.36		0.044	0.044							0.00001	0.00003
Fish C.	W2	8/10/1994	<0.0001	<0.0001	5.87		0.052	0.052							0.00005	0.00005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W1	2/26/1997	<0.030	<0.030	<0.005	<0.005
Fish C.	W1	5/8/1997	0.001	0.001	0.001	0.001
Fish C.	W1	5/14/1997	0.001	0.001	0.001	0.002
Fish C.	W1	5/19/1997	0.001	0.001	0.001	0.013
Fish C.	W1	5/27/1997	0.001	0.001	0.001	0.002
Fish C.	W1	6/3/1997	0.001	0.001	0.001	0.001
Fish C.	W1	7/28/1997	0.001	0.001	0.001	0.002
Fish C.	W1	9/16/1997	0.001	0.002	0.002	0.004
Fish C.	W1	9/23/1997	0.001	0.001	0.005	0.004
Fish C.	W1	9/30/1997	0.001	0.002	0.007	0.011
Fish C.	W1	10/7/1997	0.001	0.001	0.003	0.002
Fish C.	W1	10/14/1997	0.001	0.001	0.002	0.001
Fish C.	W1	11/17/1997	0.001	0.001	0.002	0.001
Fish C.	W1	12/20/1997			0.002	0.001
Fish C.	W1	1/21/1998	0.002	0.002	0.001	0.001
Fish C.	W1	2/17/1998		0.003		0.002
Fish C.	W1	3/11/1998	0.001	0.001	0.002	0.004
Fish C.	W1	4/15/1998	0.001	0.001	0.002	0.01
Fish C.	W1	5/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W1	5/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W1	5/24/2006	<0.0010	0.0011	<0.0010	0.0010
Fish C.	W1	5/29/2006	<0.0010	0.0012	0.0011	<0.0010
Fish C.	W1	6/7/2006	<0.0010	0.0011	<0.0010	0.0023
Fish C.	W1	7/5/2006	0.0011	0.0014	<0.0010	0.0015
Fish C.	W2	5/31/1992	<0.030	<0.030	<0.005	0.005
Fish C.	W2	6/30/1992	<0.030	<0.030	<0.005	0.012
Fish C.	W2	7/30/1992	<0.030	<0.030	<0.005	0.009
Fish C.	W2	8/30/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/4/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/28/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	12/1/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	1/7/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	1/27/1993	<0.030	<0.030	<0.005	0.006
Fish C.	W2	3/2/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	3/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/5/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/13/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/19/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/27/1993	<0.030	<0.030	<0.005	0.015
Fish C.	W2	6/3/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/17/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/24/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/14/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/20/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/4/1994	<0.030	<0.030	<0.005	0.01
Fish C.	W2	5/11/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/18/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/26/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/31/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/10/1994	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W2	8/16/1994				169	81.6		7.77	89.3	2.85		14.3	105	5	0.8	0.07	4.1
Fish C.	W2	8/24/1994				163	84.3		8.19	87	1.63		17.3	107	<1	0.8	0.08	3.1
Fish C.	W2	8/30/1994				166	84.4		7.94	88.1	2.5		15.6	106	6	0.6	0.06	3.6
Fish C.	W2	9/6/1994				169	68.4		7.79	89.9	2.7		15.5	121	1	0.5	0.33	4.1
Fish C.	W2	6/22/1995				154	77.2		8	84	0.84		11	106	2	1	0.06	3.1
Fish C.	W2	6/28/1995				154	78.7		8.32	83.8	0.66		16.2	103	<1	0.7	0.06	4.3
Fish C.	W2	7/4/1995				156	80.1		8.36	81.9	1.18		12.3	97	3	1	0.06	2.4
Fish C.	W2	7/13/1995				158	81.3		8.1	85.5	1.16		13	100	3	0.5	0.06	2.9
Fish C.	W2	7/18/1995				161	79.9		8.19	93.6	1.7		12.7	105	5	0.7	0.07	2
Fish C.	W2	9/27/1995				166	80.7		8.12	99.5	4.75		12.1	121	5	1.1	0.06	4
Fish C.	W2	10/4/1995				175	80.7		7.46	94.9	15		13.8	109	18	0.7	0.08	2.6
Fish C.	W2	10/11/1995				166	86.4		8.16	91.3	8.2		13.3	117	9	1	0.07	1.1
Fish C.	W2	10/18/1995				166	82.2		7.6	84.3	0.9		13	111	<1	0.8	0.07	3.1
Fish C.	W2	10/27/1995				163	81.3		7.78	86	2.5		12.3	108	5	0.8	0.06	<1.0
Fish C.	W2	4/23/1996				133	65.5		7.27	68.9	1.1		13.1	84	3	1	0.05	2.1
Fish C.	W2	5/1/1996				158	75		7.36	81.5	1.2		12.4	105	1	0.7	0.06	1.8
Fish C.	W2	5/8/1996				156	75.4		7.34	79.7	1		13.3	105	4	0.8	0.05	2.5
Fish C.	W2	5/15/1996				156	76.8		7.42	75.6	1		12.8	102	5	1.7	0.05	1.6
Fish C.	W2	5/23/1996				151	73.8		7.53	82.1	1.1		12.9	101	3	0.5	0.04	<1.0
Fish C.	W2	8/6/1996				158	76.8		7.99	88.4	1.3		16.5	101	5	1	0.05	<1.0
Fish C.	W2	8/18/1996				156	77.5		8.56	86.9	1.5		15.2	98	2	0.5	0.07	<1.0
Fish C.	W2	8/24/1996				160	75.2		8.29	84.4	13.3		15.1	96	7	0.5	0.05	<1.0
Fish C.	W2	9/2/1996				155	78.7		8.24	87.7	2.9		16.2	100	1	0.5	0.06	<1.0
Fish C.	W2	9/5/1996				158	80.4		8.1	84.2	2.1		14.1	106	1	0.5	0.07	<1.0
Fish C.	W2	2/26/1997				191	91		7.43	100	0.9		15	124	<1	0.5	0.06	1
Fish C.	W2	5/7/1997	7			134	65.6	8.05	7.58	78	1.6		10.9	92	2	0.5	0.05	1
Fish C.	W2	5/13/1997	6.5			131	62.3	7.53	7.42	74	0.6		10.2	87	1	0.5	0.04	1
Fish C.	W2	5/19/1997	8.6			152	73.2	7.67	7.46	88	1.3		12	103	5	0.5	0.07	1
Fish C.	W2	5/27/1997	13.5			151	75.1	7.74	7.6	83	0.8		13.4	101	2	0.5	0.06	1
Fish C.	W2	6/2/1997	13.1			153	73.6	7.87	7.71	83	1		12.8	101	2	0.8	0.05	1
Fish C.	W2	7/30/1997	20.5			159	79.5	8.8	8.21	94	1.5		13.7	111	1	0.5	0.07	1
Fish C.	W2	9/15/1997	12.8			174	79.8	7.74	7.39	88	3		13.6	108	4	0.5	0.06	1
Fish C.	W2	9/22/1997	13.5			179	83.3	7.64	7.53	90	7.6		14.6	111	12	0.5	0.06	1
Fish C.	W2	9/30/1997	7.6			186	86.5	7.82	7.41	93	4.7		15	114	4	0.5	0.08	1
Fish C.	W2	10/7/1997	4.4			191	102	8.1	7.32	93	3.6		16.2	123	4	0.5	0.07	1
Fish C.	W2	10/14/1997	7			205	100	7.33	7.1	104	5.4		17	134	7	0.7	0.09	2
Fish C.	W2	11/17/1997	0.6			235	111	8.4	7.3	123	1.6		19.2	151	3	0.5	0.07	1
Fish C.	W2	12/16/1997	3			190	90.2	7.68	6.67	97	1.8		14.1	119	8	0.5	0.08	1
Fish C.	W2	1/20/1998	0.3			192	94.6	7.3	7.18	102	0.6		13.5	124	1	0.5	0.07	1
Fish C.	W2	2/18/1998	0.8			195	94.9		7.24	103	0.5		14.4	125	1	0.5	0.06	1
Fish C.	W2	3/9/1998	0.9			195	100		7.6	104	0.5		9.9	125	2	0.5	0.08	1
Fish C.	W2	4/14/1998	2.2			179	91.4	7.68	7.37	99	1		12.1	117	3	0.5	0.06	1
Fish C.	W2	5/9/2006	6.8	10.2	142	134	68.9		8.11	73.3	1.13	13.9		103	<3.0	<0.50	0.041	0.57
Fish C.	W2	5/16/2006	13.4	10.0	165.7	155	81.1		8.14	87.0	2.39	14.5		118	7.0	<0.50	0.058	0.76
Fish C.	W2	5/24/2006	9.2	9.0	156.4	156	76.6		8.11	84.8	2.78	15.2		115	<3.0	<0.50	0.048	0.63
Fish C.	W2	5/29/2006	12.9	8.4	154.9	153	82.0		8.13	80.0	0.87	14.5		124	<3.0	<0.50	0.053	0.73
Fish C.	W2	6/7/2006	12.6	8.7	156.3	154	83.2		8.00	89.8	1.11	17.0		117	<3.0	<0.50	0.054	0.62
Fish C.	W2	7/5/2006	18.5	4.6	164.5	162	82.8		8.13	86.2	1.85	14.4		130	<3.0	<0.50	0.050	0.64
Fish C.	W2	8/8/2006	15.3		180	170	85.3		8.28	94.8	6.57	14.8		134	11.1	<0.50	0.052	0.69
Fish C.	W2	8/15/2006	18.9	7.3	169	166	83.3		7.49	95.6	4.80	16.0		125	8.2	<0.50	0.054	0.62
Fish C.	W2	8/22/2006	19.9	9.3	175.6	162	81.5		8.09	92.8	6.69	16.4		117	10.0	1.07	0.065	<1.0

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W2	8/16/1994	0.029	0.005	0.002	<0.001	0.002	0.018	0.015	0.067	<0.0002	<0.0002	0.0004	0.0004	<0.010
Fish C.	W2	8/24/1994	0.035	<0.005	0.002	0.007	0.019	0.022	<0.005	0.03	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W2	8/30/1994	0.036	<0.005	0.002	0.008	0.016	0.022	<0.005	0.057	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W2	9/6/1994	0.031	<0.005	0.003	0.008	0.014	0.023	0.007	0.093	<0.0001	<0.0001	<0.0001	0.0005	<0.010
Fish C.	W2	6/22/1995	0.009	<0.005	0.001	0.002	0.009	0.013	<0.005	0.009	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	6/28/1995	0.007	<0.005	0.001	0.002	0.009	0.03	0.39**	0.019	<0.0001	<0.0001	<0.0001	0.0001	<0.010
Fish C.	W2	7/4/1995	0.017	<0.005	0.001	0.006	0.009	0.029	0.021	0.075	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W2	7/13/1995	0.03	<0.005	0.001	0.006	0.006	0.006	0.03	0.049	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W2	7/18/1995	0.042	0.046	0.004	0.014	0.021	0.038	0.011	0.12	<0.0001	<0.0001	0.0003	0.0004	<0.010
Fish C.	W2	9/27/1995	0.076	<0.005	0.002	0.003	0.014	0.034	0.014	0.128	<0.0001	<0.0001	0.0003	0.0002	<0.010
Fish C.	W2	10/4/1995	0.77*	<0.005	0.002	0.014	0.014	0.169	0.006	0.009	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	10/11/1995	0.05	0.008	0.002	0.007	0.007	0.062	0.034	0.104	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	10/18/1995	0.023	0.014	0.003	<0.001	0.008	0.023	<0.005	0.036	<0.0001	<0.0001	<0.0001	0.0002	<0.010
Fish C.	W2	10/27/1995	0.022	0.012	0.003	0.008	0.008	0.03	0.023	0.115	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W2	4/23/1996	<0.005	<0.005	0.001	<0.001	0.004	0.022	0.008	0.038	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	5/1/1996	<0.005	<0.005	0.001	0.007	0.011	0.024	<0.005	0.01	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W2	5/8/1996	0.009	<0.005	0.001	0.007	0.007	0.027	0.013	0.03	<0.0001	<0.0001	0.0001	<0.0001	<0.010
Fish C.	W2	5/15/1996	0.006	<0.005	0.006	0.002	0.002	0.017	<0.005	0.019	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	5/23/1996	<0.005	<0.005	0.001	0.002	0.002	0.015	<0.005	0.009	0.0002	<0.0001	0.0003	0.0003	<0.010
Fish C.	W2	8/6/1996	0.031	0.005	0.002	0.009	0.016	0.024	0.01	0.031	0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W2	8/18/1996	0.008	<0.005	0.001	0.003	0.008	0.017	0.01	0.029	0.0002	<0.0001	0.0006	0.0005	<0.010
Fish C.	W2	8/24/1996	0.031	<0.005	0.002	0.004	0.015	0.05	<0.005	0.063	<0.0001	<0.0001	0.0004	0.0005	<0.010
Fish C.	W2	9/2/1996	0.022	<0.005	0.001	0.007	0.015	0.027	<0.005	0.023	0.0002	<0.0001	0.0007	0.0007	<0.010
Fish C.	W2	9/5/1996	0.024	<0.005	0.003	0.007	0.012	0.021	<0.005	0.018	0.0002	<0.0001	0.0004	<0.0001	<0.010
Fish C.	W2	2/26/1997	0.022	0.188	0.003	0.007	0.011	0.018	<0.005	0.012	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W2	5/7/1997	0.005	0.007	0.001	0.002	0.004	0.022	0.003	0.006	0.00016	0.00005	0.0003	0.0003	0.0016
Fish C.	W2	5/13/1997	0.047	0.007	0.002	0.001	0.001	0.015	0.002	0.007	0.0005	0.0005	0.0002	0.0002	0.00145
Fish C.	W2	5/19/1997	0.006	0.005	0.001	0.002	0.008	0.02	0.002	0.005	0.00014	0.00005	0.0003	0.0003	0.00158
Fish C.	W2	5/27/1997	0.005	0.005	0.001	0.003	0.003	0.014	0.002	0.004	0.00011	0.00005	0.0003	0.0003	0.0016
Fish C.	W2	6/2/1997	0.009	0.005	0.001	0.002	0.003	0.016	0.002	0.007	0.00005	0.00005	0.0003	0.0003	0.00176
Fish C.	W2	7/30/1997	0.011	0.005	0.001	0.002	0.004	0.014	0.002	0.005	0.00005	0.00007	0.0004	0.0004	0.00126
Fish C.	W2	9/15/1997	0.026	0.005	0.002	0.002	0.004	0.023	0.011	0.117	0.00006	0.00008	0.0005	0.0005	0.00217
Fish C.	W2	9/22/1997	0.041	0.018	0.002	0.005	0.005	0.017	0.014	0.061	0.00005	0.00005	0.0005	0.0005	0.00214
Fish C.	W2	9/30/1997	0.035	0.005	0.003	0.004	0.006	0.012	0.014	0.066	0.00005	0.00006	0.0005	0.0005	0.00244
Fish C.	W2	10/7/1997	0.067	0.007	0.001	0.006	0.008	0.01	0.015	0.059	0.00005	0.00005	0.0008	0.0005	0.0033
Fish C.	W2	10/14/1997	0.46	0.01	0.002	0.017	0.032	0.062	0.013	0.116	0.00005	0.00005	0.0009	0.001	0.00387
Fish C.	W2	11/17/1997	0.32	0.09	0.003	0.017	0.041	0.058	0.003	0.007	0.00007	0.00008	0.0005	0.0006	0.00289
Fish C.	W2	12/16/1997	0.41	0.022	0.005	0.006	0.02	0.033	0.003	0.03	0.00005	0.00007	0.0005	0.0005	0.0025
Fish C.	W2	1/20/1998	0.039	0.228	0.002	0.001	0.002	0.009	0.001	0.005	0.00005	0.00005	0.0004	0.0004	0.00294
Fish C.	W2	2/18/1998	0.023	0.181	0.004	0.003	0.005	0.007	0.001	0.003	0.00005	0.00005	0.0004	0.0004	0.00307
Fish C.	W2	3/9/1998	0.013	0.211	0.002	0.003	0.003	0.003	0.001	0.003	0.00005	0.00005	0.0004	0.0004	0.0033
Fish C.	W2	4/14/1998	0.014	0.019	0.001	0.001	0.001	0.005	0.001	0.002	0.00005	0.00005	0.0004	0.0004	0.00234
Fish C.	W2	5/9/2006	0.0133	<0.0050	<0.0010	<0.0010	<0.0020	<0.0020	<0.0030	0.0059	<0.00010	<0.00010	0.00031	0.00031	0.00164
Fish C.	W2	5/16/2006	0.0287	<0.0050	<0.0010	0.0038	0.0060	<0.0020	0.0030	0.0356	<0.00010	<0.00010	0.00035	0.00037	0.00202
Fish C.	W2	5/24/2006	0.0060	<0.0050	<0.0010	<0.0010	<0.0020	0.0035	0.0059	0.0226	<0.00010	<0.00010	0.00036	0.00038	0.00205
Fish C.	W2	5/29/2006	0.0293	<0.0050	<0.0010	0.0039	0.0024	0.0156	<0.0050	0.0055	<0.00010	<0.00010	0.00036	0.00035	0.00195
Fish C.	W2	6/7/2006	0.0220	<0.0050	<0.0010	0.0020	0.0020	0.0166	0.0033	0.0129	<0.00010	<0.00010	0.00040	0.00038	0.00196
Fish C.	W2	7/5/2006	0.0460	<0.0050	0.0010	0.0090	0.0180	0.0231	<0.0050	0.0271	<0.00010	<0.00010	0.00047	0.00053	0.00194
Fish C.	W2	8/8/2006	0.0350	0.0105	0.0025	<0.0010	0.0130	0.0495	<0.0030	0.0529	<0.00010	<0.00010	0.00056	0.00060	0.00200
Fish C.	W2	8/15/2006	0.0350	0.0148	0.0033	0.0032	0.0135	0.0464	<0.0030	0.0660	<0.00010	<0.00010	0.00051	0.00064	0.00181
Fish C.	W2	8/22/2006	0.0526	0.0209	0.0043	0.0029	0.019	0.0753	<0.0040	0.109	<0.00010	0.00023	0.00070	0.00068	0.00202

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W2	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.3	15.6	<0.001	<0.001
Fish C.	W2	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.1	16.6	<0.001	<0.001
Fish C.	W2	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	16.7	<0.001	<0.001
Fish C.	W2	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.8	16.9	<0.001	<0.001
Fish C.	W2	6/22/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.2	14.5	<0.001	<0.001
Fish C.	W2	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.1	14.8	<0.001	<0.001
Fish C.	W2	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.9	15.1	<0.001	<0.001
Fish C.	W2	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.1	15.1	<0.001	<0.001
Fish C.	W2	7/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.9	15.4	<0.001	<0.001
Fish C.	W2	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15	15	<0.001	<0.001
Fish C.	W2	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.1	15	<0.001	<0.001
Fish C.	W2	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	15.8	<0.001	<0.001
Fish C.	W2	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.4	15.9	<0.001	<0.001
Fish C.	W2	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.2	15.6	<0.001	<0.001
Fish C.	W2	4/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.5	<0.001	<0.001
Fish C.	W2	5/1/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.2	14.5	<0.001	<0.001
Fish C.	W2	5/8/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14	14.3	<0.001	<0.001
Fish C.	W2	5/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14	14	<0.001	<0.001
Fish C.	W2	5/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.3	13.3	<0.001	<0.001
Fish C.	W2	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.4	<0.001	<0.001
Fish C.	W2	8/18/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.1	13.5	<0.001	<0.001
Fish C.	W2	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.7	13.8	<0.001	<0.001
Fish C.	W2	9/2/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.5	14.8	<0.001	<0.001
Fish C.	W2	9/5/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.8	14.8	<0.001	<0.001
Fish C.	W2	2/26/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.7	17.4	<0.001	<0.001
Fish C.	W2	5/7/1997	0.00168	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	12.3	11.8	0.0005	0.0005
Fish C.	W2	5/13/1997	0.00147	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	11.4	10.6	0.0005	0.0005
Fish C.	W2	5/19/1997	0.00186	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	13.3	13.2	0.0005	0.0005
Fish C.	W2	5/27/1997	0.0017	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	13.8	14.1	0.0005	0.0005
Fish C.	W2	6/2/1997	0.0018	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	13.7	13.5	0.0005	0.0005
Fish C.	W2	7/30/1997	0.00129	0.0005	0.0005	0.0005	0.0005	0.006	0.005	0.00005	0.00005	14.3	14	0.0005	0.0005
Fish C.	W2	9/15/1997	0.00276	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	14.7	14.9	0.0005	0.0005
Fish C.	W2	9/22/1997	0.0026	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	16	16.2	0.0005	0.0005
Fish C.	W2	9/30/1997	0.00293	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	16.5	17	0.0005	0.0005
Fish C.	W2	10/7/1997	0.00284	0.0005	0.0005	0.0005	0.0005	0.006	0.005	0.00005	0.00005	21.4	19.3	0.0005	0.0005
Fish C.	W2	10/14/1997	0.00454	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	21.3	21.7	0.0005	0.0007
Fish C.	W2	11/17/1997	0.00311	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	20.7	21.2	0.0005	0.0005
Fish C.	W2	12/16/1997	0.00269	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	17	16.8	0.0005	0.0005
Fish C.	W2	1/20/1998	0.00304	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	17.8	17.8	0.0005	0.0005
Fish C.	W2	2/18/1998	0.00313	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	17.9	17.4	0.0005	0.0005
Fish C.	W2	3/9/1998	0.00334	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	19.2	18.9	0.0005	0.0005
Fish C.	W2	4/14/1998	0.00273	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	16.9	17.2	0.0005	0.0005
Fish C.	W2	5/9/2006	0.00179	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	12.8	13.1	<0.00050	<0.00050
Fish C.	W2	5/16/2006	0.00243	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.3	15.2	<0.00050	<0.00050
Fish C.	W2	5/24/2006	0.00225	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.6	15.1	<0.00050	<0.00050
Fish C.	W2	5/29/2006	0.00207	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.3	15.3	<0.00050	<0.00050
Fish C.	W2	6/7/2006	0.00218	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.7	14.9	<0.00070	<0.00050
Fish C.	W2	7/5/2006	0.00250	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.2	15.4	<0.00050	<0.00050
Fish C.	W2	8/8/2006	0.00271	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	16.3	16.5	0.00092	<0.00050
Fish C.	W2	8/15/2006	0.00314	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.7	15.2	<0.00050	<0.00050
Fish C.	W2	8/22/2006	0.0643	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.00017	<0.000017	15.1	15.5	<0.00050	<0.00050

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W2	8/16/1994	<0.001	<0.001	<0.001	0.002	0.059	0.138	<0.001	<0.001			10.5	10.9	0.006	0.012
Fish C.	W2	8/24/1994	<0.001	<0.001	<0.001	<0.001	0.061	0.117	<0.001	<0.001			10.7	11.5	0.007	0.012
Fish C.	W2	8/30/1994	<0.001	<0.001	<0.001	<0.001	0.085	0.167	<0.001	<0.001			10.6	10.8	0.009	0.016
Fish C.	W2	9/6/1994	<0.001	<0.001	<0.001	0.001	0.033	0.173	<0.001	<0.001			10.1	11.1	0.005	0.013
Fish C.	W2	6/22/1995	<0.001	<0.001	<0.001	<0.001	0.053	0.071	<0.001	<0.001			10.1	10.3	<0.005	0.007
Fish C.	W2	6/28/1995	<0.001	<0.001	<0.001	<0.001	0.055	0.068	<0.001	<0.001			9.96	10.2	<0.005	0.006
Fish C.	W2	7/4/1995	<0.001	<0.001	<0.001	<0.001	0.039	0.084	<0.001	<0.001			10.4	10.5	0.005	0.009
Fish C.	W2	7/13/1995	<0.001	<0.001	<0.001	<0.001	0.038	0.076	<0.001	<0.001			10.6	10.6	<0.005	0.012
Fish C.	W2	7/18/1995	<0.001	<0.001	<0.001	0.001	0.089	0.299	<0.001	<0.001			10.4	10.7	0.016	0.073*
Fish C.	W2	9/27/1995	<0.001	<0.001	<0.001	<0.001	0.054	0.119	<0.001	<0.001			10.5	10.5	0.006	0.015
Fish C.	W2	10/4/1995	<0.001	<0.001	<0.001	<0.001	0.129	0.08	<0.001	<0.001			10.5	10.5	0.011	<0.005
Fish C.	W2	10/11/1995	<0.001	<0.001	<0.001	<0.001	0.188	0.28	<0.001	<0.001			11.2	10.9	0.006	0.017
Fish C.	W2	10/18/1995	<0.001	<0.001	<0.001	0.001	0.144	0.199	<0.001	<0.001			10.6	11	0.007	0.014
Fish C.	W2	10/27/1995	<0.001	<0.001	<0.001	0.001	0.117	0.201	<0.001	0.001			10.5	10.7	0.005	0.01
Fish C.	W2	4/23/1996	<0.001	<0.001	0.001	0.001	0.17	0.232	<0.001	<0.001			8.48	8.57	0.006	0.019
Fish C.	W2	5/1/1996	<0.001	<0.001	0.002	0.002	0.187	0.241	<0.001	<0.001			9.61	9.78	0.017	0.034
Fish C.	W2	5/8/1996	<0.001	<0.001	<0.001	<0.001	0.136	0.191	<0.001	<0.001			9.78	9.9	<0.005	0.021
Fish C.	W2	5/15/1996	<0.001	<0.001	<0.001	<0.001	0.134	0.168	<0.001	<0.001			10.2	10.1	<0.005	0.012
Fish C.	W2	5/23/1996	<0.001	<0.001	<0.001	<0.001	0.086	0.131	<0.001	<0.001			9.88	9.67	<0.005	0.009
Fish C.	W2	8/6/1996	<0.001	<0.001	<0.001	0.001	0.052	0.102	<0.001	<0.001			9.97	10.1	0.008	0.016
Fish C.	W2	8/18/1996	<0.001	<0.001	<0.001	<0.001	0.056	0.088	<0.001	<0.001			10.3	9.86	0.008	0.013
Fish C.	W2	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.062	0.156	<0.001	<0.001			9.96	10	0.006	0.023
Fish C.	W2	9/2/1996	<0.001	<0.001	<0.001	<0.001	0.086	0.136	<0.001	<0.001			10.3	10.5	0.01	0.015
Fish C.	W2	9/5/1996	<0.001	<0.001	<0.001	<0.001	0.069	0.11	<0.001	<0.001			10.6	10.6	0.006	0.014
Fish C.	W2	2/26/1997	<0.001	<0.001	<0.001	<0.001	0.161	0.227	<0.001	<0.001			12	12.4	0.027	0.033
Fish C.	W2	5/7/1997	0.0001	0.0001	0.0005	0.0005	0.14	0.18	0.00005	0.00005	0.001	0.001	8.49	8.12	0.00991	0.0173
Fish C.	W2	5/13/1997	0.0004	0.0002	0.0004	0.0005	0.12	0.14	0.00006	0.00005	0.001	0.001	8.24	7.64	0.00521	0.0114
Fish C.	W2	5/19/1997	0.0001	0.0001	0.0005	0.0005	0.16	0.24	0.00005	0.00008	0.001	0.001	9.74	9.81	0.00166	0.0206
Fish C.	W2	5/27/1997	0.0001	0.0002	0.0006	0.0006	0.13	0.17	0.00005	0.00005	0.001	0.001	9.88	10	0.00158	0.00783
Fish C.	W2	6/2/1997	0.0001	0.0001	0.0006	0.0006	0.11	0.15	0.00005	0.00005	0.001	0.001	9.59	9.46	0.00543	0.0103
Fish C.	W2	7/30/1997	0.0001	0.0001	0.0006	0.0006	0.05	0.09	0.00005	0.00005	0.001	0.001	10.6	10.3	0.00607	0.0153
Fish C.	W2	9/15/1997	0.0001	0.0001	0.0006	0.0008	0.08	0.2	0.00005	0.00005	0.001	0.001	10.5	10.5	0.0117	0.0173
Fish C.	W2	9/22/1997	0.0002	0.0001	0.0007	0.0007	0.15	0.25	0.00005	0.00005	0.001	0.001	10.5	10.6	0.0153	0.0247
Fish C.	W2	9/30/1997	0.0001	0.0001	0.0007	0.0009	0.16	0.27	0.00005	0.00005	0.001	0.001	11	11.2	0.0194	0.0255
Fish C.	W2	10/7/1997	0.0007	0.0005	0.0012	0.0012	0.28	0.27	0.00005	0.00005	0.001	0.001	11.7	11.6	0.173	0.0313
Fish C.	W2	10/14/1997	0.0005	0.0009	0.0009	0.0012	0.33	0.64	0.00005	0.00005	0.001	0.001	11.4	11.5	0.475	0.471
Fish C.	W2	11/17/1997	0.0001	0.0001	0.0006	0.0006	0.14	0.18	0.00005	0.00005	0.001	0.001	14.3	14.8	0.0156	0.019
Fish C.	W2	12/16/1997	0.0002	0.0006	0.0004	0.0004	0.58	0.71	0.00005	0.00005	0.001	0.001	11.6	11.4	0.0912	0.0939
Fish C.	W2	1/20/1998	0.0001	0.0001	0.0004	0.0004	0.14	0.2	0.00005	0.00005	0.001	0.001	12.2	12	0.0538	0.0535
Fish C.	W2	2/18/1998	0.0001	0.0001	0.0005	0.0005	0.15	0.18	0.00005	0.00005	0.001	0.001	12.2	11.9	0.0301	0.0326
Fish C.	W2	3/9/1998	0.0001	0.0001	0.0005	0.0005	0.11	0.18	0.00005	0.00005	0.001	0.001	12.7	12.6	0.0212	0.0277
Fish C.	W2	4/14/1998	0.0001	0.0001	0.0005	0.0005	0.05	0.08	0.00005	0.00005	0.001	0.001	12	12.2	0.00744	0.0123
Fish C.	W2	5/9/2006	<0.00010	<0.00010	0.00054	0.00057	0.060	0.108	<0.000050	<0.000050	<0.0050	<0.0050	8.99	9.09	0.000323	0.00797
Fish C.	W2	5/16/2006	<0.00010	<0.00010	0.00061	0.00068	0.098	0.202	<0.000050	<0.000050	<0.0050	<0.0050	10.4	10.4	0.000469	0.0159
Fish C.	W2	5/24/2006	<0.00010	<0.00010	<0.0010	0.00079	0.083	0.153	<0.000050	<0.000050	<0.0050	<0.0050	9.77	10.0	0.000653	0.00720
Fish C.	W2	5/29/2006	<0.00010	<0.00010	0.00057	0.00057	0.072	0.121	<0.000050	<0.000050	<0.0050	<0.0050	10.7	10.8	0.000846	0.00557
Fish C.	W2	6/7/2006	<0.00010	<0.00010	0.00055	0.00096	0.083	0.129	<0.000050	<0.000050	<0.0050	<0.0050	10.7	10.1	0.00351	0.00944
Fish C.	W2	7/5/2006	<0.00010	<0.00010	0.00068	0.00096	0.051	0.117	<0.000050	<0.000050	<0.0050	<0.0050	10.9	11.0	0.00106	0.0125
Fish C.	W2	8/8/2006	<0.00010	0.00015	0.00085	0.00104	0.046	0.174	<0.000050	<0.000050	<0.0050	<0.0050	10.8	10.9	0.000666	0.0170
Fish C.	W2	8/15/2006	<0.00010	0.00014	0.00115	0.00146	0.058	0.221	<0.000050	0.000108	<0.0050	<0.0050	10.7	10.2	0.000924	0.0170
Fish C.	W2	8/22/2006	0.00012	0.00018	0.00087	0.00135	0.080	0.296	0.000057	0.000077	<0.0050	<0.0050	10.6	10.8	0.00155	0.0252

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W2	8/16/1994	<0.001	<0.001	0.002	0.002			0.59		<0.0005	<0.0005	7.6	7.81
Fish C.	W2	8/24/1994	<0.001	<0.001	0.001	0.001			0.68		<0.0005	<0.0005	8.27	8.56
Fish C.	W2	8/30/1994	<0.001	<0.001	0.002	0.002			0.63		<0.0005	<0.0005	8.3	8.58
Fish C.	W2	9/6/1994	<0.001	<0.001	0.002	0.002			0.68		<0.0005	<0.0005	6.48	8.52
Fish C.	W2	6/22/1995	<0.001	<0.001	0.001	0.001			0.76		<0.0005	<0.0005	6.69	6.82
Fish C.	W2	6/28/1995	<0.001	<0.001	<0.001	0.001			0.81		<0.0005	<0.0005	6.42	6.62
Fish C.	W2	7/4/1995	<0.001	<0.001	0.002	0.002			0.75		<0.0005	<0.0005	6.42	6.56
Fish C.	W2	7/13/1995	<0.001	<0.001	0.002	0.002			0.84		<0.0005	<0.0005	6.65	6.69
Fish C.	W2	7/18/1995	<0.001	<0.001	0.001	0.002			0.9		<0.0005	<0.0005	5.94	6.28
Fish C.	W2	9/27/1995	<0.001	<0.001	0.001	0.002			1.13		<0.0005	<0.0005	6.37	6.46
Fish C.	W2	10/4/1995	<0.001	<0.001	0.002	0.01			1.16		<0.0005	<0.0005	6.73	6.84
Fish C.	W2	10/11/1995	<0.001	<0.001	0.002	0.002			0.97		<0.0005	<0.0005	6.95	6.91
Fish C.	W2	10/18/1995	<0.001	<0.001	0.002	0.006			0.91		<0.0005	<0.0005	6.36	6.54
Fish C.	W2	10/27/1995	<0.001	<0.001	0.001	0.004			1.01		<0.0005	<0.0005	6.19	6.35
Fish C.	W2	4/23/1996	<0.001	<0.001	0.002	0.002			1.1		<0.0005	<0.0005	5.02	5.07
Fish C.	W2	5/1/1996	<0.001	<0.001	0.001	0.002			1.14		<0.0005	<0.0005	5.97	6.06
Fish C.	W2	5/8/1996	<0.001	<0.001	0.002	0.002			1.17		<0.0005	<0.0005	5.9	5.99
Fish C.	W2	5/15/1996	<0.001	<0.001	0.002	0.002			0.98		<0.0005	<0.0005	6.02	6
Fish C.	W2	5/23/1996	<0.001	<0.001	0.002	0.002			1.02		<0.0005	<0.0005	6.08	5.82
Fish C.	W2	8/6/1996	<0.001	<0.001	0.002	0.002			0.64		<0.0005	<0.0005	6.77	6.89
Fish C.	W2	8/18/1996	<0.001	<0.001	0.002	0.002			0.7		<0.0005	<0.0005	6.98	6.81
Fish C.	W2	8/24/1996	<0.001	<0.001	0.002	0.002			0.55		<0.0005	0.0006	6.77	6.78
Fish C.	W2	9/2/1996	<0.001	<0.001	0.002	0.002			0.61		<0.0005	<0.0005	7.47	7.47
Fish C.	W2	9/5/1996	<0.001	<0.001	0.001	0.002			0.98		<0.0005	<0.0005	7.53	7.57
Fish C.	W2	2/26/1997	<0.001	<0.001	0.002	0.002			1.21		<0.0005	<0.0005	8.94	9.24
Fish C.	W2	5/7/1997	0.00023	0.00025	0.0017	0.0017					0.0005	0.0005	6.13	5.98
Fish C.	W2	5/13/1997	0.0002	0.00022	0.0016	0.0016					0.0005	0.0005	5.77	5.34
Fish C.	W2	5/19/1997	0.00024	0.00023	0.0018	0.002					0.0005	0.0005	6.82	6.82
Fish C.	W2	5/27/1997	0.00025	0.00024	0.002	0.002					0.0005	0.0005	6.79	6.92
Fish C.	W2	6/2/1997	0.00025	0.00027	0.002	0.002					0.0005	0.0007	6.64	6.55
Fish C.	W2	7/30/1997	0.00025	0.00025	0.0019	0.0019					0.0005	0.0005	6.7	6.48
Fish C.	W2	9/15/1997	0.00028	0.00028	0.0019	0.002					0.0005	0.0005	6.76	7.04
Fish C.	W2	9/22/1997	0.00029	0.00025	0.0018	0.0018					0.0005	0.0005	5.83	6.17
Fish C.	W2	9/30/1997	0.00027	0.00029	0.0017	0.0018					0.0005	0.0005	5.21	5.52
Fish C.	W2	10/7/1997	0.0003	0.00028	0.0018	0.0016					0.0005	0.0005	8.54	5.75
Fish C.	W2	10/14/1997	0.00031	0.00031	0.0023	0.0029				2	0.0005	0.0005	8.34	8.58
Fish C.	W2	11/17/1997	0.00041	0.00042	0.0021	0.0022				2	0.0005	0.0005	9.61	9.8
Fish C.	W2	12/16/1997	0.00034	0.0003	0.0016	0.0016					0.0005	0.0005	8.4	8.24
Fish C.	W2	1/20/1998	0.00034	0.00034	0.0016	0.0018					0.0005	0.0005	8.98	8.87
Fish C.	W2	2/18/1998	0.00035	0.00035	0.0019	0.002					0.0005	0.0005	8.88	8.71
Fish C.	W2	3/9/1998	0.00034	0.00035	0.0019	0.0019					0.0005	0.0005	9.48	9.34
Fish C.	W2	4/14/1998	0.00033	0.00033	0.0019	0.0018					0.0005	0.0005	8.6	8.65
Fish C.	W2	5/9/2006	0.000221	0.000237	0.00182	0.00173	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.03	6.21
Fish C.	W2	5/16/2006	0.000274	0.000256	0.00217	0.00220	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.34	7.36
Fish C.	W2	5/24/2006	0.000278	0.000269	0.00202	0.00206	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.71	6.73
Fish C.	W2	5/29/2006	0.000273	0.000272	0.00193	0.00205	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.44	6.49
Fish C.	W2	6/7/2006	0.000244	0.000238	0.00195	0.00208	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.86	6.55
Fish C.	W2	7/5/2006	0.000294	0.000346	0.00202	0.00243	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.92	5.93
Fish C.	W2	8/8/2006	0.000302	0.000325	0.00209	0.00242	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.26	6.35
Fish C.	W2	8/15/2006	0.000276	0.000314	0.00181	0.00224	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.28	6.26
Fish C.	W2	8/22/2006	0.000319	0.000340	0.00185	0.00245	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.11	6.53

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W2	8/16/1994	<0.0001	<0.0001	6.05		0.05	0.052							0.00008	0.00008
Fish C.	W2	8/24/1994	<0.0001	<0.0001	5.98		0.052	0.055							0.00005	0.00005
Fish C.	W2	8/30/1994	<0.0001	<0.0001	5.8		0.05	0.051							0.00006	0.00008
Fish C.	W2	9/6/1994	<0.0001	<0.0001	5.87		0.046	0.054							0.00005	0.00008
Fish C.	W2	6/22/1995	<0.0001	<0.0001	5.63		0.047	0.048					<0.010	<0.010	0.00003	0.00003
Fish C.	W2	6/28/1995	<0.0001	<0.0001	5.64		0.047	0.047					<0.010	<0.010	0.00008	0.00008
Fish C.	W2	7/4/1995	<0.0001	<0.0001	5.83		0.049	0.049					<0.010	<0.010	0.00006	0.00006
Fish C.	W2	7/13/1995	<0.0001	<0.0001	5.98		0.045	0.045					<0.010	<0.010	0.00004	0.00005
Fish C.	W2	7/18/1995	<0.0001	<0.0001	6.41		0.054	0.056					<0.010	<0.010	0.00013	0.00013
Fish C.	W2	9/27/1995	<0.0001	<0.0001	6.62		0.051	0.051					<0.010	<0.010	0.00009	0.00008
Fish C.	W2	10/4/1995	<0.0001	<0.0001	7.07		0.054	0.054					<0.010	<0.010	0.0001	0.0001
Fish C.	W2	10/11/1995	<0.0001	<0.0001	6.61		0.052	0.052					<0.010	<0.010	0.00012	0.00012
Fish C.	W2	10/18/1995	<0.0001	<0.0001	6.3		0.049	0.049					<0.010	<0.010	0.00013	0.00006
Fish C.	W2	10/27/1995	<0.0001	<0.0001	6.42		0.045	0.051					<0.010	<0.010	0.00008	0.00008
Fish C.	W2	4/23/1996	<0.0001	<0.0001	3.96		0.04	0.041					<0.010	<0.010	0.00004	0.00004
Fish C.	W2	5/1/1996	<0.0001	<0.0001	5.95		0.047	0.047					<0.010	<0.010	0.00004	0.00004
Fish C.	W2	5/8/1996	<0.0001	<0.0001	5.88		0.047	0.048					<0.010	<0.010	0.00004	0.00004
Fish C.	W2	5/15/1996	<0.0001	<0.0001	5.96		0.051	0.051					<0.010	<0.010	0.00004	0.00004
Fish C.	W2	5/23/1996	<0.0001	<0.0001	5.78		0.046	0.046					<0.010	<0.010	0.00004	0.00004
Fish C.	W2	8/6/1996	<0.0001	<0.0001	5.33		0.049	0.05					<0.010	<0.010	0.00005	0.00005
Fish C.	W2	8/18/1996	<0.0001	<0.0001	5.48		0.053	0.051					<0.010	<0.010	0.00006	0.00006
Fish C.	W2	8/24/1996	<0.0001	<0.0001	5.39		0.047	0.047					<0.010	<0.010	0.00006	0.00007
Fish C.	W2	9/2/1996	<0.0001	<0.0001	5.49		0.052	0.053					<0.010	<0.010	0.00007	0.00007
Fish C.	W2	9/5/1996	<0.0001	<0.0001	5.39		0.05	0.051					<0.010	<0.010	0.00005	0.00005
Fish C.	W2	2/26/1997	<0.0001	<0.0001	6.2		0.056	0.056					<0.010	<0.010	0.00005	0.00005
Fish C.	W2	5/7/1997	0.00001	0.00001	5	4	0.0384	0.0386			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	5/13/1997	0.00001	0.00001	5	4	0.0337	0.0337			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Fish C.	W2	5/19/1997	0.00001	0.00001	5	5	0.0377	0.0395			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	5/27/1997	0.00001	0.00001	5	5	0.0392	0.0398			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	6/2/1997	0.00001	0.00001	5	5	0.0431	0.0432			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	7/30/1997	0.00001	0.00001	6	6	0.0454	0.0448			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	9/15/1997	0.00001	0.00001	6	6	0.0459	0.0461			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Fish C.	W2	9/22/1997	0.00001	0.00001	6	6	0.0477	0.0466			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Fish C.	W2	9/30/1997	0.00001	0.00001	6	6	0.0466	0.0468			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Fish C.	W2	10/7/1997	0.00001	0.00001	6	6	0.0668	0.0548			0.0001	0.0001	0.01	0.01	0.0001	0.00008
Fish C.	W2	10/14/1997	0.00001	0.00001	6	6	0.0696	0.0696			0.0001	0.0001	0.01	0.01	0.00009	0.0001
Fish C.	W2	11/17/1997	0.00001	0.00001	8	8	0.0707	0.0743			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Fish C.	W2	12/16/1997	0.00001	0.00001	6	6	0.0473	0.0461			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	1/20/1998	0.00001	0.00001	7	7	0.0447	0.0449			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	2/18/1998	0.00001	0.00001	6	6	0.0608	0.0601			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W2	3/9/1998	0.00001	0.00001	7	7	0.0592	0.0588			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W2	4/14/1998	0.00001	0.00001	6	6	0.0535	0.0529			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W2	5/9/2006	<0.000010	<0.000010	5.1	5.2	0.0421	0.0413	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000050	0.000047
Fish C.	W2	5/16/2006	<0.000010	<0.000010	6.5	6.4	0.0450	0.0445	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000055	0.000057
Fish C.	W2	5/24/2006	<0.000010	<0.000010	6.3	6.5	0.0452	0.0449	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000059	0.000057
Fish C.	W2	5/29/2006	0.000080	0.000123	6.7	6.8	0.0449	0.0448	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000052	0.000054
Fish C.	W2	6/7/2006	<0.000010	<0.000010	6.4	6.0	0.0456	0.0460	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000048	0.000055
Fish C.	W2	7/5/2006	<0.000010	<0.000010	6.3	6.3	0.0471	0.0519	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000062	0.000075
Fish C.	W2	8/8/2006	<0.000010	<0.000010	6.3	6.6	0.0504	0.0523	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000080	0.000083
Fish C.	W2	8/15/2006	<0.000010	<0.000010	6.4	6.2	0.0437	0.0475	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000070	0.000084
Fish C.	W2	8/22/2006	<0.000010	<0.000010	6.5	6.7	0.0482	0.0531	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000082	0.000089

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W2	8/16/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/24/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/30/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/6/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	6/22/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	6/28/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	7/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	7/13/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	7/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/11/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	10/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	4/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/1/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/8/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/15/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/6/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/18/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	8/24/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/2/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	9/5/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	2/26/1997	<0.030	<0.030	<0.005	<0.005
Fish C.	W2	5/7/1997	0.001	0.001	0.001	0.001
Fish C.	W2	5/13/1997	0.001	0.001	0.001	0.001
Fish C.	W2	5/19/1997	0.001	0.001	0.001	0.001
Fish C.	W2	5/27/1997	0.001	0.001	0.001	0.001
Fish C.	W2	6/2/1997	0.001	0.001	0.001	0.001
Fish C.	W2	7/30/1997	0.001	0.001	0.001	0.001
Fish C.	W2	9/15/1997	0.001	0.002	0.001	0.002
Fish C.	W2	9/22/1997	0.001	0.001	0.003	0.004
Fish C.	W2	9/30/1997	0.001	0.001	0.002	0.006
Fish C.	W2	10/7/1997	0.001	0.001	0.007	0.004
Fish C.	W2	10/14/1997	0.001	0.001	0.005	0.006
Fish C.	W2	11/17/1997	0.001	0.001	0.001	0.001
Fish C.	W2	12/16/1997	0.001	0.001	0.001	0.001
Fish C.	W2	1/20/1998	0.001	0.001	0.001	0.001
Fish C.	W2	2/18/1998	0.001	0.001	0.001	0.001
Fish C.	W2	3/9/1998	0.001	0.001	0.001	0.001
Fish C.	W2	4/14/1998	0.001	0.001	0.001	0.001
Fish C.	W2	5/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W2	5/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W2	5/24/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W2	5/29/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W2	6/7/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W2	7/5/2006	0.0013	0.0016	<0.0010	<0.0030
Fish C.	W2	8/8/2006	0.0016	0.0020	<0.0010	0.0029
Fish C.	W2	8/15/2006	0.0014	0.0020	<0.0010	<0.0050
Fish C.	W2	8/22/2006	0.0018	0.0022	<0.0010	<0.0030

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W2	8/29/2006	15.5	5.0	176.3	169	82.0		8.13	92.6	8.48			130	9.7	<0.50	0.065	0.57
Fish C.	W2	9/6/2006	9.3	4.3	151	174	87.4		8.10	96.7	16.2	14.9		129	15.3	<0.50	0.070	0.52
Fish C.	W2	10/3/2006	6.1	5.2	140	191	102		7.77	112	10.1			148	10.0	<0.50	0.070	1.88
Fish C.	W2	11/2/2006				202	95.9		8.09	112	5.16	17.1		145	10.9	<0.50	0.067	0.66
Fish C.	W3	5/31/1992				176	92.5		8.08	89.2	0.75			144	<1	0.7	0.05	4.7
Fish C.	W3	6/30/1992				220	114		7.08	110	0.32			180	<1	0.5	0.06	7.8
Fish C.	W3	7/30/1992				220	119		8.19	112	0.72			184	<1	0.8	0.06	8.5
Fish C.	W3	12/1/1992				247	128		7.94	119	0.48			208	<1	0.5	0.03	17.2
Fish C.	W3	1/7/1993				253	124		7.72	124	1.03			208	2	1	0.07	13.9
Fish C.	W3	1/27/1993				252	115		7.85	123	1.1			203	1	0.7	0.06	13.9
Fish C.	W3	3/2/1993				261	137		7.81	126	0.96			219	2	1	0.07	16.2
Fish C.	W3	3/31/1993				257	127		7.97	129	0.95			206	<1	0.9	0.07	18.7
Fish C.	W3	5/6/1993				170	80.7		7.87	83.7	0.9			134	<1	1.2	0.06	7.6
Fish C.	W3	5/13/1993				188	93		7.99	94.6	5.9			144	7	0.7	0.07	9.1
Fish C.	W3	5/19/1993				206	97		7.96	103	0.75			166	<1	0.8	0.07	10.8
Fish C.	W3	5/27/1993				232	107		8.01	111	0.91			141	<1	1.5	0.06	14.6
Fish C.	W3	6/3/1993				224	104		7.91	102	1.5			135	3	0.8	0.06	17.8
Fish C.	W3	8/17/1993				193	105		8.05	98.2	1.08			130	1	0.5	0.06	7.3
Fish C.	W3	8/24/1993				201	99.8		8.04	103	0.88			132	2	0.7	0.06	6.8
Fish C.	W3	8/31/1993				213	107		8.03	109	0.8			139	3	0.8	0.06	7.3
Fish C.	W3	9/14/1993				241	106		8.01	115	0.54		9.55	160	1	0.5	0.07	8.8
Fish C.	W3	9/20/1993				236	108		7.82	115	0.6			148	<1	0.5	0.06	9.3
Fish C.	W3	5/4/1994				117	58.6		7.58	62.3	1.78			80	3	0.9	0.05	4.7
Fish C.	W3	5/12/1994				140	66.6		7.85	73.9	1.18			92	3	0.9	0.05	4.5
Fish C.	W3	5/18/1994				137	66.7		8	66.6	1.25			87	5	0.7	0.05	5
Fish C.	W3	5/26/1994				156	75.2		8.03	78.8	2.04		13.1	98	3	0.9	0.06	6.3
Fish C.	W3	5/31/1994				165	74		8.09	86.4	1.35		2.7	101	2	0.7	0.06	7.1
Fish C.	W3	8/10/1994				256	130		8.08	124	0.47		9.2	169	<1	0.9	0.1	16
Fish C.	W3	8/16/1994					137**		7.98**	122**	1580**			180**	788**		0.08**	19**
Fish C.	W3	8/24/1994				300	152		8.3	142	0.41		14.3	202	1	1.1	0.09	21.5
Fish C.	W3	8/30/1994				312	155		8.17	154	0.3		6.9	206	<1	0.8	0.07	23.4
Fish C.	W3	9/6/1994				318	157		8.23	151	0.5		6.5	226	2	0.6	0.12	25.6
Fish C.	W3	6/22/1995				185	92.9		7.99	93.8	0.77		9.6	125	<1	0.9	0.06	9.6
Fish C.	W3	6/28/1995				234	108		7.96	114	0.4		7.8	162	<1	0.7	0.07	13.1
Fish C.	W3	7/4/1995				241	119		7.98	113	1.05		8.7	172	<1	0.9	0.07	16.1
Fish C.	W3	7/13/1995				257	124		8.19	128	0.37		7.5	181	<1	0.5	0.07	15.1
Fish C.	W3	7/17/1995				279	127		8.02	142	0.6		6.8	198	2	0.8	0.08	17.8
Fish C.	W3	9/27/1995				323	153		8.2	155	0.3		5.4	238	<1	1.4	0.07	33
Fish C.	W3	10/4/1995				312	151		8.19	146	0.19		5	226	<1	1	0.09	31.9
Fish C.	W3	10/11/1995				314	155		8.26	140	0.4		5.1	221	3	1.1	0.08	30.3
Fish C.	W3	10/18/1995				200	98.5		8.04	96.4	0.7		10.1	131	<1	0.8	0.07	9.8
Fish C.	W3	10/27/1995				228	112		7.97	107	0.4		7.8	162	<1	0.9	0.06	15.4
Fish C.	W3	4/23/1996				139	65.1		7.64	71.2	1.3		13.1	87	2	1.1	0.05	3.3
Fish C.	W3	5/1/1996				163	76.8		7.79	83.3	1.4		11.2	107	5	0.8	0.06	3.4
Fish C.	W3	5/8/1996				162	79.7		7.66	82.8	1.2		12	110	<1	0.9	0.05	4.3
Fish C.	W3	5/15/1996				150	70.8		7.71	70.9	3.6		12.9	99	8	1.4	0.05	3.7
Fish C.	W3	5/23/1996				143	71.2		7.63	74	7.3		13.8	99	20	0.5	0.04	2.5
Fish C.	W3	8/6/1996				212	99.7		7.93	106	1		10.2	136	3	0.5	0.06	9.5
Fish C.	W3	8/18/1996				242	113		8.19	120	0.5		11	157	1	0.8	0.07	12.1
Fish C.	W3	8/24/1996				263	125		8.19	127	0.5		4.3	179	<1	0.5	0.07	16
Fish C.	W3	8/29/1996				275	138		8.21	135	0.4		1.9	192	1	0.5	0.07	19.1

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W2	8/29/2006	0.0667	0.0129	0.0026	0.0014	0.0140	0.0550	<0.0050	0.101	<0.00010	<0.00010	0.00063	0.00076	0.00202
Fish C.	W2	9/6/2006	0.0853	0.0164	0.0025	0.0114	0.0156	0.0669	<0.0030	0.175	<0.00010	0.00012	0.00064	0.00071	0.00246
Fish C.	W2	10/3/2006	0.515	0.0067	<0.0010	0.0163	0.0380	0.126	<0.0030	0.261	<0.00010	0.00011	0.00094	0.00120	0.00396
Fish C.	W2	11/2/2006	0.663	0.077	0.0065	0.0067	0.0268	0.0979	0.0028	0.0133	<0.00010	<0.00010	0.00054	0.00055	0.00296
Fish C.	W3	5/31/1992	0.015	0.027	<0.001	0.004	0.005	0.009	0.065	0.17	0.0001	0.0001	0.0015	0.0029	<0.010
Fish C.	W3	6/30/1992	<0.005	0.14	<0.001	0.014	0.014	0.023	0.014	0.046	0.0002	0.0002	0.003	0.0033	<0.010
Fish C.	W3	7/30/1992	0.019	0.109	0.001	0.024	0.027	0.07	<0.005	0.007	0.0004	0.0004	0.0025	0.0027	<0.010
Fish C.	W3	12/1/1992	<0.005	0.076	0.004	0.011	0.015	0.015	0.011	0.017	0.0003	0.0004	0.0024	0.0026	<0.010
Fish C.	W3	1/7/1993	0.01	0.155	<0.001	0.014	0.017	0.017	<0.005	0.026	<0.0001	0.0005	0.0019	0.002	<0.010
Fish C.	W3	1/27/1993	<0.005	0.167	0.001	0.018	0.021	0.029	<0.005	0.055	0.0004	0.0006	0.0018	0.002	<0.01
Fish C.	W3	3/2/1993	<0.005	0.193	<0.001	0.018	0.021	0.022	0.006	0.018	0.0005	0.0005	0.0018	0.0019	<0.01
Fish C.	W3	3/31/1993	<0.005	0.177	<0.001	0.011	0.015	0.017	0.008	0.028	0.0005	0.0005	0.0018	0.0021	<0.01
Fish C.	W3	5/6/1993	<0.005	0.052	<0.001	0.014	0.016	0.021	0.046	0.075	0.0001	0.0002	0.0016	0.0016	<0.01
Fish C.	W3	5/13/1993	<0.005	0.044	<0.001	0.019	0.024	0.028	0.013	0.173	0.0004	0.0004	0.0025	0.0031	<0.01
Fish C.	W3	5/19/1993	<0.005	0.046	0.001	0.013	0.016	0.017	0.03	0.12	0.0004	0.0005	0.0023	0.0023	<0.01
Fish C.	W3	5/27/1993	<0.005	0.12	<0.001	0.014	0.018	0.021	<0.005	0.049	0.0007	0.0015	0.0028	0.0033	<0.01
Fish C.	W3	6/3/1993	<0.005	0.035	<0.001	0.011	0.016	0.017	0.007	0.047	0.0003	0.0005	0.0024	0.0025	<0.01
Fish C.	W3	8/17/1993	0.007	0.026	0.003	0.016	0.02	0.02	0.024	0.025	0.0004	0.0004	0.002	0.002	<0.01
Fish C.	W3	8/24/1993	<0.005	0.02	0.002	0.016	0.019	0.02	0.008	0.016	0.0003	0.0004	0.0019	0.002	<0.01
Fish C.	W3	8/31/1993	<0.005	0.048	0.005	0.014	0.018	0.018	0.006	0.024	0.0004	0.0004	0.0025	0.0025	<0.01
Fish C.	W3	9/14/1993	<0.005	0.052	<0.001	0.013	0.018	0.018	<0.005	0.009	0.0005	0.0005	0.0026	0.0027	<0.010
Fish C.	W3	9/20/1993	<0.005	0.031	0.006	0.012	0.014	0.017	0.005	0.019	0.0005	0.0005	0.0023	0.0024	<0.01
Fish C.	W3	5/4/1994	<0.005	<0.005	0.004	0.004	0.013	0.022	0.019	0.145	<0.0001	0.0001	0.0004	0.0005	<0.01
Fish C.	W3	5/12/1994	0.006	0.005	0.002	0.003	0.011	0.021	0.016	0.085	<0.0001	<0.0001	0.0005	0.0007	<0.01
Fish C.	W3	5/18/1994	<0.005	<0.005	0.002	0.006	0.014	0.025	0.016	0.167	<0.0001	<0.0001	0.0004	0.0015	<0.01
Fish C.	W3	5/26/1994	0.08*	0.012	0.003	0.007	0.01	0.016	0.01	0.095	0.0002	0.0002	0.001	0.0012	<0.01
Fish C.	W3	5/31/1994	<0.005	0.016	0.003	0.007	0.01	0.014	0.01	0.039	<0.0001	0.0003	0.0012	0.0014	<0.01
Fish C.	W3	8/10/1994	<0.005	0.063	0.002	0.015	0.018	0.019	0.017	0.023	0.0009	0.0009	0.0031	0.0034	<0.01
Fish C.	W3	8/16/1994	<0.005**	0.163**	0.002**	<0.001**	0.005**	1.13**	0.048**	4.73**	<0.0002**	<0.0002**	0.0084**	0.177**	0.014**
Fish C.	W3	8/24/1994	<0.005	0.182	0.003	0.013	0.015	0.016	<0.005	0.01	0.001	0.001	0.0039	0.0039	<0.010
Fish C.	W3	8/30/1994	<0.005	0.215	0.001	0.012	0.013	0.013	<0.005	0.012	<0.0001	<0.0001	0.0042	0.0043	<0.010
Fish C.	W3	9/6/1994	<0.005	0.188	0.003	0.012	0.015	0.015	<0.005	0.014	0.0014	0.0015	0.0003	0.0041	<0.010
Fish C.	W3	6/22/1995	0.005	0.024	0.001	0.009	0.094	0.122	<0.005	0.025	0.0004	0.0005	0.0017	0.0019	<0.010
Fish C.	W3	6/28/1995	<0.005	0.156	0.001	0.008	0.008	0.028	0.025**	0.007	0.0007	0.0009	0.0027	0.0028	<0.01
Fish C.	W3	7/4/1995	<0.005	0.078	0.001	0.012	0.012	0.017	0.018	0.084	0.0006	0.0007	0.0023	0.0026	<0.01
Fish C.	W3	7/13/1995	0.006	0.183	0.001	0.01	0.01	0.012	0.011	0.016	0.0007	0.0007	0.0023	0.0031	<0.01
Fish C.	W3	7/17/1995	0.005	0.263	0.001	0.01	0.012	0.018	0.016	0.039	0.0008	0.0008	0.0032	0.0036	<0.010
Fish C.	W3	9/27/1995	<0.005	0.134	0.001	0.008	0.009	0.01	0.006	0.008	0.0011	0.001	0.0034	0.0034	<0.01
Fish C.	W3	10/4/1995	<0.005	0.052	0.001	0.006	0.007	0.008	<0.005	0.011	<0.0001	0.0009	0.004	0.004	0.012
Fish C.	W3	10/11/1995	<0.005	0.039	0.001	0.006	0.007	0.009	<0.005	0.08	0.001	0.0008	0.0032	0.0033	<0.01
Fish C.	W3	10/18/1995	<0.005	0.009	0.001	0.01	0.01	0.016	<0.005	0.031	0.0003	0.0005	0.0014	0.0019	<0.01
Fish C.	W3	10/27/1995	<0.005	0.016	0.001	0.002	0.002	0.004	0.025	0.023	0.0007	0.0003	0.0023	0.0024	<0.01
Fish C.	W3	4/23/1996	<0.005	<0.005	0.002	0.003	0.013	0.023	0.03	0.078	0.0002	<0.0001	0.0006	0.0008	<0.01
Fish C.	W3	5/1/1996	<0.005	<0.005	0.002	0.007	0.009	0.019	0.009	0.052	<0.0001	<0.0001	0.0004	0.0005	<0.01
Fish C.	W3	5/8/1996	<0.005	<0.005	0.001	0.005	0.013	0.023	0.015	0.029	<0.0001	<0.0001	0.0004	0.0003	<0.01
Fish C.	W3	5/15/1996	0.009	<0.005	0.002	0.001	0.001	0.023	0.028	0.097	<0.0001	<0.0001	0.0007	0.0009	<0.01
Fish C.	W3	5/23/1996	0.005	<0.005	0.002	0.007	0.01	0.037	0.014	0.208	0.0002	<0.0001	0.0008	0.0017	<0.01
Fish C.	W3	8/6/1996	<0.005	0.049	0.001	0.016	0.016	0.019	0.011	0.029	0.0006	0.0006	0.0023	0.0025	<0.010
Fish C.	W3	8/18/1996	<0.005	0.144	0.001	0.011	0.012	0.046	<0.005	0.011	0.0009	0.0009	0.0029	0.0031	<0.01
Fish C.	W3	8/24/1996	0.015	0.269	0.002	0.014	0.014	0.015	<0.005	0.008	0.0011	0.0011	0.0032	0.0031	<0.01
Fish C.	W3	8/29/1996	<0.005	0.357	0.001	0.014	0.014	0.015	0.013	0.005	0.0012	0.0012	0.0037	0.0036	<0.01

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W2	8/29/2006	0.00279	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.2	14.4	<0.00050	<0.00050
Fish C.	W2	9/6/2006	0.00365	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	0.000021	15.8	15.1	<0.00050	0.00051
Fish C.	W2	10/3/2006	0.00579	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	20.2	20.9	<0.00050	0.00061
Fish C.	W2	11/2/2006	0.00314	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	0.000064	17.8	18.3	<0.00050	<0.00050
Fish C.	W3	5/31/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.6	19.8	<0.001	<0.001
Fish C.	W3	6/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	25.7	25.7	<0.001	<0.001
Fish C.	W3	7/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	25.1	26.1	<0.001	<0.001
Fish C.	W3	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	29.3	29.5	<0.001	<0.001
Fish C.	W3	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27.3	27.9	<0.001	<0.001
Fish C.	W3	1/27/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.3	24.5	<0.001	<0.001
Fish C.	W3	3/2/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	30.9	30.9	<0.001	<0.001
Fish C.	W3	3/31/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27.5	27.6	<0.001	<0.001
Fish C.	W3	5/6/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.2	17.7	<0.001	<0.001
Fish C.	W3	5/13/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.9	19.9	<0.001	<0.001
Fish C.	W3	5/19/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.1	21.7	<0.001	<0.001
Fish C.	W3	5/27/1993	<0.01	<0.005	<0.005	<0.10	0.11	<0.10	<0.10	<0.0002	<0.0002	23.1	23.3	<0.001	<0.001
Fish C.	W3	6/3/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.5	22.8	<0.001	<0.001
Fish C.	W3	8/17/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.3	24.4	<0.001	<0.001
Fish C.	W3	8/24/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.3	23.2	<0.001	<0.001
Fish C.	W3	8/31/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.9	24.5	<0.001	<0.001
Fish C.	W3	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.1	23.5	<0.001	<0.001
Fish C.	W3	9/20/1993	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.9	24.6	<0.001	<0.001
Fish C.	W3	5/4/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.5	11.5	<0.001	<0.001
Fish C.	W3	5/12/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.7	13.8	<0.001	<0.001
Fish C.	W3	5/18/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.8	13.8	<0.001	<0.001
Fish C.	W3	5/26/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.5	15.5	<0.001	<0.001
Fish C.	W3	5/31/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	0.0003	13.8	13.8	<0.001	<0.001
Fish C.	W3	8/10/1994	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	30.2	30.7	<0.001	<0.001
Fish C.	W3	8/16/1994	0.076**	<0.005**	<0.005	<0.10	<0.10**	<0.10**	<0.10**	<0.0002**	<0.0002**	31.1**	38**	<0.001**	0.004**
Fish C.	W3	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	34.6	36.2	<0.001	<0.001
Fish C.	W3	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	35.7	36.5	<0.001	<0.001
Fish C.	W3	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	36	36.3	<0.001	<0.001
Fish C.	W3	6/22/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.8	21.5	<0.001	<0.001
Fish C.	W3	6/28/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.4	26.2	<0.001	<0.001
Fish C.	W3	7/4/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27	27.7	<0.001	<0.001
Fish C.	W3	7/13/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	28	28.2	<0.001	<0.001
Fish C.	W3	7/17/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	28.4	29.6	<0.001	<0.001
Fish C.	W3	9/27/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	34.9	34	<0.001	<0.001
Fish C.	W3	10/4/1995	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	34.1	34.4	<0.001	<0.001
Fish C.	W3	10/11/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	35.1	35.4	<0.001	<0.001
Fish C.	W3	10/18/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.2	21.6	<0.001	<0.001
Fish C.	W3	10/27/1995	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	25	25.1	<0.001	<0.001
Fish C.	W3	4/23/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.7	13.1	<0.001	<0.001
Fish C.	W3	5/1/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.3	15.5	<0.001	<0.001
Fish C.	W3	5/8/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	15.6	<0.001	<0.001
Fish C.	W3	5/15/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.9	14.7	<0.001	<0.001
Fish C.	W3	5/23/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.1	14.6	<0.001	<0.001
Fish C.	W3	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.1	22.3	<0.001	<0.001
Fish C.	W3	8/18/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.7	25.2	<0.001	<0.001
Fish C.	W3	8/24/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27.4	26.8	<0.001	<0.001
Fish C.	W3	8/29/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	31.6	31.6	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W2	8/29/2006	<0.00010	0.00021	0.00070	0.00115	0.053	0.293	<0.000050	0.000065	<0.0050	<0.0050	10.7	10.2	0.000494	0.0287
Fish C.	W2	9/6/2006	<0.00010	0.00026	0.00074	0.00120	0.084	0.463	<0.000050	0.000079	<0.0050	<0.0050	11.7	11.0	0.000949	0.0513
Fish C.	W2	10/3/2006	<0.00010	0.00040	0.00077	0.00129	0.158	0.904	<0.000050	0.000082	<0.0050	<0.0050	12.4	12.7	0.000619	0.101
Fish C.	W2	11/2/2006	<0.00010	0.00013	0.00086	0.00081	0.124	0.287	<0.000050	0.000037	<0.0050	<0.0050	12.5	12.8	0.00144	0.0283
Fish C.	W3	5/31/1992	<0.001	<0.001	0.002	0.003	0.103	0.144	<0.001	<0.001			10.6	10.6	<0.005	<0.005
Fish C.	W3	6/30/1992	<0.001	<0.001	0.005	0.006	0.082	0.104	<0.001	<0.001			12.1	12.1	<0.005	<0.005
Fish C.	W3	7/30/1992	<0.001	<0.001	<0.001	<0.001	0.053	0.076	<0.001	<0.001			13.7	14.1	<0.005	<0.005
Fish C.	W3	12/1/1992	<0.001	<0.001	0.001	0.001	0.16	0.184	<0.001	<0.001			13.4	13.6	<0.005	<0.005
Fish C.	W3	1/7/1993	<0.001	<0.001	0.001	0.001	0.291	0.366	<0.001	<0.001			13.5	13.9	<0.005	0.005
Fish C.	W3	1/27/1993	<0.001	<0.001	0.001	0.002	0.304	0.376	<0.001	<0.001			13.3	13.4	<0.005	0.005
Fish C.	W3	3/2/1993	<0.001	<0.001	<0.001	<0.001	0.288	0.358	<0.001	<0.001			14.6	14.8	<0.005	<0.005
Fish C.	W3	3/31/1993	<0.001	<0.001	0.001	0.001	0.274	0.327	<0.001	<0.001			14.1	14.2	<0.005	<0.005
Fish C.	W3	5/6/1993	<0.001	<0.001	<0.001	<0.001	0.11	0.166	<0.001	<0.001			9.15	9.41	<0.005	<0.005
Fish C.	W3	5/13/1993	<0.001	<0.001	0.002	0.002	0.063	0.164	<0.001	<0.001			10.5	10.5	<0.005	0.008
Fish C.	W3	5/19/1993	<0.001	<0.001	0.002	0.002	0.034	0.067	<0.001	<0.001			10.8	11.1	<0.005	<0.005
Fish C.	W3	5/27/1993	<0.001	<0.001	0.002	0.002	<0.03	0.036	<0.001	<0.001			11.9	11.9	<0.005	<0.005
Fish C.	W3	6/3/1993	<0.001	<0.001	0.002	0.002	0.042	0.07	<0.001	<0.001			11.6	11.7	<0.005	<0.005
Fish C.	W3	8/17/1993	<0.001	<0.001	0.002	0.003	0.157	0.231	<0.001	<0.001			9.97	10.7	<0.005	0.01
Fish C.	W3	8/24/1993	<0.001	<0.001	0.002	0.002	0.172	0.224	<0.001	<0.001			10.7	11.2	<0.005	0.008
Fish C.	W3	8/31/1993	<0.001	<0.001	<0.001	0.002	0.154	0.174	<0.001	<0.001			11.6	11.8	<0.005	<0.005
Fish C.	W3	9/14/1993	<0.001	<0.001	0.001	0.001	0.108	0.137	<0.001	<0.001			11.6	11.9	<0.005	<0.005
Fish C.	W3	9/20/1993	<0.001	<0.001	0.001	0.001	0.144	0.189	0.001	0.002			11.8	12.2	<0.005	<0.005
Fish C.	W3	5/4/1994	<0.001	<0.001	0.001*	0.004*	0.104	0.248	<0.001	<0.001			7.27	7.27	0.006	0.018
Fish C.	W3	5/12/1994	<0.001	<0.001	<0.001	0.001	0.096	0.183	<0.001	<0.001			7.86	7.89	0.008	0.018
Fish C.	W3	5/18/1994	<0.001	<0.001	<0.001	0.002	0.096	0.289	<0.001	<0.001			7.81	7.81	0.007	0.033
Fish C.	W3	5/26/1994	<0.001	<0.001	0.001	0.001	0.123	0.212	<0.001	<0.001			8.89	8.89	0.009	0.018
Fish C.	W3	5/31/1994	<0.001	<0.001	0.001	0.001	0.133	0.133	<0.001	<0.001			9.61	9.66	0.005	0.009
Fish C.	W3	8/10/1994	<0.001	<0.001	0.002	0.002	0.072	0.101	<0.001	<0.001			13.2	13.4	<0.005	<0.005
Fish C.	W3	8/16/1994	<0.001**	0.029**	0.039**	0.04**	<0.030**	6.88**	<0.001**	0.005**			14.3**	17.2**	<0.005**	0.244**
Fish C.	W3	8/24/1994	<0.001	<0.001	0.001	0.002	<0.030	<0.030	<0.001	<0.001			15.9	16.5	<0.005	<0.005
Fish C.	W3	8/30/1994	<0.001	<0.001	0.001	0.001	<0.030	<0.030	<0.001	<0.001			15.9	16.2	<0.005	<0.005
Fish C.	W3	9/6/1994	<0.001	<0.001	0.001	0.002	<0.030	<0.030	<0.001	<0.001			16.3	16.6	<0.005	<0.005
Fish C.	W3	6/22/1995	<0.001	<0.001	<0.001	0.001	0.088	0.144	<0.001	<0.001			9.97	10.3	<0.005	0.006
Fish C.	W3	6/28/1995	<0.001	<0.001	<0.001	0.001	<0.03	<0.03	<0.001	<0.001			11.5	12.5	<0.005	<0.005
Fish C.	W3	7/4/1995	<0.001	<0.001	0.002	0.002	<0.03	0.071	<0.001	0.003			12.5	12.8	<0.005	0.01
Fish C.	W3	7/13/1995	<0.001	<0.001	<0.001	0.001	<0.03	<0.03	<0.001	<0.001			13.2	13.4	<0.005	<0.005
Fish C.	W3	7/17/1995	<0.001	<0.001	0.001	0.002	<0.030	<0.030	<0.001	<0.001			13.7	14.2	<0.005	<0.005
Fish C.	W3	9/27/1995	<0.001	<0.001	0.001	0.002	<0.03	<0.03	<0.001	<0.001			16.1	15.8	<0.005	<0.005
Fish C.	W3	10/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			15.9	16.1	<0.005	<0.005
Fish C.	W3	10/11/1995	<0.001	<0.001	0.001	0.001	<0.03	<0.03	<0.001	<0.001			16.3	16.3	<0.005	<0.005
Fish C.	W3	10/18/1995	<0.001	<0.001	0.001	0.001	0.134	0.196	<0.001	<0.001			11.1	11.3	<0.005	0.006
Fish C.	W3	10/27/1995	<0.001	<0.001	<0.001	<0.001	0.08	0.106	<0.001	<0.001			12.1	12.3	<0.005	<0.005
Fish C.	W3	4/23/1996	<0.001	<0.001	0.001	0.001	0.151	0.255	<0.001	<0.001			8.11	8.32	0.006	0.021
Fish C.	W3	5/1/1996	<0.001	<0.001	<0.001	0.002	0.14	0.217	<0.001	<0.001			9.35	9.42	0.006	0.018
Fish C.	W3	5/8/1996	<0.001	<0.001	<0.001	<0.001	0.134	0.193	<0.001	<0.001			9.73	9.64	0.008	0.016
Fish C.	W3	5/15/1996	<0.001	<0.001	<0.001	0.002	0.113	0.321	<0.001	<0.001			8.8	9.16	0.006	0.041
Fish C.	W3	5/23/1996	<0.001	0.001	0.002	0.002	0.103	0.549	<0.001	<0.001			8.73	8.07	0.008	0.076
Fish C.	W3	8/6/1996	<0.001	<0.001	0.001	0.002	0.15	0.218	<0.001	<0.001			10.8	10.9	<0.005	0.011
Fish C.	W3	8/18/1996	<0.001	<0.001	0.002	0.002	<0.03	0.038	<0.001	<0.001			12.4	12.6	<0.005	<0.005
Fish C.	W3	8/24/1996	<0.001	<0.001	0.001	0.002	<0.03	0.034	<0.001	<0.001			13.7	13.5	<0.005	<0.005
Fish C.	W3	8/29/1996	<0.001	<0.001	0.002	0.002	<0.03	0.033	<0.001	<0.001			14.4	14.5	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W2	8/29/2006	0.000321	0.000334	0.00179	0.00261	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.19	6.18
Fish C.	W2	9/6/2006	0.000314	0.000377	0.00187	0.00254	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.39	7.22
Fish C.	W2	10/3/2006	0.000320	0.000353	0.00175	0.00259	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.87	7.59
Fish C.	W2	11/2/2006	0.000355	0.000318	0.00209	0.00215	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	8.34	8.53
Fish C.	W3	5/31/1992	<0.001	<0.001	0.002	0.002			0.88		<0.0005	<0.0005	7.23	7.23
Fish C.	W3	6/30/1992	<0.001	<0.001	0.001	0.002			1.05		<0.0005	<0.0005	8.29	8.29
Fish C.	W3	7/30/1992	<0.001	<0.001	0.001	0.002			0.91		<0.0005	<0.0005	7.85	8.14
Fish C.	W3	12/1/1992	<0.001	0.001	0.001	0.001			0.76		<0.0005	<0.0005	8.47	8.57
Fish C.	W3	1/7/1993	<0.001	0.001	0.001	0.001			0.89		<0.0005	<0.0005	9.41	9.69
Fish C.	W3	1/27/1993	<0.001	<0.001	0.002	0.002			0.88		<0.0005	<0.0005	8.56	8.76
Fish C.	W3	3/2/1993	<0.001	<0.001	0.002	0.002			0.95		<0.0005	<0.0005	9.82	9.84
Fish C.	W3	3/31/1993	<0.001	<0.001	0.001	0.001			1.17		<0.0005	<0.0005	8.9	8.95
Fish C.	W3	5/6/1993	<0.001	<0.001	0.001	0.001			0.86		<0.0005	<0.0005	7.33	7.55
Fish C.	W3	5/13/1993	<0.001	0.001	<0.001	0.001			0.95		<0.0005	<0.0005	7.84	7.9
Fish C.	W3	5/19/1993	<0.001	0.001	<0.001	<0.001			1.03		<0.0005	<0.0005	7.87	8.13
Fish C.	W3	5/27/1993	<0.001	<0.001	<0.001	0.002			1.01		<0.0005	<0.0005	7.81	7.81
Fish C.	W3	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.99		<0.0005	<0.0005	7.81	7.94
Fish C.	W3	8/17/1993	0.001	0.001	<0.001	<0.001			0.73		<0.0005	<0.0005	8.26	8.26
Fish C.	W3	8/24/1993	<0.001	<0.001	0.002	0.002			0.78		<0.0005	<0.0005	8.26	8.66
Fish C.	W3	8/31/1993	<0.001	<0.001	0.001	0.001			0.68		<0.0005	<0.0005	8.54	8.75
Fish C.	W3	9/14/1993	<0.001	<0.001	<0.001	<0.001			0.9		<0.0005	<0.0005	8.14	8.3
Fish C.	W3	9/20/1993	<0.001	<0.001	<0.001	<0.001			0.82		<0.0005	<0.0005	8.09	8.3
Fish C.	W3	5/4/1994	<0.001	<0.001	0.002	0.002			0.77		<0.0005	<0.0005	6.51	6.57
Fish C.	W3	5/12/1994	<0.001	<0.001	0.001	0.004			0.67		<0.0005	<0.0005	7.11	7.18
Fish C.	W3	5/18/1994	<0.001	<0.001	<0.001	0.001			0.62		<0.0005	<0.0005	7.19	7.19
Fish C.	W3	5/26/1994	<0.001	<0.001	0.001	0.001			0.77		<0.0005	<0.0005	7.79	7.79
Fish C.	W3	5/31/1994	<0.001	<0.001	0.001	0.002			0.8		<0.0005	<0.0005	7.55	7.55
Fish C.	W3	8/10/1994	<0.001	<0.001	<0.001	0.001			0.88		<0.0005	<0.0005	9.31	9.44
Fish C.	W3	8/16/1994	<0.001**	<0.001**	<0.001**	0.025**			0.95**		<0.0005**	<0.0005**	7.9**	12.4**
Fish C.	W3	8/24/1994	0.001	0.002	<0.001	<0.001			0.99		<0.0005	<0.0005	8.56	8.71
Fish C.	W3	8/30/1994	0.001	0.001	<0.001	0.001			0.93		<0.0005	<0.0005	8.36	8.49
Fish C.	W3	9/6/1994	0.002	0.002	<0.001	<0.001			0.99		<0.0005	<0.0005	8.11	8.27
Fish C.	W3	6/22/1995	<0.001	<0.001	<0.001	0.001			0.77		<0.0005	<0.0005	7.99	8.24
Fish C.	W3	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.99		<0.0005	<0.0005	7.77	8.21
Fish C.	W3	7/4/1995	<0.001	<0.001	<0.001	0.001			1		<0.0005	<0.0005	8.09	8.28
Fish C.	W3	7/13/1995	<0.001	0.001	<0.001	<0.001			1.13		<0.0005	<0.0005	7.92	8.03
Fish C.	W3	7/17/1995	0.001	0.001	<0.001	<0.001			1.25		<0.0005	<0.0005	7.93	8.24
Fish C.	W3	9/27/1995	<0.001	0.002	<0.001	<0.001			1.5		<0.0005	<0.0005	7.47	7.42
Fish C.	W3	10/4/1995	0.002	0.002	<0.001	<0.001			1.24		<0.0005	<0.0005	7.13	7.21
Fish C.	W3	10/11/1995	0.002	0.002	<0.001	<0.001			1.2		<0.0005	<0.0005	7.23	7.27
Fish C.	W3	10/18/1995	<0.001	<0.001	0.001	0.001			0.92		<0.0005	<0.0005	6.79	6.92
Fish C.	W3	10/27/1995	<0.001	<0.001	<0.001	<0.001			0.99		<0.0005	<0.0005	6.74	6.83
Fish C.	W3	4/23/1996	<0.001	<0.001	0.001	0.002			1.03		<0.0005	<0.0005	5.21	5.2
Fish C.	W3	5/1/1996	<0.001	<0.001	0.001	0.002			1.09		<0.0005	<0.0005	5.97	5.97
Fish C.	W3	5/8/1996	<0.001	<0.001	0.002	0.002			1.07		<0.0005	<0.0005	6.04	6
Fish C.	W3	5/15/1996	<0.001	<0.001	0.002	0.002			0.87		<0.0005	<0.0005	5.82	6.02
Fish C.	W3	5/23/1996	<0.001	<0.001	0.002	0.002			0.86		<0.0005	<0.0005	6.08	6.18
Fish C.	W3	8/6/1996	<0.001	<0.001	0.001	0.001			0.75		<0.0005	0.0006	8.13	8.22
Fish C.	W3	8/18/1996	<0.001	<0.001	<0.001	0.001			0.86		<0.0005	0.0007	7.86	7.98
Fish C.	W3	8/24/1996	0.001	0.001	<0.001	<0.001			0.72		<0.0005	0.0005	7.88	7.8
Fish C.	W3	8/29/1996	0.001	0.001	<0.001	<0.001			0.83		<0.0005	<0.0005	8.53	8.56

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W2	8/29/2006	<0.000010	<0.000010	5.9	5.6	0.0477	0.0531	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000093	0.000094
Fish C.	W2	9/6/2006	<0.000010	<0.000020	7.2	6.6	0.0504	0.0502	<0.00010	<0.00010	<0.00010	0.00014	<0.010	<0.010	0.000068	0.000079
Fish C.	W2	10/3/2006	<0.000010	<0.000010	6.6	6.7	0.0643	0.0679	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000095	0.000124
Fish C.	W2	11/2/2006	<0.000010	<0.000010	8.3	8.5	0.0606	0.0598	<0.00010	<0.0001	<0.00010	<0.0001	<0.010	<0.010	0.000087	0.000084
Fish C.	W3	5/31/1992	<0.0001	<0.0001	5.51		0.087	0.087							0.00014	0.00017
Fish C.	W3	6/30/1992	<0.0001	<0.0001	7.25		0.107	0.107							<0.00005	<0.00005
Fish C.	W3	7/30/1992	<0.0001	<0.0001	6.4		0.118	0.119							<0.00005	<0.00005
Fish C.	W3	12/1/1992	<0.0001	<0.0001	9.14		0.137	0.141							0.00008	0.00014
Fish C.	W3	1/7/1993	<0.0001	<0.0001	8.59		0.135	0.141							0.00008	0.00008
Fish C.	W3	1/27/1993	<0.0001	<0.0001	8.2		0.131	0.131							0.00008	0.00008
Fish C.	W3	3/2/1993	<0.0001	<0.0001	9.57		0.152	0.152							0.00009	0.0001
Fish C.	W3	3/31/1993	<0.0001	<0.0001	9.88		0.139	0.139							0.00009	0.00009
Fish C.	W3	5/6/1993	<0.0001	<0.0001	6.13		0.079	0.079							<0.00005	0.00005
Fish C.	W3	5/13/1993	<0.0001	<0.0001	6.14		0.092	0.092							0.00004	0.00004
Fish C.	W3	5/19/1993	<0.0001	<0.0001	6.34		0.096	0.1							0.00004	0.00004
Fish C.	W3	5/27/1993	<0.0001	<0.0001	8.53		0.117	0.117							0.00006	0.00007
Fish C.	W3	6/3/1993	<0.0001	<0.0001	7.92		0.109	0.112							0.00008	0.00008
Fish C.	W3	8/17/1993	<0.0001	<0.0001	6.55		0.088	0.096							0.00003	0.00005
Fish C.	W3	8/24/1993	<0.0001	<0.0001	7		0.092	0.096							0.00004	0.00005
Fish C.	W3	8/31/1993	<0.0001	<0.0001	6.01		0.104	0.106							0.00006	0.00007
Fish C.	W3	9/14/1993	<0.0001	<0.0001	9.1		0.103	0.107							0.00005	0.00006
Fish C.	W3	9/20/1993	<0.0001	<0.0001	7.53		0.104	0.106							0.00004	0.00006
Fish C.	W3	5/4/1994	<0.0001	<0.0001	3.59		0.042	0.043							0.00002	0.00002
Fish C.	W3	5/12/1994	<0.0001	<0.0001	4.18		0.049	0.049							0.00002	0.00003
Fish C.	W3	5/18/1994	<0.0001	<0.0001	4.27		0.05	0.05							0.00001	0.00002
Fish C.	W3	5/26/1994	<0.0001	<0.0001	4.65		0.06	0.06							0.00003	0.00003
Fish C.	W3	5/31/1994	<0.0001	<0.0001	5.2		0.044	0.044							0.00003	0.00003
Fish C.	W3	8/10/1994	<0.0001	<0.0001	8.24		0.139	0.142							0.00006	0.00008
Fish C.	W3	8/16/1994	<0.0001**	<0.0001**			0.185**	0.233**							0.00015**	0.00021**
Fish C.	W3	8/24/1994	<0.0001	<0.0001	9.96		0.173	0.177							0.00009	0.00009
Fish C.	W3	8/30/1994	<0.0001	<0.0001	9.76		0.174	0.176							0.00013	0.00015
Fish C.	W3	9/6/1994	<0.0001	<0.0001	10.3		0.182	0.185							0.00014	0.00014
Fish C.	W3	6/22/1995	<0.0001	<0.0001	6.1		0.093	0.095					<0.010	<0.010	0.00004	0.00004
Fish C.	W3	6/28/1995	<0.0001	<0.0001	7.37		0.115	0.124					<0.01	<0.01	0.00009	0.0001
Fish C.	W3	7/4/1995	<0.0001	<0.0001	8.37		0.129	0.131					<0.01	<0.01	0.00008	0.00009
Fish C.	W3	7/13/1995	<0.0001	<0.0001	8.75		0.148	0.151					<0.01	<0.01	0.0001	0.0001
Fish C.	W3	7/17/1995	<0.0001	<0.0001	9.51		0.15	0.155					<0.010	<0.010	0.00016	0.00017
Fish C.	W3	9/27/1995	<0.0001	<0.0001	12.1		0.19	0.183					<0.01	<0.01	0.00018	0.00017
Fish C.	W3	10/4/1995	<0.0001	<0.0001	11.2		0.19	0.192					<0.010	<0.010	0.0002	0.0002
Fish C.	W3	10/11/1995	<0.0001	<0.0001	11		0.189	0.191					<0.01	<0.01	0.00022	0.00022
Fish C.	W3	10/18/1995	<0.0001	<0.0001	7.38		0.096	0.098					<0.01	<0.01	0.00012	0.00007
Fish C.	W3	10/27/1995	<0.0001	<0.0001	8.52		0.122	0.122					<0.01	<0.01	0.00009	0.00009
Fish C.	W3	4/23/1996	<0.0001	<0.0001	4.29		0.045	0.045					<0.01	<0.01	0.00004	0.00004
Fish C.	W3	5/1/1996	<0.0001	<0.0001	5.99		0.057	0.057					<0.01	<0.01	0.00005	0.00005
Fish C.	W3	5/8/1996	<0.0001	<0.0001	6.05		0.059	0.058					<0.01	<0.01	0.00004	0.00005
Fish C.	W3	5/15/1996	<0.0001	<0.0001	5.4		0.06	0.061					<0.01	<0.01	0.00004	0.00004
Fish C.	W3	5/23/1996	<0.0001	<0.0001	5.3		0.056	0.055					<0.01	<0.01	0.00003	0.00005
Fish C.	W3	8/6/1996	<0.0001	<0.0001	6.69		0.102	0.103					<0.010	<0.010	0.00007	0.00007
Fish C.	W3	8/18/1996	<0.0001	<0.0001	7.88		0.125	0.127					<0.01	<0.01	0.00009	0.00009
Fish C.	W3	8/24/1996	<0.0001	<0.0001	8.95		0.137	0.136					<0.01	<0.01	0.00011	0.0001
Fish C.	W3	8/29/1996	<0.0001	<0.0001	9.45		0.163	0.163					<0.01	<0.01	0.00012	0.00011

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W2	8/29/2006	0.0018	0.0024	<0.0010	<0.0030
Fish C.	W2	9/6/2006	0.0012	0.0020	<0.0010	<0.0030
Fish C.	W2	10/3/2006	<0.0010	0.0018	<0.0010	<0.0030
Fish C.	W2	11/2/2006	0.0011	0.0013	0.0012	0.0032
Fish C.	W3	5/31/1992	<0.030	<0.030	<0.005	0.013
Fish C.	W3	6/30/1992	<0.030	<0.030	<0.005	0.009
Fish C.	W3	7/30/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	12/1/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	1/7/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	1/27/1993	<0.03	<0.03	<0.005	0.009
Fish C.	W3	3/2/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	3/31/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/6/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/13/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/19/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/27/1993	<0.03	<0.03	<0.005	0.03
Fish C.	W3	6/3/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/17/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/24/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/31/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	9/14/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	9/20/1993	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/4/1994	<0.03	<0.03	<0.005	0.032
Fish C.	W3	5/12/1994	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/18/1994	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/26/1994	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/31/1994	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/10/1994	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/16/1994	<0.030**	<0.030**	<0.005**	0.034**
Fish C.	W3	8/24/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	8/30/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	9/6/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	6/22/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	6/28/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	7/4/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	7/13/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	7/17/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	9/27/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	10/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	10/11/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	10/18/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	10/27/1995	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	4/23/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/1/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/8/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/15/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	5/23/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/6/1996	<0.030	<0.030	0.009	<0.005
Fish C.	W3	8/18/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/24/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	8/29/1996	<0.03	<0.03	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W3	9/6/1996				268	132		8.24	123	1.4		6.5	187	<1	0.5	0.1	21.2
Fish C.	W3	2/28/1997				338	152		7.9	126	1.4		10	236	<1	0.7	0.06	46
Fish C.	W3	5/7/1997	7.8			150	74	8.9	7.9	84	2.3		11.4	105	5	0.6	0.05	3
Fish C.	W3	5/13/1997	9			160	76.4	8.33	7.73	89	1.8		11.7	108	3	0.5	0.1	3
Fish C.	W3	5/19/1997	7			146	73.1	8.17		75	1.8		12	97	5	0.5	0.03	2
Fish C.	W3	5/26/1997	10.6			154	74.7	8.23	7.74	83	1.2		13	105	4	0.5	0.06	3
Fish C.	W3	6/2/1997	11.3			162	78.4	7.92	7.84	84	0.8		11.8	107	3	1	0.06	3
Fish C.	W3	7/30/1997	14			200	96.2	8.4	7.94	111	1.5		10	134	2	0.5	0.08	7
Fish C.	W3	9/15/1997	7.8			307	144	7.86	7.72	134	0.2		6.1	204	1	0.5	0.08	23
Fish C.	W3	9/22/1997	7.8			294	138	7.6	7.75	124	0.4		6.7	199	3	0.6	0.09	27
Fish C.	W3	9/29/1997	7.9			321	147	8.13	7.75	132	0.4		5.2	212	1	0.7	0.07	31
Fish C.	W3	10/6/1997	3.5			313	142	8.28	7.59	122	0.2		6.4	210	1	0.7	0.18	37
Fish C.	W3	10/13/1997	4.4			336	155	8.04	7.6	129	0.2		6	229	1	0.8	0.08	44
Fish C.	W3	11/16/1997	0.3			433	207	7.7	7.54	161	0.1		4.6	307	1	1	0.06	69
Fish C.	W3	12/16/1997	0.3			422	201	8.24	7.46	148	0.3		4	314	1	1	0.07	86
Fish C.	W3	1/20/1998	0.3			376	184	7.68	7.59	139	0.3		4.4	277	1	0.8	0.08	67
Fish C.	W3	2/18/1998	0.4			361	171	7.98	7.68	136	0.3		6	263	1	0.8	0.07	61
Fish C.	W3	3/10/1998	0.9			336	163		7.93	140	0.9		5.7	245	1	0.9	0.08	46
Fish C.	W3	4/14/1998	0.5			237	120	8.09	7.67	108	0.8		8	154	1	0.5	0.08	18
Fish C.	W3	5/9/2006	3.3	12.5	163.9	153	77.0		8.14	91.3	1.08	13.6		113	<3.0	<0.50	0.045	3.73
Fish C.	W3	5/16/2006	9.6	9.6	178.9	167	89.9		8.14	82.0	1.25	12.5		120	<3.0	<0.50	0.059	5.69
Fish C.	W3	5/24/2006	8.5	9.4	174.9	173	88.9		8.10	87.5	0.81	12.2		125	<3.0	<0.50	0.048	6.10
Fish C.	W3	5/29/2006	8.9	11.1	151.3	150	80.3		8.16	75.5	2.10	14.3		120	4.3	<0.50	0.053	4.26
Fish C.	W3	6/6/2006	13.1	9.0	165	165	88.3		8.06	90.8	0.98	15.7		118	<3.0	<0.50	0.053	4.02
Fish C.	W3	7/5/2006	11.6	8.8	229.7	226	112		8.20	109	0.66	10.6		161	<3.0	<0.50	0.067	10.9
Fish C.	W3	8/8/2006	11.8		340	334	156		8.31	147	0.51	5.8		210	1.1	0.62	0.061	27.5
Fish C.	W3	8/15/2006	9.8	8.5	236	335	157		8.06	149	0.21	6.1		209	<3.0	0.66	0.062	28.8
Fish C.	W3	8/22/2006	10.3	8.7	372.8	349	164		8.12	157	0.27	7.0		221	<1.0	1.17	0.060	32.4
Fish C.	W3	8/29/2006	10.0	5.9	381.2	367	147		8.19	166	0.15			230	<3.0	0.63	0.064	34.3
Fish C.	W3	9/6/2006	11.0		392	370	181		8.29	169	0.23	4.9		225	<1.0	0.67	0.066	36.4
Fish C.	W3	10/3/2006	4.6	10.1	426	354	177		8.17	147	0.22			233	<3.0	1.17	0.062	59.3
Fish C.	W3	11/1/2006				412	194		8.23	157	0.67	3.86		262	<2.3	1.04	0.066	70.1
Fish C.	W7	5/31/1992				149	79.2		7.71	80.5	1.6			123	<1	0.8	0.05	<1.0
Fish C.	W7	6/30/1992				155	79.1		7.19	79.7	1.28			122	5	0.5	0.05	<1.0
Fish C.	W7	7/30/1992				161	88.5		7.94	84.1	1.2			132	<1	0.8	0.05	1.3
Fish C.	W7	8/30/1992				165	89.1		7.92	89.1	1.35			140	3	0.5	0.04	2.4
Fish C.	W7	10/4/1992				162	82.6		7.99	94.9	1.2			141	3	0.5	0.04	1.2
Fish C.	W7	10/28/1992				163	84.5		7.87	88.5	1.97			134	3	0.5	0.05	<1.0
Fish C.	W7	12/1/1992				168	87.5		7.69	90.6	0.68			140	3	0.5	0.03	1.1
Fish C.	W7	1/7/1993				182	92.9		7.62	100	0.61			154	<1	0.7	0.05	2
Fish C.	W7	1/27/1993				184	87.7		7.66	95.8	0.7			144	<1	0.9	0.05	<1.0
Fish C.	W7	3/2/1993				191	100		7.59	103	0.67			158	1	0.7	0.06	<1.0
Fish C.	W7	3/31/1993				196	99.3		7.78	109	0.87			157	<1	1.4	0.06	4.1
Fish C.	W7	5/5/1993				159	73.6		7.68	82.6	0.89			120	2	1.3	0.05	3.3
Fish C.	W7	5/17/1993				169	83.5		7.78	91.4	1.25			130	1	0.5	0.06	3
Fish C.	W7	5/19/1993				175	83.6		7.92	91.1	1.2			135	1	1	0.05	4.3
Fish C.	W7	5/27/1993				171	78.5		8.1	91.2	2.35			99	2	1.2	0.05	2.6
Fish C.	W7	6/3/1993				169	80.7		7.77	89.9	2.6			98	6	0.8	0.05	1.9
Fish C.	W7	8/17/1993				170	90.2		7.9	91.1	1.5			112	3	0.6	0.05	1.7
Fish C.	W7	8/24/1993				172	87.8		7.77	91.5	1.01			112	3	0.8	0.05	2.4
Fish C.	W7	8/31/1993				172	87.4		7.76	90.6	1.53			109	5	0.7	0.05	1.5

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W3	9/6/1996	<0.005	0.078	0.002	0.016	0.017	0.017	<0.005	0.007	0.0009	0.0008	0.003	0.0025	<0.01
Fish C.	W3	2/28/1997	<0.005	0.182	0.001	0.013	0.016	0.021	0.014	0.039	0.0007	0.0006	0.002	0.0022	<0.010
Fish C.	W3	5/7/1997	0.006	0.023	0.002	0.003	0.005	0.023	0.006	0.046	0.00019	0.00013	0.0008	0.001	0.0023
Fish C.	W3	5/13/1997	0.017	0.012	0.003	0.002	0.011	0.018	0.004	0.072	0.0005	0.0005	0.0007	0.0009	0.00213
Fish C.	W3	5/19/1997	0.008	0.008	0.001	0.003	0.003	0.021	0.004	0.04	0.00019	0.00013	0.0007	0.0008	0.00207
Fish C.	W3	5/26/1997	0.005	0.005	0.001	0.003	0.012	0.017	0.006	0.031	0.00006	0.00006	0.0008	0.0008	0.00204
Fish C.	W3	6/2/1997	0.005	0.015	0.001	0.003	0.011	0.014	0.005	0.027	0.00019	0.00015	0.001	0.001	0.00227
Fish C.	W3	7/30/1997	0.005	0.064	0.001	0.012	0.017	0.019	0.003	0.015	0.00032	0.00033	0.0021	0.002	0.00351
Fish C.	W3	9/15/1997	0.005	0.335	0.001	0.01	0.01	0.01	0.002	0.003	0.001	0.00098	0.0028	0.0028	0.0085
Fish C.	W3	9/22/1997	0.005	0.218	0.001	0.006	0.009	0.014	0.001	0.011	0.00096	0.00097	0.0029	0.0029	0.00745
Fish C.	W3	9/29/1997	0.005	0.193	0.001	0.004	0.005	0.008	0.002	0.004	0.00107	0.00105	0.0031	0.003	0.00866
Fish C.	W3	10/6/1997	0.005	0.103	0.001	0.001	0.003	0.006	0.001	0.004	0.00101	0.00101	0.0027	0.0027	0.00805
Fish C.	W3	10/13/1997	0.005	0.101	0.001	0.002	0.005	0.006	0.002	0.005	0.00101	0.00098	0.0027	0.0027	0.00853
Fish C.	W3	11/16/1997	0.005	0.32	0.001	0.007	0.008	0.01	0.001	0.003	0.00103	0.00102	0.0029	0.0027	0.0126
Fish C.	W3	12/16/1997	0.005	0.346	0.001	0.006	0.012	0.012	0.001	0.001	0.00106	0.00106	0.0035	0.0035	0.0107
Fish C.	W3	1/20/1998	0.005	0.195	0.001	0.006	0.013	0.015	0.001	0.002	0.00083	0.00082	0.0031	0.0028	0.00849
Fish C.	W3	2/18/1998	0.005	0.17	0.001	0.002	0.002	0.011	0.001	0.002	0.00081	0.00084	0.0031	0.0032	0.00805
Fish C.	W3	3/10/1998	0.005	0.178	0.001	0.003	0.005	0.006	0.001	0.005	0.0007	0.00072	0.0025	0.0026	0.00686
Fish C.	W3	4/14/1998	0.005	0.076	0.001	0.004	0.006	0.014	0.002	0.008	0.00034	0.00034	0.002	0.002	0.00391
Fish C.	W3	5/9/2006	<0.0050	0.0081	<0.0010	0.0481	0.110	0.172	<0.0030	0.0354	0.00013	0.00013	0.00093	0.00099	0.00217
Fish C.	W3	5/16/2006	<0.0050	0.0146	<0.0010	0.0047	0.0088	0.0177	0.0028	0.0160	0.00019	0.00018	0.00116	0.00118	0.00266
Fish C.	W3	5/24/2006	<0.0050	0.0338	<0.0010	0.0043	0.0110	0.0112	0.0026	0.0157	0.00022	0.00023	0.00131	0.00147	0.00276
Fish C.	W3	5/29/2006	0.0103	<0.0050	<0.0010	0.0039	0.0122	0.0240	0.0179	0.0491	0.00012	0.00012	0.00092	0.00111	0.00226
Fish C.	W3	6/6/2006	<0.0050	0.0132	<0.0010	0.0040	<0.0020	0.0025	0.0045	0.0165	0.00017	0.00017	0.00126	0.00122	0.00256
Fish C.	W3	7/5/2006	0.0080	0.205	0.0014	0.0113	0.0116	0.0141	<0.0050	0.0041	0.00056	0.00056	0.00246	0.00256	0.00513
Fish C.	W3	8/8/2006	<0.0050	0.400	0.0032	0.0074	0.0170	0.0278	<0.0030	0.0157	0.00126	0.00128	0.00374	0.00396	0.00962
Fish C.	W3	8/15/2006	<0.0050	0.386	0.0029	0.0102	0.0114	0.0160	<0.0030	0.0074	0.00122	0.00119	0.00371	0.00377	0.00936
Fish C.	W3	8/22/2006	0.0093	0.483	<0.0020	0.0110	0.0179	0.0229	<0.0020	0.0106	0.00115	0.00117	0.00341	0.00374	0.0115
Fish C.	W3	8/29/2006	<0.0050	0.432	<0.0010	0.0093	0.0108	0.0118	<0.0050	0.0024	0.00101	0.00116	0.00283	0.00345	0.0104
Fish C.	W3	9/6/2006	0.0133	0.459	0.0024	0.0113	0.0128	0.0128	<0.0030	0.0051	0.00146	0.00142	0.00362	0.00356	0.0126
Fish C.	W3	10/3/2006	0.0067	0.132	<0.0010	0.0065	0.0092	0.0120	<0.0030	0.0028	0.00120	0.00122	0.00377	0.00397	0.00971
Fish C.	W3	11/1/2006	<0.0050	0.0413	<0.0010	0.0038	0.0062	0.0100	0.00053	0.0116	0.00108	0.00107	0.00313	0.00331	0.0100
Fish C.	W7	5/31/1992	0.039	<0.005	<0.001	0.003	0.004	0.018	0.034	0.16	<0.0001	<0.0001	0.0001	0.0018	<0.010
Fish C.	W7	6/30/1992	<0.005	0.03	0.004	0.008	0.009	0.03	0.011	0.082	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	7/30/1992	0.051	<0.005	0.006	0.012	0.028	0.028	0.006	0.014	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	8/30/1992	0.024	0.014	0.003	0.007	0.015	0.023	0.006	0.045	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W7	10/4/1992	0.017	0.061	0.001	0.016	0.018	0.054	0.019	0.073	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W7	10/28/1992	0.022	0.059	<0.001	0.008	0.014	0.024	0.011	0.043	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W7	12/1/1992	0.005	0.064	0.007	0.005	0.015	0.015	0.008	0.035	<0.0002	<0.0002	0.0002	0.0003	<0.010
Fish C.	W7	1/7/1993	0.007	0.125	0.001	0.005	0.005	0.007	0.005	0.015	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W7	1/27/1993	<0.005	0.153	0.001	0.009	0.016	0.019	0.007	0.039	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W7	3/2/1993	0.008	0.136	<0.001	0.011	0.018	0.02	0.013	0.044	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	3/31/1993	0.022	0.065	<0.001	0.006	0.017	0.02	<0.005	0.017	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W7	5/5/1993	0.019	0.009	0.001	0.006	0.02	0.023	0.007	0.084	<0.0001	<0.0001	<0.0001	0.0001	<0.010
Fish C.	W7	5/17/1993	0.013	<0.005	<0.001	0.009	0.019	0.023	0.037	0.051	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W7	5/19/1993	0.015	<0.005	0.001	0.008	0.017	0.019	0.052	0.101	<0.0001	0.0001	0.0002	0.0002	<0.010
Fish C.	W7	5/27/1993	0.023	<0.005	0.001	0.011	0.021	0.029	0.007	0.043	<0.0001	0.0003	0.0002	0.0003	<0.010
Fish C.	W7	6/3/1993	0.029	<0.005	<0.001	0.01	0.022	0.027	0.017	0.075	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W7	8/17/1993	0.028	<0.005	0.001	0.007	0.017	0.021	0.013	0.056	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	8/24/1993	0.011	<0.005	0.001	0.007	0.014	0.016	<0.005	0.028	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	8/31/1993	0.016	0.008	0.004	0.007	0.016	0.018	<0.005	<0.005	<0.0001	0.0002	0.0001	0.0001	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W3	9/6/1996	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	29.5	28.9	<0.001	<0.001
Fish C.	W3	2/28/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	33.9	33.4	<0.001	<0.001
Fish C.	W3	5/7/1997	0.00294	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	15.1	14.1	0.0005	0.0005
Fish C.	W3	5/13/1997	0.00283	0.0005	0.0005	0.0005	0.0005	0.007	0.006	0.00005	0.00005	15.2	14.8	0.0005	0.0005
Fish C.	W3	5/19/1997	0.00251	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	14.3	14.4	0.0005	0.0005
Fish C.	W3	5/26/1997	0.00236	0.0005	0.0005	0.0005	0.0005	0.007	0.006	0.00005	0.00005	14.9	14.6	0.0005	0.0005
Fish C.	W3	6/2/1997	0.00251	0.0005	0.0005	0.0005	0.0005	0.009	0.008	0.00005	0.00005	15.9	15.5	0.0005	0.0005
Fish C.	W3	7/30/1997	0.00376	0.0005	0.0005	0.0005	0.0005	0.015	0.014	0.00005	0.00005	20	19.5	0.0005	0.0005
Fish C.	W3	9/15/1997	0.00855	0.0005	0.0005	0.0005	0.0005	0.036	0.034	0.00005	0.00005	31.8	31.4	0.0005	0.0005
Fish C.	W3	9/22/1997	0.00769	0.0005	0.0005	0.0005	0.0005	0.046	0.046	0.00005	0.00005	30.5	30.7	0.0005	0.0005
Fish C.	W3	9/29/1997	0.00887	0.0005	0.0005	0.0005	0.0005	0.046	0.041	0.00005	0.00005	32.4	32.6	0.0005	0.0005
Fish C.	W3	10/6/1997	0.00807	0.0005	0.0005	0.0005	0.0005	0.044	0.042	0.00005	0.00005	30.9	31.8	0.0005	0.0005
Fish C.	W3	10/13/1997	0.00837	0.0005	0.0005	0.0005	0.0005	0.048	0.049	0.00005	0.00005	34.3	33.4	0.0005	0.0005
Fish C.	W3	11/16/1997	0.0124	0.0005	0.0005	0.0005	0.0005	0.046	0.045	0.00005	0.00005	46.1	45.5	0.0005	0.0005
Fish C.	W3	12/16/1997	0.0107	0.0005	0.0005	0.0005	0.0005	0.055	0.058	0.00005	0.00005	45.5	45.2	0.0005	0.0005
Fish C.	W3	1/20/1998	0.00852	0.0005	0.0005	0.0005	0.0005	0.055	0.056	0.00005	0.00005	41	40.8	0.0005	0.0005
Fish C.	W3	2/18/1998	0.00836	0.0005	0.0005	0.0005	0.0005	0.049	0.05	0.00005	0.00005	38.7	37.6	0.0005	0.0005
Fish C.	W3	3/10/1998	0.00711	0.0005	0.0005	0.0005	0.0005	0.045	0.045	0.00005	0.00005	36.9	38.3	0.0005	0.0005
Fish C.	W3	4/14/1998	0.00401	0.0005	0.0005	0.0005	0.0005	0.023	0.022	0.00005	0.00005	25.7	25.4	0.0005	0.0005
Fish C.	W3	5/9/2006	0.00236	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000020	15.6	16.1	<0.00050	<0.00050
Fish C.	W3	5/16/2006	0.00284	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	19.1	18.9	<0.00050	<0.00050
Fish C.	W3	5/24/2006	0.00303	<0.00050	<0.00050	<0.00050	<0.00050	0.010	0.011	<0.000017	0.000022	19.0	19.0	<0.00050	<0.00050
Fish C.	W3	5/29/2006	0.00277	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	16.8	17.0	<0.00050	<0.00050
Fish C.	W3	6/6/2006	0.00283	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	18.5	18.0	<0.00070	<0.00050
Fish C.	W3	7/5/2006	0.00522	<0.00050	<0.00050	<0.00050	<0.00050	0.025	0.025	<0.000017	<0.000017	24.3	25.7	<0.00050	<0.00050
Fish C.	W3	8/8/2006	0.0101	<0.00050	<0.00050	<0.00050	<0.00050	0.046	0.047	0.000022	0.000024	35.6	35.5	<0.0020	<0.0020
Fish C.	W3	8/15/2006	0.00935	<0.00050	<0.00050	<0.00050	<0.00050	0.049	0.048	<0.000017	<0.000017	35.3	36.2	0.00080	0.00094
Fish C.	W3	8/22/2006	0.0118	<0.00050	<0.00050	<0.00050	<0.00050	0.049	0.047	<0.00017	0.000019	36.2	37.3	<0.00050	<0.00050
Fish C.	W3	8/29/2006	0.0121	<0.00050	<0.00050	<0.00050	<0.00050	0.042	0.049	<0.000017	<0.000017	32.3	39.1	<0.00050	<0.00050
Fish C.	W3	9/6/2006	0.0125	<0.00050	<0.00050	<0.00050	<0.00050	0.055	0.054	<0.000017	<0.000017	40.1	40.3	<0.00050	<0.00050
Fish C.	W3	10/3/2006	0.00998	<0.00050	<0.00050	<0.00050	<0.00050	0.055	0.055	<0.000017	<0.000017	39.6	40.4	<0.00050	<0.00050
Fish C.	W3	11/1/2006	0.01023	<0.00050	<0.0005	<0.00050	<0.00050	0.0653	0.063	<0.000017	<0.000017	43.5	43.8	<0.00050	<0.00050
Fish C.	W7	5/31/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.8	15	<0.001	<0.001
Fish C.	W7	6/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.9	14.9	<0.001	<0.001
Fish C.	W7	7/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.8	15.8	<0.001	<0.001
Fish C.	W7	8/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.2	18.1	<0.001	<0.001
Fish C.	W7	10/4/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.5	16	<0.001	<0.001
Fish C.	W7	10/28/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.3	16.9	<0.001	<0.001
Fish C.	W7	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.5	18	<0.001	<0.001
Fish C.	W7	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.9	18.3	<0.001	<0.001
Fish C.	W7	1/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	16.3	<0.001	<0.001
Fish C.	W7	3/2/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.9	20.4	<0.001	<0.001
Fish C.	W7	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19	19.4	<0.001	<0.001
Fish C.	W7	5/5/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.1	14.1	<0.001	<0.001
Fish C.	W7	5/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	16.2	<0.001	<0.001
Fish C.	W7	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	16.2	<0.001	<0.001
Fish C.	W7	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.5	14.8	<0.001	<0.001
Fish C.	W7	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.3	15.3	<0.001	<0.001
Fish C.	W7	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.1	18.1	<0.001	<0.001
Fish C.	W7	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17	17	<0.001	<0.001
Fish C.	W7	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17	17.2	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W3	9/6/1996	<0.001	<0.001	0.001	0.001	0.058	0.085	<0.001	<0.001			14.2	13.9	<0.005	<0.005
Fish C.	W3	2/28/1997	<0.001	<0.001	0.001	0.002	0.406	0.525	<0.001	<0.001			16.4	16.3	<0.005	0.006
Fish C.	W3	5/7/1997	0.0002	0.0001	0.001	0.0012	0.15	0.28	0.00006	0.00005	0.001	0.001	8.83	8.29	0.0051	0.0252
Fish C.	W3	5/13/1997	0.0002	0.0001	0.0009	0.0011	0.12	0.23	0.00005	0.00005	0.001	0.001	9.36	9.02	0.00522	0.0245
Fish C.	W3	5/19/1997	0.0002	0.0004	0.0009	0.0011	0.15	0.24	0.00005	0.00005	0.001	0.001	9.09	9.24	0.0053	0.0236
Fish C.	W3	5/26/1997	0.0001	0.0001	0.001	0.0011	0.13	0.22	0.00005	0.00005	0.001	0.001	9.08	8.85	0.00451	0.0198
Fish C.	W3	6/2/1997	0.0001	0.0004	0.0011	0.0011	0.13	0.18	0.00005	0.00005	0.001	0.001	9.42	9.25	0.00428	0.015
Fish C.	W3	7/30/1997	0.0001	0.0001	0.0018	0.0015	0.17	0.22	0.00005	0.00005	0.001	0.001	11.2	10.9	0.0018	0.0131
Fish C.	W3	9/15/1997	0.0001	0.0001	0.0016	0.0016			0.00005	0.00005	0.001	0.001	15.7	15.6	0.00073	0.00134
Fish C.	W3	9/22/1997	0.0002	0.0001	0.0014	0.0015			0.00005	0.00005	0.001	0.001	15	15.1	0.00044	0.00316
Fish C.	W3	9/29/1997	0.0001	0.0001	0.0015	0.0015			0.00005	0.00005	0.001	0.001	16.1	16.1	0.00082	0.00177
Fish C.	W3	10/6/1997	0.0001	0.0001	0.0013	0.0015			0.00005	0.00005	0.001	0.001	15.6	15.6	0.00071	0.00125
Fish C.	W3	10/13/1997	0.0003	0.0001	0.0014	0.0014			0.00005	0.00005	0.001	0.001	16.9	16.6	0.00062	0.00154
Fish C.	W3	11/16/1997	0.0001	0.0001	0.0012	0.0011			0.00005	0.00005	0.001	0.001	22.4	22.2	0.00048	0.00084
Fish C.	W3	12/16/1997	0.0001	0.0001	0.0009	0.0009			0.00005	0.00005	0.001	0.001	21.3	21.3	0.0004	0.00057
Fish C.	W3	1/20/1998	0.0001	0.0001	0.0008	0.0008		0.05	0.00005	0.00005	0.001	0.001	19.7	19.5	0.00022	0.00075
Fish C.	W3	2/18/1998	0.0001	0.0001	0.0009	0.0009	0.04	0.05	0.00005	0.00005	0.001	0.001	18.1	17.8	0.00012	0.00058
Fish C.	W3	3/10/1998	0.0001	0.0001	0.001	0.0011	0.16	0.22	0.00005	0.00005	0.001	0.001	17.2	17.7	0.00025	0.00152
Fish C.	W3	4/14/1998	0.0001	0.0001	0.001	0.0011	0.22	0.27	0.00005	0.00005	0.001	0.001	13.5	13.4	0.00105	0.00284
Fish C.	W3	5/9/2006	<0.00010	<0.00010	0.00098	0.00105	0.083	0.150	<0.000050	<0.000050	<0.0050	<0.0050	9.21	9.53	0.000668	0.00934
Fish C.	W3	5/16/2006	<0.00010	<0.00010	0.00116	0.00122	0.091	0.159	<0.000050	<0.000050	<0.0050	<0.0050	10.3	10.2	0.00129	0.00873
Fish C.	W3	5/24/2006	<0.00010	<0.00010	0.0014	0.00151	0.089	0.144	<0.000050	<0.000050	<0.0050	<0.0050	10.0	10.0	0.00117	0.00693
Fish C.	W3	5/29/2006	<0.00010	0.00014	0.00122	0.00134	0.083	0.199	<0.000050	<0.000050	<0.0050	<0.0050	9.33	9.47	0.00465	0.0233
Fish C.	W3	6/6/2006	<0.00010	<0.00010	0.00117	0.00134	0.102	0.170	<0.000050	<0.000050	<0.0050	<0.0050	10.2	9.89	0.00137	0.0119
Fish C.	W3	7/5/2006	<0.00010	<0.00010	0.00184	0.00189	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	12.4	13.2	0.000838	0.00286
Fish C.	W3	8/8/2006	<0.00010	<0.00010	0.00176	0.00194	<0.030	0.030	<0.000050	<0.000050	<0.0050	<0.0050	16.4	16.8	0.000463	0.00508
Fish C.	W3	8/15/2006	<0.00010	<0.00010	0.00165	0.00264	<0.030	<0.030	<0.000050	0.00126	<0.0050	<0.0050	16.8	17.4	0.000821	0.00214
Fish C.	W3	8/22/2006	<0.00010	<0.00010	0.00183	0.00190	<0.030	0.040	<0.000050	<0.000050	<0.0050	<0.0050	17.8	18.3	0.00152	0.00573
Fish C.	W3	8/29/2006	<0.00010	<0.00010	0.00147	0.00181	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	16.2	19.3	0.000533	0.00176
Fish C.	W3	9/6/2006	<0.00010	<0.00010	0.00186	0.00178	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	19.7	19.8	0.000224	0.00206
Fish C.	W3	10/3/2006	<0.00010	<0.00010	0.00112	0.00126	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	19.1	19.4	0.000069	0.000822
Fish C.	W3	11/1/2006	<0.00010	0.00007	0.0010	0.00104	<0.030	0.0453	<0.000050	<0.000050	<0.0050	<0.0050	20.7	20.77	0.000149	0.00459
Fish C.	W7	5/31/1992	<0.001	<0.001	0.002	0.002	0.111	0.192	<0.001	0.001			10.3	10.6	0.011	0.022
Fish C.	W7	6/30/1992	<0.001	<0.001	0.005	0.005	0.121	0.19	<0.001	<0.001			10.2	10.2	0.01	0.023
Fish C.	W7	7/30/1992	<0.001	<0.001	<0.001	<0.001	0.039	0.111	<0.001	<0.001			11.9	11.9	0.007	0.016
Fish C.	W7	8/30/1992	<0.001	<0.001	<0.001	<0.001	0.093	0.138	<0.001	<0.001			11.2	11.7	<0.005	0.008
Fish C.	W7	10/4/1992	<0.001	<0.001	<0.001	0.001	0.151	0.697	<0.001	<0.001			10.6	11.1	0.011	0.013
Fish C.	W7	10/28/1992	<0.001	<0.001	<0.001	<0.001	0.11	0.189	<0.001	<0.001			10.6	10.9	<0.005	0.009
Fish C.	W7	12/1/1992	<0.001	<0.001	0.001	0.003	0.08	0.145	<0.001	0.001			10.7	11	<0.005	<0.005
Fish C.	W7	1/7/1993	<0.001	<0.001	<0.001	<0.001	0.1	0.163	<0.001	<0.001			11.7	11.9	0.007	0.01
Fish C.	W7	1/27/1993	<0.001	<0.001	<0.001	0.001	0.098	0.151	<0.001	<0.001			11.6	11.7	0.01	0.01
Fish C.	W7	3/2/1993	<0.001	<0.001	<0.001	<0.001	0.113	0.168	<0.001	<0.001			12.3	12.6	0.012	0.019
Fish C.	W7	3/31/1993	<0.001	<0.001	<0.001	<0.001	0.082	0.131	<0.001	<0.001			12.6	12.9	0.008	0.013
Fish C.	W7	5/5/1993	<0.001	<0.001	<0.001	<0.001	0.056	0.134	<0.001	<0.001			9.33	9.33	<0.005	0.014
Fish C.	W7	5/17/1993	<0.001	<0.001	0.001	0.001	0.07	0.154	<0.001	<0.001			10.5	10.5	0.009	0.022
Fish C.	W7	5/19/1993	<0.001	<0.001	<0.001	<0.001	0.065	0.126	<0.001	<0.001			10.6	10.9	0.011	0.023
Fish C.	W7	5/27/1993	<0.001	<0.001	<0.001	0.001	0.037	0.154	<0.001	<0.001			10.3	10.3	0.009	0.021
Fish C.	W7	6/3/1993	<0.001	<0.001	<0.001	<0.001	0.052	0.15	<0.001	<0.001			10.3	10.3	<0.005	0.021
Fish C.	W7	8/17/1993	<0.001	<0.001	<0.001	<0.001	0.075	0.126	<0.001	<0.001			10.9	10.9	0.006	0.016
Fish C.	W7	8/24/1993	<0.001	<0.001	<0.001	<0.001	0.069	0.11	<0.001	<0.001			11	11	0.005	0.012
Fish C.	W7	8/31/1993	<0.001	<0.001	<0.001	<0.001	0.049	0.049	<0.001	<0.001			10.9	11.2	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W3	9/6/1996	0.001	0.001	<0.001	<0.001			1.22		<0.0005	<0.0005	8.14	7.89
Fish C.	W3	2/28/1997	<0.001	<0.001	0.002	0.002			1.6		<0.0005	<0.0005	9.01	9.03
Fish C.	W3	5/7/1997	0.00034	0.00034	0.0017	0.0019					0.0005	0.0005	6.79	6.67
Fish C.	W3	5/13/1997	0.0003	0.00032	0.0018	0.0019					0.0005	0.0005	7.09	6.92
Fish C.	W3	5/19/1997	0.0003	0.00029	0.0018	0.002					0.0005	0.0005	6.85	6.94
Fish C.	W3	5/26/1997	0.00032	0.00033	0.0019	0.0018					0.0005	0.0005	6.79	6.63
Fish C.	W3	6/2/1997	0.00036	0.00035	0.0018	0.0018					0.0005	0.0006	6.88	6.74
Fish C.	W3	7/30/1997	0.00052	0.00053	0.0015	0.0015					0.0005	0.0005	7.53	7.31
Fish C.	W3	9/15/1997	0.00111	0.00108	0.0006	0.0006					0.0005	0.0005	7.28	7.23
Fish C.	W3	9/22/1997	0.00111	0.00113	0.0007	0.0007					0.0005	0.0005	6.92	6.95
Fish C.	W3	9/29/1997	0.00118	0.00119	0.0007	0.0007					0.0005	0.0005	6.92	6.94
Fish C.	W3	10/6/1997	0.00117	0.00119	0.0006	0.0007					0.0005	0.0005	6.47	6.44
Fish C.	W3	10/13/1997	0.00123	0.00119	0.0006	0.0004					0.0005	0.0005	6.52	6.46
Fish C.	W3	11/16/1997	0.00121	0.00124	0.0002	0.0002					0.0005	0.0005	7.12	7.05
Fish C.	W3	12/16/1997	0.00131	0.00128	0.0001	0.0001					0.0005	0.0005	7.08	7.06
Fish C.	W3	1/20/1998	0.00105	0.00105	0.0005	0.0006					0.0005	0.0005	8.2	8.09
Fish C.	W3	2/18/1998	0.00111	0.00111	0.0006	0.0006					0.0005	0.0005	7.92	7.83
Fish C.	W3	3/10/1998	0.00097	0.00093	0.0007	0.0007					0.0005	0.0005	8.68	8.94
Fish C.	W3	4/14/1998	0.00068	0.00068	0.0015	0.0015					0.0005	0.0005	8.54	8.52
Fish C.	W3	5/9/2006	0.000349	0.000381	0.00166	0.00170	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.38	6.57
Fish C.	W3	5/16/2006	0.000417	0.000402	0.00178	0.00176	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.45	7.48
Fish C.	W3	5/24/2006	0.000466	0.000455	0.00162	0.00176	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.86	6.92
Fish C.	W3	5/29/2006	0.000349	0.000361	0.00183	0.00192	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.57	6.65
Fish C.	W3	6/6/2006	0.000381	0.000375	0.00177	0.00183	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.17	6.84
Fish C.	W3	7/5/2006	0.000854	0.000827	0.00138	0.00136	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.96	7.48
Fish C.	W3	8/8/2006	0.00119	0.00120	0.00076	0.00083	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.87	8.00
Fish C.	W3	8/15/2006	0.00123	0.00121	0.00060	0.00086	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.76	8.08
Fish C.	W3	8/22/2006	0.00118	0.00114	0.00070	0.00063	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.56	7.82
Fish C.	W3	8/29/2006	0.00101	0.00116	0.00061	0.00062	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.72	8.07
Fish C.	W3	9/6/2006	0.00131	0.00127	0.00067	0.00069	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.41	8.52
Fish C.	W3	10/3/2006	0.00146	0.00137	0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.46	6.64
Fish C.	W3	11/1/2006	0.001547	0.00143	0.000433	0.000483	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.001	6.58	6.65
Fish C.	W7	5/31/1992	<0.001	<0.001	0.002	0.002			0.76		<0.0005	<0.0005	6.75	7.37
Fish C.	W7	6/30/1992	<0.001	<0.001	0.001	0.002			0.73		<0.0005	<0.0005	7	7
Fish C.	W7	7/30/1992	<0.001	<0.001	0.002	0.003			0.74		<0.0005	<0.0005	6.63	6.8
Fish C.	W7	8/30/1992	<0.001	0.001	<0.001	0.002			0.82		<0.0005	<0.0005	8.05	8.41
Fish C.	W7	10/4/1992	<0.001	<0.001	0.002	0.002			0.81		<0.0005	<0.0005	7.44	7.79
Fish C.	W7	10/28/1992	<0.001	<0.001	0.002	0.002			0.8		<0.0005	<0.0005	8.36	8.69
Fish C.	W7	12/1/1992	<0.001	<0.001	0.002	0.002			0.74		<0.0005	<0.0005	8.54	8.54
Fish C.	W7	1/7/1993	<0.001	<0.001	0.001	0.002			0.85		<0.0005	<0.0005	9.5	9.7
Fish C.	W7	1/27/1993	<0.001	<0.001	0.002	0.002			0.83		<0.0005	<0.0005	9.33	9.33
Fish C.	W7	3/2/1993	<0.001	<0.001	0.002	0.002			0.93		<0.0005	<0.0005	10	10.3
Fish C.	W7	3/31/1993	<0.001	0.001	0.002	0.002			0.95		<0.0005	<0.0005	9.46	9.69
Fish C.	W7	5/5/1993	<0.001	<0.001	0.001	0.001			0.79		<0.0005	<0.0005	7.3	7.3
Fish C.	W7	5/17/1993	<0.001	0.001	<0.001	<0.001			0.8		<0.0005	<0.0005	8.21	8.22
Fish C.	W7	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.84		<0.0005	<0.0005	8.05	8.3
Fish C.	W7	5/27/1993	<0.001	<0.001	0.001	0.002			0.78		<0.0005	<0.0005	7.28	7.28
Fish C.	W7	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.86		<0.0005	<0.0005	7.25	7.29
Fish C.	W7	8/17/1993	<0.001	<0.001	0.001	0.001			0.76		<0.0005	<0.0005	7.68	7.68
Fish C.	W7	8/24/1993	<0.001	<0.001	0.002	0.002			0.79		<0.0005	<0.0005	7.45	7.45
Fish C.	W7	8/31/1993	<0.001	<0.001	0.001	0.001			0.64		<0.0005	<0.0005	7.75	7.99

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W3	9/6/1996	<0.0001	<0.0001	8.59		0.144	0.142					<0.01	<0.01	0.00013	0.00012
Fish C.	W3	2/28/1997	<0.0001	<0.0001	11.1		0.224	0.224					<0.010	<0.010	0.00018	0.00017
Fish C.	W3	5/7/1997	0.00001	0.00001	5	5	0.0621	0.0602			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W3	5/13/1997	0.00001	0.00001	5	5	0.0605	0.0605			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W3	5/19/1997	0.00001	0.00001	5	5	0.0538	0.0538			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W3	5/26/1997	0.00001	0.00001	5	5	0.0527	0.0531			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W3	6/2/1997	0.00001	0.00001	5	5	0.0654	0.0649			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W3	7/30/1997	0.00001	0.00001	7	7	0.0785	0.0777			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W3	9/15/1997	0.00001	0.00001	11	11	0.148	0.149			0.0001	0.0001	0.01	0.01	0.00013	0.00013
Fish C.	W3	9/22/1997	0.00001	0.00001	10	10	0.133	0.133			0.0001	0.0001	0.01	0.01	0.00014	0.00014
Fish C.	W3	9/29/1997	0.00001	0.00001	11	11	0.144	0.144			0.0001	0.0001	0.01	0.01	0.00016	0.00015
Fish C.	W3	10/6/1997	0.00001	0.00001	10	10	0.149	0.147			0.0001	0.0001	0.01	0.01	0.00017	0.00016
Fish C.	W3	10/13/1997	0.00001	0.00001	11	11	0.169	0.168			0.0001	0.0001	0.01	0.01	0.00018	0.00018
Fish C.	W3	11/16/1997	0.00001	0.00001	14	14	0.262	0.26			0.0001	0.0001	0.01	0.01	0.0003	0.0003
Fish C.	W3	12/16/1997	0.00001	0.00001	14	14	0.269	0.266			0.0001	0.0001	0.01	0.01	0.0004	0.0004
Fish C.	W3	1/20/1998	0.00001	0.00001	14	14	0.171	0.168			0.0001	0.0001	0.01	0.01	0.00025	0.00025
Fish C.	W3	2/18/1998	0.00001	0.00001	12	12	0.216	0.22			0.0001	0.0001	0.01	0.01	0.00023	0.00024
Fish C.	W3	3/10/1998	0.00001	0.00001	12	12	0.201	0.201			0.0001	0.0001	0.01	0.01	0.00019	0.00019
Fish C.	W3	4/14/1998	0.00001	0.00001	9	9	0.129	0.131			0.0001	0.0002	0.01	0.01	0.00011	0.00011
Fish C.	W3	5/9/2006	<0.000010	<0.000010	5.3	5.5	0.0627	0.0626	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000049	0.000046
Fish C.	W3	5/16/2006	<0.000010	<0.000010	6.5	6.5	0.0700	0.0698	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000047	0.000046
Fish C.	W3	5/24/2006	0.000015	0.000016	6.7	6.5	0.0731	0.0754	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000056	0.000052
Fish C.	W3	5/29/2006	<0.000010	<0.000010	6.1	6.1	0.0605	0.0610	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000044	0.000049
Fish C.	W3	6/6/2006	<0.000010	<0.000010	6.4	6.2	0.0735	0.0731	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000048	0.000050
Fish C.	W3	7/5/2006	<0.000010	<0.000010	7.8	8.4	0.115	0.114	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000069	0.000062
Fish C.	W3	8/8/2006	<0.000010	<0.000010	11.3	11.5	0.186	0.193	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000144	0.000143
Fish C.	W3	8/15/2006	<0.000010	<0.000010	11.7	14.0	0.168	0.166	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000154	0.000137
Fish C.	W3	8/22/2006	<0.000010	<0.000010	13.3	13.8	0.213	0.215	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000181	0.000174
Fish C.	W3	8/29/2006	<0.000010	<0.000010	11.0	13.3	0.209	0.239	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000164	0.000182
Fish C.	W3	9/6/2006	<0.000010	<0.000010	14.0	14.1	0.234	0.231	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000218	0.000197
Fish C.	W3	10/3/2006	<0.000010	<0.000010	13.1	13.5	0.217	0.214	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000231	0.000218
Fish C.	W3	11/1/2006	<0.000010	<0.000010	14.6	14.7	0.255	0.249	<0.00010	<0.0001	<0.00010	<0.00010	<0.010	<0.010	0.000305	0.000284
Fish C.	W7	5/31/1992	<0.0001	<0.0001	4.87		0.046	0.047							0.00013	0.00013
Fish C.	W7	6/30/1992	<0.0001	<0.0001	5.08		0.039	0.039							<0.00005	<0.00005
Fish C.	W7	7/30/1992	<0.0001	<0.0001	5.04		0.053	0.053							<0.00005	<0.00005
Fish C.	W7	8/30/1992	<0.0001	<0.0001	6.67		0.038	0.038							0.00006	0.00007
Fish C.	W7	10/4/1992	<0.0001	<0.0001	5.4		0.038	0.054							0.00007	0.00009
Fish C.	W7	10/28/1992	<0.0001	<0.0001	5.85		0.047	0.047							0.00008	0.00008
Fish C.	W7	12/1/1992	<0.0001	<0.0001	6.41		0.044	0.046							<0.00005	0.00005
Fish C.	W7	1/7/1993	<0.0001	<0.0001	6.42		0.057	0.057							0.00005	0.00005
Fish C.	W7	1/27/1993	<0.0001	<0.0001	5.92		0.041	0.041							<0.00005	<0.00005
Fish C.	W7	3/2/1993	<0.0001	<0.0001	6.86		0.064	0.064							0.00005	0.00006
Fish C.	W7	3/31/1993	<0.0001	<0.0001	7.2		0.063	0.063							0.00005	0.00005
Fish C.	W7	5/5/1993	<0.0001	<0.0001	5.33		0.036	0.036							<0.00005	<0.00005
Fish C.	W7	5/17/1993	<0.0001	<0.0001	5.51		0.05	0.051							0.00004	0.00004
Fish C.	W7	5/19/1993	<0.0001	<0.0001	5.35		0.034	0.052							0.00004	0.00005
Fish C.	W7	5/27/1993	<0.0001	0.002	6.2		0.054	0.054							0.00007	0.00007
Fish C.	W7	6/3/1993	<0.0001	<0.0001	6.22		0.056	0.056							0.00007	0.00009
Fish C.	W7	8/17/1993	<0.0001	<0.0001	6.34		0.053	0.053							0.00005	0.00005
Fish C.	W7	8/24/1993	<0.0001	<0.0001	6.67		0.052	0.052							0.00006	0.00007
Fish C.	W7	8/31/1993	<0.0001	<0.0001	5.27		0.052	0.053							0.00006	0.00006

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W3	9/6/1996	<0.03	<0.03	<0.005	<0.005
Fish C.	W3	2/28/1997	<0.030	<0.030	<0.005	<0.005
Fish C.	W3	5/7/1997	0.001	0.001	0.001	0.001
Fish C.	W3	5/13/1997	0.001	0.001	0.001	0.001
Fish C.	W3	5/19/1997	0.001	0.001	0.001	0.001
Fish C.	W3	5/26/1997	0.001	0.001	0.001	0.001
Fish C.	W3	6/2/1997	0.001	0.001	0.003	0.001
Fish C.	W3	7/30/1997	0.001	0.001	0.001	0.002
Fish C.	W3	9/15/1997	0.001	0.001	0.002	0.001
Fish C.	W3	9/22/1997	0.001	0.001	0.001	0.001
Fish C.	W3	9/29/1997	0.001	0.001	0.001	0.003
Fish C.	W3	10/6/1997	0.001	0.001	0.001	0.002
Fish C.	W3	10/13/1997	0.001	0.001	0.002	0.001
Fish C.	W3	11/16/1997	0.001	0.001	0.002	0.001
Fish C.	W3	12/16/1997	0.001	0.001	0.001	0.001
Fish C.	W3	1/20/1998	0.001	0.001	0.002	0.001
Fish C.	W3	2/18/1998	0.001	0.001	0.001	0.001
Fish C.	W3	3/10/1998	0.001	0.001	0.001	0.001
Fish C.	W3	4/14/1998	0.001	0.001	0.001	0.001
Fish C.	W3	5/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W3	5/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W3	5/24/2006	<0.0010	<0.0010	<0.0010	0.0012
Fish C.	W3	5/29/2006	<0.0010	0.0011	<0.0010	0.0014
Fish C.	W3	6/6/2006	<0.0010	0.0011	<0.0010	<0.0010
Fish C.	W3	7/5/2006	<0.0010	<0.0010	0.0023	0.0019
Fish C.	W3	8/8/2006	<0.0010	<0.0010	<0.0010	0.0021
Fish C.	W3	8/15/2006	<0.0010	<0.0010	<0.0010	0.0015
Fish C.	W3	8/22/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W3	8/29/2006	<0.0010	<0.0010	<0.0010	<0.0010
Fish C.	W3	9/6/2006	<0.0010	<0.0010	<0.0010	0.0010
Fish C.	W3	10/3/2006	<0.0010	<0.0010	<0.0010	0.0013
Fish C.	W3	11/1/2006	<0.0010	<0.001	<0.0010	<0.0010
Fish C.	W7	5/31/1992	<0.030	<0.030	0.007	0.019
Fish C.	W7	6/30/1992	<0.030	<0.030	0.009	0.022
Fish C.	W7	7/30/1992	<0.030	<0.030	<0.005	0.005
Fish C.	W7	8/30/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/4/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/28/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	12/1/1992	<0.030	<0.030	<0.005	0.022
Fish C.	W7	1/7/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	1/27/1993	<0.030	<0.030	<0.005	0.035
Fish C.	W7	3/2/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	3/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/5/1993	<0.030	<0.030	<0.005	0.007
Fish C.	W7	5/17/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/19/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/27/1993	<0.030	<0.030	0.006	0.029
Fish C.	W7	6/3/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/17/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/24/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/31/1993	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W7	9/14/1993				188	83.2		7.71	94.8	1.09		11.7	127	<1	0.6	0.05	2.2
Fish C.	W7	9/20/1993				183	83.6		7.48	93.7	1.65			116	<1	0.6	0.04	2.4
Fish C.	W7	5/4/1994				116	58.2		7.3	64.9	0.8			78	<1	0.7	0.04	2.9
Fish C.	W7	5/11/1994				138	65.3		7.49	74.1	1.2			89	<1	0.6	0.05	2.9
Fish C.	W7	5/18/1994				151	72		7.56	75.5	0.65			95	3	0.8	0.04	3.8
Fish C.	W7	5/26/1994				150	73.1		7.77	78	1.47		12.3	102	3	0.8	0.05	3.6
Fish C.	W7	5/31/1994				153	77.1		7.87	79.9	1.56		13.8	97	3	0.9	0.07	3.4
Fish C.	W7	8/10/1994				161	85		8.04	89.8	0.99		12.9	104	4	0.9	0.07	2.7
Fish C.	W7	8/16/1994				167	81.4		7.66	88.8	1.39		14.2	105	3	0.6	0.06	3.7
Fish C.	W7	8/24/1994				159	82.5		8.43	85.7	1.49		15.1	103	<1	1	0.08	2.9
Fish C.	W7	8/30/1994				169	86.5		7.69	87.5	1.3		14.5	106	1	1.4	0.05	3.5
Fish C.	W7	9/6/1994				201	101		7.44	108	1.2		10.8	143	1	0.5	0.08	2.6
Fish C.	W7	6/22/1995				157	81.7		7.88	82.9	1.82		12.1	107	1	0.8	0.06	2.1
Fish C.	W7	6/28/1995				160	80.8		8.03	84.5	1.6		16.2	103	2	0.9	0.05	2.9
Fish C.	W7	7/4/1995				162	82.7		7.97	85.2	26.5		13.2	102	3	1	0.06	2.7
Fish C.	W7	7/13/1995				159	79		8.44	86.1	2.06		12.5	98	5	0.5	0.06	2.1
Fish C.	W7	7/18/1995				156	77.8		8.75	88.7	0.6		12.2	101	31	0.8	0.06	2.8
Fish C.	W7	9/27/1995				206	102		7.82	121	3.81		11.1	140	3	1	0.03	1.1
Fish C.	W7	10/4/1995				192	91.5		7.74	108	2.19		12	118	5	0.8	0.09	2.1
Fish C.	W7	10/11/1995				181	92.5		8.41	97.9	1.7		12.3	122	2	0.8	0.06	1.4
Fish C.	W7	10/18/1995				165	82.7		7.92	85.8	1.1		13.5	114	2	1.3	0.06	3.8
Fish C.	W7	10/27/1995				163	83.6		7.92	88.9	1.2		13.6	112	<1	0.8	0.06	<1.0
Fish C.	W7	5/1/1996				158	78		7.45	81.9	1.3		12.2	105	5	0.5	0.06	1.9
Fish C.	W7	5/8/1996				157	74.6		7.55	81.4	2.4		13.5	106	<1	0.9	0.05	2.1
Fish C.	W7	5/23/1996				149	73.5		7.57	80.1	1.6		12.7	100	2	0.5	0.05	<1.0
Fish C.	W7	8/6/1996				156	79.1		7.93	88.3	1.4		14.5	100	3	0.5	0.06	<1.0
Fish C.	W7	8/16/1996				157	84.3		8.37	86.8	1.4		15.2	112	<1	0.5	0.09	<1.0
Fish C.	W7	8/24/1996				158	80.4		8.58	88.2	2.1		13.3	108	3	0.5	0.07	<1.0
Fish C.	W7	9/2/1996				149	84.1		8.24	91.1	2.5		16.2	114	16	0.5	0.06	<1.0
Fish C.	W7	9/6/1996				155	77.7		7.94	82.8	2		11.4	101	4	0.5	0.07	<1.0
Fish C.	W8	5/31/1992				174	88.9		7.7	87.1	2.6			134	2	0.8	0.05	<1.0
Fish C.	W8	6/30/1992				223	114		7.24	112	2.1			182	8	0.5	0.06	8.3
Fish C.	W8	7/30/1992				215	117		7.75	103	3.84			176	2	0.9	0.58	10.8
Fish C.	W8	8/30/1992				222	119		7.67	120	2.28			192	4	0.5	0.05	5.8
Fish C.	W8	10/4/1992				330	167		7.68	153	9.2			277	9	0.5	0.07	32
Fish C.	W8	10/28/1992				280	141		7.84	126	3.08			230	2	0.5	0.07	26.4
Fish C.	W8	12/1/1992				221	115		7.44	106	1.82			181	1	0.5	0.05	12.1
Fish C.	W8	1/7/1993				227	112		7.47	111	2.88			183	4	1	0.06	9.6
Fish C.	W8	1/27/1993				233	110		7.69	109	5			181	7	1.2	0.05	10.8
Fish C.	W8	3/2/1993				236	123		7.58	114	1.69			197	<1	0.9	0.07	14.5
Fish C.	W8	3/31/1993				241	117		7.7	119	1.99			193	4	1.3	0.06	14.7
Fish C.	W8	5/6/1993				179	82.6		7.77	84.8	1.21			139	1	1.4	0.06	7.2
Fish C.	W8	5/13/1993				195	95.3		7.77	97.2	1.7			148	3	0.7	0.06	8.2
Fish C.	W8	5/19/1993				212	102		7.87	103	1.8			159	1	1.6	0.06	8.9
Fish C.	W8	5/27/1993				241	109		7.9	112	3.84			143	7	1.1	0.06	16.1
Fish C.	W8	6/3/1993				271	128		7.62	114	3.5			165	3	1.1	0.06	27.2
Fish C.	W8	8/17/1993				202	107		7.65	103	2.61			136	3	0.5	0.06	7.5
Fish C.	W8	8/24/1993				204	105		7.64	103	2.2			134	3	0.9	0.06	6.3
Fish C.	W8	8/31/1993				206	104		7.73	106	2.82			133	2	0.6	0.06	5.4
Fish C.	W8	9/14/1993				238	105		7.67	111	2.71		10.9	158	3	0.8	0.06	8.9
Fish C.	W8	9/20/1993				240	110		7.45	110	2.7			153	<1	0.7	0.06	11.3

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W7	9/14/1993	0.017	<0.005	0.003	0.006	0.015	0.017	<0.005	0.027	<0.0001	<0.0001	<0.0001	0.0002	<0.010
Fish C.	W7	9/20/1993	0.012	0.005	<0.001	0.006	0.013	0.017	0.007	0.034	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	5/4/1994	<0.005	<0.005	0.002	0.002	0.012	0.018	0.025	0.049	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W7	5/11/1994	0.01	<0.005	0.003	0.002	0.012	0.018	0.008	0.284	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W7	5/18/1994	0.011	<0.005	0.002	0.006	0.012	0.019	0.009	0.034	<0.0001	<0.0001	0.0001	0.0002	<0.010
Fish C.	W7	5/26/1994	0.029	<0.005	0.003	0.004	0.005	0.02	<0.005	0.033	<0.0001	<0.0001	<0.0001	0.0001	<0.010
Fish C.	W7	5/31/1994	0.029	<0.005	0.003	0.004	0.008	0.016	0.006	0.025	<0.0001	<0.0001	0.0001	0.0001	<0.010
Fish C.	W7	8/10/1994	0.017	0.006	0.001	0.008	0.019	0.019	0.011	0.046	<0.0001	<0.0001	0.0003	0.0004	<0.010
Fish C.	W7	8/16/1994	0.01	0.024	0.005	0.009	0.02	0.02	0.016	0.062	<0.0002	<0.0002	0.0002	0.0002	<0.010
Fish C.	W7	8/24/1994	0.02	0.03	0.007	0.01	0.019	0.024	<0.005	0.017	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	8/30/1994	0.013	0.051	0.008	0.009	0.009	0.01	0.006	0.042	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	9/6/1994	0.035	0.147	0.012	0.016	0.025	0.025	<0.005	0.014	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	6/22/1995	0.041	0.016	0.003	0.009	0.03	0.071	0.006	0.052	<0.0001	<0.0001	0.0003	0.0002	<0.010
Fish C.	W7	6/28/1995	0.04	0.034	0.004	0.011	0.042	0.065	0.028	0.057	<0.0001	<0.0001	0.0003	0.0004	<0.010
Fish C.	W7	7/4/1995	0.032	0.049	0.005	0.014	0.033	0.035	0.02	0.079	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W7	7/13/1995	0.029	<0.005	0.002	0.006	0.039	0.057	0.03	0.049	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	7/18/1995	0.011	<0.005	0.001	0.003	0.003	0.039	0.031	0.41	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W7	9/27/1995	0.038	0.045	0.004	0.014	0.021	0.034	0.01	0.068	<0.0001	<0.0001	0.0002	0.0003	<0.010
Fish C.	W7	10/4/1995	0.037	0.047	0.002	0.009	0.024	0.032	<0.005	<0.005	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	10/11/1995	0.009	0.019	0.002	0.005	0.005	0.02	0.061	0.062	<0.0001	0.0001	0.0002	0.0002	<0.010
Fish C.	W7	10/18/1995	0.014	0.014	0.003	0.011	0.016	0.025	0.013	0.072	<0.0001	0.0001	<0.0001	0.0001	<0.010
Fish C.	W7	10/27/1995	0.012	0.01	0.003	0.003	0.003	0.022	0.022	0.084	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W7	5/1/1996	<0.005	<0.005	0.001	0.002	0.009	0.022	0.007	0.018	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Fish C.	W7	5/8/1996	0.009	<0.005	0.001	0.007	0.011	0.027	0.024	0.041	<0.0001	<0.0001	0.0002	<0.0001	<0.010
Fish C.	W7	5/23/1996	0.005	<0.005	<0.001	0.003	0.004	0.018	0.005	0.021	0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W7	8/6/1996	0.024	0.013	0.003	0.009	0.013	0.02	0.011	0.032	0.0002	<0.0001	0.0005	0.0005	<0.010
Fish C.	W7	8/16/1996	0.009	0.01	<0.001	0.004	0.011	0.017	1.02*	0.075	0.0002	<0.0001	0.0005	0.0005	<0.010
Fish C.	W7	8/24/1996	0.017	0.016	0.003	0.008	0.015	0.022	<0.005	0.03	<0.0001	<0.0001	0.0005	0.0006	<0.010
Fish C.	W7	9/2/1996	0.022	0.03	0.004	0.006	0.018	0.051	0.007	0.03	0.0002	<0.0001	0.0007	0.0008	<0.010
Fish C.	W7	9/6/1996	0.015	0.007	0.002	0.008	0.015	0.023	<0.005	0.023	0.0002	<0.0001	0.0006	0.0004	<0.010
Fish C.	W8	5/31/1992	0.028	<0.005	<0.001	0.004	0.005	0.026	0.06	0.18	<0.0001	<0.0001	0.0007	0.0026	<0.010
Fish C.	W8	6/30/1992	<0.005	<0.005	0.005	0.031	0.037	0.053	0.014	0.18	<0.0001	<0.0001	0.0015	0.0018	<0.010
Fish C.	W8	7/30/1992	0.023	<0.005	<0.001	0.037	0.046	0.054	0.069	0.128	<0.0001	<0.0001	0.0013	0.0017	<0.010
Fish C.	W8	8/30/1992	0.035	<0.005	0.001	0.032	0.032	0.056	0.006	0.029	<0.0001	<0.0001	0.0018	0.0018	<0.010
Fish C.	W8	10/4/1992	0.116*	0.019	<0.001	0.042	0.044	0.077	0.006	0.032	<0.0001	<0.0001	0.001	0.0016	<0.010
Fish C.	W8	10/28/1992	0.018	<0.005	0.002	0.024	0.024	0.038	0.008	0.041	<0.0001	<0.0001	0.0008	0.0011	<0.010
Fish C.	W8	12/1/1992	0.007	0.029	<0.001	0.017	0.038	0.038	0.013	0.038	<0.0002	<0.0002	0.0006	0.0007	<0.010
Fish C.	W8	1/7/1993	0.02	0.102	0.003	0.026	0.027	0.054	0.028	0.028	<0.0001	<0.0001	0.0013	0.0014	<0.010
Fish C.	W8	1/27/1993	0.015	0.108	0.001	0.025	0.031	0.031	0.119	0.315	<0.0001	0.0002	0.0008	0.0012	<0.010
Fish C.	W8	3/2/1993	0.022	0.102	<0.001	0.027	0.033	0.034	0.008	0.05	<0.0001	<0.0001	0.0007	0.0009	<0.010
Fish C.	W8	3/31/1993	0.059	0.096	<0.001	0.02	0.03	0.035	0.017	0.023	<0.0001	<0.0001	0.0008	0.0008	<0.010
Fish C.	W8	5/6/1993	0.019	0.02	0.004	0.011	0.015	0.029	0.021	0.126	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W8	5/13/1993	0.017	<0.005	<0.001	0.019	0.028	0.028	0.01	0.048	<0.0001	<0.0001	0.0008	0.0008	<0.010
Fish C.	W8	5/19/1993	0.01	0.012	<0.001	0.023	0.031	0.033	0.031	0.081	<0.0001	0.0001	0.0009	0.0009	<0.010
Fish C.	W8	5/27/1993	0.009	<0.005	<0.001	0.032	0.042	0.047	0.007	0.039	<0.0001	0.0002	0.0012	0.0018	<0.010
Fish C.	W8	6/3/1993	0.008	<0.005	<0.001	0.025	0.033	0.039	<0.005	0.037	<0.0001	<0.0001	0.0008	0.0011	<0.010
Fish C.	W8	8/17/1993	0.017	<0.005	0.001	0.028	0.034	0.041	0.034	0.07	<0.0001	<0.0001	0.0009	0.0011	<0.010
Fish C.	W8	8/24/1993	<0.005	<0.005	0.001	0.03	0.034	0.037	0.025	0.025	<0.0001	<0.0001	0.0009	0.0011	<0.010
Fish C.	W8	8/31/1993	0.007	<0.005	0.005	0.028	0.035	0.038	0.008	0.008	<0.0001	0.0002	0.0009	0.0009	<0.010
Fish C.	W8	9/14/1993	0.006	<0.005	<0.001	0.029	0.036	0.041	<0.005	0.035	<0.0001	<0.0001	0.0008	0.0012	<0.010
Fish C.	W8	9/20/1993	<0.005	0.006	<0.001	0.022	0.03	0.035	0.038	0.04	<0.0001	<0.0001	0.0009	0.0009	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W7	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	16.1	<0.001	<0.001
Fish C.	W7	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.2	16.6	<0.001	<0.001
Fish C.	W7	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.4	10.5	<0.001	<0.001
Fish C.	W7	5/11/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.2	<0.001	<0.001
Fish C.	W7	5/18/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.7	13.7	<0.001	<0.001
Fish C.	W7	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.6	13.6	<0.001	<0.001
Fish C.	W7	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.4	14.4	<0.001	<0.001
Fish C.	W7	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.7	17.2	<0.001	<0.001
Fish C.	W7	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.2	15.8	<0.001	<0.001
Fish C.	W7	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.9	16.7	<0.001	<0.001
Fish C.	W7	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.9	17.1	<0.001	<0.001
Fish C.	W7	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	20.2	20.7	<0.001	<0.001
Fish C.	W7	6/22/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.7	15.9	<0.001	<0.001
Fish C.	W7	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.4	15.7	<0.001	<0.001
Fish C.	W7	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.8	15.8	<0.001	<0.001
Fish C.	W7	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.7	14.9	<0.001	<0.001
Fish C.	W7	7/18/1995	<0.010	<0.005	<0.005	0.1	0.11	<0.10	<0.10	<0.0002	<0.0002	14.4	15.7	<0.001	<0.001
Fish C.	W7	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.6	19.7	<0.001	<0.001
Fish C.	W7	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.4	17.8	<0.001	<0.001
Fish C.	W7	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.7	17	<0.001	<0.001
Fish C.	W7	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.6	15.9	<0.001	<0.001
Fish C.	W7	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.8	15.7	<0.001	<0.001
Fish C.	W7	5/1/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15	14.7	<0.001	<0.001
Fish C.	W7	5/8/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.9	14.2	<0.001	<0.001
Fish C.	W7	5/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.3	13.4	<0.001	<0.001
Fish C.	W7	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.7	14.7	<0.001	<0.001
Fish C.	W7	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.23	<0.10	<0.0002	<0.0002	16.4	13.8	<0.001	<0.001
Fish C.	W7	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.3	<0.001	<0.001
Fish C.	W7	9/2/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.5	15.9	<0.001	<0.001
Fish C.	W7	9/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.4	14.8	<0.001	<0.001
Fish C.	W8	5/31/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.3	19.3	<0.001	<0.001
Fish C.	W8	6/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.8	24.8	<0.001	<0.001
Fish C.	W8	7/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.2	24.3	<0.001	<0.001
Fish C.	W8	8/30/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	25.4	26.4	<0.001	<0.001
Fish C.	W8	10/4/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	39.2	39.5	<0.001	<0.001
Fish C.	W8	10/28/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	31.8	32.9	<0.001	<0.001
Fish C.	W8	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.6	25.5	<0.001	<0.001
Fish C.	W8	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.4	23.8	<0.001	<0.001
Fish C.	W8	1/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.8	22	<0.001	0.001
Fish C.	W8	3/2/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	26.4	27.1	<0.001	<0.001
Fish C.	W8	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.1	24.9	<0.001	<0.001
Fish C.	W8	5/6/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.9	16.9	<0.001	<0.001
Fish C.	W8	5/13/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.9	19.9	<0.001	<0.001
Fish C.	W8	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.5	21.9	<0.001	<0.001
Fish C.	W8	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.3	23.3	<0.001	0.001
Fish C.	W8	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	28.9	29.1	<0.001	<0.001
Fish C.	W8	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.1	24.1	<0.001	<0.001
Fish C.	W8	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.2	22.3	<0.001	<0.001
Fish C.	W8	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22.1	22.5	<0.001	<0.001
Fish C.	W8	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	22	22.7	<0.001	<0.001
Fish C.	W8	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	23.7	24.3	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W7	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.064	0.114	<0.001	<0.001			10.6	10.7	<0.005	0.011
Fish C.	W7	9/20/1993	<0.001	<0.001	<0.001	<0.001	0.06	0.111	<0.001	<0.001			10.5	10.7	0.005	0.011
Fish C.	W7	5/4/1994	<0.001	<0.001	<0.001*	<0.001*	0.111	0.16	<0.001	<0.001			7.83	7.93	<0.005	0.006
Fish C.	W7	5/11/1994	<0.001	<0.001	<0.001	<0.001	0.087	0.133	<0.001	<0.001			8.42	8.42	<0.005	0.011
Fish C.	W7	5/18/1994	<0.001	<0.001	<0.001	<0.001	0.103	0.166	<0.001	<0.001			9.18	9.18	<0.005	0.019
Fish C.	W7	5/26/1994	<0.001	<0.001	<0.001	<0.001	0.078	0.125	<0.001	<0.001			9.51	9.51	<0.005	0.009
Fish C.	W7	5/31/1994	<0.001	<0.001	<0.001	<0.001	0.111	0.133	<0.001	<0.001			9.97	9.97	0.005	0.011
Fish C.	W7	8/10/1994	<0.001	<0.001	0.001	0.001	0.114	0.168	<0.001	<0.001			10.5	10.8	<0.005	0.008
Fish C.	W7	8/16/1994	<0.001	<0.001	<0.001	<0.001	0.114	0.176	<0.001	<0.001			10.6	10.9	0.006	0.009
Fish C.	W7	8/24/1994	<0.001	<0.001	<0.001	0.001	0.116	0.183	<0.001	<0.001			10.4	11	<0.005	0.012
Fish C.	W7	8/30/1994	<0.001	<0.001	<0.001	0.001	0.136	0.202	<0.001	<0.001			10.8	10.8	0.015	0.018
Fish C.	W7	9/6/1994	<0.001	<0.001	<0.001	<0.001	0.224	0.28	<0.001	<0.001			12.2	12.5	0.075	0.079
Fish C.	W7	6/22/1995	<0.001	<0.001	<0.001	0.001	0.107	0.173	<0.001	<0.001			10.3	10.5	0.013	0.021
Fish C.	W7	6/28/1995	<0.001	<0.001	<0.001	<0.001	0.114	0.177	<0.001	<0.001			10.3	10.6	0.011	0.033
Fish C.	W7	7/4/1995	<0.001	0.001	<0.001	<0.001	0.164	0.27	<0.001	<0.001			10.5	10.7	0.018	0.043
Fish C.	W7	7/13/1995	<0.001	<0.001	<0.001	<0.001	0.058	0.103	<0.001	0.001			10.3	10.5	0.006	0.014
Fish C.	W7	7/18/1995	<0.001	<0.001	<0.001	0.001	0.068	0.764	<0.001	<0.001			10.1	10.8	0.006	0.037
Fish C.	W7	9/27/1995	<0.001	<0.001	<0.001	<0.001	0.418	0.681	<0.001	<0.001			12.8	12.8	0.038	0.097
Fish C.	W7	10/4/1995	<0.001	<0.001	<0.001	<0.001	0.239	0.261	<0.001	<0.001			11.7	12	0.02	<0.005
Fish C.	W7	10/11/1995	<0.001	<0.001	<0.001	<0.001	0.134	0.267	<0.001	<0.001			11.7	11.4	0.007	0.017
Fish C.	W7	10/18/1995	<0.001	<0.001	<0.001	<0.001	0.148	0.214	<0.001	<0.001			10.6	10.8	0.006	0.012
Fish C.	W7	10/27/1995	<0.001	<0.001	<0.001	0.002	0.111	0.176	<0.001	<0.001			10.7	10.7	<0.005	0.007
Fish C.	W7	5/1/1996	<0.001	<0.001	<0.001	0.001	0.161	0.23	<0.001	<0.001			9.85	9.79	0.008	0.028
Fish C.	W7	5/8/1996	<0.001	<0.001	<0.001	<0.001	0.132	0.208	<0.001	<0.001			9.66	9.84	<0.005	0.024
Fish C.	W7	5/23/1996	<0.001	<0.001	<0.001	<0.001	0.091	0.137	<0.001	<0.001			9.78	9.63	<0.005	0.009
Fish C.	W7	8/6/1996	<0.001	<0.001	0.001	<0.001	0.065	0.123	<0.001	<0.001			10.3	10.3	0.007	0.016
Fish C.	W7	8/16/1996	<0.001	<0.001	<0.001	<0.001	0.109	0.125	<0.001	<0.001			10.5	10.1	0.007	0.015
Fish C.	W7	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.073	0.141	<0.001	<0.001			10.9	10.9	0.007	0.018
Fish C.	W7	9/2/1996	<0.001	<0.001	<0.001	0.001	0.109	0.212	<0.001	<0.001			11	11.2	0.013	0.024
Fish C.	W7	9/6/1996	<0.001	<0.001	<0.001	<0.001	0.092	0.156	<0.001	<0.001			10.1	10.3	0.005	0.013
Fish C.	W8	5/31/1992	<0.001	<0.001	0.002	0.003	0.28	0.357	<0.001	<0.001			11.1	11.1	0.083	0.086
Fish C.	W8	6/30/1992	<0.001	<0.001	0.002	0.002	0.538	0.847	<0.001	<0.001			12.6	12.6	0.211	0.228
Fish C.	W8	7/30/1992	<0.001	<0.001	<0.001	<0.001	0.523	0.927	<0.001	0.001			13.8	13.8	0.13	0.14
Fish C.	W8	8/30/1992	<0.001	<0.001	<0.001	<0.001	0.665	0.988	<0.001	<0.001			13.5	13.9	0.126	0.145
Fish C.	W8	10/4/1992	<0.001	<0.001	<0.001	<0.001	0.46	1.42	<0.001	<0.001			16.9	17	0.346	0.374
Fish C.	W8	10/28/1992	<0.001	<0.001	<0.001	<0.001	0.697	1.33	<0.001	<0.001			15	15.3	0.302	0.321
Fish C.	W8	12/1/1992	<0.001	<0.001	<0.001	<0.001	0.574	0.788	<0.001	<0.001			13	13.5	0.21	0.224
Fish C.	W8	1/7/1993	<0.001	<0.001	<0.001	<0.001	0.634	0.85	<0.001	<0.001			13.1	13.3	0.246	0.257
Fish C.	W8	1/27/1993	<0.001	<0.001	<0.001	0.001	0.663	1.35	<0.001	<0.001			13.4	13.5	0.273	0.37
Fish C.	W8	3/2/1993	<0.001	<0.001	<0.001	<0.001	0.646	0.88	<0.001	<0.001			13.8	14.2	0.276	0.278
Fish C.	W8	3/31/1993	<0.001	<0.001	<0.001	<0.001	0.588	0.789	<0.001	<0.001			13.7	14.3	0.224	0.237
Fish C.	W8	5/6/1993	<0.001	<0.001	<0.001	0.001	0.24	0.397	<0.001	<0.001			9.85	9.85	0.077	0.086
Fish C.	W8	5/13/1993	<0.001	<0.001	0.001	0.001	0.338	0.509	<0.001	<0.001			11.1	11.1	0.086	0.095
Fish C.	W8	5/19/1993	<0.001	<0.001	<0.001	<0.001	0.456	0.692	<0.001	<0.001			11.8	12.1	0.1	0.113
Fish C.	W8	5/27/1993	<0.001	<0.001	0.001	0.007*	0.561	0.953	<0.001	<0.001			12.4	12.4	0.132	0.146
Fish C.	W8	6/3/1993	<0.001	<0.001	<0.001	0.001	0.556	0.989	<0.001	<0.001			13.6	13.7	0.211	0.222
Fish C.	W8	8/17/1993	<0.001	<0.001	<0.001	<0.001	0.198	0.679	<0.001	<0.001			11.4	11.8	0.079	0.09
Fish C.	W8	8/24/1993	<0.001	<0.001	<0.001	<0.001	0.511	0.736	<0.001	<0.001			12.1	12.1	0.098	0.107
Fish C.	W8	8/31/1993	<0.001	<0.001	<0.001	<0.001	0.433	0.433	<0.001	<0.001			11.9	12.3	0.008	0.008
Fish C.	W8	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.579	0.883	<0.001	<0.001			12.1	12.5	0.094	0.108
Fish C.	W8	9/20/1993	<0.001	<0.001	<0.001	0.002	0.542	0.797	<0.001	<0.001			12.4	12.7	0.111	0.124

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W7	9/14/1993	<0.001	<0.001	<0.001	0.001			0.83		<0.0005	<0.0005	7.41	7.57
Fish C.	W7	9/20/1993	<0.001	<0.001	0.001	0.001			0.84		<0.0005	<0.0005	7.68	7.87
Fish C.	W7	5/4/1994	<0.001	<0.001	0.002	0.002			0.88		<0.0005	<0.0005	6.24	6.35
Fish C.	W7	5/11/1994	<0.001	<0.001	0.001	0.002			0.71		<0.0005	<0.0005	6.69	6.69
Fish C.	W7	5/18/1994	<0.001	<0.001	<0.001	<0.001			0.71		<0.0005	<0.0005	7	7
Fish C.	W7	5/26/1994	<0.001	<0.001	0.002	0.002			0.79		<0.0005	<0.0005	7.48	7.48
Fish C.	W7	5/31/1994	<0.001	<0.001	0.002	0.002			0.77		<0.0005	<0.0005	7.69	7.69
Fish C.	W7	8/10/1994	<0.001	<0.001	0.002	0.002			0.52		<0.0005	<0.0005	6.2	6.48
Fish C.	W7	8/16/1994	<0.001	<0.001	0.002	0.002			0.47		<0.0005	<0.0005	5.24	5.27
Fish C.	W7	8/24/1994	<0.001	<0.001	0.001	0.001			0.55		<0.0005	<0.0005	5.2	5.52
Fish C.	W7	8/30/1994	<0.001	<0.001	0.002	0.002			0.53		<0.0005	<0.0005	5.6	5.81
Fish C.	W7	9/6/1994	<0.001	<0.001	<0.001	0.001			0.67		<0.0005	<0.0005	6.24	6.24
Fish C.	W7	6/22/1995	<0.001	<0.001	<0.001	<0.001			0.71		<0.0005	<0.0005	6.17	6.39
Fish C.	W7	6/28/1995	<0.001	<0.001	<0.001	0.001			0.75		<0.0005	<0.0005	5.38	5.65
Fish C.	W7	7/4/1995	<0.001	<0.001	0.002	0.003			0.74		<0.0005	<0.0005	4.96	5.15
Fish C.	W7	7/13/1995	<0.001	<0.001	<0.001	0.001			0.8		<0.0005	<0.0005	6.03	6.21
Fish C.	W7	7/18/1995	<0.001	<0.001	<0.001	<0.001			0.82		<0.0005	<0.0005	6.35	6.99
Fish C.	W7	9/27/1995	<0.001	0.001	0.001	0.001			1.06		<0.0005	<0.0005	4.51	4.57
Fish C.	W7	10/4/1995	<0.001	<0.001	0.002	0.001			0.97		<0.0005	<0.0005	3.16	3.3
Fish C.	W7	10/11/1995	<0.001	<0.001	0.001	0.001			0.83		<0.0005	<0.0005	3.01	3.04
Fish C.	W7	10/18/1995	<0.001	<0.001	0.001	0.001			0.84		<0.0005	<0.0005	6.4	6.55
Fish C.	W7	10/27/1995	<0.001	<0.001	0.001	0.002			0.98		<0.0005	<0.0005	6.08	6.17
Fish C.	W7	5/1/1996	<0.001	<0.001	0.002	0.002			1.16		<0.0005	<0.0005	6.07	6.04
Fish C.	W7	5/8/1996	<0.001	<0.001	<0.001	0.002			1.14		<0.0005	<0.0005	5.97	5.97
Fish C.	W7	5/23/1996	<0.001	<0.001	0.002	0.002			0.96		<0.0005	<0.0005	6.04	5.89
Fish C.	W7	8/6/1996	<0.001	<0.001	0.002	0.002			0.6		<0.0005	<0.0005	6.73	6.72
Fish C.	W7	8/16/1996	<0.001	<0.001	0.002	0.002			0.75		<0.0005	0.0006	6.75	6.57
Fish C.	W7	8/24/1996	<0.001	<0.001	0.001	0.002			0.54		<0.0005	<0.0005	6.29	6.36
Fish C.	W7	9/2/1996	<0.001	<0.001	0.002	0.002			0.76		<0.0005	0.0006	5.72	5.92
Fish C.	W7	9/6/1996	<0.001	<0.001	0.002	0.002			0.99		<0.0005	<0.0005	6.63	6.76
Fish C.	W8	5/31/1992	<0.001	<0.001	0.002	0.002			0.86		<0.0005	<0.0005	6.88	7.25
Fish C.	W8	6/30/1992	<0.001	<0.001	0.001	0.003			1.08		<0.0005	<0.0005	8.6	8.6
Fish C.	W8	7/30/1992	<0.001	<0.001	0.002	0.002			1.01		<0.0005	<0.0005	8.11	8.44
Fish C.	W8	8/30/1992	<0.001	<0.001	0.006	0.007			1.09		<0.0005	<0.0005	9.23	9.54
Fish C.	W8	10/4/1992	<0.001	0.001	0.002	0.002			1.09		<0.0005	<0.0005	9.59	9.76
Fish C.	W8	10/28/1992	<0.001	<0.001	0.002	0.002			1.11		<0.0005	<0.0005	9.41	9.72
Fish C.	W8	12/1/1992	<0.001	<0.001	0.002	0.002			0.82		<0.0005	<0.0005	9.14	9.45
Fish C.	W8	1/7/1993	<0.001	<0.001	0.002	0.002			1		<0.0005	<0.0005	9.69	9.9
Fish C.	W8	1/27/1993	<0.001	<0.001	0.002	0.003			0.96		<0.0005	<0.0005	9.58	9.69
Fish C.	W8	3/2/1993	<0.001	<0.001	0.002	0.002			1.12		<0.0005	<0.0005	9.94	10.3
Fish C.	W8	3/31/1993	<0.001	<0.001	0.002	0.002			1.28		<0.0005	<0.0005	9.27	9.64
Fish C.	W8	5/6/1993	<0.001	<0.001	<0.001	0.001			0.87		<0.0005	<0.0005	7.56	7.56
Fish C.	W8	5/13/1993	<0.001	<0.001	<0.001	0.001			0.95		<0.0005	<0.0005	8.13	8.13
Fish C.	W8	5/19/1993	<0.001	0.001	0.001	0.001			0.96		<0.0005	<0.0005	8.3	8.54
Fish C.	W8	5/27/1993	<0.001	<0.001	0.002	0.002			0.95		<0.0005	<0.0005	7.83	7.83
Fish C.	W8	6/3/1993	<0.001	0.001	<0.001	0.001			1.01		<0.0005	<0.0005	8.73	8.9
Fish C.	W8	8/17/1993	<0.001	0.002	0.001	0.001			0.73		<0.0005	<0.0005	8.15	8.5
Fish C.	W8	8/24/1993	<0.001	<0.001	0.002	0.002			0.81		<0.0005	<0.0005	8.27	8.38
Fish C.	W8	8/31/1993	<0.001	<0.001	0.001	0.001			0.67		<0.0005	<0.0005	8.47	8.76
Fish C.	W8	9/14/1993	<0.001	<0.001	0.002	0.002			0.96		<0.0005	<0.0005	8.21	8.53
Fish C.	W8	9/20/1993	<0.001	<0.001	0.001	0.001			1.07		<0.0005	<0.0005	8.39	8.69

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W7	9/14/1993	<0.0001	<0.0001	7.55		0.05	0.05							0.00003	0.00005
Fish C.	W7	9/20/1993	<0.0001	<0.0001	6.22		0.05	0.051							0.00004	0.00004
Fish C.	W7	5/4/1994	<0.0001	<0.0001	3.62		0.033	0.033							0.00002	0.00002
Fish C.	W7	5/11/1994	<0.0001	<0.0001	4.36		0.038	0.038							0.00003	0.00003
Fish C.	W7	5/18/1994	<0.0001	<0.0001	5.13		0.044	0.044							0.00002	0.00003
Fish C.	W7	5/26/1994	<0.0001	<0.0001	5.18		0.044	0.044							0.00002	0.00002
Fish C.	W7	5/31/1994	<0.0001	<0.0001	5.43		0.045	0.045							0.00003	0.00003
Fish C.	W7	8/10/1994	<0.0001	<0.0001	5.21		0.05	0.051							0.00004	0.00007
Fish C.	W7	8/16/1994	<0.0001	<0.0001	6.28		0.052	0.052							0.00006	0.00007
Fish C.	W7	8/24/1994	<0.0001	<0.0001	5.68		0.049	0.052							0.00005	0.00005
Fish C.	W7	8/30/1994	<0.0001	<0.0001	5.24		0.051	0.051							0.00004	0.00006
Fish C.	W7	9/6/1994	<0.0001	<0.0001	5.8		0.066	0.067							0.00002	0.00004
Fish C.	W7	6/22/1995	<0.0001	<0.0001	5.87		0.048	0.048					<0.010	<0.010	0.00006	0.00006
Fish C.	W7	6/28/1995	<0.0001	<0.0001	5.91		0.047	0.047					<0.010	<0.010	0.00012	0.00014
Fish C.	W7	7/4/1995	<0.0001	<0.0001	6.16		0.049	0.049					<0.010	<0.010	0.00012	0.00013
Fish C.	W7	7/13/1995	<0.0001	<0.0001	5.83		0.045	0.045					<0.010	<0.010	0.00004	0.00005
Fish C.	W7	7/18/1995	<0.0001	<0.0001	6.02		0.045	0.056					<0.010	<0.010	0.00006	0.00009
Fish C.	W7	9/27/1995	<0.0001	<0.0001	7.48		0.066	0.066					<0.010	<0.010	0.00006	0.00006
Fish C.	W7	10/4/1995	<0.0001	<0.0001	7.41		0.057	0.057					<0.010	<0.010	0.00009	0.00009
Fish C.	W7	10/11/1995	<0.0001	<0.0001	6.78		0.06	0.058					<0.010	<0.010	0.00011	0.00009
Fish C.	W7	10/18/1995	<0.0001	<0.0001	6.39		0.052	0.052					<0.010	<0.010	0.00009	0.00006
Fish C.	W7	10/27/1995	<0.0001	<0.0001	6.47		0.052	0.051					<0.010	<0.010	0.00007	0.00007
Fish C.	W7	5/1/1996	<0.0001	<0.0001	6.06		0.048	0.048					<0.010	<0.010	0.00004	0.00004
Fish C.	W7	5/8/1996	<0.0001	<0.0001	5.83		0.047	0.047					<0.010	<0.010	0.00004	0.00004
Fish C.	W7	5/23/1996	<0.0001	<0.0001	5.64		0.046	0.046					<0.010	<0.010	0.00004	0.00004
Fish C.	W7	8/6/1996	<0.0001	<0.0001	5.58		0.052	0.051					<0.010	<0.010	0.00006	0.00005
Fish C.	W7	8/16/1996	<0.0001	<0.0001	5.62		0.063	0.05					<0.010	<0.010	0.00009	0.00006
Fish C.	W7	8/24/1996	<0.0001	<0.0001	6.16		0.052	0.052					<0.010	<0.010	0.00007	0.00006
Fish C.	W7	9/2/1996	<0.0001	<0.0001	5.87		0.054	0.054					<0.010	<0.010	0.00007	0.00007
Fish C.	W7	9/6/1996	<0.0001	<0.0001	5.23		0.051	0.052					<0.010	<0.010	0.00006	0.00006
Fish C.	W8	5/31/1992	<0.0001	<0.0001	5.44		0.074	0.074							0.00017	0.00017
Fish C.	W8	6/30/1992	<0.0001	<0.0001	6.71		0.104	0.104							0.00007	0.00007
Fish C.	W8	7/30/1992	<0.0001	<0.0001	6.39		0.106	0.11							<0.00005	<0.00005
Fish C.	W8	8/30/1992	<0.0001	<0.0001	8.98		0.104	0.11							0.00006	0.00006
Fish C.	W8	10/4/1992	<0.0001	<0.0001	9.8		0.2	0.204							0.00008	0.0001
Fish C.	W8	10/28/1992	<0.0001	<0.0001	8.8		0.152	0.153							0.00006	0.00006
Fish C.	W8	12/1/1992	<0.0001	<0.0001	7.82		0.103	0.107							<0.00005	0.00005
Fish C.	W8	1/7/1993	<0.0001	<0.0001	7.59		0.103	0.103							0.00006	0.00006
Fish C.	W8	1/27/1993	<0.0001	<0.0001	7.34		0.11	0.11							0.00006	0.00006
Fish C.	W8	3/2/1993	<0.0001	0.0001	8.43		0.12	0.123							0.00006	0.00008
Fish C.	W8	3/31/1993	<0.0001	<0.0001	8.8		0.113	0.118							0.00007	0.00007
Fish C.	W8	5/6/1993	<0.0001	<0.0001	5.98		0.061	0.061							<0.00005	0.00009
Fish C.	W8	5/13/1993	<0.0001	<0.0001	6.06		0.078	0.078							0.00007	0.00007
Fish C.	W8	5/19/1993	<0.0001	<0.0001	6.17		0.088	0.089							0.00005	0.00005
Fish C.	W8	5/27/1993	<0.0001	<0.0001	7.98		0.116	0.116							0.00008	0.00008
Fish C.	W8	6/3/1993	<0.0001	<0.0001	8.62		0.134	0.134							0.00006	0.00006
Fish C.	W8	8/17/1993	<0.0001	<0.0001	6.67		0.079	0.079							0.00004	0.00004
Fish C.	W8	8/24/1993	<0.0001	<0.0001	7.24		0.08	0.081							0.00005	0.00007
Fish C.	W8	8/31/1993	<0.0001	<0.0001	5.79		0.077	0.078							0.00006	0.00006
Fish C.	W8	9/14/1993	<0.0001	<0.0001	8.55		0.089	0.092							0.00003	0.00005
Fish C.	W8	9/20/1993	<0.0001	<0.0001	7.29		0.087	0.087							0.00003	0.00004

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W7	9/14/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	9/20/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/4/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/11/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/18/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/26/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/31/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/10/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/16/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/24/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/30/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	9/6/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	6/22/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	6/28/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	7/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	7/13/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	7/18/1995	<0.030	<0.030	<0.005	0.006
Fish C.	W7	9/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/11/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	10/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/1/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/8/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	5/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/6/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/16/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	8/24/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	9/2/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W7	9/6/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/31/1992	<0.030	<0.030	<0.005	0.005
Fish C.	W8	6/30/1992	<0.030	<0.030	<0.005	0.03
Fish C.	W8	7/30/1992	<0.030	<0.030	<0.005	0.005
Fish C.	W8	8/30/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/4/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/28/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	12/1/1992	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	1/7/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	1/27/1993	<0.030	<0.030	<0.005	0.026*
Fish C.	W8	3/2/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	3/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/6/1993	<0.030	<0.030	<0.005	0.007
Fish C.	W8	5/13/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/19/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/27/1993	<0.030	<0.030	<0.005	0.041*
Fish C.	W8	6/3/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/17/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/24/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/31/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	9/14/1993	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	9/20/1993	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W8	5/4/1994				122	59.7		7.41	67.6	2			85	5	0.7	0.04	5.8
Fish C.	W8	5/12/1994				157	73.4		7.5	81.1	2.1			100	<1	0.7	0.05	4.3
Fish C.	W8	5/18/1994				155	77		7.57	73.3	0.92			96	6	0.8	0.11	4.4
Fish C.	W8	5/26/1994				160	77		7.76	78.5	1.87		12.6	97	2	0.8	0.06	5.1
Fish C.	W8	5/31/1994				168	81.3		7.82	83.9	1.23		13.8	104	<1	0.9	0.07	5.8
Fish C.	W8	8/10/1994				310	160		7.77	148	2.09		11.1	209	<1	1.4	0.1	23.7
Fish C.	W8	8/16/1994				331	155		7.57	143	5.97		10.9	215	7	1	0.07	33.2
Fish C.	W8	8/24/1994				333	169		7.72	143	3.38		12.1	226	6	1.3	0.09	37.4
Fish C.	W8	8/30/1994				354	174		7.63	151	3.8		11.1	232	3	1	0.07	38.5
Fish C.	W8	9/6/1994				370	187		8.17	153	2.9		10.8	266	6	0.9	0.12	44.7
Fish C.	W8	6/21/1995				256	129		7.72	121	2.93		9.7	184	3	1.1	0.07	16.7
Fish C.	W8	6/28/1995				276	139		7.61	128	3.11		14.2	188	3	1	0.07	22.1
Fish C.	W8	7/4/1995				240	120		7.61	119	3		12.3	160	6	1.1	0.07	10
Fish C.	W8	7/13/1995				255	123		7.9	125	3.89		13	169	3	0.5	0.08	15.5
Fish C.	W8	7/18/1995				255	122		7.91	128	1.6		9.6	169	6	1.1	0.08	15.9
Fish C.	W8	9/27/1995				374	190		7.85	187	4.91		7.2	293	3	1.4	0.1	42.6
Fish C.	W8	10/4/1995																
Fish C.	W8	10/5/1995				380	187		8.23	173	6.2		6.7	253	2	0.9	0.09	35.8
Fish C.	W8	10/11/1995				376	190		8.44	167	7.7		0.8	264	3	1.4	0.09	38.7
Fish C.	W8	10/18/1995				198	98.3		7.71	93.4	1.3		11.3	129	2	1	0.07	8.3
Fish C.	W8	10/27/1995				238	116		7.58	112	2.1		9.9	157	1	1	0.07	16.1
Fish C.	W8	4/23/1996				138	72.6		7.42	71.1	1.4		12.8	98	2	0.9	0.05	2.6
Fish C.	W8	5/1/1996				164	76.8		7.57	84.2	1.3		12	108	2	0.5	0.06	3
Fish C.	W8	5/8/1996				162	78.1		7.63	82.9	0.9		12.3	109	2	0.7	0.05	3.9
Fish C.	W8	5/15/1996				161	76.7		7.45	79.8	2		12.7	107	3	1.6	0.06	3.5
Fish C.	W8	5/23/1996				153	80.8		7.53	85	2.1		12.2	108	7	0.5	0.05	2.5
Fish C.	W8	8/6/1996				250	121		7.59	121	3.9		9.9	162	7	0.5	0.07	14.6
Fish C.	W8	8/16/1996				236	113		7.63	116	3.4		12.8	153	5	0.5	0.11	10.4
Fish C.	W8	8/24/1996				254	123		7.76	121	3.3		9.3	174	5	0.5	0.07	12.7
Fish C.	W8	8/29/1996				275	133		7.78	134	2		14	180	1	0.5	0.09	16
Fish C.	W8	9/6/1996				307	149		7.76	139	4.2		5.9	214	3	0.6	0.1	25.8
Fish C.	W8	2/26/1997				341	160		7.49	117	3.3		13.4	228	4	0.7	0.07	55
Fish C.	W8	5/7/1997	10.8	10.4		147	74.1	8.38	7.63	85	2.2		11.3	104	3	0.5	0.06	3
Fish C.	W8	5/13/1997	7.6			172	81.5	7.83	7.53	97	0.8		12	116	3	0.5	0.05	3
Fish C.	W8	5/19/1997	8.1			159	77	7.71	7.53	90	1.2		12.1	109	5	0.5	0.06	2
Fish C.	W8	5/27/1997	12.8			161	73.9	7.7	7.59	87	1.2		12.8	106	4	0.5	0.05	3
Fish C.	W8	6/2/1997	14			164	80.5	7.73	7.63	88	1.1		12.5	111	2	1.1	0.06	3
Fish C.	W8	7/30/1997	17.5			195	93.7	7.8	7.49	106	3.3		13.3	133	4	0.5	0.09	6
Fish C.	W8	9/15/1997	10.5			294	139	7.76	7.64	129	3.2		12.5	186	10	0.5	0.09	23
Fish C.	W8	9/22/1997	12			344	165	7.38	7.48	135	3.7		10.1	205	5	0.7	0.17	13
Fish C.	W8	9/29/1997	9			373	167	7.69	7.5	139	2.9		8.7	259	1	0.8	0.09	56
Fish C.	W8	10/6/1997	4.6			389	176	7.78	7.26	134	3.9		9.3	275	4	0.8	0.07	68
Fish C.	W8	10/13/1997	4.9			413	187	7.66	7.28	143	3.5		8.2	292	3	0.8	0.08	73
Fish C.	W8	11/16/1997	1.6			542	248	7.4	7.16	181	7		6.4	395	7	1.4	0.08	113
Fish C.	W8	12/16/1997	0.3			506	248	8.17	7.12	161	12.4		5.1	392	8	1.1	0.07	126
Fish C.	W8	1/20/1998	0.3			370	189	7.12	7.11	134	6.3		6.6	278	5	0.7	0.08	68
Fish C.	W8	2/18/1998	0.8			349	161		7.2	127	4.7		9.4	248	1	0.7	0.09	56
Fish C.	W8	3/10/1998	0.8			320	156		7.5	125	4.8		5.5	223	3	0.8	0.08	41
Fish C.	W8	4/14/1998	0.5			228	112	7.45	7.22	107	1.7		10.5	150	1	0.6	0.08	16
Fish C.	W8	5/9/2006	6.4	10.7	160.9	152	77.1		8.03	80.0	1.81	14.2		121	3.1	<0.50	0.044	3.31
Fish C.	W8	5/16/2006	12.7	9.5	184.9	171	91.2		8.01	95.0	2.62	13.9		130	4.0	<0.50	0.061	4.19

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W8	5/4/1994	<0.005	<0.005	0.002	0.005	0.015	0.023	0.034	0.126	<0.0001	<0.0001	0.0001	0.0002	<0.010
Fish C.	W8	5/12/1994	0.009	<0.005	0.002	0.004	0.013	0.022	0.009	0.024	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W8	5/18/1994	0.009	<0.005	0.002	0.006	0.013	0.022	0.009	0.151	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W8	5/26/1994	0.04	0.008	0.003	0.009	0.013	0.018	0.01	0.07	<0.0001	<0.0001	0.0003	0.0003	<0.010
Fish C.	W8	5/31/1994	0.014	0.007	0.004	0.01	0.012	0.019	0.009	0.03	<0.0001	<0.0001	0.0005	0.0005	<0.010
Fish C.	W8	8/10/1994	0.013	<0.005	0.001	0.033	0.042	0.046	0.006	0.027	<0.0001	<0.0001	0.0012	0.0015	<0.010
Fish C.	W8	8/16/1994	0.01	<0.005	0.001	0.028	0.036	0.048	0.022	0.16	<0.0002	<0.0002	0.0009	0.0015	<0.010
Fish C.	W8	8/24/1994	0.015	<0.005	0.002	0.018	0.03	0.038	<0.005	0.043	<0.0001	<0.0001	0.0009	0.0013	<0.010
Fish C.	W8	8/30/1994	0.01	<0.005	0.002	0.019	0.03	0.038	0.005	0.066	<0.0001	<0.0001	0.0008	0.0012	<0.010
Fish C.	W8	9/6/1994	0.013	<0.005	0.002	0.02	0.033	0.037	0.006	0.034	0.0001	0.0001	0.0002	0.001	<0.010
Fish C.	W8	6/21/1995	0.025	<0.005	0.002	0.02	0.024	0.037	0.006	0.048	<0.0001	<0.0001	0.0009	0.0011	<0.010
Fish C.	W8	6/28/1995	0.014	<0.005	0.002	0.02	0.04	0.056	0.024	0.05	<0.0001	<0.0001	0.0013	0.0017	<0.010
Fish C.	W8	7/4/1995	0.013	0.006	0.002	0.031	0.034	0.055	0.054	0.091	<0.0001	<0.0001	0.0013	0.0017	<0.010
Fish C.	W8	7/13/1995	0.03	<0.005	0.002	0.032	0.057	0.096	0.016	0.046	<0.0001	<0.0001	0.0016	0.0019	<0.010
Fish C.	W8	7/18/1995	0.024	<0.005	0.002	0.027	0.035	0.055	0.01	0.1	<0.0001	<0.0001	0.0013	0.0019	<0.010
Fish C.	W8	9/27/1995	0.017	<0.005	0.002	0.008	0.013	0.027	0.009	0.025	<0.0001	<0.0001	0.0005	0.0009	<0.010
Fish C.	W8	10/4/1995							0.01	0.028	<0.0001	<0.0001	0.0005	0.0009	<0.010
Fish C.	W8	10/5/1995	0.016	<0.005	0.002	0.011	0.016	0.036		0.023		<0.0001		0.0009	
Fish C.	W8	10/11/1995	0.011	<0.005	0.003	0.01	0.017	0.036	0.07	0.036	<0.0001	<0.0001	0.0005	0.001	<0.010
Fish C.	W8	10/18/1995	<0.005	0.005	0.002	0.013	0.019	0.025	0.007	0.055	0.0001	0.0001	0.0005	0.0005	<0.010
Fish C.	W8	10/27/1995	<0.005	<0.005	0.002	0.012	0.012	0.027	0.024	0.069	<0.0001	0.0001	0.0006	0.0007	<0.010
Fish C.	W8	4/23/1996	<0.005	<0.005	0.002	0.002	0.003	0.024	0.018	0.048	<0.0001	<0.0001	0.0004	0.0005	<0.010
Fish C.	W8	5/1/1996	<0.005	<0.005	0.001	0.002	0.01	0.022	0.013	0.04	<0.0001	<0.0001	0.0002	0.0002	<0.010
Fish C.	W8	5/8/1996	<0.005	<0.005	0.001	0.005	0.01	0.023	<0.005	0.033	<0.0001	<0.0001	0.0003	0.0001	<0.010
Fish C.	W8	5/15/1996	0.005	<0.005	0.002	0.002	0.002	0.019	0.012	0.055	<0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W8	5/23/1996	0.005	<0.005	0.002	0.004	0.004	0.021	0.007	0.058	0.0001	<0.0001	0.0004	0.0004	<0.010
Fish C.	W8	8/6/1996	0.014	0.006	0.002	0.024	0.024	0.041	0.011	0.057	0.0001	<0.0001	0.0012	0.0013	<0.010
Fish C.	W8	8/16/1996	0.013	0.005	<0.001	0.021	0.029	0.048	0.006	0.052	0.0002	<0.0001	0.0013	0.0014	<0.010
Fish C.	W8	8/24/1996	0.021	<0.005	0.002	0.023	0.029	0.046	<0.005	0.032	<0.0001	<0.0001	0.0013	0.0015	<0.010
Fish C.	W8	8/29/1996	0.023	<0.005	0.002	0.019	0.026	0.045	<0.005	0.017	0.0003	<0.0001	0.0015	0.0016	<0.010
Fish C.	W8	9/6/1996	0.016	<0.005	0.003	0.031	0.034	0.049	0.009	0.017	0.0002	<0.0001	0.0013	0.0011	<0.010
Fish C.	W8	2/26/1997	0.025	0.128	0.004	<0.001	0.009	0.023	0.011	0.065	0.0003	0.0003	0.001	0.0012	<0.010
Fish C.	W8	5/7/1997	0.019	0.005	0.001	0.003	0.004	0.024	0.005	0.035	0.00027	0.00005	0.0005	0.0005	0.00216
Fish C.	W8	5/13/1997	0.025	0.009	0.001	0.002	0.009	0.019	0.002	0.026	0.0005	0.0005	0.0004	0.0004	0.00213
Fish C.	W8	5/19/1997	0.005	0.005	0.001	0.003	0.003	0.02	0.003	0.022	0.00019	0.00006	0.0004	0.0005	0.0019
Fish C.	W8	5/27/1997	0.005	0.005	0.001	0.003	0.015	0.019	0.003	0.018	0.00017	0.00005	0.0005	0.0005	0.00187
Fish C.	W8	6/2/1997	0.006	0.005	0.001	0.003	0.023	0.023	0.003	0.018	0.00015	0.00005	0.0006	0.0006	0.00191
Fish C.	W8	7/30/1997	0.031	0.006	0.001	0.024	0.031	0.033	0.004	0.022	0.00005	0.00006	0.0014	0.0015	0.00269
Fish C.	W8	9/15/1997	0.02	0.005	0.001	0.012	0.025	0.031	0.004	0.03	0.00005	0.00005	0.001	0.0012	0.00269
Fish C.	W8	9/22/1997	0.026	0.023	0.001	0.008	0.019	0.04	0.003	0.016	0.00005	0.00005	0.0008	0.001	0.00312
Fish C.	W8	9/29/1997	0.005	0.008	0.001	0.008	0.008	0.036	0.003	0.037	0.00005	0.00009	0.0008	0.0012	0.00318
Fish C.	W8	10/6/1997	0.015	0.007	0.001	0.006	0.006	0.032	0.002	0.013	0.00005	0.00006	0.0006	0.0009	0.00385
Fish C.	W8	10/13/1997	0.029	0.007	0.001	0.005	0.014	0.023	0.002	0.01	0.00005	0.00005	0.0006	0.0007	0.00394
Fish C.	W8	11/16/1997	0.011	0.008	0.001	0.003	0.012	0.032	0.002	0.043	0.00005	0.00005	0.0006	0.0008	0.00636
Fish C.	W8	12/16/1997	0.049	0.011	0.001	0.001	0.005	0.033	0.001	0.036	0.00005	0.00005	0.0007	0.001	0.00819
Fish C.	W8	1/20/1998	0.029	0.036	0.001	0.005	0.009	0.029	0.002	0.022	0.00005	0.00005	0.0007	0.0011	0.0059
Fish C.	W8	2/18/1998	0.027	0.064	0.003	0.003	0.011	0.029	0.001	0.015	0.00005	0.00005	0.0007	0.001	0.00503
Fish C.	W8	3/10/1998	0.03	0.105	0.001	0.003	0.003	0.013	0.002	0.023	0.00006	0.00006	0.0008	0.0011	0.00454
Fish C.	W8	4/14/1998	0.013	0.034	0.001	0.003	0.008	0.022	0.002	0.01	0.00005	0.00005	0.0007	0.0007	0.00296
Fish C.	W8	5/9/2006	0.0073	<0.0050	<0.0010	<0.0010	<0.0020	0.0028	<0.0030	0.0230	<0.00010	<0.00010	0.00041	0.00047	0.00204
Fish C.	W8	5/16/2006	0.0240	0.0064	0.0010	0.0065	0.0148	0.0284	0.0026	0.0383	<0.00010	<0.00010	0.00057	0.00065	0.00271

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W8	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.2	11.5	<0.001	<0.001
Fish C.	W8	5/12/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.5	15.2	<0.001	<0.001
Fish C.	W8	5/18/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.4	15.4	<0.001	<0.001
Fish C.	W8	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.2	15.2	<0.001	<0.001
Fish C.	W8	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.5	16.5	<0.001	<0.001
Fish C.	W8	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	38.6	40.5	<0.001	<0.001
Fish C.	W8	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	37.5	37.5	<0.001	0.001
Fish C.	W8	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	41.6	43.2	<0.001	<0.001
Fish C.	W8	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	43	43.1	<0.001	<0.001
Fish C.	W8	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	45.8	47.1	<0.001	<0.001
Fish C.	W8	6/21/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	29.9	30.7	<0.001	<0.001
Fish C.	W8	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	32.5	32.6	<0.001	<0.001
Fish C.	W8	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	26.3	27.2	<0.001	<0.001
Fish C.	W8	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27.3	28	<0.001	<0.001
Fish C.	W8	7/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	26.9	28.1	<0.001	<0.001
Fish C.	W8	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	44.9	45.4	<0.001	<0.001
Fish C.	W8	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	43.3	44	<0.001	<0.001
Fish C.	W8	10/5/1995	<0.010		<0.005	<0.10	<0.10	<0.10	<0.10		<0.0002		43.5		<0.001
Fish C.	W8	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	44.5	44.8	<0.001	<0.001
Fish C.	W8	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.9	20.1	<0.001	0.001
Fish C.	W8	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.9	24.6	<0.001	<0.001
Fish C.	W8	4/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.8	12.9	<0.001	<0.001
Fish C.	W8	5/1/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15	15.7	<0.001	<0.001
Fish C.	W8	5/8/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.1	15.3	<0.001	<0.001
Fish C.	W8	5/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.5	14.6	<0.001	<0.001
Fish C.	W8	5/23/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.6	14.6	<0.001	<0.001
Fish C.	W8	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	27.4	27.4	<0.001	<0.001
Fish C.	W8	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	24.2	23.5	<0.001	<0.001
Fish C.	W8	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	26.2	26.2	<0.001	<0.001
Fish C.	W8	8/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	30.2	30.4	<0.001	<0.001
Fish C.	W8	9/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	33.7	32.6	<0.001	<0.001
Fish C.	W8	2/26/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	36.8	35.4	<0.001	<0.001
Fish C.	W8	5/7/1997	0.0025	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	14.6	14.4	0.0005	0.0005
Fish C.	W8	5/13/1997	0.00231	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	15.5	15.2	0.0005	0.0005
Fish C.	W8	5/19/1997	0.00215	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	14.5	14.1	0.0005	0.0005
Fish C.	W8	5/27/1997	0.00201	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	14	13.7	0.0005	0.0005
Fish C.	W8	6/2/1997	0.002	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	15.6	15	0.0005	0.0005
Fish C.	W8	7/30/1997	0.00293	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	18.3	17.9	0.0005	0.0005
Fish C.	W8	9/15/1997	0.00336	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	29.8	29.3	0.0005	0.0007
Fish C.	W8	9/22/1997	0.00361	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	35.5	35.2	0.0005	0.0005
Fish C.	W8	9/29/1997	0.00468	0.0005	0.0005	0.0005	0.0005	0.015	0.013	0.00005	0.00005	35.7	36.1	0.0005	0.0005
Fish C.	W8	10/6/1997	0.00451	0.0005	0.0005	0.0005	0.0005	0.013	0.015	0.00005	0.00005	37.8	37.6	0.0005	0.0005
Fish C.	W8	10/13/1997	0.0041	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	41	40.5	0.0005	0.0005
Fish C.	W8	11/16/1997	0.00698	0.0005	0.0005	0.0005	0.0005	0.017	0.016	0.00005	0.00005	55.3	55.8	0.0005	0.0005
Fish C.	W8	12/16/1997	0.00902	0.0005	0.0005	0.0005	0.0005	0.018	0.017	0.00005	0.00005	55.5	55.6	0.0005	0.0005
Fish C.	W8	1/20/1998	0.00663	0.0005	0.0005	0.0005	0.0005	0.02	0.021	0.00005	0.00005	42.5	40.1	0.0005	0.0005
Fish C.	W8	2/18/1998	0.00543	0.0005	0.0005	0.0005	0.0005	0.018	0.018	0.00005	0.00005	35.8	36.2	0.0005	0.0005
Fish C.	W8	3/10/1998	0.00492	0.0005	0.0005	0.0005	0.0005	0.016	0.016	0.00005	0.00005	34.8	35.6	0.0005	0.0005
Fish C.	W8	4/14/1998	0.0036	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	22.8	23.6	0.0005	0.0005
Fish C.	W8	5/9/2006	0.00233	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.1	15.3	<0.00050	<0.00050
Fish C.	W8	5/16/2006	0.00322	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	18.4	18.5	<0.00050	<0.00050

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W8	5/4/1994	<0.001	<0.001	<0.001*	0.001*	0.12	0.264	<0.001	<0.001			7.68	7.82	0.01	0.018
Fish C.	W8	5/12/1994	<0.001	<0.001	<0.001	<0.001	0.133	0.183	<0.001	<0.001			9.03	9.45	0.019	0.024
Fish C.	W8	5/18/1994	<0.001	<0.001	<0.001	<0.001	0.154	0.332	<0.001	<0.001			9.38	9.43	0.013	0.035
Fish C.	W8	5/26/1994	<0.001	<0.001	<0.001	<0.001	0.153	0.228	<0.001	<0.001			9.51	9.51	0.032	0.038
Fish C.	W8	5/31/1994	<0.001	<0.001	0.001	0.005	0.204	0.258	<0.001	<0.001			9.75	9.75	0.037	0.039
Fish C.	W8	8/10/1994	<0.001	<0.001	<0.001	0.001	0.634	1.12	<0.001	<0.001			15.5	16.1	0.114	0.126
Fish C.	W8	8/16/1994	<0.001	<0.001	<0.001	0.001	0.453	1.12	<0.001	0.001			15	15	0.111	0.121
Fish C.	W8	8/24/1994	<0.001	<0.001	<0.001	0.001	0.372	0.953	<0.001	<0.001			15.8	16.4	0.111	0.13
Fish C.	W8	8/30/1994	<0.001	<0.001	0.001	0.001	0.263	0.792	<0.001	<0.001			16.3	16.6	0.124	0.142
Fish C.	W8	9/6/1994	<0.001	<0.001	<0.001	0.001	0.285	0.645	<0.001	<0.001			17.7	17.7	0.12	0.147
Fish C.	W8	6/21/1995	0.001	0.001	<0.001	0.001	0.586	0.927	<0.001	<0.001			13.3	13.6	0.203	0.229
Fish C.	W8	6/28/1995	<0.001	<0.001	<0.001	<0.001	0.627	1.1	<0.001	<0.001			14.1	14.2	0.26	0.293
Fish C.	W8	7/4/1995	<0.001	<0.001	<0.001	<0.001	0.705	1.16	<0.001	0.001			13.3	13.6	0.256	0.295
Fish C.	W8	7/13/1995	<0.001	<0.001	<0.001	<0.001	0.937	1.27	<0.001	<0.001			13.2	13.5	0.127	0.152
Fish C.	W8	7/18/1995	<0.001	0.001	<0.001	<0.001	0.716	1.08	<0.001	<0.001			13.2	13.6	0.124	0.147
Fish C.	W8	9/27/1995	<0.001	<0.001	<0.001	<0.001	0.164	0.872	<0.001	<0.001			18.9	19.1	0.146	0.165
Fish C.	W8	10/4/1995	<0.001	<0.001	<0.001	<0.001	0.086	1.13	<0.001	<0.001			19.1	19.4	0.183	0.199
Fish C.	W8	10/5/1995		<0.001		<0.001		1.01		<0.001				19.1		0.186
Fish C.	W8	10/11/1995	<0.001	<0.001	<0.001	<0.001	0.204	1.33	<0.001	<0.001			19.2	19.4	0.182	0.197
Fish C.	W8	10/18/1995	<0.001	<0.001	<0.001	<0.001	0.374	0.524	<0.001	<0.001			11.8	12	0.059	0.065
Fish C.	W8	10/27/1995	<0.001	<0.001	<0.001	<0.001	0.575	0.838	<0.001	<0.001			13.1	13	0.102	0.106
Fish C.	W8	4/23/1996	<0.001	<0.001	<0.001	<0.001	0.159	0.254	<0.001	<0.001			9.23	8.56	0.017	0.023
Fish C.	W8	5/1/1996	<0.001	<0.001	<0.001	<0.001	0.183	0.257	<0.001	<0.001			9.55	9.9	0.025	0.032
Fish C.	W8	5/8/1996	<0.001	<0.001	<0.001	<0.001	0.163	0.224	<0.001	<0.001			9.82	9.92	0.021	0.027
Fish C.	W8	5/15/1996	<0.001	<0.001	<0.001	<0.001	0.149	0.244	<0.001	<0.001			9.81	9.92	0.015	0.028
Fish C.	W8	5/23/1996	<0.001	<0.001	<0.001	0.001	0.126	0.246	<0.001	<0.001			10.2	9.55	0.016	0.026
Fish C.	W8	8/6/1996	<0.001	<0.001	<0.001	0.001	0.615	0.948	<0.001	<0.001			12.7	12.7	0.135	0.148
Fish C.	W8	8/16/1996	<0.001	<0.001	<0.001	0.001	0.641	0.929	<0.001	<0.001			12.7	12.2	0.082	0.093
Fish C.	W8	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.631	1.01	<0.001	<0.001			13.9	14	0.081	0.109
Fish C.	W8	8/29/1996	<0.001	<0.001	<0.001	<0.001	0.43	0.665	<0.001	<0.001			13.9	14	0.14	0.163
Fish C.	W8	9/6/1996	<0.001	<0.001	<0.001	<0.001	0.697	1.1	<0.001	<0.001			15.8	15.1	0.14	0.143
Fish C.	W8	2/26/1997	<0.001	<0.001	<0.001	0.001	0.816	1.12	<0.001	<0.001			16.6	16.2	0.248	0.247
Fish C.	W8	5/7/1997	0.0001	0.0001	0.0006	0.0008	0.2	0.32	0.00005	0.00005	0.001	0.001	9.14	8.92	0.0338	0.0458
Fish C.	W8	5/13/1997	0.0004	0.0001	0.0005	0.0006	0.16	0.25	0.00005	0.00005	0.001	0.001	10.4	10.1	0.0278	0.0356
Fish C.	W8	5/19/1997	0.0002	0.0003	0.0005	0.0007	0.2	0.29	0.00005	0.00005	0.001	0.001	9.9	9.75	0.0224	0.0323
Fish C.	W8	5/27/1997	0.0001	0.0001	0.0007	0.0007	0.17	0.24	0.00005	0.00005	0.001	0.001	9.45	9.16	0.022	0.0286
Fish C.	W8	6/2/1997	0.0001	0.0001	0.0007	0.0007	0.21	0.27	0.00005	0.00005	0.001	0.001	10.1	9.66	0.0388	0.0438
Fish C.	W8	7/30/1997	0.0002	0.0002	0.0007	0.0008	0.66	0.96	0.00005	0.00005	0.001	0.001	11.7	11.2	0.187	0.209
Fish C.	W8	9/15/1997	0.0001	0.0002	0.0005	0.0007	0.46	0.91	0.00005	0.00005	0.001	0.001	15.8	15.6	0.309	0.403
Fish C.	W8	9/22/1997	0.0001	0.0001	0.0004	0.0005	0.31	0.81	0.00005	0.00005	0.001	0.001	18.4	18.4	0.199	0.23
Fish C.	W8	9/29/1997	0.0001	0.0008	0.0004	0.0006	0.3	1.02	0.00005	0.00005	0.001	0.001	18.8	18.8	0.27	0.457
Fish C.	W8	10/6/1997	0.0001	0.0002	0.0004	0.0005	0.25	0.73	0.00005	0.00005	0.001	0.001	19.7	19.6	0.287	0.348
Fish C.	W8	10/13/1997	0.0006	0.0004	0.0005	0.0005	0.22	0.69	0.00005	0.00005	0.001	0.001	20.6	20.4	0.394	0.403
Fish C.	W8	11/16/1997	0.0004	0.0004	0.0004	0.0005	0.12	0.87	0.00005	0.00005	0.001	0.001	26.6	26.7	1.2	1.21
Fish C.	W8	12/16/1997	0.0007	0.001	0.0003	0.0004	0.08	1.74	0.00005	0.00005	0.001	0.001	26.5	26.2	1.38	1.35
Fish C.	W8	1/20/1998	0.0004	0.0004	0.0004	0.0004	0.52	1.61	0.00005	0.00005	0.001	0.001	20	19	0.43	0.447
Fish C.	W8	2/18/1998	0.0004	0.0004	0.0004	0.0005	0.54	1.43	0.00005	0.00005	0.001	0.001	17.3	17.4	0.521	0.535
Fish C.	W8	3/10/1998	0.0003	0.0003	0.0005	0.0006	0.66	1.42	0.00005	0.00005	0.001	0.001	16.9	17.2	0.404	0.407
Fish C.	W8	4/14/1998	0.0002	0.0002	0.0005	0.0006	0.41	0.64	0.00005	0.00005	0.001	0.001	13.3	13.3	0.138	0.157
Fish C.	W8	5/9/2006	<0.00010	<0.00010	0.00060	0.00062	0.123	0.258	<0.000050	<0.000050	<0.0050	<0.0050	9.56	9.69	0.00968	0.0377
Fish C.	W8	5/16/2006	<0.00010	0.00015	0.00070	0.00085	0.177	0.371	<0.000050	<0.000050	<0.0050	<0.0050	11.0	11.0	0.0336	0.0648

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W8	5/4/1994	<0.001	<0.001	0.001	0.001			0.89		<0.0005	<0.0005	6.2	6.39
Fish C.	W8	5/12/1994	<0.001	<0.001	0.002	0.002			0.76		<0.0005	<0.0005	7.15	7.55
Fish C.	W8	5/18/1994	<0.001	<0.001	<0.001	0.001			0.71		<0.0005	<0.0005	7.16	7.16
Fish C.	W8	5/26/1994	<0.001	<0.001	0.003*	0.003			0.77		<0.0005	<0.0005	7.61	7.61
Fish C.	W8	5/31/1994	<0.001	<0.001	0.001	0.002			0.85		<0.0005	<0.0005	7.64	7.64
Fish C.	W8	8/10/1994	0.001	0.002	0.002	0.002			1.06		<0.0005	<0.0005	9.95	10.4
Fish C.	W8	8/16/1994	<0.001	<0.001	0.002	0.002			0.9		<0.0005	<0.0005	8.99	8.99
Fish C.	W8	8/24/1994	0.001	0.001	0.001	0.001			0.96		<0.0005	<0.0005	9.2	9.69
Fish C.	W8	8/30/1994	0.001	0.002	0.002	0.002			0.95		<0.0005	<0.0005	9.34	9.61
Fish C.	W8	9/6/1994	0.001	0.002	<0.001	0.001			1.11		<0.0005	<0.0005	9.63	9.97
Fish C.	W8	6/21/1995	<0.001	<0.001	0.001	0.002			0.93		<0.0005	<0.0005	8.41	8.66
Fish C.	W8	6/28/1995	<0.001	<0.001	<0.001	0.001			1.03		<0.0005	<0.0005	8.6	8.74
Fish C.	W8	7/4/1995	<0.001	<0.001	0.002	0.002			1.13		<0.0005	<0.0005	8	8.31
Fish C.	W8	7/13/1995	<0.001	<0.001	0.002	0.002			1.07		<0.0005	<0.0005	8.23	8.51
Fish C.	W8	7/18/1995	<0.001	0.001	<0.001	0.001			1.14		<0.0005	<0.0005	7.82	8.18
Fish C.	W8	9/27/1995	<0.001	<0.001	<0.001	0.001			1.57		<0.0005	<0.0005	9.08	9.27
Fish C.	W8	10/4/1995	0.001	0.002	0.001	0.001			1.31		<0.0005	<0.0005	9.22	9.5
Fish C.	W8	10/5/1995		<0.001		0.001						<0.0005		9.22
Fish C.	W8	10/11/1995	<0.001	<0.001	0.001	0.001			1.39		<0.0005	<0.0005	9.27	9.49
Fish C.	W8	10/18/1995	<0.001	<0.001	0.001	0.001			1.01		<0.0005	<0.0005	6.86	7
Fish C.	W8	10/27/1995	<0.001	<0.001	0.001	0.001			1.2		<0.0005	<0.0005	7.09	7.12
Fish C.	W8	4/23/1996	<0.001	<0.001	0.001	0.002			1.06		<0.0005	<0.0005	5.62	5.13
Fish C.	W8	5/1/1996	<0.001	<0.001	0.002	0.002			1.17		<0.0005	<0.0005	5.93	6.06
Fish C.	W8	5/8/1996	<0.001	<0.001	<0.001	0.002			1.1		<0.0005	<0.0005	6.01	5.96
Fish C.	W8	5/15/1996	<0.001	<0.001	0.002	0.002			0.92		<0.0005	<0.0005	6	5.95
Fish C.	W8	5/23/1996	<0.001	<0.001	0.002	0.002			0.97		<0.0005	<0.0005	6.3	6.01
Fish C.	W8	8/6/1996	<0.001	<0.001	0.002	0.002			0.74		<0.0005	<0.0005	8.16	8.31
Fish C.	W8	8/16/1996	<0.001	<0.001	0.002	0.002			0.8		0.0007	0.0007	8.07	7.89
Fish C.	W8	8/24/1996	<0.001	<0.001	0.001	0.001			0.65		<0.0005	<0.0005	8.28	8.67
Fish C.	W8	8/29/1996	<0.001	<0.001	0.002	0.002			0.75		<0.0005	<0.0005	8.94	9.04
Fish C.	W8	9/6/1996	<0.001	<0.001	0.001	0.001			1.47		<0.0005	<0.0005	8.93	8.58
Fish C.	W8	2/26/1997	<0.001	<0.001	0.002	0.002			1.65		<0.0005	<0.0005	9.64	9.58
Fish C.	W8	5/7/1997	0.00029	0.0003	0.0017	0.0018					0.0005	0.0015	6.54	6.5
Fish C.	W8	5/13/1997	0.00032	0.00028	0.0019	0.002					0.0005	0.0005	7.36	7.18
Fish C.	W8	5/19/1997	0.00029	0.00029	0.0019	0.002					0.0005	0.0005	6.95	6.79
Fish C.	W8	5/27/1997	0.00029	0.00032	0.0019	0.0019					0.0005	0.0005	6.5	6.32
Fish C.	W8	6/2/1997	0.0003	0.00031	0.002	0.0021					0.0005	0.0005	6.81	6.58
Fish C.	W8	7/30/1997	0.00037	0.00039	0.002	0.002					0.0005	0.0005	7.27	7.02
Fish C.	W8	9/15/1997	0.00037	0.00041	0.0015	0.0017					0.0005	0.0005	8.37	8.3
Fish C.	W8	9/22/1997	0.00045	0.00045	0.0011	0.0012					0.0005	0.0005	8.65	8.7
Fish C.	W8	9/29/1997	0.0004	0.00041	0.0011	0.0015					0.0005	0.0005	8.55	8.59
Fish C.	W8	10/6/1997	0.00042	0.00047	0.0011	0.0013					0.0005	0.0005	8.53	8.48
Fish C.	W8	10/13/1997	0.00038	0.00038	0.0011	0.0011					0.0005	0.0005	8.64	8.58
Fish C.	W8	11/16/1997	0.00045	0.00046	0.0008	0.0009					0.0005	0.0005	10.8	10.9
Fish C.	W8	12/16/1997	0.00054	0.00054	0.0007	0.0006					0.0005	0.0005	9.78	9.8
Fish C.	W8	1/20/1998	0.0005	0.0005	0.0012	0.0014					0.0005	0.0005	9.68	9.34
Fish C.	W8	2/18/1998	0.00052	0.00053	0.0014	0.0014					0.0005	0.0005	8.96	9.05
Fish C.	W8	3/10/1998	0.00051	0.00051	0.0014	0.0015					0.0005	0.0005	9.6	9.84
Fish C.	W8	4/14/1998	0.00044	0.00045	0.0017	0.0018					0.0005	0.0005	8.58	8.54
Fish C.	W8	5/9/2006	0.000285	0.000252	0.00169	0.00173	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.22	6.33
Fish C.	W8	5/16/2006	0.000326	0.000320	0.00204	0.00212	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.44	7.54

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W8	5/4/1994	<0.0001	<0.0001	3.67		0.038	0.039							0.00001	0.00003
Fish C.	W8	5/12/1994	<0.0001	<0.0001	5		0.049	0.051							0.00002	0.00002
Fish C.	W8	5/18/1994	<0.0001	<0.0001	5.37		0.052	0.056							<0.00001	<0.00001
Fish C.	W8	5/26/1994	<0.0001	<0.0001	5.24		0.053	0.053							0.00002	0.00004
Fish C.	W8	5/31/1994	<0.0001	<0.0001	5.47		0.058	0.058							0.00003	0.00003
Fish C.	W8	8/10/1994	<0.0001	<0.0001	8.8		0.152	0.156							0.00011	0.00011
Fish C.	W8	8/16/1994	<0.0001	<0.0001	9.63		0.166	0.166							0.00014	0.00015
Fish C.	W8	8/24/1994	<0.0001	<0.0001	9.35		0.17	0.177							0.00009	0.00009
Fish C.	W8	8/30/1994	<0.0001	<0.0001	9.11		0.172	0.176							0.00013	0.00017
Fish C.	W8	9/6/1994	<0.0001	<0.0001	9.13		0.186	0.193							0.0001	0.00015
Fish C.	W8	6/21/1995	<0.0001	<0.0001	7.94		0.133	0.136					<0.010	<0.010	0.00006	0.00007
Fish C.	W8	6/28/1995	<0.0001	<0.0001	8.52		0.141	0.141					<0.010	<0.010	0.0002	0.00021
Fish C.	W8	7/4/1995	<0.0001	<0.0001	8.14		0.125	0.128					<0.010	<0.010	0.00011	0.00012
Fish C.	W8	7/13/1995	<0.0001	<0.0001	8.05		0.131	0.138					<0.010	<0.010	0.00007	0.00007
Fish C.	W8	7/18/1995	<0.0001	<0.0001	8.43		0.13	0.135					<0.010	<0.010	0.00011	0.00016
Fish C.	W8	9/27/1995	<0.0001	<0.0001	14.3		0.228	0.228					<0.010	<0.010	0.00016	0.00016
Fish C.	W8	10/4/1995	<0.0001	<0.0001	13.3		0.226	0.227					<0.010	<0.010	0.00015	0.00016
Fish C.	W8	10/5/1995		<0.0001				0.224						<0.010		0.00016
Fish C.	W8	10/11/1995	<0.0001	<0.0001	12.9		0.225	0.227					<0.010	<0.010	0.00015	0.00015
Fish C.	W8	10/18/1995	<0.0001	<0.0001	7.32		0.081	0.081					<0.010	<0.010	0.00008	0.00006
Fish C.	W8	10/27/1995	<0.0001	<0.0001	8.58		0.115	0.113					<0.010	<0.010	0.00007	0.00007
Fish C.	W8	4/23/1996	<0.0001	<0.0001	5.48		0.045	0.045					<0.010	<0.010	0.00004	0.00004
Fish C.	W8	5/1/1996	<0.0001	<0.0001	6		0.05	0.05					<0.010	<0.010	0.00005	0.00005
Fish C.	W8	5/8/1996	<0.0001	<0.0001	6.01		0.051	0.051					<0.010	<0.010	0.00004	0.00004
Fish C.	W8	5/15/1996	<0.0001	<0.0001	5.88		0.057	0.057					<0.010	<0.010	0.00004	0.00004
Fish C.	W8	5/23/1996	<0.0001	<0.0001	5.92		0.056	0.053					<0.010	<0.010	0.00004	0.00004
Fish C.	W8	8/6/1996	<0.0001	<0.0001	7.99		0.126	0.125					<0.010	<0.010	0.00008	0.00009
Fish C.	W8	8/16/1996	<0.0001	<0.0001	7.46		0.111	0.108					<0.010	<0.010	0.00007	0.00008
Fish C.	W8	8/24/1996	<0.0001	<0.0001	8.63		0.12	0.12					<0.010	<0.010	0.00008	0.00009
Fish C.	W8	8/29/1996	<0.0001	<0.0001	8.07		0.137	0.137					<0.010	<0.010	0.00009	0.0001
Fish C.	W8	9/6/1996	<0.0001	<0.0001	10.1		0.158	0.151					<0.010	<0.010	0.00011	0.00011
Fish C.	W8	2/26/1997	<0.0001	<0.0001	10.7		0.39	0.379					<0.010	<0.010	0.00015	0.00016
Fish C.	W8	5/7/1997	0.00001	0.00001	5	5	0.0558	0.0559			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W8	5/13/1997	0.00001	0.00001	6	6	0.0576	0.0571			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W8	5/19/1997	0.00001	0.00001	6	5	0.0474	0.0467			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W8	5/27/1997	0.00001	0.00001	5	5	0.0486	0.0483			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Fish C.	W8	6/2/1997	0.00001	0.00001	5	5	0.0545	0.0539			0.0001	0.0001	0.01	0.01	0.00005	0.00004
Fish C.	W8	7/30/1997	0.00001	0.00001	7	6	0.0686	0.067			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Fish C.	W8	9/15/1997	0.00001	0.00001	10	10	0.13	0.131			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Fish C.	W8	9/22/1997	0.00001	0.00001	11	11	0.152	0.151			0.0001	0.0001	0.01	0.01	0.0001	0.0001
Fish C.	W8	9/29/1997	0.00001	0.00001	12	12	0.156	0.154			0.0001	0.0001	0.01	0.01	0.0001	0.00009
Fish C.	W8	10/6/1997	0.00001	0.00001	12	12	0.176	0.185			0.0001	0.0001	0.01	0.01	0.00012	0.00011
Fish C.	W8	10/13/1997	0.00001	0.00001	13	12	0.198	0.197			0.0001	0.0001	0.01	0.01	0.00011	0.00011
Fish C.	W8	11/16/1997	0.00001	0.00001	17	17	0.322	0.321			0.0001	0.0001	0.01	0.01	0.00014	0.00013
Fish C.	W8	12/16/1997	0.00001	0.00001	15	15	0.26	0.255			0.0001	0.0001	0.01	0.01	0.00012	0.00011
Fish C.	W8	1/20/1998	0.00001	0.00001	13	12	0.2	0.196			0.0001	0.0001	0.01	0.01	0.0001	0.0001
Fish C.	W8	2/18/1998	0.00001	0.00001	10	10	0.245	0.245			0.0001	0.0001	0.01	0.01	0.0001	0.0001
Fish C.	W8	3/10/1998	0.00001	0.00001	11	11	0.21	0.211			0.0001	0.0001	0.01	0.01	0.0001	0.0001
Fish C.	W8	4/14/1998	0.00001	0.00001	8	8	0.118	0.117			0.0001	0.0001	0.01	0.01	0.00008	0.00008
Fish C.	W8	5/9/2006	<0.000010	<0.000010	5.5	5.6	0.0531	0.0526	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000051	0.000056
Fish C.	W8	5/16/2006	<0.000010	<0.000010	7.0	6.9	0.0633	0.0629	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000055	0.000060

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W8	5/4/1994	<0.030	<0.030	<0.005	0.009
Fish C.	W8	5/12/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/18/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/26/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/31/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/10/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/16/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/24/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/30/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	9/6/1994	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	6/21/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	6/28/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	7/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	7/13/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	7/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	9/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/4/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/5/1995		<0.030	<0.005	<0.005
Fish C.	W8	10/11/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/18/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	10/27/1995	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	4/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/1/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/8/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/15/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	5/23/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/6/1996	<0.030	<0.030	<0.005	0.005
Fish C.	W8	8/16/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/24/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	8/29/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	9/6/1996	<0.030	<0.030	<0.005	<0.005
Fish C.	W8	2/26/1997	<0.030	<0.030		<0.005
Fish C.	W8	5/7/1997	0.001	0.001	0.001	0.001
Fish C.	W8	5/13/1997	0.001	0.001	0.001	0.001
Fish C.	W8	5/19/1997	0.001	0.001	0.001	0.003
Fish C.	W8	5/27/1997	0.001	0.001	0.001	0.001
Fish C.	W8	6/2/1997	0.001	0.001	0.001	0.001
Fish C.	W8	7/30/1997	0.001	0.001	0.001	0.001
Fish C.	W8	9/15/1997	0.001	0.001	0.001	0.001
Fish C.	W8	9/22/1997	0.001	0.001	0.001	0.001
Fish C.	W8	9/29/1997	0.001	0.001	0.002	0.001
Fish C.	W8	10/6/1997	0.001	0.001	0.001	0.002
Fish C.	W8	10/13/1997	0.001	0.001	0.003	0.002
Fish C.	W8	11/16/1997	0.001	0.001	0.002	0.001
Fish C.	W8	12/16/1997	0.001	0.001	0.002	0.002
Fish C.	W8	1/20/1998	0.001	0.001	0.002	0.001
Fish C.	W8	2/18/1998	0.001	0.001	0.002	0.001
Fish C.	W8	3/10/1998	0.001	0.001	0.001	0.001
Fish C.	W8	4/14/1998	0.001	0.001	0.001	0.001
Fish C.	W8	5/9/2006	<0.0010	<0.0010	<0.0010	0.0010
Fish C.	W8	5/16/2006	<0.0010	0.0011	<0.0010	0.0010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Fish C.	W8	5/24/2006	9.2	9.2	181.2	180	90.5		8.08	92.7	3.00	14.4		135	6.6	<0.50	0.050	5.55
Fish C.	W8	5/29/2006	8.9	8.9	168.2	166	86.7		8.09	88.5	2.21	14.8		137	6.5	<0.50	0.059	4.04
Fish C.	W8	6/7/2006	11.0	9.2	169.9	168	89.0		7.89	102	1.52	15.7		130	<3.0	<0.50	0.058	3.27
Fish C.	W8	7/5/2006	12.9	8.6	203.9	200	99.5		8.09	102	3.93	15.3		152	4.0	<0.50	0.066	6.86
Fish C.	W8	8/8/2006	13.5		230	310	150		8.28	137	6.87	10.3		208	2.6	0.55	0.076	25.2
Fish C.	W8	8/16/2006	10.6	7.1	330	334	157		7.92	148	9.61	10.5		220	<3.0	0.69	0.079	31.0
Fish C.	W8	8/22/2006	15.4	8.8	359.7	337	157		8.10	156	10.3	11.3		225	5.7	1.45	0.092	36.4
Fish C.	W8	8/29/2006	13.2	9.2		364	165		8.17	161	9.40			237	4.2	0.77	0.092	42.1
Fish C.	W8	9/6/2006	8.2	6.5	392.1	389	189		8.25	171	12.1	8.3		249	4.1	0.88	0.095	48.2
Fish C.	W8	10/3/2006	7.1	9.0	519	427	210		8.11	172	15.7			299	<3.0	1.11	0.078	81.5
Taseko R.	W4	5/31/1992				57	26.6		7.71	20.7	25.5		0.53	44	3	0.6	0.04	7.3
Taseko R.	W4	6/30/1992				57.6	25.6		7.2	20.6	27.2			44	8	0.5	0.04	8.1
Taseko R.	W4	7/30/1992				50.9	24.3		7.55	16.5	46.5			37	1	0.8	0.03	5.7
Taseko R.	W4	8/30/1992				49.2	23.2		7.76	16.9	62.4			36	25	0.5	0.03	5.6
Taseko R.	W4	10/4/1992				52	22.7		7.82	18.2	37.9			37	15	0.5	0.03	5.2
Taseko R.	W4	10/28/1992				51.5	23.9		7.77	15.8	35.3		0.7	37	5	0.5	0.04	7.3
Taseko R.	W4	12/1/1992				53.9	24.9		7.8	18.9	39.6		1.2	40	5	0.5	0.05	6.6
Taseko R.	W4	1/7/1993				59	25		7.38	18.1	38.2		0.7	41	5	1	0.03	6.7
Taseko R.	W4	1/27/1993				61.6	25.1		7.74	21.5	38		0.8	45	5	1	0.03	7.5
Taseko R.	W4	3/2/1993				57.6	26.9		7.9	19.4	35.3		0.7	46	4	0.7	0.03	10
Taseko R.	W4	3/31/1993				59.3	25.5		7.79	20.3	30.4		0.9	47	5	1	0.03	7
Taseko R.	W4	5/6/1993				58.9	24.7		7.65	18.9	34.2		0.8	44	3	1.4	0.04	4.1
Taseko R.	W4	5/13/1993				58.1	25		7.6	18.4	33.3		0.8	39	3	0.7	0.06	6
Taseko R.	W4	5/19/1993				57.6	24		7.4	16.8	33.2		0.6	38	3	1.5	0.03	7
Taseko R.	W4	5/27/1993				60.1	24.6		7.55	19.5	37.2		1.3	36	2	1.8	0.03	7.5
Taseko R.	W4	6/3/1993				59.4	24.1		7.65	19.7	37.2		1.2	32	9	0.5	0.03	6.9
Taseko R.	W4	8/17/1993				54.8	25.9		7	17.8	44.1		0.8	35	8	0.6	0.03	6
Taseko R.	W4	8/24/1993				52.3	23.9		7.73	19.6	52.4		0.9	36	16	1.3	0.03	5.7
Taseko R.	W4	8/31/1993				54	23.1		7.43	17.3	42.3		1.1	35	8	0.5	0.03	7.4
Taseko R.	W4	9/14/1993				64	21.6		7.59	18	46.6		0.9	35	17	1.3	0.03	5.8
Taseko R.	W4	9/20/1993				57	23		7.4	18.3	47.1		1.5	34	12	0.9	0.03	5.5
Taseko R.	W4	5/4/1994				60	25.2		7.38	22.7	21.7		0.9	36	<1	0.9	0.04	7.1
Taseko R.	W4	5/12/1994				62	24.8		7.32	20.2	18		0.8	38	<1	0.8	0.03	7
Taseko R.	W4	5/18/1994				61	26		7.4	21.5	16.5		1.2	37	1	0.7	0.03	7.8
Taseko R.	W4	5/26/1994				61.1	25.6		7.64	20.5	18.2		1.3	35	2	0.7	0.04	6.3
Taseko R.	W4	5/31/1994				61	26.1		7.56	20.4	24.1		1.5	36	7	0.5	0.04	7.4
Taseko R.	W4	8/10/1994				54.8	24.5		7.58	15.8	41.2		0.8	35	16	1.2	0.05	6.5
Taseko R.	W4	8/16/1994				55.4	23.5		7.26	17	47.8		1.3	31	17	1	0.04	5.5
Taseko R.	W4	8/24/1994				52.6	23.7		7.37	16.6	46.3		2.2	31	17	1.2	0.04	5.6
Taseko R.	W4	8/30/1994				53.6	22.8		7.5	17.2	46		1.3	31	19	0.9	0.04	5.2
Taseko R.	W4	9/6/1994				50	21.4		7.33	16	65		1.3	30	43	0.7	0.07	4.4
Taseko R.	W4	6/22/1995				59.7	25.8		7.57	18.8	24.4		1.6	39	3	0.9	0.04	7.4
Taseko R.	W4	6/28/1995				59.3	25.6		7.58	18.9	22.5		1.4	38	5	0.5	0.04	7.1
Taseko R.	W4	7/4/1995				59.7	26.5		7.48	18.7	23.4		1.2	39	3	1	0.04	6.8
Taseko R.	W4	7/13/1995				57.1	24.6		7.76	18.5	34.5		1.1	35	9	0.5	0.04	5.7
Taseko R.	W4	7/17/1995				62.6	24.7		7.48	18.4	34.2		1	38	7	0.7	0.04	6.9
Taseko R.	W4	9/27/1995				53.2	21.2		8.11	17.3	34.2		1.1	34	9	1.1	0.03	5.9
Taseko R.	W4	10/4/1995				56.1	22.1		7.62	17.5	42.5		1.2	34	23	1	0.05	5.6
Taseko R.	W4	10/11/1995				53.3	22.5		8.1	17.5	29.9		1.4	35	7	0.7	0.04	5.9
Taseko R.	W4	10/18/1995				53.3	22.4		7.58	16.2	25.1		1.4	35	8	0.8	0.04	6.6
Taseko R.	W4	10/27/1995				53.8	22.9		7.48	15.9	28.4		1.4	34	7	0.7	0.03	6.2

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Fish C.	W8	5/24/2006	0.0307	0.0162	0.0018	0.0057	0.0093	0.0300	0.0045	0.0594	<0.00010	<0.00010	0.00069	0.00078	0.00281
Fish C.	W8	5/29/2006	0.0227	<0.0050	<0.0010	0.0063	0.0144	0.0252	<0.0050	0.155	<0.00010	<0.00010	0.00054	0.00067	0.00250
Fish C.	W8	6/7/2006	0.0140	0.0059	<0.0010	0.0049	0.0147	0.0138	0.0037	0.0271	<0.00010	<0.00010	0.00065	0.00064	0.00226
Fish C.	W8	7/5/2006	0.0260	0.0090	0.0017	0.0246	0.0297	0.0465	<0.0050	0.0542	<0.00010	<0.00010	0.00160	0.00195	0.00288
Fish C.	W8	8/8/2006	0.0150	<0.0050	<0.0010	0.0436	0.0409	0.0646	<0.0030	0.0161	<0.00010	<0.00010	0.00184	0.00291	0.00298
Fish C.	W8	8/16/2006	0.0300	0.0167	<0.0010	0.0125	0.030	0.068	0.0013	0.0157	<0.00010	<0.00010	0.00084	0.00280	0.00187
Fish C.	W8	8/22/2006	0.0226	<0.0050	<0.0020	0.0135	0.0228	0.0639	0.0018	0.0144	<0.00010	<0.00010	0.00149	0.00281	0.00311
Fish C.	W8	8/29/2006	0.0180	<0.0050	<0.0010	0.0125	0.0199	0.0551	<0.0050	0.0199	<0.00010	<0.00010	0.00108	0.00305	0.00255
Fish C.	W8	9/6/2006	0.0210	<0.0050	<0.0010	0.0084	0.0164	0.0532	<0.0030	0.0214	<0.00010	<0.00010	0.00112	0.00282	0.00295
Fish C.	W8	10/3/2006	0.0100	<0.0050	<0.0010	0.0048	0.0026	0.0470	<0.0030	0.0042	<0.00010	<0.00010	0.00078	0.00173	0.00464
Taseko R.	W4	5/31/1992	<0.005	<0.005	<0.001	0.004	0.021	0.039	0.21	0.592	<0.0001	<0.0001	0.0002	0.0004	<0.010
Taseko R.	W4	6/30/1992	<0.005	0.016	<0.001	0.006	0.006	0.057	0.125	1.66	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W4	7/30/1992	0.053	<0.005	0.004	0.057	0.09	0.099	0.12	1.7	<0.0001	0.0001	0.0006	0.0007	<0.010
Taseko R.	W4	8/30/1992	0.02	0.005	<0.001	<0.001	0.005	0.133	0.235	2.04	<0.0001	<0.0001	0.0008	0.0009	<0.010
Taseko R.	W4	10/4/1992	0.017	0.019	<0.001	0.009	0.027	0.083	0.175	1.25	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W4	10/28/1992	0.037	<0.005	0.006	0.04	0.04	0.054	0.112	2.39	<0.0001	<0.0001	0.0003	0.0007	<0.010
Taseko R.	W4	12/1/1992	<0.005	0.007	<0.001	0.005	0.015	0.018	0.093	2.1	<0.0002	<0.0002	0.0003	0.0018	<0.010
Taseko R.	W4	1/7/1993	0.023	0.008	<0.001	0.002	0.005	0.067	0.198	0.934	<0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W4	1/27/1993	0.007	0.015	<0.001	0.008	0.048	0.062	0.389	2.78	<0.0001	0.0002	0.0003	0.0008	0.01
Taseko R.	W4	3/2/1993	0.016	0.017	<0.001	0.007	0.047	0.065	0.097	2.02	0.0001	0.0002	0.0003	0.0003	<0.010
Taseko R.	W4	3/31/1993	<0.005	0.005	<0.001	<0.001	0.033	0.039	0.126	2.42	<0.0001	<0.0001	0.0003	0.0007	<0.010
Taseko R.	W4	5/6/1993	<0.005	0.021	<0.001	0.005	0.045	0.063	0.036	1.7	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W4	5/13/1993	<0.005	0.013	<0.001	0.004	0.054	0.055	0.163	1.57	<0.0001	0.0001	0.0004	0.0007	<0.010
Taseko R.	W4	5/19/1993	<0.005	0.02	<0.001	0.005	0.025	0.054	0.145	0.964	<0.0001	0.0001	0.0003	0.0003	<0.010
Taseko R.	W4	5/27/1993	<0.005	0.021	<0.001	0.002	0.004	0.064	0.18	1.84	<0.0001	0.0002	0.0002	0.0008	<0.010
Taseko R.	W4	6/3/1993	<0.005	0.02	<0.001	0.003	0.004	0.018	0.092	0.952	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W4	8/17/1993	0.007	0.009	0.001	<0.001	<0.001	0.019	0.273	1.1	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W4	8/24/1993	<0.005	0.012	<0.001	0.018	0.018	0.027	0.216	1.86	<0.0001	<0.0001	0.0003	0.0005	0.013
Taseko R.	W4	8/31/1993	<0.005	0.015	0.003	0.005	0.005	0.018	0.198	1.2	<0.0001	0.0002	0.0002	0.0005	<0.010
Taseko R.	W4	9/14/1993	<0.005	0.01	<0.001	0.006	0.006	0.021	0.224	1.05	<0.0001	<0.0001	0.0002	0.0006	0.011
Taseko R.	W4	9/20/1993	<0.005	0.015	<0.001	0.036	0.037	0.049	0.111	0.863	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W4	5/4/1994	<0.005	0.022	0.008	0.002	0.003	0.03	0.139	0.912	<0.0001	<0.0001	0.0002	0.0005	0.011
Taseko R.	W4	5/12/1994	0.011	0.024	0.003	<0.001	0.002	0.035	0.124	0.979	<0.0001	<0.0001	0.0002	0.0005	0.01
Taseko R.	W4	5/18/1994	<0.005	0.026	<0.001	0.004	0.004	0.035	0.169	0.854	<0.0001	<0.0001	0.0002	0.0004	<0.010
Taseko R.	W4	5/26/1994	0.01	0.024	0.003	0.002	0.004	0.036	0.18	0.768	<0.0001	<0.0001	0.0005	0.0005	<0.010
Taseko R.	W4	5/31/1994	<0.005	0.018	0.002	0.003	0.003	0.014	0.109	0.696	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W4	8/10/1994	<0.005	0.017	0.015	<0.001	0.093	0.108	0.075	1.08	<0.0001	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W4	8/16/1994	0.006	0.017	0.001	<0.001	0.07	0.081	0.192	1.05	<0.0002	<0.0002	0.0002	0.0006	<0.010
Taseko R.	W4	8/24/1994	<0.005	0.016	0.002	0.009	0.01	0.04	0.052	1.06	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W4	8/30/1994	0.014	0.009	0.015	0.006	0.019	0.026	0.114	1.14	<0.0001	<0.0001	0.0006	0.0007	<0.010
Taseko R.	W4	9/6/1994	0.007	0.01	0.002	0.004	0.017	0.023	0.165	1.13	<0.0001	<0.0001	0.0006	0.0007	<0.010
Taseko R.	W4	6/22/1995	<0.005	0.021	0.001	0.004	0.004	0.046	0.166	0.751	<0.0001	<0.0001	0.0003	0.0004	0.01
Taseko R.	W4	6/28/1995	<0.005	0.022	0.011	0.002	0.002	0.048	0.28	1.06	<0.0001	<0.0001	0.0003	0.0005	0.01
Taseko R.	W4	7/4/1995	<0.005	0.018	0.008	0.002	0.002	0.009	0.154	0.567	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W4	7/13/1995	0.013	0.019	0.001	0.003	0.003	0.076	0.245	0.614	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W4	7/17/1995	0.007	0.022	0.001	0.005	0.005	0.073	0.42	1.24	<0.0001	<0.0001	0.0004	0.0005	0.012
Taseko R.	W4	9/27/1995	0.006	0.015	0.001	0.003	0.003	0.021	0.19	0.589	0.0001	0.0001	0.0003	0.0004	<0.010
Taseko R.	W4	10/4/1995	<0.005	0.015	0.002	0.002	0.002	0.033	0.12	0.825	<0.0001	<0.0001	0.0003	0.0006	0.012
Taseko R.	W4	10/11/1995	0.005	0.016	0.015	0.005	0.005	0.064	0.38	0.546	<0.0001	<0.0001	0.0003	0.0003	0.013
Taseko R.	W4	10/18/1995	<0.005	0.023	0.001	0.002	0.002	0.056	0.15	0.545	0.0001	0.0001	0.0002	0.0003	<0.010
Taseko R.	W4	10/27/1995	<0.005	0.023	0.001	<0.001	<0.001	0.059	0.17	0.606	<0.0001	<0.0001	0.0003	0.0004	0.012

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Fish C.	W8	5/24/2006	0.00335	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	18.6	18.5	<0.00050	<0.00050
Fish C.	W8	5/29/2006	0.00389	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.2	17.4	<0.00050	<0.00050
Fish C.	W8	6/7/2006	0.00273	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.6	17.3	<0.00060	<0.00050
Fish C.	W8	7/5/2006	0.00387	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	20.2	20.6	<0.00050	<0.00050
Fish C.	W8	8/8/2006	0.00377	<0.00050	<0.00050	<0.00050	<0.00050	0.015	0.015	<0.000017	0.000040	33.3	33.8	<0.0020	<0.0020
Fish C.	W8	8/16/2006	0.00390	<0.00050	<0.00050	<0.00050	<0.00050	0.016	0.016	0.000018	0.000020	36.7	35.9	<0.00050	0.00090
Fish C.	W8	8/22/2006	0.00378	<0.00050	<0.00050	<0.00050	<0.00050	0.016	0.015	<0.00017	<0.000017	34.0	34.3	<0.00050	<0.00050
Fish C.	W8	8/29/2006	0.00401	<0.00050	<0.00050	<0.00050	<0.00050	0.016	0.016	<0.000017	<0.000017	35.5	37.6	<0.00050	<0.00050
Fish C.	W8	9/6/2006	0.00470	<0.00050	<0.00050	<0.00050	<0.00050	0.017	0.018	<0.000017	<0.000017	40.8	41.7	<0.00050	<0.00050
Fish C.	W8	10/3/2006	0.00569	<0.00050	<0.00050	<0.00050	<0.00050	0.017	0.017	<0.000017	<0.000017	46.7	48.8	<0.00050	<0.00050
Taseko R.	W4	5/31/1992	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.91	9.24	<0.001	<0.001
Taseko R.	W4	6/30/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.66	8.66	<0.001	<0.001
Taseko R.	W4	7/30/1992	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.23	8.9	<0.001	0.001
Taseko R.	W4	8/30/1992	0.03	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.96	8.26	<0.001	0.001
Taseko R.	W4	10/4/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.73	8.23	<0.001	<0.001
Taseko R.	W4	10/28/1992	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.13	8.58	<0.001	0.002
Taseko R.	W4	12/1/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.58	9.46	<0.001	<0.001
Taseko R.	W4	1/7/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.54	9.18	<0.001	<0.001
Taseko R.	W4	1/27/1993	0.032	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.43	9.28	<0.001	<0.001
Taseko R.	W4	3/2/1993	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.24	9.54	<0.001	0.002
Taseko R.	W4	3/31/1993	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.68	9.16	<0.001	0.009*
Taseko R.	W4	5/6/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.36	8.71	<0.001	<0.001
Taseko R.	W4	5/13/1993	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.51	8.97	<0.001	0.001
Taseko R.	W4	5/19/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.12	8.55	<0.001	<0.001
Taseko R.	W4	5/27/1993	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.4	8.72	<0.001	0.002
Taseko R.	W4	6/3/1993	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.18	8.56	<0.001	<0.001
Taseko R.	W4	8/17/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9	9.39	<0.001	0.001
Taseko R.	W4	8/24/1993	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.21	8.41	<0.001	0.001
Taseko R.	W4	8/31/1993	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.93	8.52	<0.001	0.001
Taseko R.	W4	9/14/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.44	7.77	<0.001	<0.001
Taseko R.	W4	9/20/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.98	8.42	<0.001	<0.001
Taseko R.	W4	5/4/1994	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.49	8.67	<0.001	0.001
Taseko R.	W4	5/12/1994	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.43	8.85	<0.001	0.001
Taseko R.	W4	5/18/1994	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	0.0003	8.84	8.94	<0.001	<0.001
Taseko R.	W4	5/26/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.64	8.92	<0.001	<0.001
Taseko R.	W4	5/31/1994	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.75	8.77	<0.001	0.001
Taseko R.	W4	8/10/1994	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.43	9.2	<0.001	<0.001
Taseko R.	W4	8/16/1994	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.03	8.03	<0.001	<0.001
Taseko R.	W4	8/24/1994	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.11	8.53	<0.001	<0.001
Taseko R.	W4	8/30/1994	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.7	7.73	<0.001	0.001
Taseko R.	W4	9/6/1994	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.08	7.17	<0.001	0.002
Taseko R.	W4	6/22/1995	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.76	9.01	<0.001	<0.001
Taseko R.	W4	6/28/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.68	8.85	<0.001	<0.001
Taseko R.	W4	7/4/1995	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.01	9.12	<0.001	<0.001
Taseko R.	W4	7/13/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.42	8.66	<0.001	<0.001
Taseko R.	W4	7/17/1995	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8	8.35	<0.001	0.008*
Taseko R.	W4	9/27/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.28	7.74	<0.001	0.002
Taseko R.	W4	10/4/1995	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.41	7.64	<0.001	<0.001
Taseko R.	W4	10/11/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.64	7.74	<0.001	<0.001
Taseko R.	W4	10/18/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.72	7.96	<0.001	<0.001
Taseko R.	W4	10/27/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.8	8.04	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Fish C.	W8	5/24/2006	0.00010	0.00018	<0.0010	0.00186	0.219	0.499	<0.000050	0.000085	<0.0050	<0.0050	10.7	10.7	0.0623	0.0901
Fish C.	W8	5/29/2006	<0.00010	0.00022	0.00070	0.00109	0.103	0.445	<0.000050	<0.000050	<0.0050	<0.0050	10.6	10.6	0.0190	0.0537
Fish C.	W8	6/7/2006	<0.00010	0.00012	0.00062	0.00076	0.173	0.319	<0.000050	<0.000050	<0.0050	<0.0050	10.9	10.7	0.00972	0.0592
Fish C.	W8	7/5/2006	<0.00010	0.00019	0.00077	0.00109	0.576	1.02	<0.000050	<0.000050	<0.0050	<0.0050	11.9	12.3	0.0760	0.167
Fish C.	W8	8/8/2006	<0.00010	0.00015	0.00059	0.00077	0.725	2.06	<0.000050	<0.000050	<0.0050	<0.0050	16.3	16.3	0.186	0.278
Fish C.	W8	8/16/2006	<0.00010	0.00014	0.00135	0.00081	<0.030	2.17	<0.000050	<0.000050	<0.0050	<0.0050	17.5	17.7	0.000399	0.244
Fish C.	W8	8/22/2006	<0.00010	0.00012	0.00074	0.00067	0.310	2.10	<0.000050	<0.000050	<0.0050	<0.0050	17.6	17.7	0.180	0.233
Fish C.	W8	8/29/2006	<0.00010	0.00013	0.00067	0.00075	0.074	2.08	<0.000050	<0.000050	<0.0050	<0.0050	18.5	19.5	0.0479	0.275
Fish C.	W8	9/6/2006	<0.00010	0.00016	0.00060	0.00069	0.048	2.00	<0.000050	<0.000050	<0.0050	<0.0050	21.1	21.5	0.107	0.330
Fish C.	W8	10/3/2006	0.00012	0.00019	0.00021	0.00018	0.058	1.95	<0.000050	<0.000050	<0.0050	<0.0050	22.8	23.7	0.415	0.481
Taseko R.	W4	5/31/1992	<0.001	<0.001	0.002	0.003	0.094	0.456	<0.001	<0.001			1.05	1.3	<0.005	0.014
Taseko R.	W4	6/30/1992	<0.001	<0.001	0.005	0.005	0.112	1.26	<0.001	<0.001			0.955	1.42	<0.005	0.028
Taseko R.	W4	7/30/1992	<0.001	0.001	0.002	0.003	0.069	1.36	<0.001	<0.001			0.918	1.65	0.007	0.039
Taseko R.	W4	8/30/1992	<0.001	0.001	0.006*	0.006	0.122	1.76	<0.001	<0.001			0.809	1.49	0.008	0.045
Taseko R.	W4	10/4/1992	<0.001	<0.001	0.003	0.003	0.117	1.03	<0.001	<0.001			0.82	0.82	0.006	0.028
Taseko R.	W4	10/28/1992	<0.001	0.001	<0.001	0.005	0.097	1.8	<0.001	<0.001			0.875	1.59	<0.005	0.041
Taseko R.	W4	12/1/1992	<0.001	<0.001	0.001	0.008	0.096	1.72	<0.001	0.001			0.849	1.58	<0.005	0.034
Taseko R.	W4	1/7/1993	<0.001	<0.001	<0.001	0.004	0.104	0.742	<0.001	<0.001			0.887	1.16	<0.005	0.019
Taseko R.	W4	1/27/1993	<0.001	<0.001	<0.001	0.005	0.11	1.85	<0.001	<0.001			0.988	1.78	<0.005	0.04
Taseko R.	W4	3/2/1993	<0.001	<0.001	<0.001	0.003	0.092	1.62	<0.001	<0.001			0.923	1.6	<0.005	0.033
Taseko R.	W4	3/31/1993	<0.001	<0.001	<0.001	0.004	0.09	1.72	<0.001	<0.001			0.924	1.63	<0.005	0.035
Taseko R.	W4	5/6/1993	<0.001	<0.001	<0.001	0.003	0.08	1.42	<0.001	<0.001			0.924	1.52	<0.005	0.03
Taseko R.	W4	5/13/1993	<0.001	0.001	<0.001	0.004	0.079	1.44	<0.001	<0.001			0.906	1.55	<0.005	0.032
Taseko R.	W4	5/19/1993	<0.001	<0.001	<0.001	0.002	0.09	0.87	<0.001	<0.001			0.902	1.27	<0.005	0.021
Taseko R.	W4	5/27/1993	<0.001	<0.001	<0.001	0.005	0.107	1.51	<0.001	<0.001			0.89	1.54	<0.005	0.031
Taseko R.	W4	6/3/1993	<0.001	<0.001	0.001	0.003	0.08	0.922	<0.001	<0.001			0.9	1.25	<0.005	<0.005
Taseko R.	W4	8/17/1993	<0.001	<0.001	0.002	0.005	0.236	1.01	<0.001	<0.001			0.83	1.2	0.007	0.027
Taseko R.	W4	8/24/1993	<0.001	<0.001	0.001	0.005	0.168	1.59	<0.001	<0.001			0.819	1.47	0.008	0.039
Taseko R.	W4	8/31/1993	0.02*	0.021*	0.002	0.004	0.14	1.02	<0.001	0.001			0.811	1.25	0.007	0.03
Taseko R.	W4	9/14/1993	<0.001	<0.001	<0.001	0.003	0.119	0.859	<0.001	<0.001			0.737	1.1	<0.005	0.024
Taseko R.	W4	9/20/1993	<0.001	<0.001	<0.001	0.004	0.072	0.756	<0.001	<0.001			0.76	1.09	<0.005	0.024
Taseko R.	W4	5/4/1994	<0.001	<0.001	<0.001*	0.006*	0.094	0.792	<0.001	<0.001			0.981	1.28	<0.005	0.019
Taseko R.	W4	5/12/1994	<0.001	<0.001	<0.001	0.002	0.088	0.666	<0.001	<0.001			0.913	1.2	<0.005	0.015
Taseko R.	W4	5/18/1994	<0.001	<0.001	<0.001	0.003	0.122	0.701	<0.001	<0.001			0.955	1.22	<0.005	0.017
Taseko R.	W4	5/26/1994	<0.001	<0.001	0.001	0.002	0.108	0.366	<0.001	<0.001			0.991	1.11	<0.005	0.008
Taseko R.	W4	5/31/1994	<0.001	<0.001	<0.001	0.002	0.083	0.654	<0.001	<0.001			1.02	1.25	<0.005	0.018
Taseko R.	W4	8/10/1994	<0.001	<0.001	<0.001	0.004	0.076	0.927	<0.001	<0.001			0.827	1.19	<0.005	0.026
Taseko R.	W4	8/16/1994	<0.001	<0.001	<0.001	0.004	0.119	0.866	<0.001	<0.001			0.842	1.19	0.006	0.024
Taseko R.	W4	8/24/1994	<0.001	<0.001	<0.001	0.005	0.114	0.927	<0.001	<0.001			0.836	1.18	0.006	0.029
Taseko R.	W4	8/30/1994	<0.001	0.001	<0.001	0.004	0.08	0.875	<0.001	<0.001			0.867	1.17	<0.005	0.027
Taseko R.	W4	9/6/1994	<0.001	0.001	0.001	0.005	0.108	0.973	<0.001	<0.001			0.894	1.24	0.006	0.039
Taseko R.	W4	6/22/1995	<0.001	<0.001	<0.001	0.002	0.084	0.601	<0.001	<0.001			0.954	1.22	<0.005	0.017
Taseko R.	W4	6/28/1995	<0.001	<0.001	<0.001	0.002	0.138	0.369	<0.001	<0.001			0.949	1.05	<0.005	0.012
Taseko R.	W4	7/4/1995	<0.001	0.001	<0.001	0.003	0.107	0.409	<0.001	<0.001			0.966	1.1	<0.005	0.013
Taseko R.	W4	7/13/1995	<0.001	<0.001	<0.001	0.004	0.125	0.507	<0.001	<0.001			0.866	1.05	0.005	0.017
Taseko R.	W4	7/17/1995	<0.001	<0.001	0.002	0.003	0.31	0.934	<0.001	<0.001			1.16	1.25	0.01	0.024
Taseko R.	W4	9/27/1995	<0.001	<0.001	<0.001	0.003	0.072	0.462	<0.001	0.001			0.735	0.922	<0.005	0.015
Taseko R.	W4	10/4/1995	<0.001	<0.001	<0.001	0.003	0.087	0.723	<0.001	<0.001			0.869	1.07	<0.005	0.027
Taseko R.	W4	10/11/1995	<0.001	<0.001	0.001	0.003	0.211	0.355	<0.001	<0.001			0.833	0.894	<0.005	0.012
Taseko R.	W4	10/18/1995	<0.001	<0.001	<0.001	0.002	0.082	0.466	<0.001	<0.001			0.767	0.948	<0.005	0.014
Taseko R.	W4	10/27/1995	<0.001	<0.001	<0.001	0.001	0.102	0.52	<0.001	<0.001			0.832	1.03	<0.005	0.016

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Fish C.	W8	5/24/2006	0.000356	0.000339	0.00196	0.00225	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.76	6.89
Fish C.	W8	5/29/2006	0.000328	0.000332	0.00194	0.00226	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.51	6.63
Fish C.	W8	6/7/2006	0.000291	0.000280	0.00192	0.00210	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.96	6.82
Fish C.	W8	7/5/2006	0.000513	0.000538	0.00216	0.00256	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.34	6.55
Fish C.	W8	8/8/2006	0.000761	0.000752	0.00158	0.00156	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.92	8.31
Fish C.	W8	8/16/2006	0.000814	0.000731	0.00076	0.00135	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.46	7.70
Fish C.	W8	8/22/2006	0.000798	0.000786	0.00121	0.00125	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.77	7.94
Fish C.	W8	8/29/2006	0.000813	0.000827	0.00109	0.00129	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.79	8.54
Fish C.	W8	9/6/2006	0.000847	0.000809	0.00111	0.00121	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	9.14	9.61
Fish C.	W8	10/3/2006	0.000628	0.000607	0.00103	0.00084	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.20	8.75
Taseko R.	W4	5/31/1992	<0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	1.91	2.55
Taseko R.	W4	6/30/1992	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.23	4.95
Taseko R.	W4	7/30/1992	<0.001	<0.001	<0.001	0.001			0.56		<0.0005	<0.0005	1.8	3.84
Taseko R.	W4	8/30/1992	<0.001	<0.001	0.001	0.002			0.61		<0.0005	<0.0005	1.86	3.96
Taseko R.	W4	10/4/1992	<0.001	<0.001	<0.001	<0.001			0.59		<0.0005	<0.0005	1.79	2.97
Taseko R.	W4	10/28/1992	0.001	0.001	<0.001	0.001			0.52		<0.0005	<0.0005	2.02	4.89
Taseko R.	W4	12/1/1992	<0.001	<0.001	<0.001	0.002			0.58		<0.0005	<0.0005	1.85	4.32
Taseko R.	W4	1/7/1993	<0.001	<0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	2.01	2.89
Taseko R.	W4	1/27/1993	<0.001	0.001	<0.001	0.001			0.67		<0.0005	<0.0005	2.11	6.8
Taseko R.	W4	3/2/1993	<0.001	0.001	<0.001	0.002			0.56		<0.0005	<0.0005	2.05	4.8
Taseko R.	W4	3/31/1993	<0.001	0.001	<0.001	0.002			0.52		<0.0005	<0.0005	1.92	6.4
Taseko R.	W4	5/6/1993	0.001	0.001	<0.001	0.001			0.52		<0.0005	<0.0005	2.05	4.4
Taseko R.	W4	5/13/1993	0.002	0.002	<0.001	<0.001			0.56		<0.0005	<0.0005	1.94	4.06
Taseko R.	W4	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.53		<0.0005	<0.0005	2.04	3.14
Taseko R.	W4	5/27/1993	<0.001	0.001	<0.001	0.001			0.56		<0.0005	<0.0005	2	4.51
Taseko R.	W4	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	1.93	3.04
Taseko R.	W4	8/17/1993	0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	2.08	3.18
Taseko R.	W4	8/24/1993	<0.001	<0.001	<0.001	0.001			0.6		<0.0005	<0.0005	1.87	3.81
Taseko R.	W4	8/31/1993	<0.001	<0.001	<0.001	<0.001			0.48		<0.0005	<0.0005	1.83	3.09
Taseko R.	W4	9/14/1993	<0.001	<0.001	<0.001	0.001			0.65		<0.0005	<0.0005	1.68	2.77
Taseko R.	W4	9/20/1993	0.001	0.001	<0.001	<0.001			0.66		<0.0005	<0.0005	1.72	2.66
Taseko R.	W4	5/4/1994	<0.001	0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	1.83	2.76
Taseko R.	W4	5/12/1994	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	1.86	3.34
Taseko R.	W4	5/18/1994	<0.001	0.001	<0.001	<0.001			0.59		<0.0005	<0.0005	1.84	2.68
Taseko R.	W4	5/26/1994	<0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2	2.39
Taseko R.	W4	5/31/1994	0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	2.08	2.76
Taseko R.	W4	8/10/1994	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	1.99	3.14
Taseko R.	W4	8/16/1994	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	1.9	2.88
Taseko R.	W4	8/24/1994	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	1.94	2.9
Taseko R.	W4	8/30/1994	0.001	0.001	<0.001	0.001			0.55		<0.0005	<0.0005	2.05	3.33
Taseko R.	W4	9/6/1994	0.001	0.001	<0.001	0.001			0.47		<0.0005	<0.0005	2.19	3.2
Taseko R.	W4	6/22/1995	<0.001	<0.001	<0.001	0.001			0.6		<0.0005	<0.0005	1.94	2.96
Taseko R.	W4	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.65		<0.0005	<0.0005	2.13	2.38
Taseko R.	W4	7/4/1995	<0.001	<0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.15	2.63
Taseko R.	W4	7/13/1995	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.04	2.57
Taseko R.	W4	7/17/1995	0.001	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	2.2	4.08
Taseko R.	W4	9/27/1995	<0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	1.69	2.28
Taseko R.	W4	10/4/1995	0.001	0.001	<0.001	0.001			0.52		<0.0005	<0.0005	1.87	2.55
Taseko R.	W4	10/11/1995	0.001	0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	2.15	2.19
Taseko R.	W4	10/18/1995	0.001	0.001	<0.001	<0.001			0.5		<0.0005	<0.0005	1.63	2.07
Taseko R.	W4	10/27/1995	0.001	0.001	<0.001	<0.001			0.52		<0.0005	<0.0005	1.78	2.22

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Fish C.	W8	5/24/2006	<0.000010	0.000011	7.0	6.9	0.0677	0.0678	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000064	0.000071
Fish C.	W8	5/29/2006	0.000013	<0.000050	6.8	6.8	0.0602	0.0624	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000058	0.000066
Fish C.	W8	6/7/2006	<0.000010	<0.000010	6.5	6.5	0.0651	0.0651	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000054	0.000055
Fish C.	W8	7/5/2006	<0.000010	<0.000010	7.4	7.6	0.0905	0.0962	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000082	0.000092
Fish C.	W8	8/8/2006	<0.000010	<0.000010	11.0	11.2	0.191	0.189	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000110	0.000114
Fish C.	W8	8/16/2006	<0.000010	<0.000010	12.7	12.2	0.201	0.175	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000120	0.000126
Fish C.	W8	8/22/2006	<0.000010	<0.000010	13.0	13.0	0.192	0.192	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000164	0.000156
Fish C.	W8	8/29/2006	<0.000010	<0.000010	12.3	13.0	0.219	0.239	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000152	0.000165
Fish C.	W8	9/6/2006	<0.000010	<0.000010	14.4	14.7	0.237	0.232	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000171	0.000168
Fish C.	W8	10/3/2006	<0.000010	<0.000010	16.1	16.6	0.283	0.276	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000105	0.000106
Taseko R.	W4	5/31/1992	<0.0001	<0.0001	1.14		0.051	0.054							0.00036	0.00045
Taseko R.	W4	6/30/1992	<0.0001	<0.0001	1.13		0.039	0.039							0.00011	0.00013
Taseko R.	W4	7/30/1992	<0.0001	<0.0001	0.95		0.045	0.049							0.00006	0.0001
Taseko R.	W4	8/30/1992	<0.0001	<0.0001	0.88		0.036	0.038							0.00011	0.00019
Taseko R.	W4	10/4/1992	<0.0001	<0.0001	0.93		0.038	0.038							0.00012	0.00015
Taseko R.	W4	10/28/1992	<0.0001	<0.0001	0.98		0.045	0.047							0.0001	0.00015
Taseko R.	W4	12/1/1992	<0.0001	<0.0001	1.02		0.041	0.046							0.00009	0.00015
Taseko R.	W4	1/7/1993	<0.0001	<0.0001	1.05		0.037	0.037							0.00012	0.00016
Taseko R.	W4	1/27/1993	<0.0001	<0.0001	1.17		0.041	0.041							0.00012	0.00015
Taseko R.	W4	3/2/1993	<0.0001	<0.0001	1.03		0.034	0.052							0.00011	0.00017
Taseko R.	W4	3/31/1993	<0.0001	<0.0001	0.98		0.039	0.039							0.00011	0.00014
Taseko R.	W4	5/6/1993	<0.0001	<0.0001	1.08		0.037	0.037							0.00007	0.00016
Taseko R.	W4	5/13/1993	<0.0001	<0.0001	1.06		0.033	0.05							0.0001	0.00016
Taseko R.	W4	5/19/1993	<0.0001	<0.0001	1.03		0.034	0.034							0.00008	0.00013
Taseko R.	W4	5/27/1993	<0.0001	<0.0001	1.08		0.048	0.055							0.00011	0.00015
Taseko R.	W4	6/3/1993	<0.0001	<0.0001	1.1		0.044	0.047							0.00011	0.00015
Taseko R.	W4	8/17/1993	<0.0001	<0.0001	0.96		0.042	0.046							0.00009	0.00015
Taseko R.	W4	8/24/1993	<0.0001	<0.0001	0.9		0.039	0.044							0.0001	0.00012
Taseko R.	W4	8/31/1993	<0.0001	<0.0001	0.9		0.037	0.042							0.00012	0.00017
Taseko R.	W4	9/14/1993	<0.0001	<0.0001	1.03		0.036	0.04							0.0001	0.00016
Taseko R.	W4	9/20/1993	<0.0001	<0.0001	1.02		0.039	0.044							0.00009	0.00015
Taseko R.	W4	5/4/1994	<0.0001	<0.0001	1.06		0.046	0.049							0.00009	0.00013
Taseko R.	W4	5/12/1994	<0.0001	<0.0001	1.06		0.045	0.048							0.0001	0.00011
Taseko R.	W4	5/18/1994	<0.0001	<0.0001	1.05		0.048	0.049							0.0001	0.00017
Taseko R.	W4	5/26/1994	<0.0001	<0.0001	1.09		0.046	0.047							0.00008	0.00012
Taseko R.	W4	5/31/1994	<0.0001	<0.0001	1.15		0.045	0.048							0.00006	0.00011
Taseko R.	W4	8/10/1994	<0.0001	<0.0001	0.92		0.042	0.043							0.00009	0.00017
Taseko R.	W4	8/16/1994	<0.0001	<0.0001	0.95		0.041	0.044							0.00014	0.00023
Taseko R.	W4	8/24/1994	<0.0001	<0.0001	0.88		0.04	0.044							0.00009	0.00011
Taseko R.	W4	8/30/1994	<0.0001	<0.0001	1.05		0.038	0.041							0.00008	0.00015
Taseko R.	W4	9/6/1994	<0.0001	<0.0001	1.05		0.036	0.039							0.00003	0.00019
Taseko R.	W4	6/22/1995	<0.0001	<0.0001	1.3		0.048	0.048					<0.010	0.038	0.00012	0.00015
Taseko R.	W4	6/28/1995	<0.0001	<0.0001	1.16		0.047	0.047					<0.010	0.018	0.00025	0.00027
Taseko R.	W4	7/4/1995	<0.0001	<0.0001	1.09		0.049	0.049					<0.010	0.024	0.00016	0.00023
Taseko R.	W4	7/13/1995	<0.0001	<0.0001	1.05		0.053	0.054					<0.010	0.023	0.00013	0.00017
Taseko R.	W4	7/17/1995	<0.0001	<0.0001	1.19		0.045	0.045					0.02	0.066	0.00021	0.00026
Taseko R.	W4	9/27/1995	<0.0001	<0.0001	0.94		0.039	0.043					<0.010	0.022	0.00015	0.00021
Taseko R.	W4	10/4/1995	<0.0001	<0.0001	0.97		0.044	0.046					<0.010	0.035	0.00013	0.00023
Taseko R.	W4	10/11/1995	<0.0001	<0.0001	1.07		0.044	0.044					0.015	0.016	0.00017	0.00021
Taseko R.	W4	10/18/1995	<0.0001	<0.0001	1.04		0.042	0.045					<0.010	0.027	0.00014	0.00018
Taseko R.	W4	10/27/1995	<0.0001	<0.0001	1.13		0.041	0.044					<0.010	0.025	0.00013	0.00019

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Fish C.	W8	5/24/2006	<0.0010	0.0013	<0.0010	0.0012
Fish C.	W8	5/29/2006	<0.0010	0.0016	<0.0010	0.0020
Fish C.	W8	6/7/2006	<0.0010	0.0010	<0.0010	<0.0010
Fish C.	W8	7/5/2006	0.0015	0.0021	<0.0010	<0.0030
Fish C.	W8	8/8/2006	<0.0010	0.0017	<0.0010	0.0013
Fish C.	W8	8/16/2006	<0.0010	0.0013	<0.0010	<0.0010
Fish C.	W8	8/22/2006	<0.0010	0.0014	<0.0010	<0.0010
Fish C.	W8	8/29/2006	<0.0010	0.0014	<0.0010	<0.0010
Fish C.	W8	9/6/2006	<0.0010	0.0012	<0.0010	<0.0010
Fish C.	W8	10/3/2006	<0.0010	<0.0010	<0.0010	<0.0010
Taseko R.	W4	5/31/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/30/1992	<0.030	<0.030	<0.005	0.016
Taseko R.	W4	7/30/1992	<0.030	<0.030	<0.005	0.008
Taseko R.	W4	8/30/1992	<0.030	<0.030	<0.005	0.008
Taseko R.	W4	10/4/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	10/28/1992	<0.030	<0.030	<0.005	0.009
Taseko R.	W4	12/1/1992	<0.030	<0.030	<0.005	0.024
Taseko R.	W4	1/7/1993	<0.030	<0.030	<0.005	0.018
Taseko R.	W4	1/27/1993	<0.030	<0.030	<0.005	0.018
Taseko R.	W4	3/2/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W4	3/31/1993	<0.030	<0.030	<0.005	0.008
Taseko R.	W4	5/6/1993	<0.030	<0.030	<0.005	0.007
Taseko R.	W4	5/13/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W4	5/19/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	5/27/1993	<0.030	<0.030	<0.005	0.026
Taseko R.	W4	6/3/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/17/1993	<0.030	<0.030	<0.005	0.005
Taseko R.	W4	8/24/1993	<0.030	<0.030	<0.005	0.019
Taseko R.	W4	8/31/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	9/14/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	9/20/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	5/4/1994	<0.030	<0.030	<0.005	0.01
Taseko R.	W4	5/12/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	5/18/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	5/26/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	5/31/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/10/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/16/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/24/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/30/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	9/6/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/22/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/28/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	7/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	7/13/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	7/17/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	9/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	10/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	10/11/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	10/18/1995	<0.030	<0.030	<0.005	0.005
Taseko R.	W4	10/27/1995	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W4	5/29/1996				60.5	25.3		7.1	20.5	16.3		1.1	39	3	0.5	0.06	7.4
Taseko R.	W4	6/9/1996				62.1	25.9		7.05	21.2	17.2		1.1	41	3	0.5	0.05	7.7
Taseko R.	W4	6/18/1996				63.8	26.1		7.16	20.5	14.9		1	39	<1	0.5	0.05	7.4
Taseko R.	W4	6/27/1996				62.3	26.5		6.93	20	12.7		1.1	40	2	0.5	0.05	7.3
Taseko R.	W4	7/10/1996				61.8	24.1		7.19	19.6	14.9		0.8	39	1	0.5	0.04	8
Taseko R.	W4	8/6/1996				56.7	23.7		7.45	18.8	32.4		0.5	33	10	0.5	0.02	6.8
Taseko R.	W4	8/16/1996				56.8	22.4		7.51	18.6	29.9		0.6	33	10	0.5	0.05	6.6
Taseko R.	W4	8/24/1996				55.8	22.5		7.66	18.6	28.3		0.6	36	7	0.5	0.03	6.8
Taseko R.	W4	8/29/1996				53.4	22.4		8.05	18.4	17.6		1.2	35	8	0.5	0.04	6.5
Taseko R.	W4	9/6/1996				55.3	22.5		7.75	18.2	18.8		1.1	32	8	0.5	0.05	6.5
Taseko R.	W4	2/27/1997				66	26.8		7.7	22	12.5			37	3	0.5	0.03	7
Taseko R.	W4	7/14/1997	12.3			59	25.8	7.1	6.63	22	10.6			35	4	0.5	0.04	8
Taseko R.	W4	7/21/1997	11.6			55	22	7.47	6.89	18	16.2			29	12	0.5	0.02	6
Taseko R.	W4	7/29/1997	12.8			57	23.3	7.49	6.6	20	14.3			32	5	0.5	0.06	7
Taseko R.	W4	8/4/1997	13			57	23.8	8.7	6.2	19	13.4			32	5	0.5	0.04	7
Taseko R.	W4	8/12/1997				61	23.4		6.9	19	15.4			32	5	0.5	0.03	7
Taseko R.	W4	9/14/1997	11.5			58	21.2	7.5	7.14	15	32.1			29	32	0.5	0.02	6
Taseko R.	W4	9/21/1997	12			57	21.4	7.58	7.21	16	19.6			28	5	0.5	0.04	6
Taseko R.	W4	9/28/1997	9.9			54	20.6	7.56	7.01	16	26.3			28	8	0.5	0.03	6
Taseko R.	W4	10/5/1997	8.2			56	21.2	7.96	6.61	15	24.3			30	3	0.5	0.02	6
Taseko R.	W4	10/12/1997	7.3			58	21.6	7.23	7.07	16	22.3			30	7	0.5	0.05	6
Taseko R.	W4	11/15/1997	5			61	23.7	8.1	7.23	17	18.7			32	4	0.5	0.03	6
Taseko R.	W4	12/17/1997	0.8			61	23	8.11	7.1	16	19			32	1	0.5	0.03	7
Taseko R.	W4	1/18/1998	0.7			63	24.2	7.72	7.03	18	17.5			33	1	0.5	0.06	6
Taseko R.	W4	2/26/1998	2.2			66	26.7	6.75	6.67	18	15.3			35	28	0.5	0.09	6
Taseko R.	W4	3/9/1998	3.1			63	25.6	6.66	7.36	18	14.3			34	1	0.5	0.04	7
Taseko R.	W4	4/12/1998	3.9			57	26.2	7.4	7.36	18	12.3			32	1	0.5	0.02	7
Taseko R.	W4	5/12/1998	6.2			57	24.7	7.1	7.29	19	11.9			32	1	0.5	0.02	7
Taseko R.	W4	6/17/1998	8			53	22.6	7.7	6.74	17	16.4			30	3	0.5	0.04	7
Taseko R.	W5	5/31/1992				66	32.4		7.38	26.7	23.6			52	3	0.7	0.04	6.1
Taseko R.	W5	6/30/1992				59	26.5		7.2	21.2	21.1			44	17	0.5	0.04	7.6
Taseko R.	W5	7/30/1992				61.4	29.1		7.53	23.2	36.2			46	7	0.8	0.03	5.7
Taseko R.	W5	8/30/1992				61.6	30.7		7.52	24.3	54			48	16	0.5	0.03	5.9
Taseko R.	W5	10/4/1992				60	26.1		7.66	22.5	34			43	11	0.5	0.03	5.4
Taseko R.	W5	10/28/1992				62.2	28.9		7.61	22.3	34.8			45	5	0.5	0.03	6.2
Taseko R.	W5	12/1/1992				81.2	40.7		7.56	34.6	31.8			66	5	0.5	0.03	7.8
Taseko R.	W5	1/7/1993				110	51.9		7.65	47.7	22.4			88	1	1.1	0.04	9.1
Taseko R.	W5	1/27/1993				100	44		7.65	43.1	21.4			79	<1	0.6	0.03	9.4
Taseko R.	W5	3/2/1993				100	48.5		7.5	40.1	19.9			78	3	0.9	0.04	9.4
Taseko R.	W5	3/31/1993				119	57.8		7.64	49.4	22.1			95	12	0.9	0.04	10.4
Taseko R.	W5	5/6/1993				114	49.6		7.43	48	18.3			88	3	1.4	0.04	8.6
Taseko R.	W5	5/13/1993				72.3	32.5		7.53	27.8	38			52	9	0.9	0.07	6.3
Taseko R.	W5	5/19/1993				71.8	30.2		7.33	25.4	31.1			52	1	1.9	0.04	6.3
Taseko R.	W5	5/27/1993				70.5	29.2		7.41	25	34.2			41	5	1.7	0.03	7.2
Taseko R.	W5	6/3/1993				65.3	26.9		7.39	25.6	34.6			39	9	0.6	0.03	7.4
Taseko R.	W5	8/17/1993				65.1	30.4		7.1	23.5	40.9			42	9	0.8	0.03	6.4
Taseko R.	W5	8/24/1993				62.1	28.9		7.54	24	45.8			42	17	1.3	0.03	6
Taseko R.	W5	8/31/1993				85	37.2		7.5	34.5	35.1			52	9	0.5	0.03	6.7
Taseko R.	W5	9/14/1993				98	34.4		7.55	38.7	34.6		1.54	58	10	0.8	0.04	6.4
Taseko R.	W5	9/20/1993				94	37.8		7.37	37	33.5			56	7	0.8	0.32	5.6
Taseko R.	W5	5/4/1994				143	66.6		7	71.7	8.4			95	<1	0.5	0.05	6.6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W4	5/29/1996	0.006	0.02	0.007	<0.001	<0.001	0.022	0.081	0.412	0.0001	<0.0001	0.0002	0.0004	<0.010
Taseko R.	W4	6/9/1996	0.012	0.019	0.006	0.003	0.006	0.031	0.095	0.392	0.0002	<0.0001	0.0003	0.0005	0.011
Taseko R.	W4	6/18/1996	0.013	<0.005	0.007	0.007	0.007	0.029	0.134	0.376	0.0002	<0.0001	0.0003	0.0004	0.01
Taseko R.	W4	6/27/1996	0.016	0.021	0.006	0.003	0.007	0.029	0.105	1.08	0.0002	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W4	7/10/1996	0.009	0.016	0.006	0.004	0.004	0.026	0.14	0.61	0.0002	<0.0001	0.0004	0.0005	0.011
Taseko R.	W4	8/6/1996	0.012	0.014	0.012	0.004	0.004	0.084	0.095	0.744	0.0004	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W4	8/16/1996	0.019	0.009	0.009	0.003	0.003	0.06	0.087	0.851	0.0004	<0.0001	0.0002	0.0006	<0.010
Taseko R.	W4	8/24/1996	0.006	0.014	0.009	0.004	0.005	0.062	0.13	0.575	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W4	8/29/1996	0.014	0.017	0.008	0.004	0.004	0.063	0.096	0.548	0.0002	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W4	9/6/1996	<0.005	0.012	0.007	0.005	0.006	0.069	0.1	0.88	0.0003	<0.0001	0.0003	0.0003	<0.010
Taseko R.	W4	2/27/1997	0.014	0.02	<0.001	<0.001	<0.001	0.015	0.118	0.41	<0.0001	<0.0001	0.0003	0.0004	0.012
Taseko R.	W4	7/14/1997	0.009	0.017	0.001	0.001	0.002	0.011	0.083	0.407	0.00017	0.00007	0.0003	0.0004	0.00841
Taseko R.	W4	7/21/1997	0.005	0.016	0.001	0.001	0.001	0.018	0.07	0.696	0.00022	0.00006	0.0004	0.0006	0.00714
Taseko R.	W4	7/29/1997	0.009	0.019	0.001	0.001	0.003	0.021	0.082	0.409	0.00005	0.00005	0.0003	0.0004	0.0081
Taseko R.	W4	8/4/1997	0.013	0.019	0.001	0.001	0.001	0.026	0.083	0.575	0.00005	0.00005	0.0003	0.0004	0.00838
Taseko R.	W4	8/12/1997	0.007	0.02	0.002	0.001	0.001	0.016	0.096	0.443	0.00008	0.00012	0.0003	0.0004	0.00827
Taseko R.	W4	9/14/1997	0.005	0.005	0.001	0.002	0.004	0.044	0.086	1.27	0.00005	0.00006	0.0003	0.0006	0.00726
Taseko R.	W4	9/21/1997	0.005	0.016	0.001	0.001	0.003	0.036	0.117	1.05	0.00005	0.00005	0.0003	0.0005	0.00753
Taseko R.	W4	9/28/1997	0.013	0.016	0.001	0.002	0.003	0.047	0.095	0.913	0.00006	0.00008	0.0003	0.0005	0.00753
Taseko R.	W4	10/5/1997	0.005	0.017	0.001	0.001	0.001	0.036	0.086	0.746	0.00006	0.00008	0.0003	0.0004	0.00743
Taseko R.	W4	10/12/1997	0.009	0.017	0.001	0.003	0.003	0.032	0.103	1.01	0.00005	0.00006	0.0003	0.0005	0.00731
Taseko R.	W4	11/15/1997	0.013	0.017	0.001	0.002	0.003	0.021	0.089	0.979	0.00005	0.00006	0.0003	0.0004	0.00758
Taseko R.	W4	12/17/1997	0.013	0.015	0.001	0.001	0.003	0.024	0.09	0.612	0.00006	0.00006	0.0003	0.0004	0.00784
Taseko R.	W4	1/18/1998	0.005	0.019	0.001	0.001	0.001	0.018	0.093	0.573	0.00005	0.00005	0.0003	0.0004	0.00867
Taseko R.	W4	2/26/1998	0.015	0.257	0.004	0.001	0.001	0.013	0.087	0.808	0.00005	0.00006	0.0003	0.0004	0.00876
Taseko R.	W4	3/9/1998	0.028	0.029	0.001	0.001	0.005	0.015	0.09	0.574	0.00005	0.00005	0.0003	0.0004	0.00847
Taseko R.	W4	4/12/1998	0.013	0.022	0.001	0.001	0.007	0.01	0.097	0.612	0.00006	0.00005	0.0003	0.0004	0.00853
Taseko R.	W4	5/12/1998	0.01	0.023	0.001	0.001	0.001	0.011	0.054	0.704	0.00005	0.00005	0.0003	0.0005	0.00789
Taseko R.	W4	6/17/1998	0.007	0.014	0.001	0.001	0.001	0.009	0.084	0.692	0.00006	0.00009	0.0003	0.0004	0.00783
Taseko R.	W5	5/31/1992	<0.005	<0.005	<0.001	0.006	0.018	0.031	0.13	0.637	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W5	6/30/1992	<0.005	0.02	<0.001	0.005	0.008	0.084	0.14	1.97	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	7/30/1992	0.074	<0.005	0.006	0.054	0.09	0.099	0.116	1.55	<0.0001	0.0002	0.0007	0.0008	<0.010
Taseko R.	W5	8/30/1992	0.005	<0.005	<0.001	0.002	0.012	0.114	0.184	1.61	<0.0001	<0.0001	0.001	0.0012	0.013
Taseko R.	W5	10/4/1992	0.017	0.016	<0.001	0.057	0.058	0.073	0.163	1.13	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W5	10/28/1992	0.037	0.007	0.003	0.02	0.02	0.093	0.14	2.4	<0.0001	<0.0001	0.0004	0.0008	<0.010
Taseko R.	W5	12/1/1992	<0.005	0.015	0.001	0.004	0.013	0.014	0.119	0.434	<0.0002	<0.0002	0.0005	0.0008	<0.010
Taseko R.	W5	1/7/1993	0.019	0.032	<0.001	0.001	0.005	0.046	0.191	0.516	<0.0001	0.0002	0.0011	0.0013	0.01
Taseko R.	W5	1/27/1993	<0.005	0.021	<0.001	0.008	0.03	0.031	0.171	1.47	<0.0001	0.0002	0.0006	0.0009	0.01
Taseko R.	W5	3/2/1993	0.007	0.019	<0.001	0.03	0.031	0.034	0.116	1.6	0.0002	0.0002	0.0006	0.001	0.014
Taseko R.	W5	3/31/1993	<0.005	0.044	<0.001	<0.001	0.026	0.05	0.131	1.83	0.0001	0.0001	0.0007	0.0009	0.01
Taseko R.	W5	5/6/1993	<0.005	0.05	<0.001	0.006	0.031	0.033	0.149	1.1	<0.0001	<0.0001	0.0006	0.0008	<0.010
Taseko R.	W5	5/13/1993	<0.005	0.03	<0.001	0.004	0.051	0.061	0.163	1.57	0.0001	0.0002	0.0005	0.0009	<0.010
Taseko R.	W5	5/19/1993	<0.005	0.03	0.002	0.004	0.022	0.052	0.087	0.98	<0.0001	0.0001	0.0004	0.0004	<0.010
Taseko R.	W5	5/27/1993	<0.005	0.018	<0.001	0.003	0.005	0.07	0.194	2.15	<0.0001	0.0001	0.0003	0.0009	0.011
Taseko R.	W5	6/3/1993	<0.005	0.018	<0.001	0.002	0.005	0.018	0.057	1.08	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W5	8/17/1993	0.005	<0.005	0.002	<0.001	<0.001	0.018	0.202	1.04	<0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W5	8/24/1993	<0.005	0.008	0.001	0.014	0.014	0.025	0.208	1.98	<0.0001	<0.0001	0.0004	0.0006	0.013
Taseko R.	W5	8/31/1993	<0.005	0.008	0.005	0.005	0.005	0.014	0.112	0.836	<0.0001	<0.0001	0.0006	0.0008	<0.010
Taseko R.	W5	9/14/1993	<0.005	<0.005	<0.001	0.004	0.004	0.018	0.176	0.657	<0.0001	<0.0001	0.0005	0.0009	0.011
Taseko R.	W5	9/20/1993	<0.005	0.005	<0.001	0.025	0.026	0.042	0.139	0.844	<0.0001	<0.0001	0.0006	0.0008	<0.010
Taseko R.	W5	5/4/1994	<0.005	0.057	0.004	0.002	0.005	0.015	0.07	0.627	<0.0001	0.0003	0.0013	0.0013	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W4	5/29/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.59	8.73	<0.001	<0.001
Taseko R.	W4	6/9/1996	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.76	9.01	<0.001	<0.001
Taseko R.	W4	6/18/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.85	9.02	<0.001	<0.001
Taseko R.	W4	6/27/1996	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.98	9.05	<0.001	<0.001
Taseko R.	W4	7/10/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.13	8.83	<0.001	<0.001
Taseko R.	W4	8/6/1996	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.06	8.52	<0.001	<0.001
Taseko R.	W4	8/16/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.49	7.46	<0.001	<0.001
Taseko R.	W4	8/24/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.63	7.71	<0.001	<0.001
Taseko R.	W4	8/29/1996	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.72	7.68	<0.001	<0.001
Taseko R.	W4	9/6/1996	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.63	8.03	<0.001	0.003
Taseko R.	W4	2/27/1997	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.14	9.38	<0.001	<0.001
Taseko R.	W4	7/14/1997	0.0125	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	8.76	8.61	0.0005	0.0005
Taseko R.	W4	7/21/1997	0.0151	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.38	7.69	0.0005	0.0006
Taseko R.	W4	7/29/1997	0.0134	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	7.85	8.02	0.0005	0.0005
Taseko R.	W4	8/4/1997	0.0145	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	8.14	8.64	0.0005	0.0005
Taseko R.	W4	8/12/1997	0.0138	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	8.02	8.05	0.0005	0.0005
Taseko R.	W4	9/14/1997	0.0213	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.17	7.63	0.0005	0.0008
Taseko R.	W4	9/21/1997	0.0183	0.0005	0.0005	0.0005	0.0005	0.01	0.011	0.00005	0.00005	7.23	7.51	0.0005	0.0007
Taseko R.	W4	9/28/1997	0.0181	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.05	7.24	0.0005	0.0008
Taseko R.	W4	10/5/1997	0.0165	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.22	7.37	0.0005	0.0005
Taseko R.	W4	10/12/1997	0.0158	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.43	7.65	0.0005	0.0006
Taseko R.	W4	11/15/1997	0.019	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	8.04	8.25	0.0005	0.0005
Taseko R.	W4	12/17/1997	0.0145	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.88	7.95	0.0005	0.0005
Taseko R.	W4	1/18/1998	0.0154	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.26	8.38	0.0005	0.0005
Taseko R.	W4	2/26/1998	0.0163	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	9.12	9.04	0.0005	0.0005
Taseko R.	W4	3/9/1998	0.0143	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.82	9.12	0.0005	0.0005
Taseko R.	W4	4/12/1998	0.0143	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	9.01	9.5	0.0005	0.0005
Taseko R.	W4	5/12/1998	0.0143	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.45	8.49	0.0005	0.0005
Taseko R.	W4	6/17/1998	0.0146	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	7.68	7.96	0.0005	0.0005
Taseko R.	W5	5/31/1992	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10	10.3	<0.001	<0.001
Taseko R.	W5	6/30/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.91	9.54	<0.001	<0.001
Taseko R.	W5	7/30/1992	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.14	9.83	<0.001	0.001
Taseko R.	W5	8/30/1992	0.026	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.72	9.78	<0.001	0.001
Taseko R.	W5	10/4/1992	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.5	8.97	<0.001	<0.001
Taseko R.	W5	10/28/1992	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.25	10.1	<0.001	0.002
Taseko R.	W5	12/1/1992	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.1	12.9	<0.001	<0.001
Taseko R.	W5	1/7/1993	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.7	15.3	<0.001	<0.001
Taseko R.	W5	1/27/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.3	12.9	<0.001	<0.001
Taseko R.	W5	3/2/1993	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.2	14.8	<0.001	0.003
Taseko R.	W5	3/31/1993	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.8	15.8	<0.001	0.004
Taseko R.	W5	5/6/1993	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14	16.3	<0.001	<0.001
Taseko R.	W5	5/13/1993	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.87	10.6	<0.001	0.001
Taseko R.	W5	5/19/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.46	9.95	<0.001	<0.001
Taseko R.	W5	5/27/1993	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.09	9.56	<0.001	0.002
Taseko R.	W5	6/3/1993	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.67	9.06	<0.001	0.001
Taseko R.	W5	8/17/1993	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.92	10.4	<0.001	0.001
Taseko R.	W5	8/24/1993	0.029	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.28	9.5	<0.001	0.001
Taseko R.	W5	8/31/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.8	11.8	<0.001	<0.001
Taseko R.	W5	9/14/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.1	11.9	<0.001	<0.001
Taseko R.	W5	9/20/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11	11.1	<0.001	<0.001
Taseko R.	W5	5/4/1994	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.7	16.7	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W4	5/29/1996	<0.001	<0.001	<0.001	0.002	0.055	0.334	<0.001	<0.001			0.948	1.05	<0.005	0.009
Taseko R.	W4	6/9/1996	<0.001	<0.001	<0.001	0.002	0.065	0.358	<0.001	<0.001			0.967	1.1	<0.005	0.011
Taseko R.	W4	6/18/1996	<0.001	<0.001	<0.001	0.002	0.098	0.306	<0.001	<0.001			0.963	1.07	<0.005	0.008
Taseko R.	W4	6/27/1996	<0.001	<0.001	0.001	0.002	0.058	0.389	<0.001	<0.001			0.994	1.14	<0.005	0.01
Taseko R.	W4	7/10/1996	<0.001	<0.001	<0.001	0.002	0.063	0.334	<0.001	<0.001			0.91	1.09	<0.005	0.01
Taseko R.	W4	8/6/1996	<0.001	<0.001	<0.001	0.003	0.072	0.827	<0.001	<0.001			0.86	1.19	<0.005	0.023
Taseko R.	W4	8/16/1996	<0.001	<0.001	0.001	0.003	0.051	0.402	<0.001	<0.001			0.909	1.02	<0.005	0.015
Taseko R.	W4	8/24/1996	<0.001	<0.001	0.002	0.002	0.087	0.348	<0.001	<0.001			0.825	0.92	<0.005	0.011
Taseko R.	W4	8/29/1996	<0.001	<0.001	<0.001	0.003	0.076	0.499	<0.001	<0.001			0.753	0.904	<0.005	0.017
Taseko R.	W4	9/6/1996	<0.001	<0.001	<0.001	0.002	0.069	0.736	<0.001	<0.001			0.839	1.15	<0.005	0.019
Taseko R.	W4	2/27/1997	<0.001	<0.001	<0.001	0.002	0.091	0.303	<0.001	<0.001			0.97	1.17	<0.005	0.007
Taseko R.	W4	7/14/1997	0.0001	0.0002	0.0006	0.0015	0.05	0.36	0.00005	0.00011	0.001	0.001	0.96	1.06	0.003	0.0111
Taseko R.	W4	7/21/1997	0.0001	0.0003	0.0006	0.0022	0.04	0.55	0.00005	0.0002	0.001	0.001	0.86	1.04	0.00278	0.0186
Taseko R.	W4	7/29/1997	0.0001	0.0003	0.0006	0.0019	0.05	0.43	0.00005	0.00012	0.001	0.001	0.9	1.03	0.00334	0.0132
Taseko R.	W4	8/4/1997	0.0001	0.0003	0.0006	0.002	0.05	0.45	0.00005	0.00013	0.001	0.001	0.85	1.03	0.00356	0.0142
Taseko R.	W4	8/12/1997	0.0001	0.0002	0.0006	0.0018	0.06	0.38	0.00005	0.00012	0.001	0.001	0.83	0.95	0.00375	0.0119
Taseko R.	W4	9/14/1997	0.0001	0.0007	0.0005	0.0037	0.06	1.01	0.00005	0.00034	0.001	0.001	0.8	1.21	0.0038	0.0349
Taseko R.	W4	9/21/1997	0.0001	0.0007	0.0006	0.0025	0.07	0.54	0.00005	0.00021	0.001	0.001	0.82	1.02	0.00385	0.0222
Taseko R.	W4	9/28/1997	0.0001	0.0006	0.0005	0.0032	0.06	0.59	0.00005	0.00027	0.001	0.001	0.74	0.96	0.00335	0.021
Taseko R.	W4	10/5/1997	0.0001	0.0004	0.0006	0.0023	0.06	0.6	0.00005	0.00019	0.001	0.001	0.78	1.01	0.00318	0.0192
Taseko R.	W4	10/12/1997	0.0004	0.0004	0.0006	0.0031	0.06	0.63	0.00005	0.00019	0.001	0.001	0.75	1.03	0.00335	0.0218
Taseko R.	W4	11/15/1997	0.0002	0.0009	0.0005	0.002	0.06	0.43	0.00005	0.00016	0.001	0.001	0.89	1.02	0.00267	0.0167
Taseko R.	W4	12/17/1997	0.0001	0.0002	0.0005	0.0018	0.07	0.43	0.00005	0.00014	0.001	0.001	0.8	1	0.00169	0.0135
Taseko R.	W4	1/18/1998	0.0001	0.0003	0.0005	0.0018	0.06	0.5	0.00005	0.00014	0.001	0.001	0.86	1.06	0.00153	0.0119
Taseko R.	W4	2/26/1998	0.0001	0.0003	0.0005	0.002	0.07	0.36	0.00005	0.00014	0.001	0.001	0.95	1.04	0.00148	0.0131
Taseko R.	W4	3/9/1998	0.0001	0.0002	0.0005	0.0017	0.06	0.39	0.00005	0.00013	0.001	0.001	0.87	1.03	0.00152	0.0112
Taseko R.	W4	4/12/1998	0.0001	0.0002	0.0005	0.0016	0.07	0.46	0.00005	0.00012	0.001	0.001	0.89	1.1	0.0015	0.0101
Taseko R.	W4	5/12/1998	0.0001	0.0002	0.0004	0.0015	0.04	0.29	0.00005	0.00011	0.001	0.001	0.9	1	0.00095	0.0102
Taseko R.	W4	6/17/1998	0.0001	0.0003	0.0006	0.0019	0.06	0.57	0.00005	0.00015	0.001	0.001	0.8	1.1	0.00296	0.0162
Taseko R.	W5	5/31/1992	<0.001	<0.001	0.003	0.003	0.071	0.517	<0.001	<0.001			1.79	1.92	<0.005	0.015
Taseko R.	W5	6/30/1992	<0.001	<0.001	0.005	0.005	0.106	1.53	<0.001	<0.001			1.03	1.64	<0.005	0.034
Taseko R.	W5	7/30/1992	<0.001	0.001	0.004	0.008	0.066	1.26	<0.001	<0.001			1.53	2.3	<0.005	0.034
Taseko R.	W5	8/30/1992	<0.001	0.001	0.006	0.006	0.12	1.31	<0.001	<0.001			1.56	2.03	<0.005	0.032
Taseko R.	W5	10/4/1992	<0.001	<0.001	0.004	0.004	0.115	0.936	<0.001	<0.001			1.18	1.6	0.006	0.024
Taseko R.	W5	10/28/1992	<0.001	0.001	0.001	0.006	0.114	1.68	<0.001	<0.001			1.41	2.16	<0.005	0.036
Taseko R.	W5	12/1/1992	<0.001	<0.001	0.001	0.003	0.077	0.627	<0.001	<0.001			2.52	2.95	<0.005	0.016
Taseko R.	W5	1/7/1993	<0.001	<0.001	0.001	0.003	0.101	0.402	<0.001	<0.001			3.72	4.11	<0.005	0.011
Taseko R.	W5	1/27/1993	<0.001	<0.001	0.001	0.003	0.108	0.979	<0.001	<0.001			3.23	3.89	<0.005	0.021
Taseko R.	W5	3/2/1993	<0.001	<0.001	<0.001	0.003	0.087	1.14	<0.001	<0.001			3.19	3.76	<0.005	0.024
Taseko R.	W5	3/31/1993	<0.001	<0.001	0.001	0.004	0.083	1.33	<0.001	<0.001			4.43	4.73	<0.005	0.027
Taseko R.	W5	5/6/1993	<0.001	<0.001	<0.001	0.002	0.056	0.434	<0.001	<0.001			3.55	4.87	<0.005	0.011
Taseko R.	W5	5/13/1993	<0.001	0.001	0.001	0.005	0.081	1.53	<0.001	<0.001			1.92	2.68	<0.005	0.036
Taseko R.	W5	5/19/1993	<0.001	<0.001	<0.001	0.003	0.079	0.899	<0.001	<0.001			1.6	1.95	<0.005	0.023
Taseko R.	W5	5/27/1993	<0.001	<0.001	0.001	0.005	0.097	1.52	<0.001	<0.001			1.58	2.16	<0.005	0.031
Taseko R.	W5	6/3/1993	<0.001	<0.001	0.001	0.003	0.082	1.06	<0.001	<0.001			1.27	1.68	<0.005	0.022
Taseko R.	W5	8/17/1993	<0.001	<0.001	0.002	0.005	0.163	0.928	<0.001	<0.001			1.38	1.75	0.006	0.023
Taseko R.	W5	8/24/1993	<0.001	<0.001	0.001	0.006	0.129	1.7	<0.001	<0.001			1.4	2.01	<0.005	0.039
Taseko R.	W5	8/31/1993	<0.001	<0.001	<0.001	0.003	0.106	0.7	<0.001	<0.001			2.45	2.98	<0.005	0.02
Taseko R.	W5	9/14/1993	<0.001	<0.001	<0.001	0.003	0.104	0.544	<0.001	<0.001			2.22	3.31	<0.005	0.017
Taseko R.	W5	9/20/1993	<0.001	<0.001	<0.001	0.003	0.107	0.72	<0.001	<0.001			2.5	2.64	<0.005	0.02
Taseko R.	W5	5/4/1994	<0.001	<0.001	0.002*	0.008	0.053	0.567	<0.001	<0.001			6.05	6.05	<0.005	0.015

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W4	5/29/1996	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	1.84	2.14
Taseko R.	W4	6/9/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	1.9	2.24
Taseko R.	W4	6/18/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	1.87	2.14
Taseko R.	W4	6/27/1996	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	1.98	2.32
Taseko R.	W4	7/10/1996	0.001	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	1.96	2.29
Taseko R.	W4	8/6/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	0.0005	1.93	2.98
Taseko R.	W4	8/16/1996	0.001	0.001	0.001	<0.001			0.4		<0.0005	0.0006	2.05	2.46
Taseko R.	W4	8/24/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	1.89	2.28
Taseko R.	W4	8/29/1996	0.001	0.001	<0.001	<0.001			0.53		<0.0005	<0.0005	1.83	2.43
Taseko R.	W4	9/6/1996	0.001	0.002	<0.001	0.001			0.59		<0.0005	<0.0005	1.88	2.88
Taseko R.	W4	2/27/1997	0.001	0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.07	2.42
Taseko R.	W4	7/14/1997	0.00115	0.0013	0.0001	0.0003					0.0005	0.0007	2.12	2.43
Taseko R.	W4	7/21/1997	0.00114	0.00121	0.0001	0.0005					0.0005	0.0005	2	2.68
Taseko R.	W4	7/29/1997	0.00125	0.00124	0.0001	0.0003					0.0005	0.0005	2.05	2.48
Taseko R.	W4	8/4/1997	0.0013	0.00121	0.0001	0.0004					0.0005	0.0005	2.02	2.56
Taseko R.	W4	8/12/1997	0.00134	0.00126	0.0001	0.0003					0.0005	0.0005	1.97	2.38
Taseko R.	W4	9/14/1997	0.0012	0.00111	0.0001	0.0008					0.0005	0.0005	1.94	3.31
Taseko R.	W4	9/21/1997	0.00123	0.00119	0.0001	0.0006					0.0005	0.0005	1.96	2.61
Taseko R.	W4	9/28/1997	0.00124	0.0012	0.0001	0.0013					0.0005	0.0005	1.79	2.77
Taseko R.	W4	10/5/1997	0.00128	0.00121	0.0001	0.0005					0.0005	0.0005	1.81	2.52
Taseko R.	W4	10/12/1997	0.00125	0.00119	0.0001	0.0005					0.0005	0.0005	1.75	2.66
Taseko R.	W4	11/15/1997	0.00125	0.00123	0.0001	0.0004					0.0005	0.0005	2.13	2.74
Taseko R.	W4	12/17/1997	0.0013	0.00123	0.0001	0.0002					0.0005	0.0005	1.89	2.36
Taseko R.	W4	1/18/1998	0.00134	0.00129	0.0001	0.0003					0.0005	0.0005	1.96	2.83
Taseko R.	W4	2/26/1998	0.00137	0.00137	0.0001	0.0004					0.0005	0.0005	2.05	2.84
Taseko R.	W4	3/9/1998	0.00133	0.00128	0.0001	0.0003					0.0005	0.0005	2.01	2.6
Taseko R.	W4	4/12/1998	0.00136	0.00135	0.0001	0.0003					0.0005	0.0005	1.97	2.52
Taseko R.	W4	5/12/1998	0.00129	0.00129	0.0001	0.0003					0.0005	0.0005	1.87	2.42
Taseko R.	W4	6/17/1998	0.00129	0.00129	0.0001	0.0004					0.0005	0.0005	1.96	2.73
Taseko R.	W5	5/31/1992	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	2.4	2.99
Taseko R.	W5	6/30/1992	<0.001	<0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	2.27	5.61
Taseko R.	W5	7/30/1992	<0.001	<0.001	<0.001	0.001			0.57		<0.0005	<0.0005	1.92	3.75
Taseko R.	W5	8/30/1992	0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	2.32	3.86
Taseko R.	W5	10/4/1992	<0.001	<0.001	<0.001	<0.001			0.59		<0.0005	<0.0005	1.98	3.05
Taseko R.	W5	10/28/1992	<0.001	0.001	<0.001	0.001			0.57		<0.0005	<0.0005	2.23	5.89
Taseko R.	W5	12/1/1992	<0.001	<0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	2.77	3.57
Taseko R.	W5	1/7/1993	<0.001	<0.001	<0.001	<0.001			0.73		<0.0005	<0.0005	3.53	4.03
Taseko R.	W5	1/27/1993	<0.001	0.001	<0.001	0.001			0.66		<0.0005	<0.0005	3.15	5.72
Taseko R.	W5	3/2/1993	<0.001	0.001	<0.001	0.001			0.62		<0.0005	<0.0005	3.21	5.75
Taseko R.	W5	3/31/1993	<0.001	<0.001	<0.001	0.003			0.68		<0.0005	<0.0005	3.5	6.45
Taseko R.	W5	5/6/1993	<0.001	<0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	3.31	4.36
Taseko R.	W5	5/13/1993	0.001	0.002	<0.001	<0.001			0.54		<0.0005	<0.0005	2.55	4.63
Taseko R.	W5	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.37	3.52
Taseko R.	W5	5/27/1993	<0.001	0.001	<0.001	0.001			0.55		<0.0005	<0.0005	2.33	6.27
Taseko R.	W5	6/3/1993	<0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	2.15	3.41
Taseko R.	W5	8/17/1993	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	2.3	3.34
Taseko R.	W5	8/24/1993	<0.001	0.001	<0.001	0.001			0.62		<0.0005	<0.0005	2.19	4.28
Taseko R.	W5	8/31/1993	<0.001	<0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	2.85	3.9
Taseko R.	W5	9/14/1993	<0.001	<0.001	<0.001	<0.001			0.68		<0.0005	<0.0005	2.67	3.82
Taseko R.	W5	9/20/1993	0.001	0.001	<0.001	<0.001			0.71		<0.0005	<0.0005	2.91	3.63
Taseko R.	W5	5/4/1994	<0.001	0.001	<0.001	<0.001			0.82		<0.0005	<0.0005	4.82	4.97

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W4	5/29/1996	<0.0001	<0.0001	1.16		0.049	0.05					<0.010	0.021	0.00013	0.00017
Taseko R.	W4	6/9/1996	<0.0001	<0.0001	1.26		0.053	0.054					<0.010	0.022	0.00013	0.00016
Taseko R.	W4	6/18/1996	<0.0001	<0.0001	1.16		0.051	0.053					<0.010	0.016	0.00014	0.00017
Taseko R.	W4	6/27/1996	<0.0001	<0.0001	1.3		0.056	0.056					<0.010	0.022	0.00014	0.00017
Taseko R.	W4	7/10/1996	<0.0001	<0.0001	1.31		0.048	0.053					<0.010	0.021	0.00016	0.00019
Taseko R.	W4	8/6/1996	<0.0001	<0.0001	1.22		0.047	0.05					<0.010	0.042	0.00015	0.00021
Taseko R.	W4	8/16/1996	<0.0001	<0.0001	1.22		0.046	0.043					<0.010	0.019	0.00013	0.0002
Taseko R.	W4	8/24/1996	<0.0001	<0.0001	1.1		0.045	0.046					<0.010	0.017	0.00016	0.0002
Taseko R.	W4	8/29/1996	<0.0001	<0.0001	1.09		0.046	0.046					<0.010	0.023	0.00014	0.0002
Taseko R.	W4	9/6/1996	<0.0001	<0.0001	1.03		0.043	0.048					<0.010	0.036	0.00015	0.00019
Taseko R.	W4	2/27/1997	<0.0001	<0.0001	1.1		0.053	0.055					<0.010	0.014	0.00017	0.0002
Taseko R.	W4	7/14/1997	0.00001	0.00001			0.0466	0.0466			0.0001	0.0001	0.01	0.02	0.00017	0.00017
Taseko R.	W4	7/21/1997	0.00001	0.00001			0.0411	0.0432			0.0001	0.0001	0.01	0.03	0.00015	0.00019
Taseko R.	W4	7/29/1997	0.00001	0.00001			0.043	0.0448			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W4	8/4/1997	0.00001	0.00001			0.0438	0.0442			0.0001	0.0001	0.01	0.03	0.00021	0.00019
Taseko R.	W4	8/12/1997	0.00001	0.00001			0.0425	0.0433			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W4	9/14/1997	0.00001	0.00001			0.0373	0.0405			0.0001	0.0001	0.01	0.05	0.00011	0.0002
Taseko R.	W4	9/21/1997	0.00001	0.00001			0.0387	0.0428			0.0001	0.0001	0.01	0.03	0.00013	0.00018
Taseko R.	W4	9/28/1997	0.00001	0.00001			0.0385	0.0411			0.0001	0.0001	0.01	0.03	0.00013	0.00018
Taseko R.	W4	10/5/1997	0.00001	0.00001			0.0396	0.0419			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W4	10/12/1997	0.00001	0.00001			0.0386	0.0412			0.0001	0.0001	0.01	0.03	0.00013	0.00018
Taseko R.	W4	11/15/1997	0.00001	0.00001			0.0411	0.0436			0.0001	0.0001	0.01	0.03	0.00013	0.00018
Taseko R.	W4	12/17/1997	0.00001	0.00001			0.0473	0.0494			0.0001	0.0001	0.01	0.02	0.00014	0.00018
Taseko R.	W4	1/18/1998	0.00001	0.00001			0.0412	0.0422			0.0001	0.0001	0.01	0.03	0.00015	0.00017
Taseko R.	W4	2/26/1998	0.00001	0.00001			0.0448	0.0473			0.0001	0.0001	0.01	0.02	0.00013	0.00018
Taseko R.	W4	3/9/1998	0.00001	0.00001			0.0441	0.0459			0.0001	0.0001	0.01	0.03	0.00012	0.00018
Taseko R.	W4	4/12/1998	0.00001	0.00001			0.0444	0.046			0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W4	5/12/1998	0.00001	0.00001			0.044	0.046			0.0001	0.0001	0.01	0.02	0.00013	0.00017
Taseko R.	W4	6/17/1998	0.00001	0.00003			0.0423	0.0434			0.0001	0.0001	0.01	0.03	0.00013	0.00018
Taseko R.	W5	5/31/1992	<0.0001	<0.0001	1.5		0.053	0.057							0.00036	0.00044
Taseko R.	W5	6/30/1992	<0.0001	<0.0001	1.13		0.039	0.039							0.00013	0.00014
Taseko R.	W5	7/30/1992	<0.0001	<0.0001	1.19		0.048	0.05							0.00006	0.00009
Taseko R.	W5	8/30/1992	<0.0001	<0.0001	1.26		0.038	0.038							0.00013	0.00019
Taseko R.	W5	10/4/1992	<0.0001	<0.0001	1.13		0.038	0.038							<0.00005	0.00013
Taseko R.	W5	10/28/1992	<0.0001	<0.0001	1.28		0.045	0.047							0.00011	0.00017
Taseko R.	W5	12/1/1992	<0.0001	<0.0001	1.91		0.043	0.059							0.0001	0.00014
Taseko R.	W5	1/7/1993	<0.0001	<0.0001	2.8		0.07	0.072							0.00014	0.00015
Taseko R.	W5	1/27/1993	<0.0001	<0.0001	2.32		0.067	0.07							0.00014	0.00015
Taseko R.	W5	3/2/1993	<0.0001	<0.0001	2.25		0.068	0.072							0.00014	0.00016
Taseko R.	W5	3/31/1993	<0.0001	<0.0001	2.98		0.077	0.079							0.00013	0.00016
Taseko R.	W5	5/6/1993	<0.0001	<0.0001	2.63		0.07	0.079							0.00012	0.00017
Taseko R.	W5	5/13/1993	<0.0001	<0.0001	1.6		0.05	0.054							0.00008	0.00014
Taseko R.	W5	5/19/1993	<0.0001	0.0008*	1.41		0.034	0.034							0.00009	0.00014
Taseko R.	W5	5/27/1993	<0.0001	<0.0001	1.45		0.051	0.056							0.00013	0.00015
Taseko R.	W5	6/3/1993	<0.0001	<0.0001	1.34		0.047	0.05							0.00013	0.00015
Taseko R.	W5	8/17/1993	<0.0001	<0.0001	1.25		0.046	0.049							0.0001	0.00015
Taseko R.	W5	8/24/1993	<0.0001	<0.0001	1.2		0.042	0.047							0.00012	0.0002
Taseko R.	W5	8/31/1993	<0.0001	<0.0001	1.92		0.049	0.054							0.00012	0.00015
Taseko R.	W5	9/14/1993	<0.0001	<0.0001	1.97		0.047	0.055							0.00011	0.00014
Taseko R.	W5	9/20/1993	<0.0001	<0.0001	2.1		0.05	0.053							0.00008	0.00012
Taseko R.	W5	5/4/1994	<0.0001	<0.0001	4.05		0.072	0.072							0.00007	0.0001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W4	5/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/9/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/18/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	6/27/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	7/10/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/6/1996	<0.030	<0.030	<0.005	0.005
Taseko R.	W4	8/16/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/24/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	8/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	9/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	2/27/1997	<0.030	<0.030	<0.005	<0.005
Taseko R.	W4	7/14/1997	0.001	0.001	0.002	0.002
Taseko R.	W4	7/21/1997	0.001	0.002	0.004	0.003
Taseko R.	W4	7/29/1997	0.001	0.001	0.001	0.002
Taseko R.	W4	8/4/1997	0.001	0.001	0.001	0.002
Taseko R.	W4	8/12/1997	0.001	0.001	0.001	0.002
Taseko R.	W4	9/14/1997	0.001	0.003	0.001	0.005
Taseko R.	W4	9/21/1997	0.001	0.002	0.001	0.007
Taseko R.	W4	9/28/1997	0.001	0.002	0.001	0.006
Taseko R.	W4	10/5/1997	0.001	0.002	0.001	0.004
Taseko R.	W4	10/12/1997	0.001	0.002	0.001	0.003
Taseko R.	W4	11/15/1997	0.001	0.002	0.003	0.003
Taseko R.	W4	12/17/1997	0.001	0.001	0.001	0.002
Taseko R.	W4	1/18/1998	0.001	0.001	0.001	0.002
Taseko R.	W4	2/26/1998	0.001	0.001	0.001	0.002
Taseko R.	W4	3/9/1998	0.001	0.001	0.001	0.002
Taseko R.	W4	4/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W4	5/12/1998	0.001	0.001	0.001	0.001
Taseko R.	W4	6/17/1998	0.001	0.001	0.001	0.002
Taseko R.	W5	5/31/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/30/1992	<0.030	<0.030	<0.005	0.015
Taseko R.	W5	7/30/1992	<0.030	<0.030	<0.005	0.008
Taseko R.	W5	8/30/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/4/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/28/1992	<0.030	<0.030	<0.005	0.048*
Taseko R.	W5	12/1/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	1/7/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	1/27/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W5	3/2/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	3/31/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/6/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/13/1993	<0.030	<0.030	<0.005	0.007
Taseko R.	W5	5/19/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/27/1993	<0.030	<0.030	<0.005	0.021
Taseko R.	W5	6/3/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/17/1993	<0.030	<0.030	<0.005	0.005
Taseko R.	W5	8/24/1993	<0.030	<0.030	<0.005	0.023
Taseko R.	W5	8/31/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	9/14/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	9/20/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/4/1994	<0.030	<0.030	<0.005	0.012

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W5	5/12/1994				165	71.1		7.25	81.1	3.1			102	<1	0.7	0.05	5.8
Taseko R.	W5	5/18/1994				88.4	48.3		7.17	36.4	13.3			57	1	0.8	0.04	6.4
Taseko R.	W5	5/26/1994				86	38.4		7.42	36.1	13.9		2.1	53	2	0.7	0.04	6.8
Taseko R.	W5	5/31/1994				81.5	33.5		7.39	33	17.2		2	49	1	0.5	0.04	7.8
Taseko R.	W5	8/10/1994				65	33.6		7.39	25	33.3		0.9	42	20	1	0.05	6.6
Taseko R.	W5	8/16/1994				66.9	35.2		7.23	24	41.8		1.2	39	13	0.8	0.04	5.6
Taseko R.	W5	8/24/1994				68.7	34.4		7.34	26.5	42.7		1	31	15	1.2	0.05	5.6
Taseko R.	W5	8/30/1994				68.6	31.2		7.32	25.9	41.7		1	42	15	0.9	0.04	6.3
Taseko R.	W5	9/6/1994				67.8	34.1		7.32	24.6	46.2		0.9	44	13	0.6	0.06	5.6
Taseko R.	W5	6/22/1995				67.5	29.8		7.51	23.9	21.4		1.1	45	3	1	0.04	7.1
Taseko R.	W5	6/28/1995				64.5	28.5		7.48	22.1	21.4		1	42	8	0.5	0.04	6.9
Taseko R.	W5	7/4/1995				74	34.7		7.25	26.8	22.8		1.5	48	9	0.9	0.04	6.3
Taseko R.	W5	7/13/1995				69.2	35		7.59	25.1	32.6		1.6	44	10	0.5	0.05	4.7
Taseko R.	W5	7/17/1995				67	28.7		7.48	25.4	20.2		1	45	7	0.7	0.04	7.2
Taseko R.	W5	9/27/1995				64.1	26.1		7.96	24.2	27.8		1.1	42	5	1	0.03	6.5
Taseko R.	W5	10/4/1995				52.4	27.4		7.59	25.1	25.3		0.9	42	3	0.7	0.05	6.3
Taseko R.	W5	10/11/1995				112	32.2		8.05	26.6	22.4		1.2	46	5	0.7	0.04	6.1
Taseko R.	W5	10/18/1995				77.7	32.8		7.41	30	18.9		1.8	52	2	0.9	0.04	7.4
Taseko R.	W5	10/27/1995				75.9	33.3		7.33	27.2	21.1		1.3	49	4	0.5	0.04	7.5
Taseko R.	W5	5/29/1996				72.6	30.3		7.24	27.8	15.3		1.5	43	2	0.5	0.05	7.1
Taseko R.	W5	6/9/1996				115	55.1		7.11	50.5	9.4		3.1	76	1	0.5	0.05	5.9
Taseko R.	W5	6/20/1996				69.9	28.1		7.18	24.7	13.7		1.7	40	<1	0.5	0.04	7.2
Taseko R.	W5	6/27/1996				123	50.3		7.13	55.4	6.1		3.7	76	2	0.5	0.05	5.1
Taseko R.	W5	7/10/1996				92	49		7.18	38.9	12.3		2	64	2	0.5	0.05	6.9
Taseko R.	W5	8/6/1996				61.1	25.8		7.4	21.7	28.7		0.7	40	9	0.7	0.02	6.8
Taseko R.	W5	8/16/1996				59.2	24		7.57	20.3	26.6		1.8	35	7	0.5	0.11	6.5
Taseko R.	W5	8/24/1996				60	24.6		7.61	20.8	26		0.9	38	7	0.5	0.03	6.5
Taseko R.	W5	8/29/1996				49.8	23.2		7.73	19.6	16.4		0.5	35	7	0.5	0.04	6.5
Taseko R.	W5	9/6/1996				58.7	24.8		7.67	20.9	13.1		1.1	38	7	0.5	0.04	6.3
Taseko R.	W5	2/28/1997				97	40.3		7.52	37	9		1.4	59	4	0.5	0.06	8
Taseko R.	W5	7/14/1997	10.5			62	27.3	7.53	6.85	24	10.5		1.4	37	5	0.5	0.14	8
Taseko R.	W5	7/21/1997	11.5			61	24.4	7.3	7.12	21	15.4		1.5	34	2	0.5	0.05	7
Taseko R.	W5	7/30/1997	13			59	25.1	8.3	6.78	22	15.9		1.1	33	5	0.5	0.04	7
Taseko R.	W5	8/4/1997	15			59	25.6	8.6	6.91	23	13.6		1.4	35	3	0.5	0.02	7
Taseko R.	W5	8/12/1997				64	24.5		6.91	21	15.2		1.1	33	6	0.5	0.03	7
Taseko R.	W5	9/15/1997	11			61	22.9	7.86	7.13	17	20.5		0.9	31	7	0.5	0.02	6
Taseko R.	W5	9/22/1997	11.8			61	24	7.2	7.27	18	22.4		1.4	33	9	0.5	0.02	6
Taseko R.	W5	9/29/1997	10			60	22.5	7.66	7.32	18	24.6		1.5	30	8	0.5	0.04	6
Taseko R.	W5	10/6/1997	8.5			60	22.9	7.98	7	17	22.5		1.2	32	4	0.5	0.02	6
Taseko R.	W5	10/13/1997	7.3			63	25.2	7.49	7.08	18	17.6		1.4	31	5	0.5	0.1	6
Taseko R.	W5	11/16/1997	2.9			74	28.5	8.1	7.01	24	15.8		1.1	40	3	0.5	0.03	7
Taseko R.	W5	12/16/1997	3			82	35.7	7.52	6.99	26	15		1.2	45	3	0.5	0.04	7
Taseko R.	W5	1/20/1998	0.3			70	29.9	7.36	7.08	23	13.7		1	40	1	0.5	0.04	7
Taseko R.	W5	2/18/1998	0.8			84	35.6	7.7	7.05	33	11.2		0.8	49	1	0.5	0.04	7
Taseko R.	W5	3/10/1998	0.9			102	49.1		7.54	38	10.1		0.5	62	3	0.5	0.04	8
Taseko R.	W5	4/14/1998	3.5			81	41.3	7.4	7.36	31	9.2		0.5	48	1	0.5	0.02	8
Taseko R.	W5	5/12/1998	8.9			62	27	7.16	7.37	21	11.5		1.6	35	3	0.5	0.02	7
Taseko R.	W5	6/17/1998	9			59	24.9		6.97	18	17		1	34	4	0.5	0.02	7
Taseko R.	W5	5/9/2006	6.1	12.1	68.9	63.2	29.1		7.76	16.2	17.9	2.0		48	<3.0	<0.50	0.029	7.85
Taseko R.	W5	5/16/2006	5.0	11.2	67.9	62.6	29.3		8.13	18.8	18.5	1.0		45	<3.0	<0.50	0.036	7.90
Taseko R.	W5	5/24/2006	4.8	11.0	60.2	59.8	26.6		7.65	15.9	20.0	0.8		45	4.6	<0.50	0.026	7.89

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W5	5/12/1994	0.013	0.042	0.004	0.002	0.004	0.012	0.028	0.255	0.0002	0.0003	0.0018	0.0018	<0.010
Taseko R.	W5	5/18/1994	<0.005	0.018	0.007	0.004	0.005	0.032	0.13	0.29	<0.0001	<0.0001	0.0011	0.0015	<0.010
Taseko R.	W5	5/26/1994	<0.005	0.016	0.003	0.002	0.004	0.027	0.092	0.324	0.0002	0.0002	0.0015	0.0016	<0.010
Taseko R.	W5	5/31/1994	0.008	0.016	0.008	0.002	0.003	0.027	0.103	0.638	<0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W5	8/10/1994	<0.005	0.016	0.014	<0.001	0.076	0.092	0.074	1.04	<0.0001	<0.0001	0.0007	0.0009	<0.010
Taseko R.	W5	8/16/1994	0.005	0.02	0.001	<0.001	0.067	0.095	0.159	1.22	<0.0002	<0.0002	0.0006	0.0009	<0.010
Taseko R.	W5	8/24/1994	<0.005	0.013	0.002	0.01	0.01	0.037	0.048	0.948	<0.0001	<0.0001	0.0005	0.0007	<0.010
Taseko R.	W5	8/30/1994	0.014	0.011	0.014	0.014	0.019	0.021	0.162	1.24	<0.0001	<0.0001	0.0009	0.0009	<0.010
Taseko R.	W5	9/6/1994	<0.005	0.009	0.015	0.004	0.016	0.022	0.125	0.802	0.0002	0.0001	0.0003	0.0008	<0.010
Taseko R.	W5	6/22/1995	<0.005	0.018	<0.001	0.003	0.003	0.039	0.108	0.584	<0.0001	<0.0001	0.0004	0.0005	0.01
Taseko R.	W5	6/28/1995	<0.005	0.017	0.011	0.003	0.003	0.045	0.3	0.508	<0.0001	<0.0001	0.0004	0.0006	0.01
Taseko R.	W5	7/4/1995	<0.005	0.018	0.007	0.002	0.002	0.014	0.186	0.556	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	7/13/1995	0.013	0.018	0.001	0.005	0.005	0.067	0.166	0.651	<0.0001	<0.0001	0.0005	0.0007	0.012
Taseko R.	W5	7/17/1995	<0.005	0.018	0.001	0.004	0.005	0.057	0.74	0.98	<0.0001	<0.0001	0.0003	0.0003	<0.010
Taseko R.	W5	9/27/1995	0.007	0.012	0.001	0.004	0.005	0.058	0.176	0.508	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W5	10/4/1995	<0.005	0.013	0.001	0.003	0.003	0.013	0.143	0.547	<0.0001	<0.0001	0.0004	0.0005	0.012
Taseko R.	W5	10/11/1995	0.007	0.013	0.011	0.004	0.004	0.045	0.26	0.727	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	10/18/1995	<0.005	0.024	0.001	0.001	0.004	0.041	0.2	0.61	<0.0001	<0.0001	0.0004	0.0005	0.014
Taseko R.	W5	10/27/1995	<0.005	0.023	0.001	<0.001	<0.001	0.041	0.155	0.68	<0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W5	5/29/1996	0.006	0.015	0.006	0.005	0.005	0.029	0.088	0.381	0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	6/9/1996	0.008	0.015	0.003	0.004	0.005	0.024	0.089	0.226	0.0003	0.0002	0.0012	0.0013	<0.010
Taseko R.	W5	6/20/1996	0.01	0.015	0.007	0.005	0.005	0.023	0.163	0.569	0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	6/27/1996	0.011	0.014	0.003	0.003	0.004	0.018	0.083	0.769	0.0003	0.0003	0.0011	0.0013	<0.010
Taseko R.	W5	7/10/1996	0.006	0.011	0.005	0.004	0.005	0.025	0.095	0.57	0.0004	0.0002	0.0012	0.0009	<0.010
Taseko R.	W5	8/6/1996	0.013	0.012	0.012	0.004	0.004	0.065	0.092	0.689	0.0002	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W5	8/16/1996	0.016	0.009	0.009	0.003	0.003	0.054	0.084	0.643	0.0003	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W5	8/24/1996	0.005	0.009	0.008	0.004	0.005	0.054	0.128	0.747	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W5	8/29/1996	0.015	0.015	0.007	0.004	0.004	0.063	0.09	0.933	0.0004	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W5	9/6/1996	<0.005	0.011	0.005	0.004	0.004	0.059	0.076	0.829	0.0003	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W5	2/28/1997	0.012	0.02	<0.001	<0.001	0.001	0.019	0.107	0.332	0.0001	0.0001	0.0005	0.0006	
Taseko R.	W5	7/14/1997	0.009	0.031	0.001	0.001	0.003	0.011	0.072	0.358	0.00028	0.00008	0.0004	0.0004	0.0082
Taseko R.	W5	7/21/1997	0.005	0.022	0.001	0.001	0.002	0.012	0.076	0.619	0.0002	0.00006	0.0004	0.0005	0.00801
Taseko R.	W5	7/30/1997	0.012	0.016	0.001	0.001	0.002	0.019	0.09	0.4	0.00007	0.00006	0.0004	0.0005	0.00801
Taseko R.	W5	8/4/1997	0.011	0.013	0.001	0.001	0.002	0.017	0.091	0.417	0.00006	0.00007	0.0004	0.0005	0.00817
Taseko R.	W5	8/12/1997	0.007	0.016	0.002	0.001	0.001	0.018	0.113	0.473	0.00007	0.00009	0.0004	0.0005	0.00806
Taseko R.	W5	9/15/1997	0.011	0.005	0.001	0.002	0.004	0.022	0.123	0.995	0.00007	0.00008	0.0003	0.0005	0.00787
Taseko R.	W5	9/22/1997	0.005	0.011	0.001	0.002	0.002	0.034	0.132	0.876	0.00005	0.00006	0.0004	0.0005	0.00748
Taseko R.	W5	9/29/1997	0.012	0.01	0.001	0.004	0.005	0.038	0.109	0.891	0.00007	0.00007	0.0003	0.0005	0.00746
Taseko R.	W5	10/6/1997	0.005	0.012	0.001	0.001	0.002	0.034	0.102	0.7	0.00006	0.00006	0.0003	0.0005	0.00804
Taseko R.	W5	10/13/1997	0.008	0.015	0.001	0.001	0.001	0.026	0.094	0.799	0.00007	0.00007	0.0003	0.0005	0.00747
Taseko R.	W5	11/16/1997	0.013	0.022	0.001	0.002	0.004	0.018	0.108	0.849	0.00008	0.00008	0.0004	0.0005	0.00849
Taseko R.	W5	12/16/1997	0.011	0.026	0.001	0.001	0.001	0.018	0.09	0.556	0.0001	0.0001	0.0005	0.0006	0.00837
Taseko R.	W5	1/20/1998	0.005	0.021	0.001	0.001	0.003	0.012	0.092	0.347	0.00006	0.00007	0.0004	0.0004	0.00861
Taseko R.	W5	2/18/1998	0.008	0.021	0.005	0.001	0.001	0.009	0.093	0.509	0.00008	0.00008	0.0005	0.0006	0.00865
Taseko R.	W5	3/10/1998	0.008	0.028	0.001	0.001	0.001	0.004	0.064	0.499	0.00013	0.00012	0.0006	0.0006	0.0082
Taseko R.	W5	4/14/1998	0.009	0.021	0.001	0.001	0.001	0.008	0.084	0.422	0.0001	0.00008	0.0005	0.0005	0.00871
Taseko R.	W5	5/12/1998	0.009	0.028	0.001	0.001	0.001	0.011	0.088	0.675	0.00005	0.00005	0.0003	0.0005	0.00806
Taseko R.	W5	6/17/1998	0.007	0.011	0.001	0.001	0.001	0.024	0.088	0.65	0.00006	0.00007	0.0003	0.0005	0.00803
Taseko R.	W5	5/9/2006	0.0127	0.0106	<0.0010	<0.0010	<0.0020	0.0157	0.143	0.508	<0.00010	<0.00010	0.00033	0.00044	0.00934
Taseko R.	W5	5/16/2006	<0.0050	0.0123	<0.0010	0.0028	0.0033	0.0204	0.138	0.358	<0.00010	<0.00010	0.00035	0.00043	0.00969
Taseko R.	W5	5/24/2006	<0.0050	0.0151	<0.0010	0.0011	<0.0020	0.0199	0.143	0.775	<0.00010	<0.00010	0.00034	0.00048	0.00958

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W5	5/12/1994	0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.1	17.1	<0.001	<0.001
Taseko R.	W5	5/18/1994	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.7	16.3	<0.001	<0.001
Taseko R.	W5	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.1	15	<0.001	<0.001
Taseko R.	W5	5/31/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.4	10.5	<0.001	<0.001
Taseko R.	W5	8/10/1994	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.4	10.4	<0.001	<0.001
Taseko R.	W5	8/16/1994	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.2	10.2	<0.001	<0.001
Taseko R.	W5	8/24/1994	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.2	11	<0.001	<0.001
Taseko R.	W5	8/30/1994	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.22	9.34	<0.001	0.001
Taseko R.	W5	9/6/1994	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.93	9.93	<0.001	<0.001
Taseko R.	W5	6/22/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.4	9.84	<0.001	<0.001
Taseko R.	W5	6/28/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	0.0005	9.2	9.37	<0.001	<0.001
Taseko R.	W5	7/4/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.7	10.1	<0.001	<0.001
Taseko R.	W5	7/13/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.5	10.6	<0.001	<0.001
Taseko R.	W5	7/17/1995	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.91	9.56	<0.001	<0.001
Taseko R.	W5	9/27/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.36	8.75	<0.001	0.001
Taseko R.	W5	10/4/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.58	8.93	<0.001	<0.001
Taseko R.	W5	10/11/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.88	9.54	<0.001	<0.001
Taseko R.	W5	10/18/1995	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.91	9.65	<0.001	<0.001
Taseko R.	W5	10/27/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10	9.91	<0.001	<0.001
Taseko R.	W5	5/29/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.55	9.97	<0.001	<0.001
Taseko R.	W5	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.6	14.2	<0.001	<0.001
Taseko R.	W5	6/20/1996	0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.88	9.04	<0.001	<0.001
Taseko R.	W5	6/27/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.6	14	<0.001	<0.001
Taseko R.	W5	7/10/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13	11.2	<0.001	<0.001
Taseko R.	W5	8/6/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.47	8.83	<0.001	<0.001
Taseko R.	W5	8/16/1996	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.92	7.83	<0.001	<0.001
Taseko R.	W5	8/24/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.01	7.86	<0.001	<0.001
Taseko R.	W5	8/29/1996	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.82	7.64	<0.001	<0.001
Taseko R.	W5	9/6/1996	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.25	8.51	<0.001	<0.001
Taseko R.	W5	2/28/1997	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12	12.8	<0.001	<0.001
Taseko R.	W5	7/14/1997	0.0123	0.0005	0.0005	0.0005	0.0005	0.014	0.013	0.00005	0.00005	9.04	8.77	0.0005	0.0005
Taseko R.	W5	7/21/1997	0.015	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.09	8.24	0.0005	0.0005
Taseko R.	W5	7/30/1997	0.013	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	8.29	8.17	0.0005	0.0005
Taseko R.	W5	8/4/1997	0.013	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.42	8.33	0.0005	0.0005
Taseko R.	W5	8/12/1997	0.0134	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	8.14	8.48	0.0005	0.0005
Taseko R.	W5	9/15/1997	0.0176	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.57	7.88	0.0005	0.0005
Taseko R.	W5	9/22/1997	0.0161	0.0005	0.0005	0.0005	0.0005	0.01	0.011	0.00005	0.00005	7.87	8.01	0.0005	0.0005
Taseko R.	W5	9/29/1997	0.0175	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.49	7.73	0.0005	0.0007
Taseko R.	W5	10/6/1997	0.0163	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.61	7.91	0.0005	0.0006
Taseko R.	W5	10/13/1997	0.0149	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.96	8.12	0.0005	0.0005
Taseko R.	W5	11/16/1997	0.0169	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	8.96	9.14	0.0005	0.0005
Taseko R.	W5	12/16/1997	0.0134	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	10.7	9.98	0.0005	0.0005
Taseko R.	W5	1/20/1998	0.0134	0.0005	0.0005	0.0005	0.0005	0.015	0.014	0.00005	0.00005	9.99	9.46	0.0005	0.0005
Taseko R.	W5	2/18/1998	0.0132	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	10.7	10.8	0.0005	0.0005
Taseko R.	W5	3/10/1998	0.0133	0.0005	0.0005	0.0005	0.0005	0.016	0.016	0.00005	0.00005	13.8	12.8	0.0005	0.0005
Taseko R.	W5	4/14/1998	0.0126	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	12.1	11.7	0.0005	0.0005
Taseko R.	W5	5/12/1998	0.0132	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.8	9.01	0.0005	0.0005
Taseko R.	W5	6/17/1998	0.0141	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	8.28	8.5	0.0005	0.0005
Taseko R.	W5	5/9/2006	0.0152	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000020	9.66	9.98	<0.00050	<0.00050
Taseko R.	W5	5/16/2006	0.0142	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000017	9.75	10.0	<0.00050	<0.00050
Taseko R.	W5	5/24/2006	0.0175	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000017	9.16	9.22	<0.00050	<0.00050

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W5	5/12/1994	<0.001	<0.001	0.003	0.004	<0.030	0.186	<0.001	<0.001			6.93	6.93	<0.005	<0.005
Taseko R.	W5	5/18/1994	<0.001	<0.001	0.002	0.003	0.093	0.226	<0.001	<0.001			3.66	6.4	<0.005	0.005
Taseko R.	W5	5/26/1994	<0.001	<0.001	0.003	0.004	0.053	0.161	<0.001	<0.001			2.59	5.66	<0.005	<0.005
Taseko R.	W5	5/31/1994	<0.001	<0.001	<0.001	0.002	0.087	0.577	<0.001	<0.001			1.85	2.16	<0.005	0.013
Taseko R.	W5	8/10/1994	<0.001	<0.001	0.001	0.004	0.066	0.884	<0.001	<0.001			1.84	1.84	<0.005	0.026
Taseko R.	W5	8/16/1994	<0.001	<0.001	<0.001	0.004	0.1	1.07	<0.001	<0.001			2.1	2.59	<0.005	0.026
Taseko R.	W5	8/24/1994	<0.001	<0.001	0.001	0.005	0.098	0.839	<0.001	<0.001			2.21	2.47	0.005	0.025
Taseko R.	W5	8/30/1994	<0.001	0.001	0.001	0.004	0.114	0.977	<0.001	<0.001			1.99	2.09	<0.005	0.025
Taseko R.	W5	9/6/1994	<0.001	<0.001	0.001	0.004	0.099	0.679	<0.001	<0.001			2.26	2.35	<0.005	0.02
Taseko R.	W5	6/22/1995	<0.001	<0.001	<0.001	0.002	0.074	0.497	<0.001	<0.001			1.53	1.77	<0.005	0.013
Taseko R.	W5	6/28/1995	<0.001	<0.001	<0.001	0.002	0.12	0.375	<0.001	<0.001			1.33	1.42	<0.005	0.011
Taseko R.	W5	7/4/1995	<0.001	<0.001	<0.001	0.003	0.097	0.415	<0.001	<0.001			1.96	1.62	<0.005	0.014
Taseko R.	W5	7/13/1995	<0.001	<0.001	0.001	0.002	0.114	0.614	<0.001	<0.001			2.13	2.27	<0.005	0.018
Taseko R.	W5	7/17/1995	<0.001	<0.001	0.001	0.003	0.086	0.758	<0.001	<0.001			1.57	1.87	<0.005	0.019
Taseko R.	W5	9/27/1995	<0.001	<0.001	<0.001	0.003	0.097	0.401	<0.001	<0.001			1.28	1.52	<0.005	0.013
Taseko R.	W5	10/4/1995	<0.001	0.001	<0.001	0.002	0.098	0.464	<0.001	<0.001			1.45	1.65	<0.005	0.014
Taseko R.	W5	10/11/1995	<0.001	<0.001	<0.001	0.003	0.141	0.31	<0.001	<0.001			1.83	1.77	<0.005	0.009
Taseko R.	W5	10/18/1995	<0.001	<0.001	0.001	0.002	0.099	0.382	<0.001	<0.001			1.95	1.98	<0.005	0.011
Taseko R.	W5	10/27/1995	<0.001	<0.001	<0.001	0.002	0.082	0.326	<0.001	<0.001			2.01	2.08	<0.005	0.01
Taseko R.	W5	5/29/1996	<0.001	<0.001	<0.001	0.002	0.058	0.326	<0.001	<0.001			1.58	1.68	<0.005	0.009
Taseko R.	W5	6/9/1996	<0.001	<0.001	0.002	0.002	0.06	0.192	<0.001	<0.001			4.57	4.73	<0.005	0.006
Taseko R.	W5	6/20/1996	<0.001	<0.001	<0.001	0.001	0.103	0.352	<0.001	<0.001			1.43	1.55	<0.005	0.007
Taseko R.	W5	6/27/1996	<0.001	<0.001	0.002	0.003	0.048	0.293	<0.001	<0.001			3.99	4.38	<0.005	0.008
Taseko R.	W5	7/10/1996	<0.001	<0.001	0.002	0.003	0.045	0.278	<0.001	<0.001			4	2.87	<0.005	0.009
Taseko R.	W5	8/6/1996	<0.001	<0.001	0.001	0.003	0.057	0.764	<0.001	<0.001			1.12	1.4	<0.005	0.021
Taseko R.	W5	8/16/1996	<0.001	<0.001	0.001	0.003	0.051	0.555	<0.001	<0.001			1.03	1.19	<0.005	0.016
Taseko R.	W5	8/24/1996	<0.001	<0.001	<0.001	0.002	0.087	0.345	<0.001	<0.001			1.11	1.17	<0.005	0.011
Taseko R.	W5	8/29/1996	<0.001	<0.001	<0.001	0.003	0.065	0.425	<0.001	<0.001			0.902	1.01	<0.005	0.014
Taseko R.	W5	9/6/1996	<0.001	<0.001	<0.001	0.002	0.048	0.713	<0.001	<0.001			1.03	1.33	<0.005	0.017
Taseko R.	W5	2/28/1997	<0.001	<0.001	<0.001	0.002	0.076	0.242	<0.001	<0.001			2.49	2.75	<0.005	0.006
Taseko R.	W5	7/14/1997	0.0001	0.0003	0.0006	0.0016	0.04	0.26	0.00005	0.00012	0.001	0.001	1.15	1.18	0.00198	0.0103
Taseko R.	W5	7/21/1997	0.0001	0.0003	0.0006	0.0018	0.04	0.42	0.00005	0.00013	0.001	0.001	1.02	1.16	0.00209	0.0131
Taseko R.	W5	7/30/1997	0.0001	0.0002	0.0008	0.0019	0.05	0.41	0.0001	0.00012	0.001	0.001	1.07	1.15	0.00246	0.0121
Taseko R.	W5	8/4/1997	0.0001	0.0004	0.0006	0.0018	0.06	0.35	0.00005	0.00012	0.001	0.001	1.1	1.21	0.00234	0.0104
Taseko R.	W5	8/12/1997	0.0001	0.0002	0.0007	0.0019	0.07	0.41	0.00005	0.00015	0.001	0.001	1.01	1.12	0.0025	0.0115
Taseko R.	W5	9/15/1997	0.0001	0.0004	0.0006	0.0026	0.08	0.7	0.00005	0.00023	0.001	0.001	0.97	1.21	0.00251	0.0206
Taseko R.	W5	9/22/1997	0.0004	0.0006	0.0007	0.0024	0.08	0.58	0.00005	0.00019	0.001	0.001	1.06	1.23	0.00236	0.0174
Taseko R.	W5	9/29/1997	0.0001	0.0009	0.0006	0.0025	0.06	0.51	0.00005	0.0002	0.001	0.001	0.92	1.11	0.00229	0.0193
Taseko R.	W5	10/6/1997	0.0001	0.0004	0.0006	0.0023	0.07	0.58	0.00005	0.00019	0.001	0.001	0.96	1.18	0.00235	0.0177
Taseko R.	W5	10/13/1997	0.0001	0.0004	0.0006	0.0023	0.06	0.48	0.00005	0.00016	0.001	0.001	1.06	1.21	0.00184	0.0171
Taseko R.	W5	11/16/1997	0.0001	0.0003	0.0006	0.0019	0.06	0.35	0.00005	0.00014	0.001	0.001	1.48	1.64	0.00173	0.0137
Taseko R.	W5	12/16/1997	0.0005	0.0003	0.0007	0.0017	0.07	0.5	0.00005	0.00012	0.001	0.001	2.16	2.05	0.00162	0.012
Taseko R.	W5	1/20/1998	0.0001	0.0002	0.0006	0.0015	0.07	0.31	0.00005	0.00011	0.001	0.001	1.21	1.26	0.00152	0.0087
Taseko R.	W5	2/18/1998	0.0001	0.0002	0.0006	0.0016	0.07	0.3	0.00005	0.0001	0.001	0.001	2.16	2.22	0.00168	0.00936
Taseko R.	W5	3/10/1998	0.0001	0.0002	0.0007	0.0015	0.04	0.28	0.00005	0.00009	0.001	0.001	3.55	2.98	0.00154	0.00885
Taseko R.	W5	4/14/1998	0.0001	0.0002	0.0006	0.0013	0.05	0.33	0.00005	0.0001	0.001	0.001	2.7	2.2	0.00134	0.00679
Taseko R.	W5	5/12/1998	0.0001	0.0002	0.0006	0.0016	0.06	0.27	0.00005	0.00012	0.001	0.001	1.2	1.4	0.00165	0.0108
Taseko R.	W5	6/17/1998	0.0001	0.0003	0.0006	0.0019	0.07	0.56	0.00005	0.00015	0.001	0.001	1	1.3	0.00213	0.0152
Taseko R.	W5	5/9/2006	<0.00010	0.00025	0.00068	0.00190	0.111	0.359	<0.000050	0.000115	<0.0050	<0.0050	1.21	1.36	0.00239	0.0112
Taseko R.	W5	5/16/2006	<0.00010	0.00018	0.00066	0.00167	0.118	0.280	<0.000050	0.000125	<0.0050	<0.0050	1.20	1.30	0.00243	0.00898
Taseko R.	W5	5/24/2006	<0.00010	0.00038	<0.0010	0.00215	0.099	0.594	<0.000050	0.000181	<0.0050	<0.0050	0.91	1.14	0.00253	0.0165

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W5	5/12/1994	<0.001	<0.001	<0.001	<0.001			0.86		<0.0005	<0.0005	5.69	5.69
Taseko R.	W5	5/18/1994	<0.001	0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	3.66	5.38
Taseko R.	W5	5/26/1994	<0.001	<0.001	<0.001	<0.001			0.8		<0.0005	<0.0005	4.9	5.15
Taseko R.	W5	5/31/1994	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.61	3.28
Taseko R.	W5	8/10/1994	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	3.01	3.55
Taseko R.	W5	8/16/1994	<0.001	<0.001	<0.001	0.001			0.52		<0.0005	<0.0005	2.82	3.89
Taseko R.	W5	8/24/1994	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.7	3.66
Taseko R.	W5	8/30/1994	0.001	0.001	<0.001	0.002			0.63		<0.0005	<0.0005	2.99	3.95
Taseko R.	W5	9/6/1994	0.001	0.002	<0.001	<0.001			0.63		<0.0005	<0.0005	2.73	3.37
Taseko R.	W5	6/22/1995	<0.001	<0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	2.28	3.1
Taseko R.	W5	6/28/1995	<0.001	<0.001	<0.001	0.001			0.67		<0.0005	<0.0005	2.23	2.65
Taseko R.	W5	7/4/1995	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.66	2.95
Taseko R.	W5	7/13/1995	0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	2.69	3.25
Taseko R.	W5	7/17/1995	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.31	3.94
Taseko R.	W5	9/27/1995	<0.001	0.001	<0.001	0.003			0.66		<0.0005	<0.0005	2.02	2.46
Taseko R.	W5	10/4/1995	0.002	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.06	2.54
Taseko R.	W5	10/11/1995	<0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	2.45	2.59
Taseko R.	W5	10/18/1995	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.24	2.47
Taseko R.	W5	10/27/1995	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.25	2.49
Taseko R.	W5	5/29/1996	0.001	0.001	<0.001	<0.001			0.58		<0.0005	0.0006	2.23	2.54
Taseko R.	W5	6/9/1996	0.001	<0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	4.2	4.3
Taseko R.	W5	6/20/1996	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.4	3.22
Taseko R.	W5	6/27/1996	0.001	0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	3.76	4.18
Taseko R.	W5	7/10/1996	0.001	0.001	<0.001	<0.001			0.71		<0.0005	<0.0005	3.78	3.3
Taseko R.	W5	8/6/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	0.0007	2.08	3.06
Taseko R.	W5	8/16/1996	0.001	0.001	<0.001	<0.001			0.55		<0.0005	0.0005	1.97	2.55
Taseko R.	W5	8/24/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	2.02	2.41
Taseko R.	W5	8/29/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	1.89	2.44
Taseko R.	W5	9/6/1996	0.001	0.001	<0.001	<0.001			0.62		0.004*	0.0006	1.98	2.95
Taseko R.	W5	2/28/1997	0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	2.85	3.12
Taseko R.	W5	7/14/1997	0.00117	0.00126	0.0001	0.0003					0.0005	0.0005	2.19	2.36
Taseko R.	W5	7/21/1997	0.0012	0.00129	0.0001	0.0004					0.0005	0.0005	2.04	2.63
Taseko R.	W5	7/30/1997	0.0013	0.00121	0.0001	0.0003					0.0005	0.0005	2.09	2.42
Taseko R.	W5	8/4/1997	0.00128	0.00113	0.0001	0.0003					0.0005	0.0005	2.14	2.4
Taseko R.	W5	8/12/1997	0.00131	0.00127	0.0001	0.0004					0.0005	0.0006	2.08	2.57
Taseko R.	W5	9/15/1997	0.00123	0.00122	0.0001	0.0005					0.0005	0.0005	1.94	2.9
Taseko R.	W5	9/22/1997	0.00124	0.00125	0.0002	0.0006					0.0005	0.0005	1.96	2.71
Taseko R.	W5	9/29/1997	0.00127	0.00122	0.0001	0.0006					0.0005	0.0005	1.86	2.66
Taseko R.	W5	10/6/1997	0.00131	0.00128	0.0001	0.0011					0.0005	0.0005	1.86	2.57
Taseko R.	W5	10/13/1997	0.00125	0.00118	0.0001	0.0005					0.0005	0.0005	1.89	2.47
Taseko R.	W5	11/16/1997	0.00128	0.0012	0.0001	0.0003					0.0005	0.0005	2.21	2.81
Taseko R.	W5	12/16/1997	0.00121	0.00118	0.0001	0.0003					0.0005	0.0005	2.6	3.04
Taseko R.	W5	1/20/1998	0.0013	0.00126	0.0001	0.0002					0.0005	0.0005	2.27	2.49
Taseko R.	W5	2/18/1998	0.00125	0.00123	0.0001	0.0003					0.0005	0.0005	2.51	2.76
Taseko R.	W5	3/10/1998	0.00117	0.00118	0.0001	0.0002					0.0005	0.0005	3.22	3.36
Taseko R.	W5	4/14/1998	0.00124	0.00127	0.0001	0.0003					0.0005	0.0005	2.76	2.91
Taseko R.	W5	5/12/1998	0.00127	0.00125	0.0001	0.0003					0.0005	0.0005	2.14	2.56
Taseko R.	W5	6/17/1998	0.00132	0.0013	0.0001	0.0004					0.0005	0.0005	2.03	2.79
Taseko R.	W5	5/9/2006	0.00112	0.00135	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.11	2.33
Taseko R.	W5	5/16/2006	0.00136	0.00113	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.36	2.42
Taseko R.	W5	5/24/2006	0.00137	0.00129	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.92	2.49

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W5	5/12/1994	<0.0001	<0.0001	5.04		0.071	0.071							0.00005	0.00007
Taseko R.	W5	5/18/1994	<0.0001	<0.0001	2.4		0.06	0.069							0.00007	0.00009
Taseko R.	W5	5/26/1994	<0.0001	<0.0001	2.26		0.062	0.062							0.00003	0.00008
Taseko R.	W5	5/31/1994	<0.0001	<0.0001	1.56		0.052	0.054							0.00008	0.0001
Taseko R.	W5	8/10/1994	<0.0001	<0.0001	1.66		0.05	0.05							0.00008	0.00017
Taseko R.	W5	8/16/1994	<0.0001	<0.0001	1.49		0.049	0.051							0.00013	0.00019
Taseko R.	W5	8/24/1994	<0.0001	<0.0001	1.51		0.044	0.053							0.00007	0.00013
Taseko R.	W5	8/30/1994	<0.0001	<0.0001	1.82		0.044	0.044							0.00009	0.00016
Taseko R.	W5	9/6/1994	<0.0001	<0.0001	1.66		0.044	0.044							0.00007	0.00013
Taseko R.	W5	6/22/1995	<0.0001	<0.0001	1.68		0.048	0.048					<0.010	0.031	0.00012	0.00015
Taseko R.	W5	6/28/1995	<0.0001	<0.0001	1.38		0.047	0.047					<0.010	0.02	0.00025	0.00029
Taseko R.	W5	7/4/1995	<0.0001	<0.0001	1.59		0.049	0.049					<0.010	0.025	0.00018	0.00023
Taseko R.	W5	7/13/1995	<0.0001	<0.0001	1.59		0.055	0.056					0.011	0.036	0.00014	0.00015
Taseko R.	W5	7/17/1995	<0.0001	<0.0001	1.41		0.045	0.056					<0.010	0.054	0.00024	0.00024
Taseko R.	W5	9/27/1995	<0.0001	<0.0001	1.25		0.044	0.045					<0.010	0.019	0.00016	0.0002
Taseko R.	W5	10/4/1995	<0.0001	<0.0001	1.3		0.048	0.051					<0.010	0.028	0.00018	0.00021
Taseko R.	W5	10/11/1995	<0.0001	<0.0001	1.77		0.051	0.051					<0.010	0.016	0.00018	0.00021
Taseko R.	W5	10/18/1995	<0.0001	<0.0001	1.97		0.051	0.051					<0.010	0.021	0.00016	0.00019
Taseko R.	W5	10/27/1995	<0.0001	<0.0001	1.95		0.051	0.051					<0.010	0.012	0.00015	0.00018
Taseko R.	W5	5/29/1996	<0.0001	<0.0001	1.56		0.054	0.054					<0.010	0.019	0.00014	0.00017
Taseko R.	W5	6/9/1996	<0.0001	<0.0001	3.32		0.069	0.06					<0.010	0.011	0.00011	0.00011
Taseko R.	W5	6/20/1996	<0.0001	<0.0001	1.56		0.052	0.053					<0.010	0.027	0.00011	0.00012
Taseko R.	W5	6/27/1996	<0.0001	<0.0001	3.04		0.063	0.063					<0.010	0.014	0.00011	0.00013
Taseko R.	W5	7/10/1996	<0.0001	<0.0001	2.85		0.064	0.054					<0.010	0.016	0.00014	0.00018
Taseko R.	W5	8/6/1996	<0.0001	<0.0001	1.38		0.047	0.051					<0.010	0.037	0.00015	0.0002
Taseko R.	W5	8/16/1996	<0.0001	<0.0001	1.27		0.047	0.05					<0.010	0.028	0.00015	0.00019
Taseko R.	W5	8/24/1996	<0.0001	<0.0001	1.36		0.048	0.048					<0.010	0.017	0.00016	0.0002
Taseko R.	W5	8/29/1996	<0.0001	<0.0001	1.18		0.046	0.046					<0.010	0.018	0.00015	0.00022
Taseko R.	W5	9/6/1996	<0.0001	<0.0001	1.19		0.045	0.048					<0.010	0.035	0.00015	0.0002
Taseko R.	W5	2/28/1997	<0.0001	<0.0001	2.09		0.065	0.069					<0.010	0.011	0.00016	0.0002
Taseko R.	W5	7/14/1997	0.00001	0.00001			0.047	0.0477			0.0001	0.0001	0.01	0.01	0.00015	0.00016
Taseko R.	W5	7/21/1997	0.00001	0.00001			0.0447	0.0465			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W5	7/30/1997	0.00001	0.00001			0.0436	0.0439			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W5	8/4/1997	0.00001	0.00001			0.0447	0.045			0.0001	0.0001	0.01	0.02	0.0002	0.00018
Taseko R.	W5	8/12/1997	0.00001	0.00001			0.0428	0.0438			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W5	9/15/1997	0.00001	0.00001			0.0391	0.0414			0.0001	0.0001	0.01	0.04	0.00014	0.00018
Taseko R.	W5	9/22/1997	0.00001	0.00001			0.0412	0.0434			0.0001	0.0001	0.01	0.03	0.00015	0.00018
Taseko R.	W5	9/29/1997	0.00001	0.00001			0.0412	0.044			0.0001	0.0001	0.01	0.03	0.00016	0.00019
Taseko R.	W5	10/6/1997	0.00001	0.00001			0.0417	0.0436			0.0001	0.0001	0.01	0.03	0.00016	0.00019
Taseko R.	W5	10/13/1997	0.00001	0.00001			0.0425	0.045			0.0001	0.0001	0.01	0.02	0.00014	0.00019
Taseko R.	W5	11/16/1997	0.00001	0.00001			0.0547	0.056			0.0001	0.0001	0.01	0.02	0.00015	0.00019
Taseko R.	W5	12/16/1997	0.00001	0.00001			0.0468	0.0459			0.0001	0.0001	0.01	0.02	0.00016	0.00017
Taseko R.	W5	1/20/1998	0.00001	0.00001			0.0389	0.0399			0.0001	0.0001	0.01	0.01	0.00015	0.00017
Taseko R.	W5	2/18/1998	0.00001	0.00001			0.0594	0.0601			0.0001	0.0001	0.01	0.02	0.00015	0.00017
Taseko R.	W5	3/10/1998	0.00001	0.00001	3	2	0.0653	0.0625			0.0001	0.0001	0.01	0.02	0.00016	0.00019
Taseko R.	W5	4/14/1998	0.00001	0.00001	2		0.0608	0.0582			0.0001	0.0003	0.01	0.02	0.00016	0.00018
Taseko R.	W5	5/12/1998	0.00001	0.00001			0.046	0.048			0.0001	0.0001	0.01	0.01	0.00012	0.00016
Taseko R.	W5	6/17/1998	0.00001	0.00001			0.0437	0.0456			0.0001	0.0001	0.01	0.02	0.00013	0.00018
Taseko R.	W5	5/9/2006	<0.000010	<0.000010	<2.0	<2.0	0.0478	0.0502	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.019	0.000166	0.000195
Taseko R.	W5	5/16/2006	<0.000010	<0.000010	<2.0	<2.0	0.0461	0.0466	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.012	0.000143	0.000182
Taseko R.	W5	5/24/2006	0.000014	0.000038	<2.0	<2.0	0.0460	0.0484	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.031	0.000157	0.000207

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W5	5/12/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/18/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/26/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/31/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/10/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/16/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/24/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/30/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	9/6/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/22/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/28/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	7/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	7/13/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	7/17/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	9/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/11/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/18/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	10/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	5/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/9/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/20/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	6/27/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	7/10/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/6/1996	<0.030	<0.030	<0.005	0.005
Taseko R.	W5	8/16/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/24/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	8/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	9/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	2/28/1997	<0.030	<0.030	<0.005	<0.005
Taseko R.	W5	7/14/1997	0.001	0.001	0.002	0.003
Taseko R.	W5	7/21/1997	0.001	0.001	0.001	0.002
Taseko R.	W5	7/30/1997	0.001	0.001	0.003	0.002
Taseko R.	W5	8/4/1997	0.001	0.001	0.001	0.005
Taseko R.	W5	8/12/1997	0.001	0.001	0.001	0.002
Taseko R.	W5	9/15/1997	0.001	0.002	0.001	0.004
Taseko R.	W5	9/22/1997	0.001	0.002	0.001	0.003
Taseko R.	W5	9/29/1997	0.001	0.002	0.001	0.006
Taseko R.	W5	10/6/1997	0.001	0.002	0.002	0.006
Taseko R.	W5	10/13/1997	0.001	0.002	0.001	0.003
Taseko R.	W5	11/16/1997	0.001	0.002	0.001	0.003
Taseko R.	W5	12/16/1997	0.001	0.001	0.001	0.002
Taseko R.	W5	1/20/1998	0.001	0.001	0.001	0.002
Taseko R.	W5	2/18/1998	0.001	0.001	0.001	0.003
Taseko R.	W5	3/10/1998	0.001	0.001	0.001	0.001
Taseko R.	W5	4/14/1998	0.001	0.001	0.001	0.002
Taseko R.	W5	5/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W5	6/17/1998	0.001	0.001	0.001	0.003
Taseko R.	W5	5/9/2006	<0.0010	0.0010	<0.0010	0.0016
Taseko R.	W5	5/16/2006	<0.0010	<0.0010	<0.0010	0.0017
Taseko R.	W5	5/24/2006	<0.0010	0.0017	<0.0010	0.0024

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W5	5/30/2006	7.6	10.3	60.8	60.3	26.3		7.72	14.5	19.1	1.3		51	<3.0	<0.50	0.031	8.04
Taseko R.	W5	6/6/2006	6.9	10.3	61.2	60.4	29.6		7.93	22.5	17.0	2.3		48	3.9	<0.50	0.027	8.05
Taseko R.	W5	7/5/2006	13.3	9.1	58.9	58.4	26.2		7.76	19.9	18.7	0.8		48	6.0	<0.50	0.031	8.12
Taseko R.	W5	8/8/2006	12.8			52.2	24.6		7.76	16.9	47.4	0.6		58	6.1	<0.50	0.024	6.92
Taseko R.	W5	8/16/2006	10.1	9.7	55	53.7	24.7		7.87	17.7	42.4	0.9		48	6.7	<0.50	0.025	6.76
Taseko R.	W5	8/22/2006	14.6	8.7	53.9	50.7	22.1		7.61	16.4	32.7	2.4		52.8	5.3	1.38	0.026	6.6
Taseko R.	W5	8/29/2006	10.0	10.0	55.2	53.2	23.2		7.65	18.4	40.9			51	6.2	<2.5	<0.10	6.5
Taseko R.	W5	9/6/2006	13.6	9.1	34	49.8	22.0		7.69	16.7	41.3	<0.50		45	9.8	<0.50	0.030	6.28
Taseko R.	W5	10/3/2006	9.4	9.6	50	51.9	25.2		7.76	18.3	26.2			48	10.0	<0.50	0.026	7.17
Taseko R.	W5	11/1/2006				59.5	26.1		7.74	19.9	28.7	0.64		55	5.0	<0.50	0.027	7.13
Taseko R.	W6	5/31/1992				62	30.2		7.35	23.9	23.3			49	3	0.7	0.04	6.5
Taseko R.	W6	6/30/1992				59.8	27.2		7.21	22	27.3			46	9	0.5	0.03	8
Taseko R.	W6	7/30/1992				52.8	25		7.26	19.8	43.7			41	7	0.8	0.03	5.9
Taseko R.	W6	8/30/1992				52.2	25.7		7.56	18.8	54.6			40	19	0.5	0.03	6.1
Taseko R.	W6	10/4/1992				57	25.9		7.73	21.1	36.1			41	8	0.5	0.02	5.1
Taseko R.	W6	10/28/1992				55.4	25.8		7.56	18.5	37.8			40	6	0.5	0.03	6.5
Taseko R.	W6	12/1/1992				62.4	30.7		7.57	23.8	37.5			48	4	0.5	0.02	6.9
Taseko R.	W6	1/7/1993				68	30.8		7.5	24.4	30.7			50	4	0.7	0.03	7.1
Taseko R.	W6	1/27/1993				73.4	30		7.68	28.8	26.7			57	5	0.8	0.03	8.6
Taseko R.	W6	3/2/1993				71.8	34.1		7.58	27.5	24.5			59	4	1	0.04	10.4
Taseko R.	W6	3/31/1993				74.1	32.9		7.67	28.4	23.5			59	10	0.9	0.03	7.7
Taseko R.	W6	5/6/1993				78.3	34.4		7.53	29.8	25.1			60	3	1.4	0.04	6.4
Taseko R.	W6	5/13/1993				65.8	30.7		7.43	23.5	40.3			49	13	0.9	0.04	7.9
Taseko R.	W6	5/19/1993				61.7	25.7		7.32	19.6	32.4			45	7	0.8	0.03	6.9
Taseko R.	W6	5/27/1993				62.1	25.4		7.36	22.4	36.6			38	3	1.9	0.03	7.5
Taseko R.	W6	6/3/1993				61.1	24.9		7.35	21.3	35.4			35	8	0.6	0.03	7.7
Taseko R.	W6	8/17/1993				62.2	30.1		7.1	21.9	41.5			39	11	0.6	0.03	5.4
Taseko R.	W6	8/24/1993				58.6	26.5		7.5	22.6	48			39	14	1.3	0.03	5.9
Taseko R.	W6	8/31/1993				57	25		7.43	18.8	43.6			35	10	0.6	0.03	5.8
Taseko R.	W6	9/14/1993				68	25.7		7.82	21	1.15		0.69	39	13	1.2	0.03	5.7
Taseko R.	W6	9/20/1993				68	29.4		7.45	23.4	41.1			43	11	0.9	0.03	5.9
Taseko R.	W6	5/4/1994				83	37.3		7.39	41.5	15.9			53	1	0.5	0.04	6
Taseko R.	W6	5/12/1994				88	38.9		7.38	35.8	15.5			55	1	0.8	0.04	6.7
Taseko R.	W6	5/18/1994				102	47.2		7.48	44.6	10.2			64	3	0.9	0.04	6.3
Taseko R.	W6	5/26/1994				81.4	36.1		7.51	32.2	16.6		2.5	50	3	0.5	0.04	7.7
Taseko R.	W6	5/31/1994				75.5	35.4		7.56	29.8	18.4		1.6	47	3	0.5	0.04	7.6
Taseko R.	W6	8/10/1994				58.1	26.1		8.64	18.4	35.8		0.6	37	20	1.2	0.05	6
Taseko R.	W6	8/16/1994				57	24.4		7.16	18.6	43.9		0.8	32	21	1.1	0.04	5.4
Taseko R.	W6	8/24/1994				54.5	25		7.31	18.6	44.1		0.7	31	17	1.2	0.04	4.4
Taseko R.	W6	8/30/1994				57.3	25.6		7.38	19.5	47.7		0.7	35	16	1	0.03	6.6
Taseko R.	W6	9/6/1994				57.9	24.2		7.44	19.1	48.4		0.8	37	12	0.7	0.06	5.6
Taseko R.	W6	6/22/1995				61.4	27.1		7.5	20.1	22.2		0.8	40	5	0.7	0.04	7.3
Taseko R.	W6	6/28/1995				61.2	26.7		7.47	20	21.6		0.8	39	3	0.5	0.03	7.2
Taseko R.	W6	7/4/1995				62	27.8		7.29	19.9	25.5		1.2	40	9	0.9	0.03	6.9
Taseko R.	W6	7/13/1995				58.2	25.4		7.63	19.2	32.8		1.2	37	10	0.5	0.06	6.5
Taseko R.	W6	7/19/1995				59	24		7.49	19.4	22.3		0.8	37	8	0.8	0.04	6.7
Taseko R.	W6	9/27/1995				56.9	23.7		7.92	19.6	29.2		0.9	37	7	1.2	0.03	6.3
Taseko R.	W6	10/4/1995				61.7	24.5		7.71	21.9	26.3		0.9	39	2	1.1	0.05	6.3
Taseko R.	W6	10/11/1995				59.5	25.6		8.14	21.2	25.1		0.9	38	5	0.6	0.04	5.7
Taseko R.	W6	10/18/1995				60.6	26.8		7.61	20.8	21.4		1.7	42	4	1.1	0.04	7.1
Taseko R.	W6	10/27/1995				60.7	27.4		7.45	19.4	23		1.3	40	5	0.6	0.04	7.6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W5	5/30/2006	0.0160	0.0096	<0.0010	0.0010	0.0020	0.0186	0.142	1.14	<0.00010	<0.00010	0.00035	0.00055	0.00930
Taseko R.	W5	6/6/2006	0.0110	0.0151	<0.0010	<0.0010	0.0022	0.0174	0.745	0.466	<0.00010	<0.00010	0.00042	0.00044	0.0151
Taseko R.	W5	7/5/2006	<0.0050	0.0130	<0.0010	0.0014	<0.0020	0.0178	0.117	0.833	<0.00010	<0.00010	0.00034	0.00054	0.00934
Taseko R.	W5	8/8/2006	<0.0050	0.0108	<0.0010	0.0080	0.0031	0.0271	0.260	2.08	<0.00010	<0.00010	0.00043	0.00078	0.0105
Taseko R.	W5	8/16/2006	<0.0050	0.0098	<0.0010	0.0013	0.0105	0.0226	0.235	1.88	<0.00010	0.00011	0.00038	0.00075	0.00989
Taseko R.	W5	8/22/2006	0.0203	0.0066	<0.0020	0.0023	0.0037	0.0207	0.218	2.01	<0.00010	<0.00010	0.00037	0.00073	0.00998
Taseko R.	W5	8/29/2006	0.0187	<0.025	0.0066	0.0013	0.0026	0.0148	0.307	2.22	<0.00010	<0.00010	0.00040	0.00082	0.0111
Taseko R.	W5	9/6/2006	0.0187	<0.0050	<0.0010	0.0038	0.0038	0.0180	0.380	2.28	<0.00010	0.00019	0.00041	0.00074	0.0119
Taseko R.	W5	10/3/2006	0.0187	0.0064	<0.0010	<0.0010	0.0034	0.0145	0.260	1.77	<0.00010	<0.00010	0.00040	0.00067	0.0105
Taseko R.	W5	11/1/2006	0.0121	0.0124	<0.010	0.0022	0.0026	0.0147	0.269	1.38	<0.00010	0.00015	0.00036	0.00055	0.0133
Taseko R.	W6	5/31/1992	<0.005	<0.005	<0.001	0.004	0.019	0.033	0.22	0.589	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W6	6/30/1992	<0.005	0.024	<0.001	0.005	0.007	0.061	0.17	1.83	<0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	7/30/1992	0.057	<0.005	0.003	0.064	0.09	0.099	0.116	1.82	<0.0001	<0.0001	0.0007	0.0007	<0.010
Taseko R.	W6	8/30/1992	0.009	0.006	<0.001	0.005	0.005	0.091	0.14	1.77	<0.0001	<0.0001	0.0007	0.0007	<0.010
Taseko R.	W6	10/4/1992	0.015	0.013	<0.001	0.062	0.063	0.085	0.137	1.13	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W6	10/28/1992	0.037	<0.005	0.004	0.02	0.021	0.078	0.085	2.09	<0.0001	<0.0001	0.0003	0.0007	<0.010
Taseko R.	W6	12/1/1992	<0.005	<0.005	<0.001	0.005	0.013	0.014	0.117	0.473	<0.0002	<0.0002	0.0003	0.0008	<0.010
Taseko R.	W6	1/7/1993	0.021	0.025	<0.001	<0.001	0.004	0.049	0.193	0.786	<0.0001	<0.0001	0.0009	0.0013	0.01
Taseko R.	W6	1/27/1993	<0.005	0.02	<0.001	0.011	0.038	0.039	0.514	1.93	<0.0001	0.0003	0.0004	0.0007	0.01
Taseko R.	W6	3/2/1993	0.007	0.026	<0.001	0.035	0.038	0.045	0.145	2.08	0.0001	0.0001	0.0003	0.0007	0.014
Taseko R.	W6	3/31/1993	<0.005	0.024	<0.001	0.003	0.028	0.035	0.158	1.97	<0.0001	<0.0001	0.0003	0.0007	0.01
Taseko R.	W6	5/6/1993	<0.005	<0.005	<0.001	0.004	0.037	0.049	0.225	0.663	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W6	5/13/1993	<0.005	0.02	<0.001	0.004	0.057	0.064	0.17	1.58	<0.0001	0.0001	0.0005	0.0008	<0.010
Taseko R.	W6	5/19/1993	<0.005	0.013	0.001	0.004	0.029	0.053	0.079	1	<0.0001	0.0001	0.0003	0.0003	<0.010
Taseko R.	W6	5/27/1993	<0.005	0.013	<0.001	0.003	0.006	0.025	0.167	0.996	<0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	6/3/1993	<0.005	0.015	<0.001	0.004	0.004	0.018	0.112	0.888	<0.0001	<0.0001	0.0002	0.0003	<0.010
Taseko R.	W6	8/17/1993	0.005	<0.005	0.001	<0.001	<0.001	0.019	0.219	0.926	<0.0001	<0.0001	0.0005	0.0005	<0.010
Taseko R.	W6	8/24/1993	<0.005	0.008	0.003	0.02	0.021	0.026	0.192	2.08	<0.0001	<0.0001	0.0003	0.0007	0.013
Taseko R.	W6	8/31/1993	<0.005	0.008	0.002	0.006	0.006	0.017	0.276	1.03	<0.0001	0.0002	0.0004	0.0005	<0.010
Taseko R.	W6	9/14/1993	<0.005	<0.005	<0.001	0.003	0.003	0.02	0.172	0.906	<0.0001	<0.0001	0.0002	0.0006	0.011
Taseko R.	W6	9/20/1993	<0.005	<0.005	<0.001	0.045	0.046	0.055	0.158	0.863	<0.0001	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W6	5/4/1994	<0.005	0.011	0.007	0.001	0.006	0.027	0.13	0.632	<0.0001	<0.0001	0.0004	0.0005	0.011
Taseko R.	W6	5/12/1994	<0.005	0.015	0.002	0.002	0.005	0.037	0.113	0.641	<0.0001	<0.0001	0.0005	0.0007	0.01
Taseko R.	W6	5/18/1994	0.009	0.008	0.005	0.004	0.006	0.028	0.154	0.59	<0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W6	5/26/1994	<0.005	0.011	0.003	0.002	0.003	0.032	0.164	0.568	<0.0001	<0.0001	0.0005	0.0007	<0.010
Taseko R.	W6	5/31/1994	<0.005	0.009	0.009	0.002	0.004	0.011	0.101	0.527	<0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	8/10/1994	<0.005	0.014	0.017	<0.001	0.077	0.108	0.04	1.05	<0.0001	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W6	8/16/1994	<0.005	0.02	0.002	<0.001	0.021	0.033	0.091	1.35	<0.0002	<0.0002	0.0004	0.0006	<0.010
Taseko R.	W6	8/24/1994	<0.005	0.012	0.002	0.008	0.008	0.04	0.082	1.06	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W6	8/30/1994	<0.005	0.008	0.015	0.018	0.019	0.022	0.168	0.894	<0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	9/6/1994	0.006	0.011	0.003	0.004	0.017	0.024	1.02	1.46	<0.0001	<0.0001	0.0006	0.0006	<0.010
Taseko R.	W6	6/22/1995	<0.005	0.016	0.001	0.007	0.007	0.041	0.053	0.527	<0.0001	<0.0001	0.0003	0.0004	0.01
Taseko R.	W6	6/28/1995	<0.005	0.017	0.009	0.002	0.004	0.044	0.25	0.649	<0.0001	<0.0001	0.0004	0.0004	<0.010
Taseko R.	W6	7/4/1995	<0.005	0.015	0.009	0.003	0.003	0.035	0.162	0.535	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W6	7/13/1995	0.013	0.016	0.001	0.003	0.003	0.07	0.225	0.703	<0.0001	<0.0001	0.0004	0.0004	0.011
Taseko R.	W6	7/19/1995	<0.005	0.018	0.001	0.002	0.005	0.067	0.22	1.04	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W6	9/27/1995	0.005	0.008	0.001	0.003	0.003	0.064	0.192	0.528	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W6	10/4/1995	0.005	0.009	0.001	0.003	0.003	0.015	0.166	0.579	<0.0001	<0.0001	0.0004	0.0005	0.012
Taseko R.	W6	10/11/1995	<0.005	0.008	0.012	0.005	0.005	0.048	0.225	0.535	<0.0001	<0.0001	0.0003	0.0004	0.013
Taseko R.	W6	10/18/1995	<0.005	0.017	0.001	0.001	0.001	0.048	0.18	0.62	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W6	10/27/1995	<0.005	0.015	0.002	<0.001	<0.001	0.047	0.19	0.443	<0.0001	<0.0001	0.0003	0.0004	0.014

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W5	5/30/2006	0.0205	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.014	<0.000017	<0.000017	8.81	9.96	<0.00050	0.00082
Taseko R.	W5	6/6/2006	0.0151	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000017	9.94	9.59	<0.00050	<0.00050
Taseko R.	W5	7/5/2006	0.0183	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	8.94	8.99	<0.00050	0.00053
Taseko R.	W5	8/8/2006	0.0273	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.010	<0.000017	0.000042	8.49	8.94	<0.00050	0.00117
Taseko R.	W5	8/16/2006	0.0269	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	8.38	9.08	<0.00050	0.00134
Taseko R.	W5	8/22/2006	0.0280	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.00017	0.000023	7.56	8.15	<0.00050	0.00108
Taseko R.	W5	8/29/2006	0.0290	<0.00050	<0.00050	<0.00050	<0.00050	0.010	0.011	<0.000017	<0.000017	7.90	8.62	<0.00050	0.00128
Taseko R.	W5	9/6/2006	0.0303	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.010	<0.000017	<0.000017	7.42	7.96	<0.00050	0.00128
Taseko R.	W5	10/3/2006	0.0246	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	8.56	9.04	<0.00050	0.00108
Taseko R.	W5	11/1/2006	0.0217	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.014	<0.000017	0.000012	8.69	9.25	<0.00050	0.00097
Taseko R.	W6	5/31/1992	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.79	10	<0.001	<0.001
Taseko R.	W6	6/30/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.08	9.42	<0.001	<0.001
Taseko R.	W6	7/30/1992	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.31	9.1	<0.001	0.001
Taseko R.	W6	8/30/1992	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.73	9.08	<0.001	0.001
Taseko R.	W6	10/4/1992	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.56	8.91	<0.001	<0.001
Taseko R.	W6	10/28/1992	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.66	9.09	<0.001	0.002
Taseko R.	W6	12/1/1992	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.2	10.5	<0.001	<0.001
Taseko R.	W6	1/7/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.2	10.4	<0.001	<0.001
Taseko R.	W6	1/27/1993	0.027	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.57	9.94	<0.001	<0.001
Taseko R.	W6	3/2/1993	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	11.2	11.6	<0.001	0.002
Taseko R.	W6	3/31/1993	0.026	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.6	10.9	<0.001	0.002
Taseko R.	W6	5/6/1993	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.7	10.9	<0.001	<0.001
Taseko R.	W6	5/13/1993	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.7	9.88	<0.001	0.001
Taseko R.	W6	5/19/1993	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.54	9.14	<0.001	<0.001
Taseko R.	W6	5/27/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.34	8.86	<0.001	0.001
Taseko R.	W6	6/3/1993	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.3	8.59	<0.001	<0.001
Taseko R.	W6	8/17/1993	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.94	10.5	<0.001	0.001
Taseko R.	W6	8/24/1993	0.029	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.74	9.35	<0.001	0.002
Taseko R.	W6	8/31/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.29	8.88	<0.001	0.002
Taseko R.	W6	9/14/1993	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.45	8.82	<0.001	<0.001
Taseko R.	W6	9/20/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.65	9.89	<0.001	<0.001
Taseko R.	W6	5/4/1994	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.2	10.3	<0.001	<0.001
Taseko R.	W6	5/12/1994	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.8	10.8	<0.001	0.001
Taseko R.	W6	5/18/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.2	12.2	<0.001	<0.001
Taseko R.	W6	5/26/1994	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.5	10.9	<0.001	0.001
Taseko R.	W6	5/31/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.8	11.1	<0.001	0.003
Taseko R.	W6	8/10/1994	0.026	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.84	9.56	<0.001	<0.001
Taseko R.	W6	8/16/1994	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.18	8.67	<0.001	0.004
Taseko R.	W6	8/24/1994	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.39	9.14	<0.001	<0.001
Taseko R.	W6	8/30/1994	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.54	8.9	<0.001	<0.001
Taseko R.	W6	9/6/1994	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.94	9	<0.001	<0.001
Taseko R.	W6	6/22/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.91	9.13	<0.001	<0.001
Taseko R.	W6	6/28/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.9	9.06	<0.001	<0.001
Taseko R.	W6	7/4/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.28	9.55	<0.001	<0.001
Taseko R.	W6	7/13/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.51	8.84	<0.001	<0.001
Taseko R.	W6	7/19/1995	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.91	8.33	<0.001	0.003
Taseko R.	W6	9/27/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.92	8.13	<0.001	0.001
Taseko R.	W6	10/4/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.06	8.3	<0.001	<0.001
Taseko R.	W6	10/11/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.45	9.08	<0.001	<0.001
Taseko R.	W6	10/18/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.78	9.02	<0.001	<0.001
Taseko R.	W6	10/27/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9	9.07	<0.001	0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W5	5/30/2006	<0.00010	0.00043	0.00069	0.00242	0.074	0.769	<0.000050	0.000228	<0.0050	<0.0050	1.04	1.49	0.00251	0.0189
Taseko R.	W5	6/6/2006	0.00022	0.00024	0.00134	0.00189	0.489	0.426	0.000098	0.000139	<0.0050	<0.0050	1.15	1.09	0.0100	0.0109
Taseko R.	W5	7/5/2006	<0.00010	0.00037	0.00067	0.00258	0.087	0.595	<0.000050	0.000211	<0.0050	<0.0050	0.95	1.13	0.00271	0.0176
Taseko R.	W5	8/8/2006	<0.00010	0.00085	0.00094	0.00453	0.161	1.50	0.000058	0.000398	<0.0050	<0.0050	0.83	1.45	0.00461	0.0383
Taseko R.	W5	8/16/2006	0.00010	0.00079	0.00087	0.00394	0.198	1.69	0.000055	0.000358	<0.0050	<0.0050	0.91	1.58	0.00435	0.0357
Taseko R.	W5	8/22/2006	<0.00010	0.00079	0.00087	0.00417	0.152	1.51	0.000064	0.000409	<0.0050	<0.0050	0.79	1.42	0.00397	0.0358
Taseko R.	W5	8/29/2006	0.00011	0.00085	0.00095	0.00423	0.206	1.58	0.000060	0.000406	<0.0050	<0.0050	0.85	1.51	0.00486	0.0383
Taseko R.	W5	9/6/2006	0.00011	0.00086	0.00110	0.00438	0.224	1.52	0.000073	0.000388	<0.0050	<0.0050	0.84	1.49	0.00546	0.0369
Taseko R.	W5	10/3/2006	<0.00010	0.00066	0.00080	0.00347	0.174	1.27	0.000052	0.000300	<0.0050	<0.0050	0.92	1.47	0.00390	0.0300
Taseko R.	W5	11/1/2006	0.000093	0.00049	0.00094	0.00299	0.224	0.925	0.0000596	<0.00030	<0.0050	<0.0050	1.07	1.39	0.00442	0.02193
Taseko R.	W6	5/31/1992	<0.001	<0.001	0.002	0.003	0.076	0.471	<0.001	<0.001			1.41	1.67	<0.005	0.017
Taseko R.	W6	6/30/1992	<0.001	<0.001	0.003	0.003	0.119	1.43	<0.001	<0.001			1.1	1.65	<0.005	0.032
Taseko R.	W6	7/30/1992	<0.001	0.001	0.003	0.016	0.062	1.57	<0.001	<0.001			1.04	1.79	<0.005	0.038
Taseko R.	W6	8/30/1992	<0.001	<0.001	0.006*	0.006	0.121	1.56	<0.001	<0.001			0.952	1.58	<0.005	0.039
Taseko R.	W6	10/4/1992	<0.001	<0.001	0.004*	0.004	0.113	0.947	<0.001	<0.001			1.09	1.47	0.006	0.027
Taseko R.	W6	10/28/1992	<0.001	0.001	0.001	0.008	0.104	1.63	<0.001	<0.001			0.999	1.65	<0.005	0.038
Taseko R.	W6	12/1/1992	<0.001	0.001	0.001	0.004	0.082	1.52	<0.001	0.001			1.29	1.86	<0.005	0.032
Taseko R.	W6	1/7/1993	<0.001	<0.001	<0.001	0.003	0.116	0.644	<0.001	<0.001			1.32	1.55	<0.005	0.017
Taseko R.	W6	1/27/1993	<0.001	<0.001	<0.001	0.003	0.117	1.29	<0.001	<0.001			1.49	2	<0.005	0.026
Taseko R.	W6	3/2/1993	<0.001	<0.001	<0.001	0.002	0.114	1.37	<0.001	<0.001			1.5	2.05	<0.005	0.028
Taseko R.	W6	3/31/1993	<0.001	<0.001	<0.001	0.005	0.105	1.49	<0.001	<0.001			1.55	2.14	<0.005	0.03
Taseko R.	W6	5/6/1993	<0.001	<0.001	<0.001	0.002	0.076	0.589	<0.001	<0.001			1.87	2.1	<0.005	0.014
Taseko R.	W6	5/13/1993	<0.001	0.001	0.001	0.005	0.091	1.52	<0.001	<0.001			1.58	2.17	0.012	0.042
Taseko R.	W6	5/19/1993	<0.001	<0.001	<0.001	0.003	0.087	0.913	<0.001	<0.001			1.07	1.48	<0.005	0.023
Taseko R.	W6	5/27/1993	<0.001	<0.001	0.001	0.002	0.092	0.898	<0.001	<0.001			1.11	1.51	<0.005	0.023
Taseko R.	W6	6/3/1993	<0.001	<0.001	0.001	0.003	0.087	0.839	<0.001	<0.001			1.02	1.36	<0.005	0.018
Taseko R.	W6	8/17/1993	<0.001	<0.001	0.001	0.004	0.157	0.846	<0.001	<0.001			1.27	1.58	0.006	0.026
Taseko R.	W6	8/24/1993	<0.001	<0.001	0.002	0.005	0.137	1.69	<0.001	<0.001			1.13	1.84	0.005	0.039
Taseko R.	W6	8/31/1993	<0.001	<0.001	<0.001	0.004	0.163	0.843	<0.001	<0.001			1.04	1.4	0.007	0.025
Taseko R.	W6	9/14/1993	<0.001	<0.001	<0.001	0.002	0.109	0.765	<0.001	<0.001			1.12	1.43	0.007	0.025
Taseko R.	W6	9/20/1993	<0.001	<0.001	<0.001	0.003	0.125	0.793	<0.001	<0.001			1.29	1.6	0.009	0.029
Taseko R.	W6	5/4/1994	<0.001	<0.001	<0.001*	0.013	0.108	0.578	<0.001	<0.001			2.91	3.11	<0.005	0.015
Taseko R.	W6	5/12/1994	<0.001	<0.001	0.001	0.002	0.101	0.486	<0.001	<0.001			2.91	2.91	<0.005	0.015
Taseko R.	W6	5/18/1994	<0.001	<0.001	0.002	0.002	0.116	0.474	<0.001	<0.001			4.04	4.11	<0.005	0.017
Taseko R.	W6	5/26/1994	<0.001	<0.001	0.002	0.002	0.104	0.474	<0.001	<0.001			2.37	2.68	<0.005	0.012
Taseko R.	W6	5/31/1994	<0.001	<0.001	<0.001	0.002	0.092	0.493	<0.001	<0.001			2.04	2.33	<0.005	0.014
Taseko R.	W6	8/10/1994	<0.001	<0.001	<0.001	0.003	0.066	0.893	<0.001	<0.001			0.984	1.37	<0.005	0.026
Taseko R.	W6	8/16/1994	<0.001	<0.001	<0.001	0.004	0.064	1.19	<0.001	0.001			0.957	1.52	<0.005	0.03
Taseko R.	W6	8/24/1994	<0.001	<0.001	<0.001	0.005	0.12	0.922	<0.001	<0.001			0.976	1.39	0.006	0.029
Taseko R.	W6	8/30/1994	<0.001	0.001	<0.001	0.004	0.122	0.713	<0.001	<0.001			1.04	1.3	<0.005	0.025
Taseko R.	W6	9/6/1994	<0.001	<0.001	0.002	0.004	0.194	1.35	<0.001	<0.001			1.06	1.67	0.005	0.037
Taseko R.	W6	6/22/1995	<0.001	<0.001	0.002	0.002	0.099	0.462	<0.001	<0.001			1.17	1.33	<0.005	0.014
Taseko R.	W6	6/28/1995	<0.001	<0.001	<0.001	0.003	0.144	0.474	<0.001	<0.001			1.08	1.22	<0.005	0.013
Taseko R.	W6	7/4/1995	<0.001	<0.001	<0.001	0.003	0.104	0.405	<0.001	<0.001			1.12	1.26	<0.005	0.014
Taseko R.	W6	7/13/1995	<0.001	<0.001	<0.001	0.002	0.131	0.665	<0.001	<0.001			1	1.26	<0.005	0.021
Taseko R.	W6	7/19/1995	<0.001	<0.001	<0.001	0.003	0.162	0.791	<0.001	<0.001			1.02	1.31	<0.005	0.022
Taseko R.	W6	9/27/1995	<0.001	<0.001	<0.001	0.003	0.119	0.415	<0.001	<0.001			0.944	1.09	<0.005	0.013
Taseko R.	W6	10/4/1995	<0.001	<0.001	0.001	0.003	0.105	0.461	<0.001	<0.001			1.07	1.25	<0.005	0.014
Taseko R.	W6	10/11/1995	<0.001	<0.001	<0.001	0.003	0.158	0.372	<0.001	<0.001			1.09	1.21	<0.005	0.011
Taseko R.	W6	10/18/1995	<0.001	<0.001	<0.001	0.002	0.102	0.399	<0.001	<0.001			1.17	1.31	<0.005	0.012
Taseko R.	W6	10/27/1995	<0.001	<0.001	<0.001	0.002	0.097	0.377	<0.001	<0.001			1.2	1.29	<0.005	0.011

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W5	5/30/2006	0.00135	0.00140	<0.00050	0.00071	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.93	3.61
Taseko R.	W5	6/6/2006	0.00123	0.00110	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.27	2.27
Taseko R.	W5	7/5/2006	0.00144	0.00141	<0.00050	0.00060	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.76	2.66
Taseko R.	W5	8/8/2006	0.00140	0.00131	<0.00050	0.00116	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.83	4.39
Taseko R.	W5	8/16/2006	0.00128	0.00135	<0.00050	0.00101	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.98	5.38
Taseko R.	W5	8/22/2006	0.00140	0.00136	<0.00050	0.00102	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.72	4.93
Taseko R.	W5	8/29/2006	0.00138	0.00139	<0.00050	0.00115	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.97	5.22
Taseko R.	W5	9/6/2006	0.00134	0.00141	<0.00050	0.00118	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.14	5.87
Taseko R.	W5	10/3/2006	0.00142	0.00133	<0.00050	0.00089	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.95	4.30
Taseko R.	W5	11/1/2006	0.00132	0.00125	<0.0005	0.00072	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.34	3.96
Taseko R.	W6	5/31/1992	0.001	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.17	3
Taseko R.	W6	6/30/1992	0.001	0.001	<0.001	0.001			0.55		<0.0005	<0.0005	2.35	5.42
Taseko R.	W6	7/30/1992	<0.001	<0.001	<0.001	0.001			0.54		<0.0005	<0.0005	1.74	3.56
Taseko R.	W6	8/30/1992	<0.001	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	1.94	3.82
Taseko R.	W6	10/4/1992	<0.001	0.001	<0.001	0.001			0.59		<0.0005	<0.0005	1.96	2.99
Taseko R.	W6	10/28/1992	<0.001	0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.03	4.57
Taseko R.	W6	12/1/1992	0.001	0.001	<0.001	0.002			0.57		<0.0005	<0.0005	2.14	4.37
Taseko R.	W6	1/7/1993	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	2.36	3.1
Taseko R.	W6	1/27/1993	<0.001	0.001	<0.001	0.001			0.73		<0.0005	<0.0005	2.36	5.48
Taseko R.	W6	3/2/1993	<0.001	<0.001	<0.001	0.002			0.56		<0.0005	<0.0005	2.35	6.02
Taseko R.	W6	3/31/1993	<0.001	<0.001	<0.001	0.001			0.51		<0.0005	<0.0005	2.2	5.29
Taseko R.	W6	5/6/1993	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.59	3.25
Taseko R.	W6	5/13/1993	0.001	0.001	<0.001	<0.001			0.52		<0.0005	<0.0005	2.43	4.42
Taseko R.	W6	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.1	3.28
Taseko R.	W6	5/27/1993	0.001	0.001	<0.001	0.001			0.54		<0.0005	<0.0005	2.07	3.1
Taseko R.	W6	6/3/1993	<0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	2.03	3.02
Taseko R.	W6	8/17/1993	0.001	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	2.27	3.16
Taseko R.	W6	8/24/1993	<0.001	0.001	<0.001	0.001			0.61		<0.0005	<0.0005	2.04	4.39
Taseko R.	W6	8/31/1993	<0.001	0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	1.97	3.01
Taseko R.	W6	9/14/1993	<0.001	0.001	<0.001	<0.001			0.65		<0.0005	<0.0005	1.94	2.84
Taseko R.	W6	9/20/1993	0.001	0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	2.11	3.01
Taseko R.	W6	5/4/1994	<0.001	0.001	<0.001	<0.001			0.99		<0.0005	<0.0005	3.3	3.88
Taseko R.	W6	5/12/1994	0.001	0.001	<0.001	0.001			0.69		<0.0005	<0.0005	3.63	4.15
Taseko R.	W6	5/18/1994	<0.001	0.001	<0.001	<0.001			0.65		<0.0005	<0.0005	4.41	4.79
Taseko R.	W6	5/26/1994	0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	3.08	3.76
Taseko R.	W6	5/31/1994	0.001	0.001	<0.001	<0.001			0.64		<0.0005	<0.0005	2.74	3.23
Taseko R.	W6	8/10/1994	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.04	3.22
Taseko R.	W6	8/16/1994	0.001	0.001	<0.001	0.001			0.52		<0.0005	<0.0005	1.89	3.36
Taseko R.	W6	8/24/1994	<0.001	<0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.03	3.08
Taseko R.	W6	8/30/1994	<0.001	<0.001	<0.001	0.001			0.58		<0.0005	<0.0005	2.09	2.86
Taseko R.	W6	9/6/1994	0.001	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.31	3.63
Taseko R.	W6	6/22/1995	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.13	2.62
Taseko R.	W6	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.65		<0.0005	<0.0005	2.2	2.97
Taseko R.	W6	7/4/1995	<0.001	<0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.28	2.76
Taseko R.	W6	7/13/1995	0.001	0.002	<0.001	<0.001			0.58		<0.0005	<0.0005	2.06	2.72
Taseko R.	W6	7/19/1995	0.001	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.37	3.64
Taseko R.	W6	9/27/1995	<0.001	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	1.93	2.28
Taseko R.	W6	10/4/1995	0.001	0.001	<0.001	<0.001			0.51		<0.0005	<0.0005	1.88	2.32
Taseko R.	W6	10/11/1995	<0.001	0.001	<0.001	<0.001			0.5		<0.0005	<0.0005	2.14	2.5
Taseko R.	W6	10/18/1995	0.001	0.001	<0.001	<0.001			0.51		<0.0005	<0.0005	1.88	2.23
Taseko R.	W6	10/27/1995	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	1.94	2.2

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W5	5/30/2006	0.000014	<0.000050	<2.0	<2.0	0.0470	0.0531	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.056	0.000162	0.000226
Taseko R.	W5	6/6/2006	<0.000010	<0.000010	<2.0	<2.0	0.0488	0.0492	<0.00010	<0.00010	<0.00010	<0.00010	0.032	0.022	0.000116	0.000194
Taseko R.	W5	7/5/2006	<0.000010	<0.000010	<2.0	<2.0	0.0453	0.0513	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.035	0.000165	0.000241
Taseko R.	W5	8/8/2006	<0.000010	<0.000010	<2.0	<2.0	0.0401	0.0468	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.098	0.000162	0.000254
Taseko R.	W5	8/16/2006	<0.000010	<0.000010	<2.0	<2.0	0.0374	0.0449	<0.00010	<0.00010	<0.00010	<0.00010	0.012	0.114	0.000148	0.000233
Taseko R.	W5	8/22/2006	<0.000010	<0.000010	<2.0	<2.0	0.0397	0.0467	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.106	0.000170	0.000250
Taseko R.	W5	8/29/2006	<0.000010	<0.000010	<2.0	<2.0	0.0408	0.0502	<0.00010	<0.00010	<0.00010	<0.00010	0.015	0.109	0.000157	0.000240
Taseko R.	W5	9/6/2006	<0.000010	<0.000030	<2.0	<2.0	0.0389	0.0475	<0.00010	<0.00010	<0.00010	<0.00010	0.014	0.113	0.000167	0.000256
Taseko R.	W5	10/3/2006	<0.000010	<0.000010	<2.0	<2.0	0.0411	0.0491	<0.00010	<0.00010	<0.00010	<0.00010	0.012	0.087	0.000182	0.000255
Taseko R.	W5	11/1/2006	<0.000010	0.0000093	<2.0	<2.0	0.0455	0.0525	<0.00010	<0.00010	<0.00010	<0.00010	0.013	0.062	0.000169	0.000229
Taseko R.	W6	5/31/1992	<0.0001	<0.0001	1.3		0.05	0.056							0.00037	0.00047
Taseko R.	W6	6/30/1992	<0.0001	<0.0001	1.16		0.039	0.039							0.00009	0.00013
Taseko R.	W6	7/30/1992	<0.0001	<0.0001	0.97		0.044	0.051							0.00007	0.00011
Taseko R.	W6	8/30/1992	<0.0001	<0.0001	0.97		0.036	0.038							0.00012	0.00019
Taseko R.	W6	10/4/1992	<0.0001	<0.0001	1.07		0.038	0.038							0.00011	0.00014
Taseko R.	W6	10/28/1992	<0.0001	<0.0001	1.06		0.045	0.047							0.00011	0.00016
Taseko R.	W6	12/1/1992	<0.0001	<0.0001	1.29		0.045	0.045							0.00009	0.00016
Taseko R.	W6	1/7/1993	<0.0001	<0.0001	1.5		0.045	0.057							0.00013	0.00016
Taseko R.	W6	1/27/1993	<0.0001	<0.0001	1.58		0.041	0.057							0.00014	0.00016
Taseko R.	W6	3/2/1993	<0.0001	<0.0001	1.44		0.056	0.064							0.00014	0.00018
Taseko R.	W6	3/31/1993	<0.0001	<0.0001	1.51		0.057	0.061							0.00012	0.00015
Taseko R.	W6	5/6/1993	<0.0001	<0.0001	1.72		0.052	0.057							0.00008	0.00015
Taseko R.	W6	5/13/1993	<0.0001	<0.0001	1.41		0.033	0.05							0.00007	0.00013
Taseko R.	W6	5/19/1993	<0.0001	<0.0001	1.12		0.034	0.034							0.00009	0.00014
Taseko R.	W6	5/27/1993	<0.0001	<0.0001	1.18		0.047	0.055							0.00011	0.00016
Taseko R.	W6	6/3/1993	<0.0001	<0.0001	1.27		0.044	0.047							0.00012	0.00017
Taseko R.	W6	8/17/1993	<0.0001	<0.0001	1.16		0.046	0.049							0.00008	0.00014
Taseko R.	W6	8/24/1993	<0.0001	<0.0001	1.04		0.042	0.047							0.00014	0.0002
Taseko R.	W6	8/31/1993	<0.0001	<0.0001	1.06		0.041	0.046							0.00013	0.00017
Taseko R.	W6	9/14/1993	<0.0001	<0.0001	1.25		0.04	0.044							0.00012	0.00015
Taseko R.	W6	9/20/1993	<0.0001	<0.0001	1.37		0.044	0.048							0.0001	0.00012
Taseko R.	W6	5/4/1994	<0.0001	<0.0001	1.95		0.048	0.051							0.00007	0.0001
Taseko R.	W6	5/12/1994	<0.0001	<0.0001	2		0.049	0.049							0.00008	0.00009
Taseko R.	W6	5/18/1994	<0.0001	<0.0001	2.5		0.053	0.054							0.00005	0.0001
Taseko R.	W6	5/26/1994	<0.0001	<0.0001	1.75		0.049	0.052							0.00008	0.00009
Taseko R.	W6	5/31/1994	<0.0001	<0.0001	1.6		0.052	0.054							0.00005	0.00009
Taseko R.	W6	8/10/1994	<0.0001	<0.0001	0.98		0.042	0.043							0.0001	0.00016
Taseko R.	W6	8/16/1994	<0.0001	<0.0001	1		0.04	0.044							0.0001	0.00019
Taseko R.	W6	8/24/1994	<0.0001	<0.0001	0.96		0.041	0.044							0.00007	0.00012
Taseko R.	W6	8/30/1994	<0.0001	<0.0001	1.07		0.04	0.043							0.00012	0.00015
Taseko R.	W6	9/6/1994	<0.0001	<0.0001	1.05		0.041	0.046							0.00006	0.00014
Taseko R.	W6	6/22/1995	<0.0001	<0.0001	1.49		0.048	0.048					<0.010	0.028	0.00012	0.00015
Taseko R.	W6	6/28/1995	<0.0001	<0.0001	1.26		0.047	0.047					<0.010	0.027	0.00025	0.00027
Taseko R.	W6	7/4/1995	<0.0001	<0.0001	1.21		0.049	0.049					<0.010	0.023	0.00019	0.00024
Taseko R.	W6	7/13/1995	<0.0001	<0.0001	1.09		0.045	0.045					<0.010	0.037	0.00014	0.0002
Taseko R.	W6	7/19/1995	<0.0001	<0.0001	1.12		0.045	0.045					0.015	0.055	0.00021	0.00023
Taseko R.	W6	9/27/1995	<0.0001	<0.0001	1.05		0.042	0.044					<0.010	0.019	0.00017	0.00021
Taseko R.	W6	10/4/1995	<0.0001	<0.0001	1.1		0.045	0.048					<0.010	0.028	0.00019	0.00022
Taseko R.	W6	10/11/1995	<0.0001	<0.0001	1.29		0.046	0.05					0.011	0.019	0.00019	0.00022
Taseko R.	W6	10/18/1995	<0.0001	<0.0001	1.47		0.046	0.048					<0.010	0.02	0.00017	0.00019
Taseko R.	W6	10/27/1995	<0.0001	<0.0001	1.36		0.045	0.045					<0.010	0.013	0.00015	0.00019

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W5	5/30/2006	<0.0010	0.0024	<0.0010	<0.0050
Taseko R.	W5	6/6/2006	0.0014	0.0011	0.0014	0.0017
Taseko R.	W5	7/5/2006	<0.0010	0.0018	<0.0010	<0.0050
Taseko R.	W5	8/8/2006	<0.0010	0.0040	<0.0010	0.0062
Taseko R.	W5	8/16/2006	<0.0010	0.0039	<0.0010	<0.0060
Taseko R.	W5	8/22/2006	<0.0010	0.0040	<0.0010	0.0057
Taseko R.	W5	8/29/2006	<0.0010	0.0044	<0.0010	0.0068
Taseko R.	W5	9/6/2006	<0.0010	0.0044	<0.0010	<0.0070
Taseko R.	W5	10/3/2006	<0.0010	0.0035	<0.0010	<0.0060
Taseko R.	W5	11/1/2006	0.0007	0.0026	0.0010	<0.0050
Taseko R.	W6	5/31/1992	<0.030	<0.030	<0.005	0.011
Taseko R.	W6	6/30/1992	<0.030	<0.030	0.006	0.039
Taseko R.	W6	7/30/1992	<0.030	<0.030	0.009	0.009
Taseko R.	W6	8/30/1992	<0.030	<0.030	<0.005	0.005
Taseko R.	W6	10/4/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	10/28/1992	<0.030	<0.030	<0.005	0.015
Taseko R.	W6	12/1/1992	<0.030	<0.030	<0.005	0.022*
Taseko R.	W6	1/7/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	1/27/1993	<0.030	<0.030	<0.005	0.019
Taseko R.	W6	3/2/1993	<0.030	<0.030	<0.005	0.008
Taseko R.	W6	3/31/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W6	5/6/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	5/13/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W6	5/19/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	5/27/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	6/3/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/17/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/24/1993	<0.030	<0.030	<0.005	0.03
Taseko R.	W6	8/31/1993	<0.030	<0.030	<0.005	0.006
Taseko R.	W6	9/14/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	9/20/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	5/4/1994	<0.030	<0.030	<0.005	0.015
Taseko R.	W6	5/12/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	5/18/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	5/26/1994	<0.030	<0.030	<0.005	0.007
Taseko R.	W6	5/31/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/10/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/16/1994	<0.030	<0.030	<0.005	0.007
Taseko R.	W6	8/24/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/30/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	9/6/1994	<0.030	<0.030	<0.005	0.005
Taseko R.	W6	6/22/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	6/28/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	7/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	7/13/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	7/19/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	9/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	10/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	10/11/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	10/18/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	10/27/1995	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W6	5/29/1996				82.2	37		7.35	33.1	13.8		3.1	50	<1	0.5	0.05	6.4
Taseko R.	W6	6/9/1996				73.4	34.5		7.21	28.5	14.7		2.2	50	3	0.5	0.04	7
Taseko R.	W6	6/19/1996				69.4	28.5		7.31	24.6	13.2		1.6	45	1	0.6	0.04	7.5
Taseko R.	W6	6/27/1996				98.6	47.4		7.3	43.8	9.4		7.9	60	5	0.5	0.05	5.4
Taseko R.	W6	7/10/1996				72.2	35.7		7.31	26.3	15.7		1.7	49	8	0.5	0.04	7.6
Taseko R.	W6	8/6/1996				60.1	25.4		7.34	21	29.3		0.8	38	9	0.5	0.03	6.7
Taseko R.	W6	8/16/1996				59	24.2		7.6	19	27.7		1.2	36	7	0.5	0.03	6.7
Taseko R.	W6	8/24/1996				58.6	24.1		7.59	20.3	26.4		0.8	37	7	0.5	0.05	6.5
Taseko R.	W6	8/29/1996				53.8	23		7.74	18.6	17.1		0.6	35	7	0.5	0.05	6.5
Taseko R.	W6	9/6/1996				58.2	24.4		7.65	19.8	18		0.8	36	5	0.5	0.04	6.4
Taseko R.	W6	2/28/1997				79	31		7.68	27	10.7		0.9	47	2	0.5	0.05	8
Taseko R.	W6	7/14/1997	10.8			68	30.5	7.47	6.9	28	10.7		2.1	41	2	0.5	0.05	7
Taseko R.	W6	7/21/1997	11.5			61	25.1	7.27	7.13	21	15		1.2	33	2	0.5	0.03	7
Taseko R.	W6	7/29/1997	13			59	24.5	8.2	6.69	21	16.7		0.9	35	6	0.5	0.04	7
Taseko R.	W6	8/4/1997	15			56	24.7	8.4	6.88	21	12.8		1.2	33	5	0.5	0.02	7
Taseko R.	W6	8/12/1997				61	23.7		6.83	19	14.8		1	34	4	0.5	0.03	7
Taseko R.	W6	9/15/1997	11			58	22.7	7.77	7.11	17	26.3		1.1	31	11	0.5	0.04	6
Taseko R.	W6	9/22/1997	12			68	26.4	7.23	7.5	19	20.7		1.5	35	9	0.5	0.05	6
Taseko R.	W6	9/29/1997	10			60	22.9	7.72	7.12	17	24.1		1.3	29	8	0.5	0.04	6
Taseko R.	W6	10/6/1997	8.5			62	22.7	8	7.53	17	21.4		1.3	29	8	0.5	0.03	6
Taseko R.	W6	10/13/1997	7			61	24.8	7.48	7.21	18	20.1		1.2	34	3	0.6	0.21	6
Taseko R.	W6	11/16/1997	2.9			67	25	7.9	6.97	20	16.5		0.9	35	2	0.5	0.02	7
Taseko R.	W6	12/16/1997	1.1			71	28.7	7.64	7.13	22	16.6		1.1	39	2	0.5	0.07	7
Taseko R.	W6	1/20/1998	0.3			71	28.3	7.27	7.27	23	13.2		1	39	1	0.5	0.06	7
Taseko R.	W6	2/18/1998	0.5			67	29.2	7.65	7.05	24	12.6		0.5	39	2	0.5	0.04	7
Taseko R.	W6	3/10/1998				75	30		7.43	24	11.8		0.5	40	3	0.5	0.03	7
Taseko R.	W6	4/14/1998	3.7			73	33	7.52	7.26	27	9.8		0.5	40	1	0.5	0.02	7
Taseko R.	W6	5/12/1998	9.3			73	26.5	7.36	7.67	20	11.6		1.4	36	4	0.5	0.02	7
Taseko R.	W6	6/17/1998	9			56	24.4		7.14	17	16.2		0.8	33	5	0.5	0.02	7
Taseko R.	W6	5/9/2006	2.2	12.7	77.6	71.2	32.9		7.76	21.4	17.0	2.5		52	<3.0	<0.50	0.030	7.72
Taseko R.	W6	5/16/2006	4.3	11.2	73.1	70.0	32.5		7.98	23.8	16.0	1.3		46	<3.0	<0.50	0.036	7.96
Taseko R.	W6	5/24/2006	4.8	11.0	63.6	64.2	28.2		7.76	18.0	19.3	0.9		48	4.1	<0.50	0.026	7.85
Taseko R.	W6	5/30/2006	7.3	10.2	68.5	68.2	33.1		7.78	19.9	17.3	2.1		57	3.0	<0.50	0.034	7.77
Taseko R.	W6	6/7/2006	7.0	10.1	67.1	66.1	32.3		7.74	23.8	16.5	2.4		46	<3.0	<0.50	0.030	7.95
Taseko R.	W6	7/5/2006	13.5	9.2	59.4	59.1	26.6		7.66	19.2	18.7	0.7		49	5.3	<0.50	0.030	8.10
Taseko R.	W6	8/8/2006	8.00			52.7	24.5		7.78	17.1	50.1	<0.50		56	7.1	<0.50	0.023	6.86
Taseko R.	W6	8/16/2006	10.3	9.9	76	52.6	24.4		7.60	15.8	44.5	0.7		50	7.7	<0.50	0.025	6.70
Taseko R.	W6	8/22/2006	14.4	9.2	55.1	51.6	23.0		7.61	18.0	39.1	2.1		52.3	5.7	1.36	0.026	6.6
Taseko R.	W6	8/29/2006	10.2	9.5	55.3	53.9	23.2		7.62	19.8	42.1			54	5.2	<2.5	<0.10	5.6
Taseko R.	W6	9/5/2006	12.7	8.8	50	50.6	22.9		7.66	17.3	41.1	0.5		42	7.3	<0.50	0.029	6.20
Taseko R.	W6	10/3/2006	7.9	10.3	50	53.9	25.4		7.48	19.1	28.3			49	7.0	<0.50	0.025	7.16
Taseko R.	W6	11/1/2006				59.9	26.6		7.60	21.6	29.0	0.69		51	3.7	<0.50	0.028	7.20
Taseko R.	W9	12/1/1992				53.6	25.6		7.59	19.5	43.6			41	7	0.5	0.02	6.8
Taseko R.	W9	1/7/1993				57	25.6		7.5	19.2	35.7			42	2	0.9	0.04	6.5
Taseko R.	W9	1/27/1993				60	24.3		7.78	21.5	34.1			44	4	1	0.03	6.8
Taseko R.	W9	3/2/1993				58.5	26.8		7.69	20.3	30.1			47	7	0.9	0.04	10
Taseko R.	W9	3/31/1993				60.3	25.9		7.81	20.7	29.5			48	7	1	0.03	6.8
Taseko R.	W9	5/6/1993				59.7	25.6		7	20.1	31.1			44	5	1.4	0.04	6.5
Taseko R.	W9	5/13/1993				53.7	23.3		7.48	17.9	37.9			36	17	0.5	0.04	6.2
Taseko R.	W9	5/19/1993				58.3	24.5		7.51	18.4	35.1			42	8	1.4	0.04	6.9
Taseko R.	W9	5/27/1993				59.2	24.9		7.5	21.5	38.9			38	6	1.4	0.03	7.6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W6	5/29/1996	<0.005	0.011	0.005	0.006	0.006	0.029	0.097	0.351	0.0001	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	6/9/1996	0.011	0.013	0.006	0.003	0.03	0.03	0.118	0.339	0.0001	<0.0001	0.0004	0.0005	0.013
Taseko R.	W6	6/19/1996	0.008	0.013	0.007	0.003	0.004	0.026	0.148	0.271	0.0002	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W6	6/27/1996	0.013	0.009	0.004	0.003	0.005	0.025	0.108	0.841	0.0002	0.0001	0.0008	0.0008	<0.010
Taseko R.	W6	7/10/1996	0.008	0.011	0.006	0.003	0.003	0.029	0.089	0.52	0.0002	0.0001	0.0006	0.0009	<0.010
Taseko R.	W6	8/6/1996	0.014	0.013	0.001	0.004	0.004	0.066	0.114	0.821	0.0002	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W6	8/16/1996	0.017	0.01	0.008	0.003	0.003	0.067	0.086	0.631	0.0003	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W6	8/24/1996	<0.005	0.007	0.11*	0.005	0.006	0.06	0.127	0.628	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W6	8/29/1996	0.02	0.73	0.007	0.004	0.004	0.067	0.083	0.429	0.0003	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W6	9/6/1996	<0.005	0.008	0.008	0.004	0.004	0.061	0.091	0.815	0.0003	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W6	2/28/1997	0.013	0.022	<0.001	<0.001	0.002	0.013	0.075	0.426	<0.0001	<0.0001	0.0004	0.0005	0.012
Taseko R.	W6	7/14/1997	0.007	0.027	0.001	0.002	0.003	0.011	0.075	0.369	0.00021	0.00007	0.0004	0.0005	0.00808
Taseko R.	W6	7/21/1997	0.005	0.015	0.002	0.001	0.002	0.011	0.074	0.577	0.00016	0.00006	0.0004	0.0005	0.00791
Taseko R.	W6	7/29/1997	0.012	0.014	0.001	0.001	0.003	0.023	0.092	0.4	0.00005	0.00006	0.0003	0.0005	0.00799
Taseko R.	W6	8/4/1997	0.009	0.012	0.001	0.001	0.003	0.019	0.086	0.458	0.00006	0.00006	0.0004	0.0005	0.00802
Taseko R.	W6	8/12/1997	0.013	0.018	0.002	0.001	0.002	0.014	0.109	0.474	0.00006	0.00007	0.0004	0.0005	0.00801
Taseko R.	W6	9/15/1997	0.011	0.005	0.001	0.002	0.003	0.026	0.118	1	0.00006	0.00008	0.0003	0.0005	0.00782
Taseko R.	W6	9/22/1997	0.005	0.015	0.001	0.003	0.004	0.03	0.132	0.664	0.00005	0.00005	0.0004	0.0005	0.00833
Taseko R.	W6	9/29/1997	0.011	0.008	0.001	0.002	0.002	0.036	0.114	0.895	0.00006	0.00012	0.0003	0.0005	0.00751
Taseko R.	W6	10/6/1997	0.005	0.011	0.001	0.001	0.003	0.033	0.112	0.727	0.00006	0.00006	0.0003	0.0005	0.00805
Taseko R.	W6	10/13/1997	0.008	0.02	0.001	0.001	0.002	0.028	0.099	1.1	0.00008	0.0001	0.0003	0.0005	0.0076
Taseko R.	W6	11/16/1997	0.013	0.018	0.001	0.002	0.003	0.017	0.109	0.918	0.00006	0.00006	0.0003	0.0004	0.00836
Taseko R.	W6	12/16/1997	0.011	0.032	0.001	0.001	0.002	0.019	0.098	0.587	0.00005	0.00006	0.0003	0.0005	0.00816
Taseko R.	W6	1/20/1998	0.005	0.02	0.001	0.001	0.001	0.012	0.098	0.487	0.00006	0.00008	0.0003	0.0004	0.00857
Taseko R.	W6	2/18/1998	0.008	0.02	0.006	0.001	0.001	0.011	0.086	0.502	0.00005	0.00006	0.0003	0.0004	0.00874
Taseko R.	W6	3/10/1998	0.009	0.018	0.001	0.001	0.001	0.004	0.117	0.559	0.00006	0.00006	0.0003	0.0004	0.0089
Taseko R.	W6	4/14/1998	0.01	0.017	0.001	0.001	0.001	0.006	0.113	0.374	0.00006	0.00006	0.0004	0.0004	0.00909
Taseko R.	W6	5/12/1998	0.012	0.018	0.001	0.001	0.001	0.011	0.1	0.727	0.00005	0.00005	0.0003	0.0004	0.00806
Taseko R.	W6	6/17/1998	0.007	0.009	0.001	0.001	0.001	0.02	0.092	0.703	0.00005	0.00006	0.0003	0.0004	0.0081
Taseko R.	W6	5/9/2006	0.0134	0.0144	<0.0010	<0.0010	0.0023	0.0157	0.134	0.408	<0.00010	<0.00010	0.00037	0.00046	0.00933
Taseko R.	W6	5/16/2006	<0.0050	0.0135	<0.0010	0.0024	0.0038	0.0177	0.0971	0.499	<0.00010	0.00010	0.00038	0.00049	0.00928
Taseko R.	W6	5/24/2006	<0.0050	0.0148	<0.0010	<0.0010	<0.0020	0.0182	0.130	0.767	<0.00010	<0.00010	0.00036	0.00051	0.00929
Taseko R.	W6	5/30/2006	0.0147	0.0105	<0.0010	0.0018	0.0033	0.0150	0.142	0.645	<0.00010	<0.00010	0.00040	0.00051	0.00907
Taseko R.	W6	6/7/2006	0.0130	0.0148	<0.0010	0.0010	<0.0020	0.0166	0.670	0.490	<0.00010	<0.00010	0.00049	0.00050	0.0147
Taseko R.	W6	7/5/2006	<0.0050	0.0121	<0.0010	0.0022	0.0020	0.0254	0.150	1.030	<0.00010	<0.00010	0.00037	0.00060	0.00943
Taseko R.	W6	8/8/2006	<0.0050	0.0076	<0.0010	0.0101	0.0037	0.0272	0.295	2.50	<0.00010	<0.00010	0.00041	0.00080	0.0110
Taseko R.	W6	8/16/2006	<0.0050	0.0119	<0.0010	0.0016	0.0071	0.0216	0.217	1.96	<0.00010	0.00011	0.00036	0.00074	0.00999
Taseko R.	W6	8/22/2006	0.0173	<0.0050	<0.0020	0.0026	0.0046	0.0208	0.259	1.78	<0.00010	<0.00010	0.00041	0.00070	0.0109
Taseko R.	W6	8/29/2006	0.0200	<0.025	0.0068	0.0018	0.0038	0.0160	0.281	2.26	<0.00010	<0.00010	0.00041	0.00079	0.0111
Taseko R.	W6	9/5/2006	0.0200	<0.0050	<0.0010	0.0014	0.0048	0.0188	0.540	2.13	<0.00010	0.00012	0.00044	0.00068	0.0136
Taseko R.	W6	10/3/2006	0.0193	0.0088	<0.0010	<0.0010	<0.0020	0.0161	0.242	1.67	<0.00010	<0.00010	0.00037	0.00066	0.0106
Taseko R.	W6	11/1/2006	0.0066	0.0134	<0.010	0.0007	0.0022	0.0145	0.202	1.41	<0.00010	0.00013	0.00036	0.00221	0.0109
Taseko R.	W9	12/1/1992	0.005	0.016	<0.001	0.005	0.017	0.018	0.09	1.05	<0.0002	<0.0002	0.0003	0.0005	<0.010
Taseko R.	W9	1/7/1993	0.019	0.022	<0.001	0.002	0.006	0.063	0.18	0.835	<0.0001	<0.0001	0.0009	0.0013	<0.010
Taseko R.	W9	1/27/1993	0.008	0.014	<0.001	0.031	0.032	0.051	0.31	2.74	<0.0001	0.0001	0.0003	0.0008	<0.010
Taseko R.	W9	3/2/1993	0.007	0.02	<0.001	0.043	0.046	0.048	0.102	2.46	0.0001	0.0002	0.0003	0.0009	<0.010
Taseko R.	W9	3/31/1993	<0.005	<0.005	<0.001	0.003	0.029	0.04	0.197	1.94	<0.0001	0.0001	0.0003	0.0006	0.011
Taseko R.	W9	5/6/1993	<0.005	0.012	0.005	0.003	0.04	0.053	0.25	1.75	<0.0001	<0.0001	0.0001	0.0006	<0.010
Taseko R.	W9	5/13/1993	0.025	0.022	<0.001	0.004	0.058	0.067	0.156	1.84	<0.0001	<0.0001	0.0004	0.0009	<0.010
Taseko R.	W9	5/19/1993	<0.005	<0.005	<0.001	0.004	0.027	0.061	0.159	1.03	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	5/27/1993	<0.005	0.013	<0.001	0.006	0.006	0.024	0.151	2.12	<0.0001	0.0002	0.0003	0.0008	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W6	5/29/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.6	10.6	<0.001	<0.001
Taseko R.	W6	6/9/1996	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.7	10.6	<0.001	<0.001
Taseko R.	W6	6/19/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.03	9.36	<0.001	<0.001
Taseko R.	W6	6/27/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.9	13	<0.001	<0.001
Taseko R.	W6	7/10/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.3	13.1	<0.001	<0.001
Taseko R.	W6	8/6/1996	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.45	8.84	<0.001	<0.001
Taseko R.	W6	8/16/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.07	8.26	<0.001	<0.001
Taseko R.	W6	8/24/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.95	8.12	<0.001	<0.001
Taseko R.	W6	8/29/1996	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.82	7.21	<0.001	<0.001
Taseko R.	W6	9/6/1996	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.18	8.4	<0.001	<0.001
Taseko R.	W6	2/28/1997	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	10.1	10.4	<0.001	<0.001
Taseko R.	W6	7/14/1997	0.0118	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	9.55	9.39	0.0005	0.0005
Taseko R.	W6	7/21/1997	0.0146	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	8.29	8.24	0.0005	0.0005
Taseko R.	W6	7/29/1997	0.0132	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	8.08	7.98	0.0005	0.0005
Taseko R.	W6	8/4/1997	0.0133	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.24	7.89	0.0005	0.0005
Taseko R.	W6	8/12/1997	0.0132	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	8	8.06	0.0005	0.0005
Taseko R.	W6	9/15/1997	0.0174	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.62	7.73	0.0005	0.0006
Taseko R.	W6	9/22/1997	0.0156	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	8.66	8.63	0.0005	0.0005
Taseko R.	W6	9/29/1997	0.0169	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	7.71	7.78	0.0005	0.0007
Taseko R.	W6	10/6/1997	0.0163	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	7.58	8.05	0.0005	0.0006
Taseko R.	W6	10/13/1997	0.0174	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	8.29	7.96	0.0005	0.0006
Taseko R.	W6	11/16/1997	0.0158	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	8.31	8.52	0.0005	0.0005
Taseko R.	W6	12/16/1997	0.0139	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	9.46	10.1	0.0005	0.0005
Taseko R.	W6	1/20/1998	0.0147	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	9.36	9.49	0.0005	0.0005
Taseko R.	W6	2/18/1998	0.0137	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	9.6	10.1	0.0005	0.0005
Taseko R.	W6	3/10/1998	0.0136	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	9.83	10.2	0.0005	0.0005
Taseko R.	W6	4/14/1998	0.0123	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	10.5	10.4	0.0005	0.0005
Taseko R.	W6	5/12/1998	0.0145	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	8.7	8.7	0.0005	0.0005
Taseko R.	W6	6/17/1998	0.0148	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	8.24	8.34	0.0005	0.0005
Taseko R.	W6	5/9/2006	0.0141	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	10.3	10.4	<0.00050	<0.00050
Taseko R.	W6	5/16/2006	0.0150	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	10.4	10.4	<0.00050	<0.00050
Taseko R.	W6	5/24/2006	0.0173	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.011	<0.000017	<0.000017	9.40	9.54	<0.00050	<0.00050
Taseko R.	W6	5/30/2006	0.0154	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000017	10.2	10.5	<0.00050	<0.00050
Taseko R.	W6	6/7/2006	0.0150	<0.00050	<0.00050	<0.00050	<0.00050	0.013	0.013	<0.000017	<0.000017	10.4	10.1	<0.00060	<0.00050
Taseko R.	W6	7/5/2006	0.0197	<0.00050	<0.00050	<0.00050	<0.00050	0.011	0.013	<0.000017	<0.000017	9.00	9.25	<0.00050	0.00064
Taseko R.	W6	8/8/2006	0.0294	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.010	<0.000017	0.000019	8.39	9.07	<0.00050	0.00125
Taseko R.	W6	8/16/2006	0.0272	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.010	<0.000017	<0.000017	8.38	9.11	<0.00050	0.00126
Taseko R.	W6	8/22/2006	0.0263	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.00017	0.000028	7.78	8.00	<0.00050	0.00090
Taseko R.	W6	8/29/2006	0.0293	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	0.000021	7.83	8.96	<0.00050	0.00127
Taseko R.	W6	9/5/2006	0.0285	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.010	<0.000017	0.000022	7.60	8.13	<0.00050	0.00116
Taseko R.	W6	10/3/2006	0.0245	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	8.61	8.95	<0.00050	0.00098
Taseko R.	W6	11/1/2006	0.0215	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	0.000012	8.83	8.98	<0.00050	0.00107
Taseko R.	W9	12/1/1992	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.73	9.29	<0.001	<0.001
Taseko R.	W9	1/7/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.73	9.19	<0.001	<0.001
Taseko R.	W9	1/27/1993	0.031	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.1	8.83	<0.001	0.001
Taseko R.	W9	3/2/1993	0.028	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.14	9.63	<0.001	0.002
Taseko R.	W9	3/31/1993	0.025	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.7	9.23	<0.001	0.004*
Taseko R.	W9	5/6/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.55	8.56	<0.001	<0.001
Taseko R.	W9	5/13/1993	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.89	8.54	<0.001	0.002
Taseko R.	W9	5/19/1993	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.3	8.84	<0.001	<0.001
Taseko R.	W9	5/27/1993	0.026	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.65	8.65	<0.001	0.002

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W6	5/29/1996	<0.001	<0.001	<0.001	0.002	0.076	0.323	<0.001	<0.001			2.6	2.65	<0.005	0.012
Taseko R.	W6	6/9/1996	<0.001	<0.001	0.001	0.002	0.094	0.325	<0.001	<0.001			1.89	1.94	<0.005	0.011
Taseko R.	W6	6/19/1996	<0.001	<0.001	<0.001	0.002	0.092	0.195	<0.001	<0.001			1.45	1.48	<0.005	0.007
Taseko R.	W6	6/27/1996	<0.001	<0.001	0.002	0.003	0.07	0.335	<0.001	<0.001			3.65	3.64	<0.005	0.011
Taseko R.	W6	7/10/1996	<0.001	<0.001	0.001	0.003	0.035	0.277	<0.001	<0.001			2.44	3.37	<0.005	0.009
Taseko R.	W6	8/6/1996	<0.001	<0.001	0.002	0.003	0.074	0.779	<0.001	<0.001			1.05	1.36	<0.005	0.021
Taseko R.	W6	8/16/1996	<0.001	<0.001	<0.001	0.003	0.048	0.578	<0.001	<0.001			0.971	1.18	<0.005	0.016
Taseko R.	W6	8/24/1996	<0.001	<0.001	<0.001	0.003	0.092	0.366	<0.001	<0.001			1.04	1.15	<0.005	0.013
Taseko R.	W6	8/29/1996	<0.001	<0.001	<0.001	0.002	0.065	0.3	<0.001	<0.001			0.835	0.85	<0.005	0.01
Taseko R.	W6	9/6/1996	<0.001	<0.001	<0.001	0.003	0.069	0.707	<0.001	<0.001			0.977	1.25	<0.005	0.019
Taseko R.	W6	2/28/1997	<0.001	<0.001	<0.001	0.002	0.045	0.321	<0.001	<0.001			1.41	1.54	<0.005	0.007
Taseko R.	W6	7/14/1997	0.0001	0.0002	0.0007	0.0016	0.04	0.33	0.00005	0.00015	0.001	0.001	1.61	1.65	0.00236	0.0118
Taseko R.	W6	7/21/1997	0.0001	0.0003	0.0006	0.002	0.04	0.42	0.00005	0.00014	0.001	0.001	1.06	1.19	0.00237	0.0132
Taseko R.	W6	7/29/1997	0.0002	0.0002	0.0006	0.0019	0.06	0.4	0.00005	0.00012	0.001	0.001	1.04	1.13	0.00285	0.0128
Taseko R.	W6	8/4/1997	0.0001	0.0002	0.0006	0.0018	0.06	0.35	0.00005	0.00012	0.001	0.001	1	1.03	0.00304	0.0119
Taseko R.	W6	8/12/1997	0.0001	0.0004	0.0006	0.0018	0.07	0.41	0.00005	0.00014	0.001	0.001	0.91	1.03	0.00289	0.0119
Taseko R.	W6	9/15/1997	0.0001	0.0004	0.0006	0.0026	0.08	0.7	0.00005	0.00021	0.001	0.001	0.9	1.1	0.00316	0.0213
Taseko R.	W6	9/22/1997	0.0001	0.0003	0.0006	0.0021	0.08	0.48	0.00005	0.00017	0.001	0.001	1.16	1.3	0.00262	0.016
Taseko R.	W6	9/29/1997	0.0005	0.001	0.0006	0.0024	0.07	0.47	0.00005	0.00019	0.001	0.001	0.88	1.04	0.00304	0.022
Taseko R.	W6	10/6/1997	0.0003	0.0009	0.0006	0.0023	0.07	0.62	0.00005	0.00019	0.001	0.001	0.92	1.14	0.00365	0.0185
Taseko R.	W6	10/13/1997	0.0001	0.0004	0.0006	0.0022	0.07	0.57	0.00005	0.00019	0.001	0.001	1	1.11	0.0023	0.0197
Taseko R.	W6	11/16/1997	0.0001	0.0003	0.0006	0.0019	0.07	0.35	0.00005	0.00015	0.001	0.001	1.04	1.15	0.00177	0.016
Taseko R.	W6	12/16/1997	0.0006	0.0003	0.0006	0.0018	0.07	0.53	0.00005	0.00015	0.001	0.001	1.23	1.41	0.00172	0.0131
Taseko R.	W6	1/20/1998	0.0001	0.0002	0.0005	0.0015	0.07	0.4	0.00005	0.00012	0.001	0.001	1.2	1.36	0.00155	0.0108
Taseko R.	W6	2/18/1998	0.0001	0.0002	0.0005	0.0015	0.06	0.35	0.00005	0.0001	0.001	0.001	1.28	1.42	0.00155	0.00986
Taseko R.	W6	3/10/1998	0.0001	0.0002	0.0006	0.0014	0.09	0.3	0.00005	0.0001	0.001	0.001	1.31	1.44	0.00185	0.0098
Taseko R.	W6	4/14/1998	0.0001	0.0001	0.0005	0.0013	0.07	0.31	0.00005	0.00009	0.001	0.001	1.6	1.7	0.0016	0.00664
Taseko R.	W6	5/12/1998	0.0001	0.0002	0.0006	0.0017	0.07	0.26	0.00005	0.00012	0.001	0.001	1.2	1.2	0.00229	0.0115
Taseko R.	W6	6/17/1998	0.0001	0.0003	0.0006	0.0019	0.07	0.59	0.00005	0.00015	0.001	0.001	0.9	1.2	0.00257	0.0153
Taseko R.	W6	5/9/2006	<0.00010	0.00020	0.00066	0.00175	0.099	0.327	<0.000050	0.000105	<0.0050	<0.0050	1.75	1.89	0.00217	0.00945
Taseko R.	W6	5/16/2006	<0.00010	0.00025	0.00059	0.00179	0.071	0.345	<0.000050	0.000131	<0.0050	<0.0050	1.60	1.73	0.00170	0.0116
Taseko R.	W6	5/24/2006	<0.00010	0.00034	<0.0010	0.00261	0.095	0.606	<0.000050	0.000208	<0.0050	<0.0050	1.15	1.36	0.00234	0.0163
Taseko R.	W6	5/30/2006	<0.00010	0.00031	0.00082	0.00206	0.096	0.501	<0.000050	0.000166	<0.0050	<0.0050	1.82	1.99	0.00274	0.0145
Taseko R.	W6	6/7/2006	0.00023	0.00025	0.00135	0.00196	0.469	0.416	0.000096	0.000127	<0.0050	<0.0050	1.55	1.47	0.00892	0.0115
Taseko R.	W6	7/5/2006	<0.00010	0.00043	0.00073	0.00273	0.115	0.744	<0.000050	0.000234	<0.0050	<0.0050	0.99	1.26	0.00331	0.0204
Taseko R.	W6	8/8/2006	0.00010	0.00094	0.00097	0.00455	0.182	1.76	0.000061	0.000426	<0.0050	<0.0050	0.86	1.63	0.00490	0.0415
Taseko R.	W6	8/16/2006	<0.00010	0.00082	0.00085	0.00406	0.197	1.74	0.000053	0.000396	<0.0050	<0.0050	0.85	1.56	0.00432	0.0359
Taseko R.	W6	8/22/2006	<0.00010	0.00071	0.00095	0.00388	0.184	1.28	0.000073	0.000367	<0.0050	<0.0050	0.86	1.33	0.00458	0.0325
Taseko R.	W6	8/29/2006	<0.00010	0.00086	0.00087	0.00422	0.188	1.70	0.000057	0.000398	<0.0050	<0.0050	0.88	1.63	0.00452	0.0396
Taseko R.	W6	9/5/2006	0.00019	0.00078	0.00158	0.00405	0.307	1.40	0.000093	0.000371	<0.0050	<0.0050	0.95	1.54	0.00776	0.0347
Taseko R.	W6	10/3/2006	<0.00010	0.00065	0.00075	0.00337	0.168	1.18	<0.000050	0.000296	<0.0050	<0.0050	0.96	1.45	0.00363	0.0290
Taseko R.	W6	11/1/2006	<0.00010	0.00049	0.00335	0.00287	0.1793	0.901	0.000046	<0.00030	<0.0050	<0.0050	1.11	1.44	0.00360	0.0219
Taseko R.	W9	12/1/1992	<0.001	<0.001	<0.001	0.003	0.085	0.868	<0.001	<0.001			0.92	1.27	<0.005	0.022
Taseko R.	W9	1/7/1993	<0.001	<0.001	0.001	0.004	0.114	0.634	<0.001	<0.001			0.924	1.17	0.005	0.018
Taseko R.	W9	1/27/1993	<0.001	<0.001	<0.001	0.003	0.107	1.75	<0.001	<0.001			0.99	1.71	<0.005	0.037
Taseko R.	W9	3/2/1993	<0.001	<0.001	<0.001	0.003	0.093	1.69	<0.001	<0.001			0.971	1.68	<0.005	0.035
Taseko R.	W9	3/31/1993	<0.001	<0.001	<0.001	0.007	0.118	1.5	<0.001	<0.001			1	1.62	<0.005	0.031
Taseko R.	W9	5/6/1993	<0.001	<0.001	<0.001	0.003	0.091	1.31	<0.001	<0.001			1.03	1.54	<0.005	0.029
Taseko R.	W9	5/13/1993	<0.001	0.001	0.001	0.005	0.089	1.78	<0.001	<0.001			0.882	1.58	<0.005	0.039
Taseko R.	W9	5/19/1993	<0.001	<0.001	<0.001	0.003	0.075	0.963	<0.001	<0.001			0.908	1.32	<0.005	0.023
Taseko R.	W9	5/27/1993	<0.001	<0.001	<0.001	0.004	0.091	1.63	<0.001	<0.001			0.917	1.64	<0.005	0.035

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W6	5/29/1996	0.001	0.001	<0.001	<0.001			0.62		0.0007	0.0007	2.88	3.21
Taseko R.	W6	6/9/1996	0.001	0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.66	2.84
Taseko R.	W6	6/19/1996	0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	2.4	2.45
Taseko R.	W6	6/27/1996	0.002	0.002	<0.001	<0.001			0.73		<0.0005	<0.0005	4.38	4.5
Taseko R.	W6	7/10/1996	0.002	0.002	<0.001	<0.001			0.73		<0.0005	<0.0005	3.31	4.03
Taseko R.	W6	8/6/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	2.05	3.04
Taseko R.	W6	8/16/1996	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	1.94	2.59
Taseko R.	W6	8/24/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	2.01	2.41
Taseko R.	W6	8/29/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	1.85	2.17
Taseko R.	W6	9/6/1996	0.001	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	1.93	2.87
Taseko R.	W6	2/28/1997	0.001	0.001	<0.001	<0.001			0.53		<0.0005	<0.0005	2.23	2.58
Taseko R.	W6	7/14/1997	0.00115	0.0013	0.0001	0.0004					0.0005	0.0005	2.54	2.76
Taseko R.	W6	7/21/1997	0.00122	0.00131	0.0001	0.0009					0.0005	0.0005	2.09	2.63
Taseko R.	W6	7/29/1997	0.00128	0.00117	0.0001	0.0003					0.0005	0.0005	2.12	2.43
Taseko R.	W6	8/4/1997	0.00129	0.00112	0.0001	0.0003					0.0005	0.0005	2.06	2.28
Taseko R.	W6	8/12/1997	0.00132	0.00127	0.0001	0.0003					0.0005	0.0005	2.03	2.52
Taseko R.	W6	9/15/1997	0.00123	0.00123	0.0001	0.0005					0.0005	0.0005	1.92	2.85
Taseko R.	W6	9/22/1997	0.00126	0.00119	0.0001	0.0004					0.0005	0.0005	2.07	2.56
Taseko R.	W6	9/29/1997	0.00125	0.00119	0.0001	0.0006					0.0005	0.0005	1.89	2.61
Taseko R.	W6	10/6/1997	0.0013	0.00124	0.0001	0.0005					0.0005	0.0005	1.85	2.65
Taseko R.	W6	10/13/1997	0.00124	0.00126	0.0001	0.0005					0.0005	0.0005	1.89	2.61
Taseko R.	W6	11/16/1997	0.00129	0.00124	0.0001	0.0004					0.0005	0.0005	1.96	2.36
Taseko R.	W6	12/16/1997	0.00128	0.00124	0.0001	0.0003					0.0005	0.0005	2.07	2.75
Taseko R.	W6	1/20/1998	0.00131	0.00129	0.0001	0.0003					0.0005	0.0005	2.19	2.57
Taseko R.	W6	2/18/1998	0.00132	0.0013	0.0001	0.0003					0.0005	0.0005	2.15	2.55
Taseko R.	W6	3/10/1998	0.00128	0.00126	0.0001	0.0003					0.0005	0.0005	2.23	2.62
Taseko R.	W6	4/14/1998	0.00129	0.00128	0.0001	0.0002					0.0005	0.0005	2.34	2.66
Taseko R.	W6	5/12/1998	0.00127	0.00122	0.0001	0.0003					0.0005	0.0005	2.19	2.47
Taseko R.	W6	6/17/1998	0.00133	0.00131	0.0001	0.0004					0.0005	0.0005	2.02	2.81
Taseko R.	W6	5/9/2006	0.00113	0.00131	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.34	2.54
Taseko R.	W6	5/16/2006	0.00133	0.00114	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.46	2.69
Taseko R.	W6	5/24/2006	0.00131	0.00132	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.03	2.68
Taseko R.	W6	5/30/2006	0.00122	0.00119	<0.00050	0.00069	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.39	2.86
Taseko R.	W6	6/7/2006	0.00124	0.00114	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.45	2.48
Taseko R.	W6	7/5/2006	0.00143	0.00147	<0.00050	0.00078	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.86	3.00
Taseko R.	W6	8/8/2006	0.00139	0.00137	<0.00050	0.00123	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.90	5.12
Taseko R.	W6	8/16/2006	0.00132	0.00137	<0.00050	0.00103	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.96	5.58
Taseko R.	W6	8/22/2006	0.00137	0.00123	<0.00050	0.00093	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.83	4.30
Taseko R.	W6	8/29/2006	0.00137	0.00136	<0.00050	0.00122	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.96	5.70
Taseko R.	W6	9/5/2006	0.00135	0.00134	0.00056	0.00105	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.29	5.58
Taseko R.	W6	10/3/2006	0.00135	0.00134	<0.00050	0.00090	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.95	4.13
Taseko R.	W6	11/1/2006	0.00134	0.00118	<0.0005	0.00075	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.29	4.15
Taseko R.	W9	12/1/1992	<0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	1.95	3
Taseko R.	W9	1/7/1993	<0.001	<0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.1	2.86
Taseko R.	W9	1/27/1993	<0.001	0.001	<0.001	0.001			0.61		<0.0005	<0.0005	2.08	7.21
Taseko R.	W9	3/2/1993	<0.001	0.001	<0.001	0.002			0.54		<0.0005	<0.0005	2.11	6.23
Taseko R.	W9	3/31/1993	<0.001	0.003	<0.001	0.002			0.52		<0.0005	<0.0005	2.04	4.91
Taseko R.	W9	5/6/1993	0.001	0.001	<0.001	<0.001			0.5		<0.0005	<0.0005	2.26	5.12
Taseko R.	W9	5/13/1993	0.001	0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	2.07	4.47
Taseko R.	W9	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2	3.25
Taseko R.	W9	5/27/1993	0.001	0.002	<0.001	0.001			0.54		<0.0005	<0.0005	1.99	5.03

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W6	5/29/1996	<0.0001	<0.0001	1.82		0.054	0.054					<0.010	0.019	0.00013	0.00014
Taseko R.	W6	6/9/1996	<0.0001	<0.0001	1.74		0.058	0.059					<0.010	0.018	0.00012	0.00014
Taseko R.	W6	6/19/1996	<0.0001	<0.0001	1.48		0.052	0.053					<0.010	<0.010	0.0001	0.00015
Taseko R.	W6	6/27/1996	<0.0001	<0.0001	2.8		0.062	0.062					<0.010	0.013	0.0001	0.00012
Taseko R.	W6	7/10/1996	<0.0001	<0.0001	2.01		0.05	0.054					<0.010	0.015	0.00015	0.00018
Taseko R.	W6	8/6/1996	<0.0001	<0.0001	1.32		0.047	0.051					<0.010	0.038	0.00015	0.0002
Taseko R.	W6	8/16/1996	<0.0001	<0.0001	1.22		0.048	0.05					<0.010	0.028	0.00015	0.0002
Taseko R.	W6	8/24/1996	<0.0001	<0.0001	1.26		0.045	0.048					<0.010	0.014	0.00016	0.0002
Taseko R.	W6	8/29/1996	<0.0001	<0.0001	1.12		0.046	0.044					<0.010	0.01	0.00015	0.00019
Taseko R.	W6	9/6/1996	<0.0001	<0.0001	1.12		0.045	0.048					<0.010	0.036	0.00015	0.00019
Taseko R.	W6	2/28/1997	<0.0001	<0.0001	1.58		0.056	0.056					<0.010	0.014	0.00016	0.00019
Taseko R.	W6	7/14/1997	0.00001	0.00001			0.0482	0.0481			0.0001	0.0001	0.01	0.02	0.00015	0.00015
Taseko R.	W6	7/21/1997	0.00001	0.00001			0.0451	0.0466			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W6	7/29/1997	0.00001	0.00001			0.0426	0.0432			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W6	8/4/1997	0.00001	0.00001			0.0438	0.0451			0.0001	0.0001	0.01	0.02	0.0002	0.00018
Taseko R.	W6	8/12/1997	0.00001	0.00001			0.0419	0.0425			0.0001	0.0001	0.01	0.02	0.00017	0.00018
Taseko R.	W6	9/15/1997	0.00001	0.00001			0.0384	0.0408			0.0001	0.0001	0.01	0.04	0.00014	0.00018
Taseko R.	W6	9/22/1997	0.00001	0.00001			0.0428	0.0442			0.0001	0.0001	0.01	0.03	0.00015	0.00019
Taseko R.	W6	9/29/1997	0.00001	0.00001			0.0413	0.0425			0.0001	0.0001	0.01	0.03	0.00015	0.00018
Taseko R.	W6	10/6/1997	0.00001	0.00001			0.0413	0.0435			0.0001	0.0001	0.01	0.03	0.00017	0.00019
Taseko R.	W6	10/13/1997	0.00001	0.00001			0.0418	0.0444			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W6	11/16/1997	0.00001	0.00001			0.0441	0.0529			0.0001	0.0001	0.01	0.02	0.00015	0.00019
Taseko R.	W6	12/16/1997	0.00001	0.00001			0.0414	0.0432			0.0001	0.0001	0.01	0.02	0.00016	0.00017
Taseko R.	W6	1/20/1998	0.00001	0.00001			0.0386	0.0406			0.0001	0.0001	0.01	0.03	0.00015	0.00018
Taseko R.	W6	2/18/1998	0.00001	0.00001			0.0534	0.0544			0.0001	0.0001	0.01	0.02	0.00014	0.00017
Taseko R.	W6	3/10/1998	0.00001	0.00001			0.051	0.0531			0.0001	0.0001	0.01	0.02	0.00015	0.00018
Taseko R.	W6	4/14/1998	0.00001	0.00001			0.0534	0.0539			0.0001	0.0001	0.01	0.01	0.00015	0.00018
Taseko R.	W6	5/12/1998	0.00001	0.00001			0.046	0.046			0.0001	0.0001	0.01	0.02	0.00013	0.00017
Taseko R.	W6	6/17/1998	0.00001	0.00001			0.0435	0.0451			0.0001	0.0001	0.01	0.02	0.00014	0.00017
Taseko R.	W6	5/9/2006	<0.000010	<0.000010	<2.0	<2.0	0.0507	0.0519	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.019	0.000148	0.000180
Taseko R.	W6	5/16/2006	<0.000010	<0.000010	<2.0	<2.0	0.0493	0.0492	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.018	0.000143	0.000178
Taseko R.	W6	5/24/2006	<0.000010	<0.000010	<2.0	<2.0	0.0460	0.0486	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.031	0.000154	0.000213
Taseko R.	W6	5/30/2006	0.000011	0.000014	<2.0	<2.0	0.0486	0.0496	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.026	0.000154	0.000195
Taseko R.	W6	6/7/2006	<0.000010	<0.000010	<2.0	<2.0	0.0503	0.0502	<0.00010	<0.00010	<0.00010	<0.00010	0.032	0.021	0.000120	0.000190
Taseko R.	W6	7/5/2006	<0.000010	<0.000010	<2.0	<2.0	0.0452	0.0524	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.043	0.000164	0.000242
Taseko R.	W6	8/8/2006	<0.000010	<0.000010	<2.0	<2.0	0.0413	0.0484	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.120	0.000165	0.000245
Taseko R.	W6	8/16/2006	<0.000010	<0.000010	<2.0	<2.0	0.0380	0.0453	<0.00010	<0.00010	<0.00010	<0.00010	0.012	0.116	0.000149	0.000236
Taseko R.	W6	8/22/2006	<0.000010	<0.000010	<2.0	<2.0	0.0402	0.0467	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.086	0.000168	0.000246
Taseko R.	W6	8/29/2006	<0.000010	<0.000010	<2.0	<2.0	0.0410	0.0497	<0.00010	<0.00010	<0.00010	<0.00010	0.013	0.122	0.000150	0.000237
Taseko R.	W6	9/5/2006	<0.000010	<0.000020	<2.0	3.0	0.0396	0.0460	<0.00010	<0.00010	<0.00010	<0.00010	0.019	0.103	0.000160	0.000246
Taseko R.	W6	10/3/2006	<0.000010	<0.000010	<2.0	<2.0	0.0400	0.0483	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.080	0.000154	0.000226
Taseko R.	W6	11/1/2006	<0.000010	0.000012	<2.0	<2.0	0.0462	0.0533	<0.00010	<0.00010	<0.00010	<0.00010	0.01	0.063	0.000680	0.000231
Taseko R.	W9	12/1/1992	<0.0001	<0.0001	1.04		0.043	0.046							0.00008	0.00011
Taseko R.	W9	1/7/1993	<0.0001	<0.0001	1.19		0.037	0.037							0.00012	0.00015
Taseko R.	W9	1/27/1993	<0.0001	<0.0001	1.13		0.041	0.041							0.00012	0.00016
Taseko R.	W9	3/2/1993	<0.0001	<0.0001	1.03		0.034	0.056							0.00014	0.00018
Taseko R.	W9	3/31/1993	<0.0001	<0.0001	1.16		0.04	0.04							0.00011	0.00013
Taseko R.	W9	5/6/1993	<0.0001	<0.0001	1.23		0.037	0.037							0.00008	0.00013
Taseko R.	W9	5/13/1993	<0.0001	<0.0001	1.08		0.033	0.033							0.00007	0.00015
Taseko R.	W9	5/19/1993	<0.0001	<0.0001	1.03		0.034	0.034							0.0001	0.00013
Taseko R.	W9	5/27/1993	<0.0001	<0.0001	1.13		0.048	0.055							0.0001	0.00017

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W6	5/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	6/9/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	6/19/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	6/27/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	7/10/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/6/1996	<0.030	<0.030	0.005	<0.005
Taseko R.	W6	8/16/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/24/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	8/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	9/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	2/28/1997	<0.030	<0.030	<0.005	<0.005
Taseko R.	W6	7/14/1997	0.001	0.001	0.002	0.006
Taseko R.	W6	7/21/1997	0.001	0.001	0.001	0.004
Taseko R.	W6	7/29/1997	0.001	0.001	0.001	0.002
Taseko R.	W6	8/4/1997	0.001	0.001	0.001	0.002
Taseko R.	W6	8/12/1997	0.001	0.001	0.001	0.002
Taseko R.	W6	9/15/1997	0.001	0.002	0.001	0.006
Taseko R.	W6	9/22/1997	0.001	0.001	0.002	0.004
Taseko R.	W6	9/29/1997	0.001	0.002	0.001	0.003
Taseko R.	W6	10/6/1997	0.001	0.002	0.003	0.004
Taseko R.	W6	10/13/1997	0.001	0.002	0.001	0.003
Taseko R.	W6	11/16/1997	0.001	0.002	0.002	0.002
Taseko R.	W6	12/16/1997	0.001	0.001	0.001	0.003
Taseko R.	W6	1/20/1998	0.001	0.001	0.001	0.002
Taseko R.	W6	2/18/1998	0.001	0.001	0.001	0.002
Taseko R.	W6	3/10/1998	0.001	0.001	0.001	0.002
Taseko R.	W6	4/14/1998	0.001	0.001	0.001	0.001
Taseko R.	W6	5/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W6	6/17/1998	0.001	0.001	0.001	0.003
Taseko R.	W6	5/9/2006	<0.0010	<0.0010	<0.0010	0.0016
Taseko R.	W6	5/16/2006	<0.0010	0.0011	<0.0010	0.0015
Taseko R.	W6	5/24/2006	<0.0010	0.0016	<0.0010	0.0023
Taseko R.	W6	5/30/2006	<0.0010	0.0014	<0.0010	<0.0050
Taseko R.	W6	6/7/2006	0.0013	0.0011	0.0014	0.0020
Taseko R.	W6	7/5/2006	<0.0010	0.0021	<0.0010	<0.0050
Taseko R.	W6	8/8/2006	<0.0010	0.0046	<0.0010	0.0064
Taseko R.	W6	8/16/2006	<0.0010	0.0040	<0.0010	<0.0070
Taseko R.	W6	8/22/2006	<0.0010	0.0036	<0.0020	0.0052
Taseko R.	W6	8/29/2006	<0.0010	0.0044	<0.0010	0.0062
Taseko R.	W6	9/5/2006	0.0011	0.0040	0.0015	<0.0070
Taseko R.	W6	10/3/2006	<0.0010	0.0033	<0.0010	<0.0050
Taseko R.	W6	11/1/2006	<0.0010	0.0028	<0.0010	<0.0050
Taseko R.	W9	12/1/1992	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	1/7/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	1/27/1993	<0.030	<0.030	<0.005	0.019
Taseko R.	W9	3/2/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	3/31/1993	<0.030	<0.030	<0.005	0.017
Taseko R.	W9	5/6/1993	<0.030	<0.030	<0.005	0.007
Taseko R.	W9	5/13/1993	<0.030	<0.030	<0.005	0.012
Taseko R.	W9	5/19/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/27/1993	<0.030	<0.030	<0.005	0.015

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W9	6/3/1993				59.1	23.8		7.28	19.3	36.4			33	10	0.5	0.03	7.4
Taseko R.	W9	8/17/1993				54.2	25.9		7.45	17.4	43.6			34	10	0.6	0.03	5.7
Taseko R.	W9	8/24/1993				52.1	23.4		7.64	18	50			34	13	1.3	0.03	5.4
Taseko R.	W9	8/31/1993				53	22.9		7.59	16.6	48.3			30	11	0.5	0.03	5.4
Taseko R.	W9	9/14/1993				59	22		8.13	17.7	44.1		0.64	35	16	1.1	0.03	5.7
Taseko R.	W9	9/20/1993				56	22.9		7.55	18.2	45.9			34	11	0.6	0.03	6
Taseko R.	W9	5/4/1994				61	26.2		7.4	24.7	20			39	3	1.3	0.04	6.6
Taseko R.	W9	5/12/1994				65	24.4		7.38	20.7	18			37	7	0.6	0.04	6.7
Taseko R.	W9	5/18/1994				62.2	26.1		7.3	21.9	15.7			39	3	0.6	0.09	6.9
Taseko R.	W9	5/26/1994				59.6	25.2		7.59	20.8	19.6		1	37	3	0.5	0.04	8.1
Taseko R.	W9	5/31/1994				61.4	26		7.58	20.5	19.8		6	39	3	0.5	0.04	8
Taseko R.	W9	8/10/1994				54.4	24.1		7.59	17.6	33.3		0.7	32	19	1.3	0.04	6.1
Taseko R.	W9	8/16/1994				54.8	22.6		7.32	16.8	47.8		0.7	31	17	1	0.04	5.9
Taseko R.	W9	8/24/1994				51.6	23.2		7.38	17.4	44.4		0.7	31	17	1.3	0.05	5.1
Taseko R.	W9	8/30/1994				53.2	23.9		7.44	17.4	47.5		0.7	31	15	0.7	0.03	5.4
Taseko R.	W9	9/6/1994				53.7	23.5		7.47	16.7	51.6		0.7	33	15	1	0.06	5.4
Taseko R.	W9	6/21/1995				58.2	24.9		7.63	18.9	23.7		0.9	38	4	0.7	0.04	6.7
Taseko R.	W9	6/28/1995				59	26.1		7.51	18.3	22.2		0.6	37	3	0.5	0.08	7
Taseko R.	W9	7/4/1995				58	25.3		7.51	18.2	3.95		1.5	38	9	1	0.04	6.8
Taseko R.	W9	7/13/1995				56.4	23.9		7.35	18	34.2		1.2	36	8	0.5	0.04	6.5
Taseko R.	W9	7/17/1995				56.1	22.6		7.66	18.8	23		0.9	36	9	0.6	0.04	6.6
Taseko R.	W9	9/27/1995				52.8	21.8		8.01	17.8	31.2		0.8	35	9	0.8	0.04	6.2
Taseko R.	W9	10/4/1995				51.9	22.1		7.78	18.1	40		1	34	15	0.9	0.06	6
Taseko R.	W9	10/11/1995				54.3	22.6		7.98	18.3	27.1		0.8	34	4	0.9	0.04	5.4
Taseko R.	W9	10/18/1995				53	22.5		7.61	16.3	23.8		1.2	35	4	0.7	0.04	7
Taseko R.	W9	10/27/1995				54	23.4		7.47	15.9	26.6		1.1	34	9	0.6	0.04	6.4
Taseko R.	W9	5/29/1996				285	133		8.01	157	2.9		10	183	3	0.9	0.1	6.6
Taseko R.	W9	6/9/1996				60.7	27.1		7.16	21.5	16.7		1.3	41	4	0.5	0.04	7.6
Taseko R.	W9	6/19/1996				62.7	25.1		7.13	20.9	16.1		1	40	2	0.6	0.04	7.3
Taseko R.	W9	6/27/1996				61.1	26.9		7.29	20.2	13.2		1.7	40	5	0.5	0.04	7
Taseko R.	W9	7/10/1996				61.4	24.1		7.35	19.8	14.7		0.9	38	5	0.5	0.04	7.7
Taseko R.	W9	8/6/1996				57.1	23.2		7.52	18.9	29.7		0.5	36	11	0.8	0.02	6.8
Taseko R.	W9	8/16/1996				56.2	22.1		7.74	17.8	29.7		1	34	9	0.5	0.04	6.7
Taseko R.	W9	8/24/1996				55.2	23.2		7.57	18.2	27.1		1.4	36	7	0.5	0.04	6.5
Taseko R.	W9	8/29/1996				53.7	22.7		7.85	17.8	18		1.7	35	5	0.5	0.04	6.4
Taseko R.	W9	9/6/1996				55.9	22.6		7.75	18.2	17.9		1.8	32	7	0.5	0.05	6.4
Taseko R.	W9	2/27/1997					25.8		12.5**	906**	17.5		3.6		18	0.5	0.04	8
Taseko R.	W9	7/14/1997	12			57	25.7	7.69	7.01	22	10.4		1.2	35	6	0.5	0.05	7
Taseko R.	W9	7/21/1997	11			58	23.5	7.3	7.13	18	14.9		0.8	33	6	0.5	0.04	7
Taseko R.	W9	7/29/1997	13			56	23.5	7.48	7.01	20	14.4		1	31	6	0.5	0.05	7
Taseko R.	W9	8/4/1997	14			53	23	8.3	6.5	19	14.4		0.8	30	3	0.5	0.04	4
Taseko R.	W9	8/12/1997				60	22.7		6.84	19	17.7		1.1	30	8	0.5	0.02	6
Taseko R.	W9	9/14/1997	11.5			57	21.1		7.15	15	25.5		1.1	29	12	0.5	0.02	6
Taseko R.	W9	9/21/1997	12.2			57	21.8	8.42	7.12	16	22.6		1.1	30	6	0.5	0.02	6
Taseko R.	W9	9/28/1997	11.6			56	21.4	7.7	7	17	26.5		1.4	28	10	0.5	0.02	6
Taseko R.	W9	10/6/1997	8.4			61	20.9	8.03	6.31	16	24.8		1.2	28	4	0.5	0.02	6
Taseko R.	W9	10/13/1997	7.9			58	21.7	7.86	7	17	19.5		1	31	6	0.5	0.04	6
Taseko R.	W9	11/17/1997	5			62	22.6	8	7.18	17	18.1		1	32	5	0.5	0.03	6
Taseko R.	W9	12/17/1997	1			63	24.4	7.87	7.05	17	19.4		1.1	33	1	0.5	0.03	6
Taseko R.	W9	1/18/1998	0.8			62	24.8	7.6	6.96	18	17		0.7	33	3	0.5	0.03	6
Taseko R.	W9	2/17/1998	1.5			67	25.7	7.07	7.07	20	15.6		0.9	35	3	0.5	0.05	6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W9	6/3/1993	<0.005	0.019	<0.001	0.003	0.004	0.02	0.076	0.959	<0.0001	<0.0001	0.0002	0.0004	<0.010
Taseko R.	W9	8/17/1993	0.007	<0.005	<0.001	<0.001	<0.001	<0.001	0.244	1.17	<0.0001	<0.0001	0.0004	0.0005	<0.010
Taseko R.	W9	8/24/1993	<0.005	<0.005	0.002	0.019	0.019	0.023	0.17	2.33	<0.0001	0.0002	0.0003	0.0007	0.013
Taseko R.	W9	8/31/1993	<0.005	0.01	0.003	0.006	0.006	0.019	0.231	2.25	<0.0001	0.0002	0.0003	0.0004	<0.010
Taseko R.	W9	9/14/1993	<0.005	0.009	<0.001	0.002	0.002	0.019	0.252	1.04	<0.0001	<0.0001	0.0001	0.0006	0.011
Taseko R.	W9	9/20/1993	<0.005	0.009	<0.001	0.029	0.033	0.063	0.144	0.872	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	5/4/1994	<0.005	0.019	0.009	0.002	0.004	0.028	0.156	0.563	<0.0001	<0.0001	0.0002	0.0004	0.011
Taseko R.	W9	5/12/1994	<0.005	0.023	0.001	0.001	0.003	0.044	0.064	0.709	<0.0001	<0.0001	0.0002	0.0003	<0.010
Taseko R.	W9	5/18/1994	<0.005	0.019	0.008	0.004	0.004	0.039	0.182	0.764	<0.0001	<0.0001	0.0002	0.0004	0.011
Taseko R.	W9	5/26/1994	<0.005	0.019	0.002	0.001	0.002	0.006	0.179	0.661	<0.0001	<0.0001	0.0002	0.0003	<0.010
Taseko R.	W9	5/31/1994	<0.005	0.017	0.01	0.003	0.003	0.013	0.12	0.651	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	8/10/1994	0.014	0.016	0.015	<0.001	0.076	0.088	0.041	1.05	<0.0001	<0.0001	0.0005	0.0007	<0.010
Taseko R.	W9	8/16/1994	<0.005	0.019	0.002	<0.001	0.021	0.033	0.082	1.5	<0.0002	<0.0002	0.0002	0.0007	<0.010
Taseko R.	W9	8/24/1994	<0.005	0.015	0.002	0.008	0.008	0.04	0.094	1.16	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W9	8/30/1994	<0.005	0.013	0.016	0.009	0.019	0.023	0.183	1.2	<0.0001	<0.0001	0.0003	0.0007	<0.010
Taseko R.	W9	9/6/1994	<0.005	0.018	0.003	0.004	0.018	0.027	0.17	0.998	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W9	6/21/1995	<0.005	0.02	0.001	0.005	0.005	0.046	0.158	0.704	<0.0001	0.0001	0.0003	0.0004	0.01
Taseko R.	W9	6/28/1995	<0.005	0.02	0.006	0.004	0.004	0.05	0.031	0.508	<0.0001	<0.0001	0.0003	0.0004	0.01
Taseko R.	W9	7/4/1995	<0.005	0.018	0.008	0.003	0.003	0.013	0.205	0.509	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W9	7/13/1995	0.015	0.018	0.001	0.004	0.004	0.074	0.205	0.575	<0.0001	<0.0001	0.0002	0.0005	0.012
Taseko R.	W9	7/17/1995	<0.005	0.02	0.001	0.004	0.006	0.068	0.15	1.05	<0.0001	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W9	9/27/1995	0.006	0.012	0.001	0.002	0.002	0.07	0.157	0.547	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	10/4/1995	0.006	0.015	0.001	0.003	0.004	0.027	0.014	0.72	<0.0001	<0.0001	0.0003	0.0005	0.012
Taseko R.	W9	10/11/1995	<0.005	0.017	0.001	0.004	0.005	0.058	0.165	0.754	<0.0001	<0.0001	0.0003	0.0004	0.011
Taseko R.	W9	10/18/1995	<0.005	0.021	0.001	0.002	0.002	0.054	0.2	0.54	<0.0001	<0.0001	0.0002	0.0004	<0.010
Taseko R.	W9	10/27/1995	<0.005	0.021	0.001	0.001	0.001	0.06	0.17	0.486	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	5/29/1996	0.005	<0.005	<0.001	0.006	0.007	0.019	0.01	0.012	0.0002	0.0001	0.0002	0.0002	0.013
Taseko R.	W9	6/9/1996	0.011	0.019	0.005	0.003	0.003	0.036	0.24	0.399	0.0002	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	6/19/1996	0.011	0.018	0.007	0.003	0.005	0.032	0.16	0.333	0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	6/27/1996	0.017	0.019	0.005	0.003	0.004	0.031	0.142	1.19	0.0002	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W9	7/10/1996	0.009	0.016	0.006	0.004	0.004	0.026	0.15	0.62	0.0002	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W9	8/6/1996	0.013	0.014	0.012	0.003	0.003	0.072	0.081	0.777	0.0002	<0.0001	0.0003	0.0006	<0.010
Taseko R.	W9	8/16/1996	0.012	0.015	<0.001	0.003	0.003	0.057	0.079	0.724	0.0005	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W9	8/24/1996	<0.005	0.012	0.009	0.004	0.004	0.06	0.162	0.713	<0.0001	<0.0001	0.0003	0.0005	<0.010
Taseko R.	W9	8/29/1996	0.015	0.01	0.01	0.006	0.006	0.061	0.118	0.761	0.0003	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W9	9/6/1996	<0.005	0.013	0.008	0.004	0.004	0.068	0.092	0.874	0.0003	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W9	2/27/1997	0.011	0.023	0.001	<0.001	<0.001	0.018	0.115	0.399	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W9	7/14/1997	0.008	0.017	0.001	0.001	0.001	0.01	0.054	0.386	0.00028	0.00007	0.0003	0.0004	0.00788
Taseko R.	W9	7/21/1997	0.006	0.018	0.002	0.001	0.001	0.011	0.075	0.569	0.00025	0.00005	0.0003	0.0005	0.00797
Taseko R.	W9	7/29/1997	0.009	0.019	0.001	0.001	0.006	0.02	0.086	0.367	0.00007	0.00009	0.0003	0.0004	0.00797
Taseko R.	W9	8/4/1997	0.019	0.016	0.001	0.001	0.007	0.018	0.082	0.483	0.00006	0.00007	0.0003	0.0004	0.00796
Taseko R.	W9	8/12/1997	0.009	0.02	0.002	0.001	0.003	0.024	0.111	0.473	0.00005	0.00005	0.0003	0.0004	0.00806
Taseko R.	W9	9/14/1997	0.005	0.006	0.001	0.002	0.005	0.02	0.078	0.951	0.00007	0.0001	0.0003	0.0005	0.00708
Taseko R.	W9	9/21/1997	0.005	0.014	0.001	0.002	0.002	0.032	0.131	0.94	0.00005	0.00007	0.0003	0.0005	0.00757
Taseko R.	W9	9/28/1997	0.015	0.013	0.001	0.002	0.002	0.041	0.1	1	0.00007	0.00012	0.0003	0.0005	0.00761
Taseko R.	W9	10/6/1997	0.005	0.015	0.001	0.001	0.002	0.036	0.095	0.824	0.00007	0.00008	0.0003	0.0004	0.00782
Taseko R.	W9	10/13/1997	0.01	0.015	0.001	0.002	0.002	0.033	0.11	0.928	0.00006	0.00007	0.0003	0.0005	0.00783
Taseko R.	W9	11/17/1997	0.015	0.021	0.001	0.002	0.004	0.024	0.092	0.862	0.00007	0.00008	0.0003	0.0004	0.00783
Taseko R.	W9	12/17/1997	0.015	0.125	0.001	0.001	0.002	0.024	0.091	0.634	0.00005	0.00005	0.0003	0.0004	0.00771
Taseko R.	W9	1/18/1998	0.005	0.019	0.001	0.002	0.004	0.016	0.094	0.588	0.00005	0.00005	0.0003	0.0004	0.0082
Taseko R.	W9	2/17/1998	0.005	0.023	0.001	0.001	0.002	0.011	0.096	0.627	0.00005	0.00005	0.0003	0.0004	0.00826

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W9	6/3/1993	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.08	8.59	<0.001	<0.001
Taseko R.	W9	8/17/1993	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.05	9.45	<0.001	0.001
Taseko R.	W9	8/24/1993	0.029	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.08	9.19	<0.001	0.003
Taseko R.	W9	8/31/1993	0.031	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.18	8.34	<0.001	<0.001
Taseko R.	W9	9/14/1993	0.021	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.58	7.92	<0.001	<0.001
Taseko R.	W9	9/20/1993	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.89	8.22	<0.001	<0.001
Taseko R.	W9	5/4/1994	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.72	8.99	<0.001	<0.001
Taseko R.	W9	5/12/1994	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.27	8.85	<0.001	<0.001
Taseko R.	W9	5/18/1994	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.74	8.89	<0.001	<0.001
Taseko R.	W9	5/26/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.49	8.57	<0.001	0.001
Taseko R.	W9	5/31/1994	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.75	8.89	<0.001	0.001
Taseko R.	W9	8/10/1994	0.022	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.28	8.89	<0.001	0.005
Taseko R.	W9	8/16/1994	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.74	7.78	<0.001	0.001
Taseko R.	W9	8/24/1994	0.024	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.92	8.45	<0.001	<0.001
Taseko R.	W9	8/30/1994	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.18	8.28	<0.001	0.001
Taseko R.	W9	9/6/1994	0.023	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.01	8.5	<0.001	<0.001
Taseko R.	W9	6/21/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.45	8.8	<0.001	<0.001
Taseko R.	W9	6/28/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.87	9	<0.001	<0.001
Taseko R.	W9	7/4/1995	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.62	8.85	<0.001	<0.001
Taseko R.	W9	7/13/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.15	8.39	<0.001	<0.001
Taseko R.	W9	7/17/1995	0.02	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.64	8.37	<0.001	<0.001
Taseko R.	W9	9/27/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.44	7.7	<0.001	0.003
Taseko R.	W9	10/4/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.49	7.47	<0.001	<0.001
Taseko R.	W9	10/11/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.66	8.54	<0.001	<0.001
Taseko R.	W9	10/18/1995	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.66	7.74	<0.001	0.002
Taseko R.	W9	10/27/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.95	8.24	<0.001	<0.001
Taseko R.	W9	5/29/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	32.3	34.1	<0.001	<0.001
Taseko R.	W9	6/9/1996	0.012	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.16	9.17	<0.001	<0.001
Taseko R.	W9	6/19/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.39	9.05	<0.001	<0.001
Taseko R.	W9	6/27/1996	0.016	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	9.07	9.05	<0.001	<0.001
Taseko R.	W9	7/10/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.11	8.83	<0.001	<0.001
Taseko R.	W9	8/6/1996	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.9	8.57	<0.001	<0.001
Taseko R.	W9	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.54	7.73	<0.001	<0.001
Taseko R.	W9	8/24/1996	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.83	7.87	<0.001	<0.001
Taseko R.	W9	8/29/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.86	7.85	<0.001	<0.001
Taseko R.	W9	9/6/1996	0.019	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.68	8.15	<0.001	<0.001
Taseko R.	W9	2/27/1997	0.017	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	8.8	9.58	<0.001	<0.001
Taseko R.	W9	7/14/1997	0.0126	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	8.72	8.13	0.0005	0.0005
Taseko R.	W9	7/21/1997	0.0144	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	7.99	8.17	0.0005	0.0005
Taseko R.	W9	7/29/1997	0.0131	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.96	7.83	0.0005	0.0005
Taseko R.	W9	8/4/1997	0.0139	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	7.86	7.83	0.0005	0.0005
Taseko R.	W9	8/12/1997	0.0135	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.77	7.83	0.0005	0.0005
Taseko R.	W9	9/14/1997	0.0177	0.0005	0.0005	0.0005	0.0005	0.009	0.01	0.00005	0.00005	7.18	7.65	0.0005	0.0005
Taseko R.	W9	9/21/1997	0.017	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.42	7.7	0.0005	0.0006
Taseko R.	W9	9/28/1997	0.0168	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.3	7.4	0.0005	0.0007
Taseko R.	W9	10/6/1997	0.0171	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.11	7.22	0.0005	0.0007
Taseko R.	W9	10/13/1997	0.016	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.39	7.53	0.0005	0.0006
Taseko R.	W9	11/17/1997	0.0175	0.0005	0.0005	0.0005	0.0005	0.011	0.012	0.00005	0.00005	7.73	7.88	0.0005	0.0005
Taseko R.	W9	12/17/1997	0.0143	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	8.26	8.24	0.0005	0.0005
Taseko R.	W9	1/18/1998	0.0148	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.4	8.46	0.0005	0.0005
Taseko R.	W9	2/17/1998	0.0148	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.71	8.58	0.0005	0.0005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W9	6/3/1993	<0.001	<0.001	<0.001	0.004	0.086	0.892	<0.001	<0.001			0.879	1.25	<0.005	0.022
Taseko R.	W9	8/17/1993	<0.001	<0.001	0.001	0.005	0.172	1.05	<0.001	<0.001			0.838	1.23	0.007	0.03
Taseko R.	W9	8/24/1993	<0.001	0.001	0.001	0.006	0.121	1.96	<0.001	<0.001			0.782	1.64	0.005	0.045
Taseko R.	W9	8/31/1993	<0.001	<0.001	<0.001	0.003	0.14	1.33	<0.001	<0.001			0.781	1.36	0.007	0.03
Taseko R.	W9	9/14/1993	<0.001	<0.001	<0.001	0.003	0.117	0.869	<0.001	<0.001			0.755	1.1	<0.005	0.025
Taseko R.	W9	9/20/1993	<0.001	<0.001	<0.001	0.003	0.125	0.722	<0.001	<0.001			0.782	1.05	0.005	0.021
Taseko R.	W9	5/4/1994	<0.001	<0.001	<0.001*	0.002*	0.121	0.513	<0.001	<0.001			1.08	1.27	<0.005	0.013
Taseko R.	W9	5/12/1994	<0.001	<0.001	<0.001	0.003	0.054	0.503	<0.001	<0.001			0.91	1.15	<0.005	0.014
Taseko R.	W9	5/18/1994	<0.001	<0.001	<0.001	0.001	0.135	0.662	<0.001	<0.001			1.04	1.26	<0.005	0.016
Taseko R.	W9	5/26/1994	<0.001	<0.001	0.002	0.002	0.104	0.596	<0.001	<0.001			0.976	1.19	<0.005	0.013
Taseko R.	W9	5/31/1994	<0.001	<0.001	0.001	0.002	0.073	0.557	<0.001	<0.001			1	1.18	<0.005	0.014
Taseko R.	W9	8/10/1994	<0.001	0.001	<0.001	0.005	0.066	0.891	<0.001	<0.001			0.825	1.2	<0.005	0.025
Taseko R.	W9	8/16/1994	<0.001	<0.001	0.002	0.006	0.053	1.36	<0.001	<0.001			0.807	1.38	<0.005	0.034
Taseko R.	W9	8/24/1994	<0.001	<0.001	<0.001	0.005	0.079	1.01	<0.001	<0.001			0.826	1.22	<0.005	0.029
Taseko R.	W9	8/30/1994	<0.001	0.001	<0.001	0.001	0.128	0.934	<0.001	<0.001			0.835	1.18	<0.005	0.028
Taseko R.	W9	9/6/1994	<0.001	<0.001	<0.001	0.008	0.104	0.854	<0.001	<0.001			0.837	1.21	0.005	0.028
Taseko R.	W9	6/21/1995	<0.001	<0.001	<0.001	0.004	0.081	0.556	<0.001	<0.001			0.929	1.17	<0.005	0.015
Taseko R.	W9	6/28/1995	<0.001	<0.001	<0.001	0.002	0.15	0.41	<0.001	<0.001			0.971	1.08	<0.005	0.012
Taseko R.	W9	7/4/1995	<0.001	<0.001	<0.001	0.003	0.117	0.386	<0.001	<0.001			0.911	1.03	<0.005	0.013
Taseko R.	W9	7/13/1995	<0.001	<0.001	<0.001	0.003	0.13	0.482	<0.001	<0.001			0.871	1.01	0.005	0.016
Taseko R.	W9	7/17/1995	<0.001	<0.001	<0.001	0.003	0.091	0.831	<0.001	<0.001			0.846	1.22	<0.005	0.023
Taseko R.	W9	9/27/1995	<0.001	<0.001	<0.001	0.003	0.104	0.439	<0.001	<0.001			0.782	0.942	<0.005	0.015
Taseko R.	W9	10/4/1995	<0.001	<0.001	<0.001	0.003	0.103	0.575	<0.001	<0.001			0.818	0.992	<0.005	0.019
Taseko R.	W9	10/11/1995	<0.001	<0.001	<0.001	0.003	0.141	0.384	<0.001	<0.001			0.84	0.954	<0.005	0.012
Taseko R.	W9	10/18/1995	<0.001	<0.001	<0.001	0.002	0.104	0.463	<0.001	<0.001			0.824	0.981	<0.005	0.013
Taseko R.	W9	10/27/1995	<0.001	<0.001	<0.001	0.003	0.079	0.386	<0.001	<0.001			0.852	0.996	<0.005	0.013
Taseko R.	W9	5/29/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			12.8	13.7	0.01	<0.005
Taseko R.	W9	6/9/1996	<0.001	<0.001	<0.001	0.002	0.098	0.366	<0.001	<0.001			1.03	1.16	<0.005	0.01
Taseko R.	W9	6/19/1996	<0.001	<0.001	<0.001	0.002	0.096	0.254	<0.001	<0.001			1.01	1.11	<0.005	0.008
Taseko R.	W9	6/27/1996	<0.001	<0.001	0.001	0.002	0.056	0.424	<0.001	<0.001			1.04	1.16	<0.005	0.011
Taseko R.	W9	7/10/1996	<0.001	<0.001	0.001	0.002	0.045	0.348	<0.001	<0.001			0.931	1.12	<0.005	0.012
Taseko R.	W9	8/6/1996	<0.001	<0.001	0.001	0.003	0.05	0.823	<0.001	<0.001			0.836	1.2	<0.005	0.023
Taseko R.	W9	8/16/1996	<0.001	<0.001	<0.001	0.003	0.049	0.653	<0.001	<0.001			0.802	1.05	<0.005	0.019
Taseko R.	W9	8/24/1996	<0.001	<0.001	<0.001	0.002	0.115	0.377	<0.001	<0.001			0.881	0.98	<0.005	0.013
Taseko R.	W9	8/29/1996	<0.001	<0.001	<0.001	0.003	0.098	0.721	<0.001	<0.001			0.756	1.01	0.005	0.019
Taseko R.	W9	9/6/1996	<0.001	<0.001	<0.001	0.002	0.067	0.757	<0.001	<0.001			0.835	1.13	<0.005	0.019
Taseko R.	W9	2/27/1997	<0.001	<0.001	<0.001	0.002	0.086	0.313	<0.001	<0.001			0.921	1.18	<0.005	0.008
Taseko R.	W9	7/14/1997	0.0001	0.0002	0.0006	0.0016		0.26	0.00005	0.00012	0.001	0.001	0.94	0.97	0.00229	0.0109
Taseko R.	W9	7/21/1997	0.0001	0.0003	0.0006	0.0019	0.04	0.44	0.00005	0.00014	0.001	0.001	0.86	1	0.00272	0.0147
Taseko R.	W9	7/29/1997	0.0001	0.0002	0.0006	0.0019	0.06	0.39	0.00005	0.00011	0.001	0.001	0.87	0.97	0.00311	0.012
Taseko R.	W9	8/4/1997	0.0001	0.0002	0.0006	0.0018	0.06	0.4	0.00005	0.00013	0.001	0.001	0.81	0.94	0.00315	0.0124
Taseko R.	W9	8/12/1997	0.0001	0.0003	0.0006	0.002	0.07	0.44	0.00005	0.00017	0.001	0.001	0.81	0.95	0.0034	0.0125
Taseko R.	W9	9/14/1997	0.0001	0.0005	0.0005	0.0027	0.05	0.76	0.00005	0.00022	0.001	0.001	0.76	1.08	0.0028	0.0226
Taseko R.	W9	9/21/1997	0.0001	0.0005	0.0007	0.0024	0.08	0.57	0.00005	0.0002	0.001	0.001	0.8	1.01	0.00321	0.0199
Taseko R.	W9	9/28/1997	0.0001	0.0005	0.0006	0.0025	0.06	0.56	0.00005	0.00023	0.001	0.001	0.76	0.97	0.00284	0.0208
Taseko R.	W9	10/6/1997	0.0001	0.0005	0.0006	0.0025	0.05	0.6	0.00005	0.00021	0.001	0.001	0.75	0.98	0.00287	0.0209
Taseko R.	W9	10/13/1997	0.0004	0.0008	0.0006	0.0026	0.06	0.6	0.00005	0.00018	0.001	0.001	0.79	1.02	0.00286	0.0215
Taseko R.	W9	11/17/1997	0.0001	0.001	0.0005	0.002	0.06	0.38	0.00005	0.00015	0.001	0.001	0.81	0.98	0.00152	0.0161
Taseko R.	W9	12/17/1997	0.0001	0.0006	0.0005	0.0019	0.07	0.58	0.00005	0.00014	0.001	0.001	0.9	1.08	0.00149	0.015
Taseko R.	W9	1/18/1998	0.0001	0.0003	0.0005	0.0017	0.06	0.47	0.00005	0.00013	0.001	0.001	0.93	1.05	0.00148	0.0124
Taseko R.	W9	2/17/1998	0.0001	0.0003	0.0005	0.0017	0.08	0.36	0.00005	0.00012	0.001	0.001	0.95	1.09	0.00159	0.0122

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W9	6/3/1993	<0.001	0.001	<0.001	<0.001			0.53		<0.0005	<0.0005	1.92	3.02
Taseko R.	W9	8/17/1993	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	1.95	3.11
Taseko R.	W9	8/24/1993	<0.001	<0.001	<0.001	0.002			0.57		<0.0005	<0.0005	1.79	4.6
Taseko R.	W9	8/31/1993	<0.001	0.001	<0.001	<0.001			0.47		<0.0005	<0.0005	1.76	6.28
Taseko R.	W9	9/14/1993	<0.001	0.001	<0.001	<0.001			0.63		<0.0005	<0.0005	1.71	2.82
Taseko R.	W9	9/20/1993	<0.001	<0.001	<0.001	<0.001			0.64		<0.0005	<0.0005	1.78	2.57
Taseko R.	W9	5/4/1994	<0.001	<0.001	<0.001	<0.001			0.9		<0.0005	<0.0005	2.05	2.48
Taseko R.	W9	5/12/1994	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	1.84	2.92
Taseko R.	W9	5/18/1994	<0.001	0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	1.96	2.7
Taseko R.	W9	5/26/1994	0.001	0.001	<0.001	0.001			0.56		<0.0005	<0.0005	2.02	2.67
Taseko R.	W9	5/31/1994	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	1.98	2.59
Taseko R.	W9	8/10/1994	<0.001	<0.001	<0.001	0.02			0.54		<0.0005	<0.0005	1.91	2.97
Taseko R.	W9	8/16/1994	<0.001	<0.001	<0.001	0.001			0.51		<0.0005	<0.0005	1.84	3.54
Taseko R.	W9	8/24/1994	<0.001	<0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	1.85	3.02
Taseko R.	W9	8/30/1994	0.001	0.001	<0.001	0.001			0.57		<0.0005	<0.0005	2.01	3.32
Taseko R.	W9	9/6/1994	<0.001	<0.001	<0.001	<0.001			0.56		<0.0005	<0.0005	1.87	2.82
Taseko R.	W9	6/21/1995	<0.001	<0.001	<0.001	<0.001			0.58		<0.0005	<0.0005	1.96	3
Taseko R.	W9	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.67		<0.0005	<0.0005	2.25	2.49
Taseko R.	W9	7/4/1995	0.002	0.002	<0.001	<0.001			0.58		<0.0005	<0.0005	2.11	2.5
Taseko R.	W9	7/13/1995	0.001	0.001	<0.001	<0.001			0.59		<0.0005	<0.0005	2.02	2.5
Taseko R.	W9	7/17/1995	0.001	0.001	<0.001	0.001			0.55		<0.0005	<0.0005	1.9	3.65
Taseko R.	W9	9/27/1995	0.001	0.001	<0.001	<0.001			0.8		<0.0005	<0.0005	1.81	2.24
Taseko R.	W9	10/4/1995	0.001	0.001	<0.001	0.006			0.41		<0.0005	<0.0005	1.82	2.36
Taseko R.	W9	10/11/1995	<0.001	0.001	<0.001	<0.001			0.47		<0.0005	<0.0005	1.99	2.38
Taseko R.	W9	10/18/1995	<0.001	<0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	1.69	2.07
Taseko R.	W9	10/27/1995	0.001	0.001	<0.001	<0.001			0.51		<0.0005	<0.0005	1.72	2.08
Taseko R.	W9	5/29/1996	<0.001	<0.001	<0.001	<0.001			1.1		<0.0005	0.0011	5.11	5.22
Taseko R.	W9	6/9/1996	0.001	0.001	<0.001	<0.001			0.57		<0.0005	<0.0005	2.01	2.35
Taseko R.	W9	6/19/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	0.0005	2.15	2.22
Taseko R.	W9	6/27/1996	0.001	0.001	<0.001	<0.001			0.6		<0.0005	<0.0005	2.03	2.41
Taseko R.	W9	7/10/1996	0.002	0.001	<0.001	<0.001			0.62		<0.0005	<0.0005	1.94	2.34
Taseko R.	W9	8/6/1996	0.001	0.001	<0.001	<0.001			0.53		<0.0005	<0.0005	1.88	3.02
Taseko R.	W9	8/16/1996	0.001	0.001	<0.001	<0.001			0.55		<0.0005	0.0007	1.83	2.64
Taseko R.	W9	8/24/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	1.98	2.33
Taseko R.	W9	8/29/1996	0.001	0.001	<0.001	<0.001			0.54		<0.0005	<0.0005	1.86	2.66
Taseko R.	W9	9/6/1996	0.001	0.001	<0.001	<0.001			0.61		<0.0005	<0.0005	1.83	2.84
Taseko R.	W9	2/27/1997	0.001	0.001	<0.001	<0.001			0.52		<0.0005	<0.0005	2.02	2.48
Taseko R.	W9	7/14/1997	0.00122	0.00133	0.0001	0.0003					0.0005	0.0005	2.06	2.23
Taseko R.	W9	7/21/1997	0.00122	0.00126	0.0001	0.0004					0.0005	0.0005	1.97	2.59
Taseko R.	W9	7/29/1997	0.0013	0.00116	0.0001	0.0003					0.0005	0.0005	2.02	2.34
Taseko R.	W9	8/4/1997	0.00131	0.00117	0.0001	0.0003					0.0005	0.0005	1.94	2.31
Taseko R.	W9	8/12/1997	0.00134	0.00129	0.0001	0.0003					0.0005	0.0005	1.98	2.48
Taseko R.	W9	9/14/1997	0.00123	0.0012	0.0001	0.0005					0.0005	0.0005	1.76	3.07
Taseko R.	W9	9/21/1997	0.00125	0.0012	0.0001	0.0005					0.0005	0.0005	1.84	2.49
Taseko R.	W9	9/28/1997	0.00129	0.00128	0.0001	0.0007					0.0005	0.0005	1.79	2.65
Taseko R.	W9	10/6/1997	0.0013	0.00124	0.0001	0.0005					0.0005	0.0005	1.71	2.49
Taseko R.	W9	10/13/1997	0.00126	0.00123	0.0001	0.0006					0.0005	0.0005	1.79	2.69
Taseko R.	W9	11/17/1997	0.00127	0.00123	0.0001	0.0004					0.0005	0.0005	1.87	2.45
Taseko R.	W9	12/17/1997	0.00126	0.0012	0.0001	0.0003					0.0005	0.0005	1.95	2.68
Taseko R.	W9	1/18/1998	0.00133	0.00131	0.0001	0.0003					0.0005	0.0005	2.03	2.59
Taseko R.	W9	2/17/1998	0.00133	0.00132	0.0001	0.0003					0.0005	0.0005	2.09	2.42

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W9	6/3/1993	<0.0001	<0.0001	1.17		0.045	0.048							0.00012	0.00019
Taseko R.	W9	8/17/1993	<0.0001	<0.0001	0.95		0.042	0.046							0.00011	0.00017
Taseko R.	W9	8/24/1993	<0.0001	<0.0001	0.89		0.039	0.047							0.00011	0.00018
Taseko R.	W9	8/31/1993	<0.0001	<0.0001	0.93		0.038	0.046							0.00012	0.00017
Taseko R.	W9	9/14/1993	<0.0001	<0.0001	1.02		0.037	0.04							0.00009	0.00017
Taseko R.	W9	9/20/1993	<0.0001	<0.0001	1.04		0.039	0.043							0.00008	0.00014
Taseko R.	W9	5/4/1994	<0.0001	<0.0001	1.16		0.047	0.049							0.00009	0.00011
Taseko R.	W9	5/12/1994	<0.0001	<0.0001	1.05		0.044	0.047							0.00009	0.00011
Taseko R.	W9	5/18/1994	<0.0001	<0.0001	1.08		0.046	0.049							0.00009	0.00017
Taseko R.	W9	5/26/1994	<0.0001	<0.0001	1.11		0.045	0.046							0.00008	0.00009
Taseko R.	W9	5/31/1994	<0.0001	<0.0001	1.11		0.046	0.047							0.00003	0.0001
Taseko R.	W9	8/10/1994	<0.0001	<0.0001	0.94		0.04	0.042							0.0001	0.00017
Taseko R.	W9	8/16/1994	<0.0001	<0.0001	0.95		0.041	0.044							0.00011	0.00016
Taseko R.	W9	8/24/1994	<0.0001	<0.0001	0.9		0.039	0.043							0.0001	0.00015
Taseko R.	W9	8/30/1994	<0.0001	<0.0001	0.96		0.04	0.042							0.00011	0.00017
Taseko R.	W9	9/6/1994	<0.0001	<0.0001	0.95		0.04	0.042							0.00007	0.00013
Taseko R.	W9	6/21/1995	<0.0001	<0.0001	1.36		0.047	0.048					<0.010	0.036	0.00011	0.00014
Taseko R.	W9	6/28/1995	<0.0001	<0.0001	1.19		0.047	0.047					<0.010	0.023	0.00025	0.0003
Taseko R.	W9	7/4/1995	<0.0001	<0.0001	1.11		0.048	0.048					0.011	0.022	0.00019	0.00025
Taseko R.	W9	7/13/1995	<0.0001	<0.0001	1.05		0.052	0.052					<0.010	0.021	0.00027	0.00035
Taseko R.	W9	7/17/1995	<0.0001	<0.0001	1.07		0.044	0.045					<0.010	0.057	0.0002	0.00035
Taseko R.	W9	9/27/1995	<0.0001	<0.0001	0.98		0.04	0.043					<0.010	0.02	0.00015	0.0002
Taseko R.	W9	10/4/1995	<0.0001	<0.0001	0.95		0.044	0.045					<0.010	0.032	0.00016	0.00022
Taseko R.	W9	10/11/1995	<0.0001	<0.0001	1.1		0.043	0.048					<0.010	0.023	0.00017	0.00021
Taseko R.	W9	10/18/1995	<0.0001	<0.0001	1.2		0.042	0.043					<0.010	0.027	0.00014	0.00018
Taseko R.	W9	10/27/1995	<0.0001	<0.0001	1.15		0.042	0.044					<0.010	0.017	0.00013	0.00018
Taseko R.	W9	5/29/1996	<0.0001	<0.0001	7.82		0.155	0.163					<0.010	<0.010	0.00005	0.00005
Taseko R.	W9	6/9/1996	<0.0001	<0.0001	1.27		0.055	0.056					<0.010	0.02	0.00014	0.00015
Taseko R.	W9	6/19/1996	<0.0001	<0.0001	1.21		0.05	0.053					<0.010	0.014	0.0001	0.00016
Taseko R.	W9	6/27/1996	<0.0001	<0.0001	1.32		0.056	0.056					<0.010	0.026	0.00013	0.00017
Taseko R.	W9	7/10/1996	<0.0001	<0.0001	1.22		0.048	0.053					<0.010	0.021	0.00017	0.00022
Taseko R.	W9	8/6/1996	<0.0001	<0.0001	1.21		0.046	0.05					<0.010	0.04	0.00014	0.0002
Taseko R.	W9	8/16/1996	<0.0001	<0.0001	1.1		0.046	0.047					<0.010	0.028	0.00015	0.00021
Taseko R.	W9	8/24/1996	<0.0001	<0.0001	1.13		0.045	0.048					<0.010	0.017	0.00016	0.0002
Taseko R.	W9	8/29/1996	<0.0001	<0.0001	1.07		0.046	0.048					<0.010	0.036	0.00015	0.00019
Taseko R.	W9	9/6/1996	<0.0001	<0.0001	1.01		0.043	0.047					<0.010	0.038	0.00015	0.0002
Taseko R.	W9	2/27/1997	<0.0001	<0.0001	1.05		0.052	0.055					<0.010	0.014	0.00017	0.0002
Taseko R.	W9	7/14/1997	0.00001	0.00001			0.0456	0.0465			0.0001	0.0001	0.01	0.02	0.00015	0.00016
Taseko R.	W9	7/21/1997	0.00001	0.00001			0.0439	0.0454			0.0001	0.0001	0.01	0.02	0.00017	0.00018
Taseko R.	W9	7/29/1997	0.00001	0.00001			0.0421	0.0428			0.0001	0.0001	0.01	0.02	0.00017	0.00018
Taseko R.	W9	8/4/1997	0.00001	0.00001			0.0426	0.0437			0.0001	0.0001	0.01	0.02	0.0002	0.00018
Taseko R.	W9	8/12/1997	0.00001	0.00001			0.0413	0.0418			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W9	9/14/1997	0.00001	0.00001			0.0372	0.0401			0.0001	0.0001	0.01	0.04	0.00014	0.00019
Taseko R.	W9	9/21/1997	0.00001	0.00001			0.0391	0.042			0.0001	0.0001	0.01	0.03	0.00015	0.00018
Taseko R.	W9	9/28/1997	0.00001	0.00001			0.0396	0.0424			0.0001	0.0001	0.01	0.04	0.00016	0.00019
Taseko R.	W9	10/6/1997	0.00001	0.00001			0.0395	0.0421			0.0001	0.0001	0.01	0.03	0.00016	0.00019
Taseko R.	W9	10/13/1997	0.00001	0.00001			0.0398	0.0419			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W9	11/17/1997	0.00001	0.00001			0.0411	0.044			0.0001	0.0001	0.01	0.03	0.00014	0.00019
Taseko R.	W9	12/17/1997	0.00001	0.00001			0.0375	0.0388			0.0001	0.0001	0.01	0.03	0.00016	0.00018
Taseko R.	W9	1/18/1998	0.00001	0.00001			0.0402	0.0412			0.0001	0.0001	0.01	0.02	0.00014	0.00018
Taseko R.	W9	2/17/1998	0.00001	0.00001			0.044	0.0487			0.0001	0.0001	0.01	0.02	0.00012	0.00018

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W9	6/3/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/17/1993	<0.030	<0.030	<0.005	0.005
Taseko R.	W9	8/24/1993	<0.030	<0.030	<0.005	0.037
Taseko R.	W9	8/31/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	9/14/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	9/20/1993	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/4/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/12/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/18/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/26/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/31/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/10/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/16/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/24/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/30/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	9/6/1994	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	6/21/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	6/28/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	7/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	7/13/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	7/17/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	9/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	10/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	10/11/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	10/18/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	10/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	5/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	6/9/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	6/19/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	6/27/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	7/10/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/6/1996	<0.030	<0.030	<0.005	0.007
Taseko R.	W9	8/16/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/24/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	8/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	9/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	2/27/1997	<0.030	<0.030	<0.005	<0.005
Taseko R.	W9	7/14/1997	0.001	0.001	0.001	0.003
Taseko R.	W9	7/21/1997	0.001	0.001	0.001	0.003
Taseko R.	W9	7/29/1997	0.001	0.001	0.003	0.002
Taseko R.	W9	8/4/1997	0.001	0.001	0.001	0.002
Taseko R.	W9	8/12/1997	0.001	0.001	0.001	0.002
Taseko R.	W9	9/14/1997	0.001	0.002	0.002	0.004
Taseko R.	W9	9/21/1997	0.001	0.002	0.001	0.003
Taseko R.	W9	9/28/1997	0.001	0.002	0.001	0.005
Taseko R.	W9	10/6/1997	0.001	0.002	0.002	0.005
Taseko R.	W9	10/13/1997	0.001	0.002	0.002	0.003
Taseko R.	W9	11/17/1997	0.001	0.001	0.001	0.003
Taseko R.	W9	12/17/1997	0.001	0.001	0.001	0.003
Taseko R.	W9	1/18/1998	0.001	0.001	0.001	0.002
Taseko R.	W9	2/17/1998	0.001	0.001	0.001	0.002

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W9	3/9/1998	3.7			68	25.9	5.93	7.09	19	13.1		0.8	35	1	0.5	0.03	7
Taseko R.	W9	4/12/1998	5.2			59	27	7.34	7.3	19	11.8		0.6	33	1	0.5	0.03	7
Taseko R.	W9	5/12/1998	7			56	23.6	7.21	7.33	18	12.8		1.2	31	5	0.5	0.02	7
Taseko R.	W9	6/17/1998	8.5			54	23.3	9.1	7.13	17	16.9		1	33	2	0.5	0.02	7
Taseko R.	W14	9/27/1995				50.4	20.3		7.97	17.5	25.1		0.9	33	8	1	0.05	5.2
Taseko R.	W14	10/4/1995				52.4	21.2		7.65	17.1	39.8		0.8	33	18	0.7	0.05	5.9
Taseko R.	W14	10/11/1995				53	22.4		7.82	18.2	23.7		1	34	4	0.5	0.05	5.8
Taseko R.	W14	10/18/1995				52.3	21.7		7.58	17.1	20.4		1.4	34	4	0.5	0.04	5.8
Taseko R.	W14	10/27/1995				52.7	28.7		7.46	15.2	22.1		1.2	37	4	0.5	0.04	6.1
Taseko R.	W14	5/29/1996				67	27.4		7.29	27.1	11.5		3.6	41	5	0.5	0.07	5
Taseko R.	W14	6/9/1996				47.9	19.9		7.29	21.2	10		4.5	30	10	0.5	0.07	3.6
Taseko R.	W14	6/18/1996				53.9	22.7		7.37	20.8	7.2		3.5	35	2	0.6	0.07	4.8
Taseko R.	W14	6/27/1996				52	22.5		7.32	18.6	12		3.5	33	11	0.5	0.06	4.7
Taseko R.	W14	7/10/1996				44.3	20.1		7.48	15.8	10.9		1.7	31	11	0.5	0.05	5
Taseko R.	W14	8/6/1996				62.1	23.5		7.54	22.7	27.9		1.3	36	7	0.6	0.02	6.2
Taseko R.	W14	8/16/1996				41.4	16.7		7.61	14	13.1		1.1	23	7	0.5	0.05	3.9
Taseko R.	W14	8/24/1996				39.8	16		7.45	14.4	14.1		2	24	8	0.5	0.05	3.8
Taseko R.	W14	8/29/1996				35.7	14		7.6	14.7	7.1		2.1	23	7	0.5	0.05	3.2
Taseko R.	W14	9/6/1996				47.4	18.8		7.68	17.2	10.4		2	28	6	0.5	0.05	4.5
Taseko R.	W14	2/27/1997				66	27		7.71	21	13.3		2.5	38	3	0.5	0.02	7
Taseko R.	W14	7/14/1997	9.9			37	16.2	7.36	6.92	16	6.1		1.6	23	4	0.5	0.06	3
Taseko R.	W14	7/21/1997	10			35	13.8	7.28	7.2	12	10.4		1.4	19	8	0.5	0.05	3
Taseko R.	W14	7/29/1997	11.2			41	15.9	7.37	6.91	16	8.9		1	23	4	0.5	0.05	4
Taseko R.	W14	8/4/1997	12.5			37	15.2	8.8	6.36	15	7.7		0.8	25	4	0.5	0.03	7
Taseko R.	W14	8/12/1997				46	15.8		6.68	15	9.5		1	22	7	0.5	0.04	4
Taseko R.	W14	9/14/1997	11			55	20.9	7.66	7.02	15	22.7		1.2	28	8	0.5	0.03	5
Taseko R.	W14	9/21/1997	12.5			56	20.6	7.88	7.05	16	19.4		1.5	30	15	0.5	0.05	6
Taseko R.	W14	9/28/1997	9.9			53	19.7	7.55	6.94	16	24.6		1.3	26	7	0.5	0.05	5
Taseko R.	W14	10/6/1997	7.4			56	20.1	7.9	7.26	15	21.1		1.2	26	4	0.5	0.02	6
Taseko R.	W14	10/13/1997	7.8			58	21	8.2	7.29	16	19		1	27	3	0.5	0.07	6
Taseko R.	W14	11/17/1997	5			60	22.8	7.9	7.25	17	18.8		0.8	31	5	0.5	0.04	6
Taseko R.	W14	12/17/1997	1.5			61	24	7.93	7.22	16	16.5		1.2	32	2	0.5	0.03	6
Taseko R.	W14	1/18/1998	0.8			63	24	7.63	7	18	17.1		0.8	33	1	0.5	0.04	6
Taseko R.	W14	2/17/1998	2			68	24.5	7.09	7.05	20	15.2		0.7	34	4	0.5	0.03	6
Taseko R.	W14	3/9/1998	3			64	26.5	5.9	7.39	19	13.1		0.5	34	1	0.5	0.03	7
Taseko R.	W14	4/12/1998	0.4			58	26.7	7.47	7.31	19	11.9		0.7	32	1	0.5	0.03	7
Taseko R.	W14	5/12/1998	6.6			49	21.1	7.21	7.26	17	10.3		1.8	28	5	0.5	0.03	5
Taseko R.	W14	6/17/1998	7.5			40	16.9	9.5	7.09	14	9		1.2	22	3	0.5	0.03	4
Taseko R.	W14	5/9/2006	4.8	12.1	65.7	60.6	26.9		7.68	12.8	20.3	1.8		52	<3.0	<0.50	0.025	8.17
Taseko R.	W14	5/16/2006	4.7	11.2	66.1	61.3	28.1		8.16	15.7	17.7	0.5		34	<3.0	<0.50	0.030	8.68
Taseko R.	W14	5/23/2006	4.7	10.6	61.3	61.3	26.8		7.75	15.9	19.8	0.6		46	4.1	<0.50	0.023	8.14
Taseko R.	W14	5/30/2006	6.6	10.7	61.7	61.1	27.1		7.70	14.9	19.5	0.8		53	<3.0	<0.50	0.029	8.59
Taseko R.	W14	6/6/2006	7.2	8.7	62.4	62.2	29.7		8.16	19.8	17.7	1.9		52	<3.0	<0.50	0.027	8.48
Taseko R.	W14	7/5/2006	12.8	9.9	59	59.0	25.9		7.73	19.0	19.0	0.8		50	4.0	<0.50	0.031	8.35
Taseko R.	W14	8/8/2006	12.8		60	52.1	24.6		7.81	16.7	49.7	<0.50		58	8.6	<0.50	0.023	7.08
Taseko R.	W14	8/16/2006	11.5	9.5	55	53.7	24.6		8.00	17.4	46.9	0.7		53	5.7	<0.50	0.024	6.91
Taseko R.	W14	8/22/2006	15.0	8.4	54.1	51.0	22.4		7.62	16.6	41.1	2.1		52.3	4.3	1.12	0.025	6.8
Taseko R.	W14	8/29/2006	10.7	9.1	54.5	52.8	22.1		7.68	16.5	40.4			54	8.2	<2.5	<0.10	6.2
Taseko R.	W14	9/5/2006	13.6	8.8	56	50.6	22.2		7.77	16.6	2.72	0.5		44	8.8	<0.50	0.027	6.41
Taseko R.	W14	10/4/2006	8.5	8.6	50	50.6	25.0		6.84	17.6	30.5			56	7.5	<0.50	0.025	7.41
Taseko R.	W14	11/1/2006				55.6	24.4		7.60	18.2	32.8	0.58		50	7.5	<0.50	0.025	7.11

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W9	3/9/1998	0.011	0.019	0.001	0.001	0.001	0.013	0.091	0.554	0.00006	0.00008	0.0003	0.0004	0.00831
Taseko R.	W9	4/12/1998	0.007	0.018	0.001	0.001	0.001	0.012	0.107	0.554	0.00005	0.00006	0.0003	0.0004	0.00827
Taseko R.	W9	5/12/1998	0.012	0.021	0.002	0.001	0.001	0.015	0.085	0.693	0.00005	0.00005	0.0003	0.0004	0.00806
Taseko R.	W9	6/17/1998	0.007	0.01	0.001	0.001	0.001	0.023	0.087	0.696	0.00005	0.00005	0.0003	0.0004	0.00795
Taseko R.	W14	9/27/1995	0.005	0.012	0.001	0.003	0.003	0.055	0.217	0.873	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W14	10/4/1995	0.006	0.015	0.001	0.002	0.002	0.025	0.196	0.547	<0.0001	<0.0001	0.0003	0.0005	0.012
Taseko R.	W14	10/11/1995	0.005	0.012	0.002	0.003	0.003	0.047	0.252	0.547	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W14	10/18/1995	<0.005	0.02	0.001	0.003	0.003	0.048	0.21	0.65	<0.0001	0.0001	0.0003	0.0003	<0.010
Taseko R.	W14	10/27/1995	0.005	0.021	0.001	<0.001	<0.001	0.052	0.957**	0.737	<0.0001	<0.0001	0.0003	0.0004	0.015
Taseko R.	W14	5/29/1996	0.007	<0.005	0.002	0.006	0.006	0.026	0.113	0.322	0.0001	<0.0001	0.0002	0.0002	<0.010
Taseko R.	W14	6/9/1996	0.009	0.01	0.003	0.002	0.002	0.027	0.091	0.246	0.0002	<0.0001	0.0005	0.0007	<0.010
Taseko R.	W14	6/18/1996	0.006	0.008	0.004	0.002	0.002	0.015	0.105	0.217	0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W14	6/27/1996	0.015	0.013	0.005	0.004	0.004	0.034	0.121	1.52	0.0002	<0.0001	0.0005	0.0007	<0.010
Taseko R.	W14	7/10/1996	<0.005	0.012	0.004	0.003	0.003	0.025	0.078	0.37	<0.0001	0.0002	0.0007	0.0004	0.011
Taseko R.	W14	8/6/1996	0.015	0.013	0.011	0.005	0.005	0.067	0.1	0.463	0.0002	<0.0001	0.0004	0.0007	<0.010
Taseko R.	W14	8/16/1996	0.005	<0.005	0.004	0.002	0.002	0.033	0.082	0.501	0.0003	<0.0001	0.0004	0.0006	<0.010
Taseko R.	W14	8/24/1996	0.069*	0.005	0.005	0.003	0.003	0.035	0.094	0.348	<0.0001	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W14	8/29/1996	0.008	<0.005	0.004	0.003	0.003	0.036	0.063	0.348	0.0004	<0.0001	0.0006	0.0007	<0.010
Taseko R.	W14	9/6/1996	<0.005	0.007	0.005	0.005	0.005	0.045	0.064	0.538	0.0003	<0.0001	0.0005	0.0006	<0.010
Taseko R.	W14	2/27/1997	0.011	0.021	0.001	0.001	0.001	0.022	0.109	0.358	<0.0001	<0.0001	0.0003	0.0004	<0.010
Taseko R.	W14	7/14/1997	0.005	0.005	0.001	0.001	0.001	0.008	0.052	0.227	0.00022	0.0001	0.0006	0.0007	0.00346
Taseko R.	W14	7/21/1997	0.005	0.005	0.001	0.001	0.002	0.009	0.057	0.367	0.00017	0.00008	0.0006	0.0007	0.00328
Taseko R.	W14	7/29/1997	0.005	0.008	0.001	0.001	0.001	0.012	0.075	0.268	0.00008	0.00009	0.0005	0.0006	0.00438
Taseko R.	W14	8/4/1997	0.017	0.007	0.001	0.001	0.003	0.011	0.073	0.227	0.0001	0.00013	0.0005	0.0006	0.00428
Taseko R.	W14	8/12/1997	0.005	0.014	0.002	0.001	0.001	0.011	0.087	0.351	0.00008	0.00008	0.0005	0.0006	0.00451
Taseko R.	W14	9/14/1997	0.008	0.005	0.001	0.002	0.004	0.02	0.081	0.961	0.00006	0.00007	0.0003	0.0005	0.00658
Taseko R.	W14	9/21/1997	0.011	0.009	0.001	0.002	0.003	0.029	0.129	0.816	0.00005	0.00006	0.0003	0.0005	0.00664
Taseko R.	W14	9/28/1997	0.008	0.01	0.001	0.003	0.003	0.042	0.094	0.91	0.00008	0.00013	0.0003	0.0005	0.00673
Taseko R.	W14	10/6/1997	0.005	0.015	0.001	0.001	0.002	0.032	0.1	0.686	0.00008	0.00011	0.0003	0.0004	0.00735
Taseko R.	W14	10/13/1997	0.007	0.015	0.001	0.001	0.002	0.025	0.086	0.963	0.00006	0.00007	0.0003	0.0005	0.00689
Taseko R.	W14	11/17/1997	0.015	0.021	0.001	0.002	0.002	0.022	0.067	0.683	0.00007	0.00008	0.0003	0.0004	0.00775
Taseko R.	W14	12/17/1997	0.012	0.015	0.001	0.001	0.001	0.017	0.095	0.668	0.00006	0.00007	0.0003	0.0004	0.00766
Taseko R.	W14	1/18/1998	0.005	0.021	0.001	0.001	0.001	0.018	0.092	0.608	0.00005	0.00005	0.0003	0.0004	0.00805
Taseko R.	W14	2/17/1998	0.005	0.021	0.001	0.001	0.002	0.013	0.082	0.609	0.00006	0.00007	0.0003	0.0004	0.00788
Taseko R.	W14	3/9/1998	0.005	0.024	0.001	0.001	0.001	0.012	0.09	0.548	0.00005	0.00005	0.0003	0.0004	0.0082
Taseko R.	W14	4/12/1998	0.007	0.019	0.001	0.001	0.001	0.009	0.096	0.584	0.00006	0.00007	0.0003	0.0004	0.00808
Taseko R.	W14	5/12/1998	0.009	0.019	0.001	0.001	0.001	0.011	0.08	0.496	0.00005	0.00006	0.0004	0.0005	0.00615
Taseko R.	W14	6/17/1998	0.005	0.005	0.001	0.001	0.001	0.011	0.075	0.367	0.00007	0.00008	0.0004	0.0005	0.00451
Taseko R.	W14	5/9/2006	0.0147	0.0180	<0.0010	0.0010	0.0029	0.0180	0.160	0.600	<0.00010	<0.00010	0.00030	0.00041	0.00990
Taseko R.	W14	5/16/2006	<0.0050	0.0175	<0.0010	0.0025	0.0031	0.0146	0.120	0.610	<0.00010	<0.00010	0.00031	0.00044	0.0105
Taseko R.	W14	5/23/2006	<0.0050	0.0182	<0.0010	<0.0010	<0.0020	0.0186	0.142	0.786	<0.00010	<0.00010	0.00031	0.00044	0.00993
Taseko R.	W14	5/30/2006	0.0160	0.0178	<0.0010	0.0010	<0.0020	0.0150	0.176	0.590	<0.00010	<0.00010	0.00033	0.00042	0.0102
Taseko R.	W14	6/6/2006	0.0140	0.0179	<0.0010	0.0017	<0.0020	0.0171	0.793	0.600	<0.00010	<0.00010	0.00044	0.00045	0.0162
Taseko R.	W14	7/5/2006	<0.0050	0.0165	<0.0010	<0.0030	<0.0060	0.0155	0.126	1.04	<0.00010	<0.00010	0.00032	0.00054	0.0101
Taseko R.	W14	8/8/2006	<0.0050	0.0093	<0.0010	0.0096	0.0033	0.0267	0.208	2.66	<0.00010	<0.00010	0.00038	0.00086	0.0103
Taseko R.	W14	8/16/2006	<0.0050	0.0099	<0.0010	0.0013	0.0021	0.0246	0.253	2.13	<0.00010	0.00014	0.00035	0.00076	0.0105
Taseko R.	W14	8/22/2006	0.0213	0.0078	<0.0020	0.0015	0.0064	0.0200	0.187	2.20	<0.00010	<0.00010	0.00033	0.00072	0.0103
Taseko R.	W14	8/29/2006	<0.0050	<0.025	0.0074	0.0017	0.0032	0.0153	0.253	2.23	<0.00010	<0.00020	0.00037	0.00075	0.0115
Taseko R.	W14	9/5/2006	0.0213	0.0051	<0.0010	0.0016	0.0034	0.0162	0.315	2.30	<0.00010	<0.00010	0.00036	0.00070	0.0111
Taseko R.	W14	10/4/2006	0.0193	0.0139	<0.0010	<0.0010	0.0022	0.0185	0.276	2.10	<0.00010	0.00013	0.00036	0.00067	0.0113
Taseko R.	W14	11/1/2006	<0.0050	0.0144	<0.010	<0.010	0.0030	0.0175	0.272	2.01	<0.00010	0.00011	0.00035	0.00061	0.0117

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W9	3/9/1998	0.0138	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	8.79	9.19	0.0005	0.0005
Taseko R.	W9	4/12/1998	0.0136	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	9.15	8.93	0.0005	0.0005
Taseko R.	W9	5/12/1998	0.0138	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	8.04	8.51	0.0005	0.0005
Taseko R.	W9	6/17/1998	0.0143	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.94	8.09	0.0005	0.0005
Taseko R.	W14	9/27/1995	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.86	7.13	<0.001	0.001
Taseko R.	W14	10/4/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.17	7.59	<0.001	<0.001
Taseko R.	W14	10/11/1995	0.017	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.47	7.55	<0.001	<0.001
Taseko R.	W14	10/18/1995	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.22	7.42	<0.001	<0.001
Taseko R.	W14	10/27/1995	0.015	<0.005	<0.005	<0.10	<0.10	0.19		<0.0002	<0.0002	9.84	8.04	<0.001	<0.001
Taseko R.	W14	5/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.35	8.78	<0.001	<0.001
Taseko R.	W14	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.95	6.19	<0.001	<0.001
Taseko R.	W14	6/18/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.06	6.89	<0.001	<0.001
Taseko R.	W14	6/27/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.19	7.81	<0.001	<0.001
Taseko R.	W14	7/10/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.59	8.15	<0.001	<0.001
Taseko R.	W14	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.02	5.5	<0.001	<0.001
Taseko R.	W14	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.5	5.6	<0.001	<0.001
Taseko R.	W14	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.21	5.16	<0.001	<0.001
Taseko R.	W14	8/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.63	4.67	<0.001	<0.001
Taseko R.	W14	9/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.23	6.39	<0.001	<0.001
Taseko R.	W14	2/27/1997	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	9.08	9.04	<0.001	<0.001
Taseko R.	W14	7/14/1997	0.00539	0.0005	0.0005	0.0005	0.0005	0.008	0.007	0.00005	0.00005	5.16	5.05	0.0005	0.0005
Taseko R.	W14	7/21/1997	0.00637	0.0005	0.0005	0.0005	0.0005	0.006	0.007	0.00005	0.00005	4.5	4.53	0.0005	0.0005
Taseko R.	W14	7/29/1997	0.00725	0.0005	0.0005	0.0005	0.0005	0.007	0.008	0.00005	0.00005	5.22	5.43	0.0005	0.0005
Taseko R.	W14	8/4/1997	0.00653	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	5.01	4.93	0.0005	0.0005
Taseko R.	W14	8/12/1997	0.00829	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	5.24	5.56	0.0005	0.0005
Taseko R.	W14	9/14/1997	0.0163	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	7.02	7.03	0.0005	0.0006
Taseko R.	W14	9/21/1997	0.0149	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	6.97	7.11	0.0005	0.0005
Taseko R.	W14	9/28/1997	0.0155	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	6.65	6.62	0.0005	0.0007
Taseko R.	W14	10/6/1997	0.0149	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	6.75	6.77	0.0005	0.0005
Taseko R.	W14	10/13/1997	0.017	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	7.12	7.42	0.0005	0.0006
Taseko R.	W14	11/17/1997	0.0156	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.76	7.8	0.0005	0.0005
Taseko R.	W14	12/17/1997	0.0146	0.0005	0.0005	0.0005	0.0005	0.011	0.01	0.00005	0.00005	8.18	8.14	0.0005	0.0005
Taseko R.	W14	1/18/1998	0.0147	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.11	8.39	0.0005	0.0005
Taseko R.	W14	2/17/1998	0.014	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.27	8.79	0.0005	0.0005
Taseko R.	W14	3/9/1998	0.0136	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	9.02	9.14	0.0005	0.0005
Taseko R.	W14	4/12/1998	0.0136	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	9.02	8.86	0.0005	0.0005
Taseko R.	W14	5/12/1998	0.0109	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.02	7.17	0.0005	0.0005
Taseko R.	W14	6/17/1998	0.00752	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	5.52	5.58	0.0005	0.0005
Taseko R.	W14	5/9/2006	0.0165	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.011	0.000017	<0.000020	9.17	9.54	<0.00050	<0.00050
Taseko R.	W14	5/16/2006	0.0172	<0.00050	<0.00050	<0.00050	<0.00050	0.013	0.013	<0.000017	<0.000017	9.65	9.66	<0.00050	<0.00050
Taseko R.	W14	5/23/2006	0.0179	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	<0.000017	9.26	9.45	<0.00050	<0.00050
Taseko R.	W14	5/30/2006	0.0166	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.012	<0.000017	<0.000017	9.22	10.1	<0.00050	<0.00050
Taseko R.	W14	6/6/2006	0.0168	<0.00050	<0.00050	<0.00050	<0.00050	0.014	0.014	<0.000017	<0.000017	9.99	9.83	<0.00060	<0.00050
Taseko R.	W14	7/5/2006	0.0202	<0.00050	<0.00050	<0.00050	<0.00050	0.012	0.013	<0.000017	0.000019	8.89	9.43	<0.00050	0.00061
Taseko R.	W14	8/8/2006	0.0320	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	0.000023	8.51	9.40	<0.00050	0.00150
Taseko R.	W14	8/16/2006	0.0293	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	0.000018	8.44	9.26	<0.00050	0.00142
Taseko R.	W14	8/22/2006	0.0295	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	7.68	8.37	<0.00050	0.00113
Taseko R.	W14	8/29/2006	0.0299	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.012	<0.000017	0.000019	7.55	8.43	<0.00050	0.00138
Taseko R.	W14	9/5/2006	0.0301	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	7.58	8.13	<0.00050	0.00148
Taseko R.	W14	10/4/2006	0.0277	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	0.011	<0.000017	<0.000017	8.53	9.10	<0.00050	0.00125
Taseko R.	W14	11/1/2006	0.0263	<0.00050	<0.00050	<0.00050	<0.00050	0.0113	0.0137	<0.000017	0.0000958	8.29	8.70	<0.00050	0.00123

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W9	3/9/1998	0.0001	0.0002	0.0005	0.0016	0.06	0.37	0.00005	0.00012	0.001	0.001	0.95	1.12	0.00148	0.0106
Taseko R.	W9	4/12/1998	0.0001	0.0002	0.0005	0.0015	0.08	0.35	0.00005	0.00011	0.001	0.001	0.99	1.1	0.00161	0.00912
Taseko R.	W9	5/12/1998	0.0001	0.0002	0.0005	0.0017	0.05	0.29	0.00005	0.00013	0.001	0.001	0.9	1	0.00148	0.0108
Taseko R.	W9	6/17/1998	0.0001	0.0003	0.0006	0.002	0.07	0.6	0.00005	0.00016	0.001	0.001	0.8	1.1	0.00261	0.0159
Taseko R.	W14	9/27/1995	<0.001	0.001	<0.001	0.002	0.096	0.262	<0.001	<0.001			0.777	0.848	<0.005	0.011
Taseko R.	W14	10/4/1995	<0.001	<0.001	<0.001	0.003	0.097	0.44	<0.001	<0.001			0.792	0.925	<0.005	0.017
Taseko R.	W14	10/11/1995	<0.001	<0.001	<0.001	0.003	0.152	0.37	<0.001	<0.001			0.91	1	<0.005	0.012
Taseko R.	W14	10/18/1995	<0.001	<0.001	<0.001	0.002	0.085	0.369	<0.001	<0.001			0.884	1.02	<0.005	0.011
Taseko R.	W14	10/27/1995	<0.001	<0.001	<0.001	0.002	0.12	0.367	<0.001	<0.001			1.01	1.09	<0.005	0.012
Taseko R.	W14	5/29/1996	<0.001	<0.001	<0.001	0.002	0.067	0.278	<0.001	<0.001			1.59	1.77	<0.005	0.008
Taseko R.	W14	6/9/1996	<0.001	<0.001	0.001	0.002	0.064	0.23	<0.001	<0.001			1.22	1.23	<0.005	0.008
Taseko R.	W14	6/18/1996	<0.001	<0.001	0.001	0.001	0.102	0.197	<0.001	<0.001			1.23	1.23	0.007	0.011
Taseko R.	W14	6/27/1996	<0.001	<0.001	0.001	0.002	0.063	0.406	<0.001	<0.001			1.11	1.22	<0.005	0.011
Taseko R.	W14	7/10/1996	<0.001	<0.001	0.002	<0.001	0.17	0.063	<0.001	<0.001			0.877	0.949	0.007	<0.005
Taseko R.	W14	8/6/1996	<0.001	<0.001	<0.001	0.003	0.069	0.36	<0.001	<0.001			0.857	0.911	<0.005	0.011
Taseko R.	W14	8/16/1996	<0.001	<0.001	<0.001	0.002	0.049	0.279	<0.001	<0.001			0.717	0.816	<0.005	0.01
Taseko R.	W14	8/24/1996	<0.001	<0.001	<0.001	0.001	0.08	0.208	<0.001	<0.001			0.723	0.746	<0.005	0.01
Taseko R.	W14	8/29/1996	<0.001	<0.001	<0.001	0.001	0.059	0.284	<0.001	<0.001			0.594	0.698	<0.005	0.009
Taseko R.	W14	9/6/1996	<0.001	<0.001	<0.001	0.002	0.063	0.474	<0.001	<0.001			0.777	0.939	<0.005	0.013
Taseko R.	W14	2/27/1997	<0.001	<0.001	<0.001	0.002	0.081	0.233	<0.001	<0.001			1.05	1.11	<0.005	0.006
Taseko R.	W14	7/14/1997	0.0002	0.0001	0.0006	0.0011	0.03	0.18	0.00005	0.00011	0.001	0.001	0.8	0.81	0.00223	0.00717
Taseko R.	W14	7/21/1997	0.0001	0.0002	0.0005	0.0013	0.03	0.28	0.00005	0.00015	0.001	0.001	0.61	0.69	0.0024	0.00889
Taseko R.	W14	7/29/1997	0.0001	0.0002	0.0005	0.0013	0.05	0.24	0.00005	0.0001	0.001	0.001	0.7	0.79	0.00322	0.00823
Taseko R.	W14	8/4/1997	0.0001	0.0001	0.0005	0.0011	0.05	0.19	0.00005	0.00009	0.001	0.001	0.65	0.69	0.00358	0.0075
Taseko R.	W14	8/12/1997	0.0001	0.0002	0.0005	0.0014	0.06	0.31	0.00005	0.00015	0.001	0.001	0.65	0.75	0.00341	0.00944
Taseko R.	W14	9/14/1997	0.0001	0.0005	0.0005	0.0025	0.06	0.66	0.00005	0.0002	0.001	0.001	0.82	1	0.00354	0.0218
Taseko R.	W14	9/21/1997	0.0001	0.0004	0.0006	0.0021	0.08	0.5	0.00005	0.00018	0.001	0.001	0.77	0.96	0.0033	0.017
Taseko R.	W14	9/28/1997	0.0001	0.0004	0.0006	0.0024	0.06	0.45	0.00005	0.0002	0.001	0.001	0.75	0.9	0.00346	0.0198
Taseko R.	W14	10/6/1997	0.0001	0.0004	0.0006	0.0022	0.06	0.52	0.00008	0.00016	0.001	0.001	0.77	0.94	0.00365	0.0183
Taseko R.	W14	10/13/1997	0.0003	0.0004	0.0005	0.0022	0.05	0.59	0.00005	0.00031	0.001	0.001	0.79	1.04	0.00228	0.0191
Taseko R.	W14	11/17/1997	0.0001	0.0002	0.0004	0.0018	0.05	0.38	0.00005	0.00015	0.001	0.001	0.84	0.96	0.00122	0.0124
Taseko R.	W14	12/17/1997	0.0005	0.0006	0.0005	0.0019	0.07	0.61	0.00005	0.00014	0.001	0.001	0.87	1.09	0.0016	0.0136
Taseko R.	W14	1/18/1998	0.0001	0.0003	0.0005	0.0017	0.06	0.45	0.00005	0.00013	0.001	0.001	0.91	1.08	0.0015	0.0119
Taseko R.	W14	2/17/1998	0.0001	0.0003	0.0005	0.002	0.06	0.38	0.00005	0.00015	0.001	0.001	0.94	1.1	0.00148	0.0128
Taseko R.	W14	3/9/1998	0.0001	0.0002	0.0005	0.0016	0.07	0.36	0.00005	0.00011	0.001	0.001	0.98	1.11	0.00154	0.0106
Taseko R.	W14	4/12/1998	0.0001	0.0002	0.0005	0.0015	0.07	0.4	0.00005	0.00011	0.001	0.001	1	1.14	0.00154	0.00968
Taseko R.	W14	5/12/1998	0.0001	0.0002	0.0006	0.0015	0.06	0.29	0.00005	0.00013	0.001	0.001	0.9	1	0.00176	0.0093
Taseko R.	W14	6/17/1998	0.0001	0.0002	0.0006	0.0013	0.06	0.33	0.00005	0.00011	0.001	0.001	0.7	0.8	0.00255	0.0092
Taseko R.	W14	5/9/2006	<0.00010	0.00027	0.00060	0.00201	0.131	0.423	<0.000050	0.000130	<0.0050	<0.0050	0.97	1.13	0.00258	0.0121
Taseko R.	W14	5/16/2006	<0.00010	0.00027	0.00048	0.00191	0.104	0.353	<0.000050	0.000151	<0.0050	<0.0050	0.97	1.09	0.00205	0.0123
Taseko R.	W14	5/23/2006	<0.00010	0.00033	<0.0010	0.00227	0.101	0.599	<0.000050	0.000175	<0.0050	<0.0050	0.90	1.13	0.00253	0.0154
Taseko R.	W14	5/30/2006	<0.00010	0.00028	0.00064	0.00202	0.078	0.447	<0.000050	0.000143	<0.0050	<0.0050	0.98	1.26	0.00284	0.0124
Taseko R.	W14	6/6/2006	0.00026	0.00027	0.00139	0.00204	0.527	0.468	0.000106	0.000139	<0.0050	<0.0050	1.15	1.09	0.0106	0.0124
Taseko R.	W14	7/5/2006	<0.00010	0.00045	0.00068	0.00276	0.092	0.733	<0.000050	0.000218	<0.0050	<0.0050	0.91	1.24	0.00363	0.0200
Taseko R.	W14	8/8/2006	<0.00010	0.00102	0.00093	0.00515	0.180	1.97	0.000057	0.000467	<0.0050	<0.0050	0.82	1.68	0.00551	0.0462
Taseko R.	W14	8/16/2006	<0.00010	0.00090	0.00092	0.00431	0.212	1.77	0.000060	0.000402	<0.0050	<0.0050	0.85	1.58	0.00546	0.0401
Taseko R.	W14	8/22/2006	<0.00010	0.00082	0.00076	0.00411	0.142	1.65	<0.000050	0.000393	<0.0050	<0.0050	0.77	1.52	0.00455	0.0383
Taseko R.	W14	8/29/2006	<0.00010	0.00088	0.00089	0.00422	0.196	1.69	0.000062	0.000400	<0.0050	<0.0050	0.79	1.51	0.00556	0.0398
Taseko R.	W14	9/5/2006	0.00010	0.00088	0.00093	0.00431	0.186	1.53	0.000058	0.000395	<0.0050	<0.0050	0.81	1.50	0.00562	0.0387
Taseko R.	W14	10/4/2006	<0.00010	0.00076	0.00084	0.00381	0.189	1.48	0.000063	0.000347	<0.0050	<0.0050	0.89	1.53	0.00455	0.0343
Taseko R.	W14	11/1/2006	0.00043	0.00066	0.00095	0.00345	0.224	1.21	0.000065	0.00018	<0.0050	<0.0050	0.90	1.37	0.0044	0.0287

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W9	3/9/1998	0.00134	0.00127	0.0001	0.0003					0.0005	0.0005	2.05	2.59
Taseko R.	W9	4/12/1998	0.00134	0.00128	0.0001	0.0003					0.0005	0.0005	2.08	2.46
Taseko R.	W9	5/12/1998	0.0013	0.00124	0.0001	0.0004					0.0005	0.0005	1.95	2.46
Taseko R.	W9	6/17/1998	0.00131	0.00131	0.0001	0.0004					0.0005	0.0005	1.98	2.85
Taseko R.	W14	9/27/1995	0.001	0.001	<0.001	0.002			0.53		<0.0005	<0.0005	1.93	2.14
Taseko R.	W14	10/4/1995	0.001	0.001	<0.001	<0.001			0.36		<0.0005	<0.0005	1.75	2.21
Taseko R.	W14	10/11/1995	<0.001	0.001	<0.001	<0.001			0.42		<0.0005	<0.0005	2.25	2.71
Taseko R.	W14	10/18/1995	0.001	0.001	<0.001	<0.001			0.39		<0.0005	<0.0005	1.9	2.21
Taseko R.	W14	10/27/1995	<0.001	0.001	<0.001	<0.001			0.5		<0.0005	<0.0005	2.06	2.33
Taseko R.	W14	5/29/1996	0.001	<0.001	<0.001	<0.001			0.46		<0.0005	0.0006	2.7	3.03
Taseko R.	W14	6/9/1996	<0.001	<0.001	<0.001	<0.001			0.27		<0.0005	<0.0005	2.93	3
Taseko R.	W14	6/18/1996	0.001	<0.001	<0.001	<0.001			0.38		<0.0005	0.0009	2.8	2.86
Taseko R.	W14	6/27/1996	<0.001	<0.001	<0.001	<0.001			0.45		<0.0005	<0.0005	2.56	2.79
Taseko R.	W14	7/10/1996	0.001	0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	2.14	1.95
Taseko R.	W14	8/6/1996	0.001	0.001	<0.001	<0.001			0.55		<0.0005	0.0006	1.92	2.6
Taseko R.	W14	8/16/1996	0.001	<0.001	<0.001	<0.001			0.33		<0.0005	<0.0005	2.03	2.32
Taseko R.	W14	8/24/1996	0.001	<0.001	<0.001	<0.001			0.33		<0.0005	<0.0005	2.03	2.2
Taseko R.	W14	8/29/1996	0.001	<0.001	<0.001	<0.001			0.27		<0.0005	<0.0005	1.9	2.15
Taseko R.	W14	9/6/1996	0.001	0.001	<0.001	<0.001			0.49		<0.0005	<0.0005	2.1	2.67
Taseko R.	W14	2/27/1997	0.001	0.001	<0.001	<0.001			0.55		<0.0005	<0.0005	2.16	2.37
Taseko R.	W14	7/14/1997	0.00086	0.00096	0.0001	0.0002					0.0005	0.0005	2.27	2.33
Taseko R.	W14	7/21/1997	0.00086	0.00096	0.0001	0.0003					0.0005	0.0005	1.94	2.29
Taseko R.	W14	7/29/1997	0.00102	0.00103	0.0001	0.0002					0.0005	0.0005	2.12	2.27
Taseko R.	W14	8/4/1997	0.00105	0.00093	0.0001	0.0002					0.0005	0.0005	2.02	2.07
Taseko R.	W14	8/12/1997	0.00104	0.00103	0.0001	0.0003					0.0005	0.0005	2	2.33
Taseko R.	W14	9/14/1997	0.00125	0.00116	0.0001	0.0005					0.0005	0.0005	1.91	2.82
Taseko R.	W14	9/21/1997	0.00123	0.00117	0.0001	0.0004					0.0005	0.0005	1.98	2.49
Taseko R.	W14	9/28/1997	0.00122	0.00119	0.0001	0.0006					0.0005	0.0005	1.9	2.53
Taseko R.	W14	10/6/1997	0.00125	0.00121	0.0001	0.0005					0.0005	0.0005	1.85	2.45
Taseko R.	W14	10/13/1997	0.00128	0.00123	0.0001	0.0005					0.0005	0.0005	1.85	2.65
Taseko R.	W14	11/17/1997	0.00128	0.00124	0.0001	0.0004					0.0005	0.0005	1.89	2.38
Taseko R.	W14	12/17/1997	0.00125	0.00123	0.0001	0.0003					0.0005	0.0005	2.01	2.84
Taseko R.	W14	1/18/1998	0.00133	0.0013	0.0001	0.0003					0.0005	0.0005	2.02	2.66
Taseko R.	W14	2/17/1998	0.00126	0.00128	0.0001	0.0004					0.0005	0.0005	2.04	2.49
Taseko R.	W14	3/9/1998	0.0013	0.00126	0.0001	0.0003					0.0005	0.0005	2.15	2.56
Taseko R.	W14	4/12/1998	0.00133	0.00132	0.0001	0.0003					0.0005	0.0005	2.1	2.55
Taseko R.	W14	5/12/1998	0.00118	0.00114	0.0001	0.0003					0.0005	0.0005	2.23	2.74
Taseko R.	W14	6/17/1998	0.00108	0.00106	0.0001	0.0003					0.0005	0.0005	2.21	2.55
Taseko R.	W14	5/9/2006	0.00125	0.00130	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.93	2.12
Taseko R.	W14	5/16/2006	0.00140	0.00122	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.04	2.24
Taseko R.	W14	5/23/2006	0.00143	0.00134	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.84	2.46
Taseko R.	W14	5/30/2006	0.00137	0.00115	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.78	2.26
Taseko R.	W14	6/6/2006	0.00134	0.00124	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.33	2.27
Taseko R.	W14	7/5/2006	0.00146	0.00152	<0.00050	0.00179	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.77	3.05
Taseko R.	W14	8/8/2006	0.00133	0.00147	<0.00050	0.00144	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.78	5.45
Taseko R.	W14	8/16/2006	0.00135	0.00144	<0.00050	0.00116	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.92	5.47
Taseko R.	W14	8/22/2006	0.00132	0.00138	<0.00050	0.00105	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.66	5.37
Taseko R.	W14	8/29/2006	0.00132	0.00143	<0.00050	0.00117	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.90	5.72
Taseko R.	W14	9/5/2006	0.00136	0.00145	<0.00050	0.00123	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.01	5.75
Taseko R.	W14	10/4/2006	0.00144	0.00144	<0.00050	0.00099	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	1.93	4.96
Taseko R.	W14	11/1/2006	0.00140	0.00139	<0.0005	0.00092	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.22	4.94

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W9	3/9/1998	0.00001	0.00001			0.0452	0.0462			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W9	4/12/1998	0.00001	0.00001			0.045	0.0473			0.0001	0.0001	0.01	0.02	0.00014	0.00018
Taseko R.	W9	5/12/1998	0.00001	0.00001			0.043	0.046			0.0001	0.0001	0.01	0.02	0.00011	0.00017
Taseko R.	W9	6/17/1998	0.00001	0.00001			0.0422	0.0443			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W14	9/27/1995	<0.0001	<0.0001	1.01		0.038	0.04					<0.010	0.01	0.00013	0.00017
Taseko R.	W14	10/4/1995	<0.0001	<0.0001	0.94		0.041	0.045					<0.010	0.024	0.00015	0.0002
Taseko R.	W14	10/11/1995	<0.0001	<0.0001	1.24		0.044	0.044					<0.010	0.024	0.00014	0.00018
Taseko R.	W14	10/18/1995	<0.0001	<0.0001	1.4		0.04	0.043					<0.010	0.019	0.00012	0.00015
Taseko R.	W14	10/27/1995	<0.0001	<0.0001	1.33		0.055	0.045					<0.010	0.016	0.00013	0.00015
Taseko R.	W14	5/29/1996	<0.0001	<0.0001	1.58		0.05	0.054					<0.010	0.019	0.00011	0.00012
Taseko R.	W14	6/9/1996	<0.0001	<0.0001	1.58		0.039	0.041					<0.010	<0.010	0.00007	0.00009
Taseko R.	W14	6/18/1996	<0.0001	<0.0001	1.56		0.044	0.043					<0.010	<0.010	0.00008	0.0001
Taseko R.	W14	6/27/1996	<0.0001	<0.0001	1.48		0.047	0.05					<0.010	0.014	0.0001	0.00014
Taseko R.	W14	7/10/1996	<0.0001	<0.0001	1.01		0.039	0.049					<0.010	<0.010	0.00014	0.00014
Taseko R.	W14	8/6/1996	<0.0001	<0.0001	1.22		0.046	0.034					<0.010	0.014	0.00015	0.0001
Taseko R.	W14	8/16/1996	<0.0001	<0.0001	1.09		0.034	0.036					<0.010	0.01	0.00008	0.00011
Taseko R.	W14	8/24/1996	<0.0001	<0.0001	1.08		0.035	0.035					<0.010	<0.010	0.00008	0.00011
Taseko R.	W14	8/29/1996	<0.0001	<0.0001	0.99		0.031	0.033					<0.010	<0.010	0.00006	0.00009
Taseko R.	W14	9/6/1996	<0.0001	<0.0001	1.08		0.037	0.039					<0.010	0.02	0.0001	0.00013
Taseko R.	W14	2/27/1997	<0.0001	<0.0001	1.21		0.053	0.054					<0.010	<0.010	0.00017	0.0002
Taseko R.	W14	7/14/1997	0.00001	0.00001			0.0284	0.0287			0.0001	0.0001	0.01	0.01	0.00007	0.00008
Taseko R.	W14	7/21/1997	0.00001	0.00001			0.0257	0.0266			0.0001	0.0001	0.01	0.01	0.00007	0.00009
Taseko R.	W14	7/29/1997	0.00001	0.00001			0.0287	0.031			0.0001	0.0001	0.01	0.01	0.00008	0.0001
Taseko R.	W14	8/4/1997	0.00001	0.00002			0.0291	0.0292			0.0001	0.0001	0.01	0.01	0.00009	0.0001
Taseko R.	W14	8/12/1997	0.00001	0.00001			0.0281	0.0301			0.0001	0.0001	0.01	0.01	0.00008	0.00011
Taseko R.	W14	9/14/1997	0.00001	0.00001			0.0369	0.0376			0.0001	0.0001	0.01	0.03	0.00013	0.00016
Taseko R.	W14	9/21/1997	0.00001	0.00001			0.0366	0.0388			0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W14	9/28/1997	0.00001	0.00001			0.0363	0.0398			0.0001	0.0001	0.01	0.03	0.00012	0.00017
Taseko R.	W14	10/6/1997	0.00001	0.00001			0.0386	0.0394			0.0001	0.0001	0.01	0.03	0.00012	0.00016
Taseko R.	W14	10/13/1997	0.00001	0.00001			0.0384	0.0417			0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W14	11/17/1997	0.00001	0.00001			0.0412	0.0431			0.0001	0.0001	0.01	0.02	0.00014	0.00018
Taseko R.	W14	12/17/1997	0.00001	0.00001			0.0367	0.0387			0.0001	0.0001	0.01	0.03	0.00015	0.00017
Taseko R.	W14	1/18/1998	0.00001	0.00001			0.041	0.0422			0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W14	2/17/1998	0.00001	0.00002			0.0446	0.0475			0.0001	0.0001	0.01	0.02	0.00014	0.00018
Taseko R.	W14	3/9/1998	0.00001	0.00001			0.0453	0.0463			0.0001	0.0001	0.01	0.02	0.00013	0.00018
Taseko R.	W14	4/12/1998	0.00001	0.00001			0.0455	0.0467			0.0001	0.0001	0.01	0.02	0.00014	0.00017
Taseko R.	W14	5/12/1998	0.00001	0.00001			0.0367	0.039			0.0001	0.0001	0.01	0.02	0.00009	0.00014
Taseko R.	W14	6/17/1998	0.00001	0.00001			0.0291	0.0302			0.0001	0.0001	0.01	0.01	0.00007	0.0001
Taseko R.	W14	5/9/2006	<0.000010	<0.000010	<2.0	<2.0	0.0451	0.0476	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.025	0.000175	0.000219
Taseko R.	W14	5/16/2006	<0.000010	<0.000010	<2.0	<2.0	0.0457	0.0471	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.019	0.000177	0.000223
Taseko R.	W14	5/23/2006	<0.000010	<0.000010	<2.0	<2.0	0.0459	0.0483	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.032	0.000171	0.000208
Taseko R.	W14	5/30/2006	<0.000010	<0.000010	<2.0	<2.0	0.0473	0.0488	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.028	0.000172	0.000210
Taseko R.	W14	6/6/2006	<0.000010	<0.000010	<2.0	<2.0	0.0522	0.0520	<0.00010	<0.00010	<0.00010	<0.00010	0.036	0.026	0.000134	0.000212
Taseko R.	W14	7/5/2006	<0.000010	<0.000010	<2.0	<2.0	0.0468	0.0533	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.046	0.000174	0.000243
Taseko R.	W14	8/8/2006	<0.000010	0.000010	<2.0	<2.0	0.0389	0.0491	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.134	0.000177	0.000269
Taseko R.	W14	8/16/2006	<0.000010	0.000013	<2.0	<2.0	0.0378	0.0477	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.121	0.000165	0.000268
Taseko R.	W14	8/22/2006	<0.000010	<0.000010	<2.0	<2.0	0.0376	0.0473	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.119	0.000164	0.000266
Taseko R.	W14	8/29/2006	<0.000010	<0.000010	<2.0	<2.0	0.0383	0.0478	<0.00010	<0.00010	<0.00010	<0.00010	0.013	0.122	0.000159	0.000262
Taseko R.	W14	9/5/2006	<0.000010	<0.000020	<2.0	<2.0	0.0378	0.0482	<0.00010	<0.00010	<0.00010	<0.00010	0.011	0.114	0.000164	0.000260
Taseko R.	W14	10/4/2006	<0.000010	<0.000010	<2.0	<2.0	0.0407	0.0502	<0.00010	<0.00010	<0.00010	<0.00010	0.013	0.106	0.000167	0.000252
Taseko R.	W14	11/1/2006	<0.000010	<0.000010	<2.0	<2.0	0.0414	0.0522	<0.00010	<0.00010	<0.00010	<0.00010	0.015	0.087	0.000178	0.000248

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W9	3/9/1998	0.001	0.001	0.001	0.003
Taseko R.	W9	4/12/1998	0.001	0.001	0.002	0.003
Taseko R.	W9	5/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W9	6/17/1998	0.001	0.001	0.001	0.003
Taseko R.	W14	9/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	10/4/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	10/11/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	10/18/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	10/27/1995	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	5/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	6/9/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	6/18/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	6/27/1996	<0.030	<0.030	0.013	<0.005
Taseko R.	W14	7/10/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	8/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	8/16/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	8/24/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	8/29/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	9/6/1996	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	2/27/1997	<0.030	<0.030	<0.005	<0.005
Taseko R.	W14	7/14/1997	0.001	0.001	0.006	0.002
Taseko R.	W14	7/21/1997	0.001	0.001	0.001	0.002
Taseko R.	W14	7/29/1997	0.001	0.001	0.001	0.002
Taseko R.	W14	8/4/1997	0.001	0.001	0.002	0.001
Taseko R.	W14	8/12/1997	0.001	0.001	0.001	0.001
Taseko R.	W14	9/14/1997	0.001	0.002	0.001	0.004
Taseko R.	W14	9/21/1997	0.001	0.002	0.001	0.008
Taseko R.	W14	9/28/1997	0.001	0.002	0.002	0.005
Taseko R.	W14	10/6/1997	0.001	0.002	0.002	0.003
Taseko R.	W14	10/13/1997	0.001	0.002	0.001	0.003
Taseko R.	W14	11/17/1997	0.001	0.001	0.001	0.004
Taseko R.	W14	12/17/1997	0.001	0.001	0.001	0.003
Taseko R.	W14	1/18/1998	0.001	0.001	0.001	0.002
Taseko R.	W14	2/17/1998	0.001	0.001	0.001	0.003
Taseko R.	W14	3/9/1998	0.001	0.001	0.001	0.002
Taseko R.	W14	4/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W14	5/12/1998	0.001	0.001	0.001	0.002
Taseko R.	W14	6/17/1998	0.001	0.001	0.001	0.002
Taseko R.	W14	5/9/2006	<0.0010	0.0010	<0.0010	0.0021
Taseko R.	W14	5/16/2006	<0.0010	0.0013	<0.0010	0.0021
Taseko R.	W14	5/23/2006	<0.0010	0.0016	<0.0010	0.0022
Taseko R.	W14	5/30/2006	<0.0010	0.0013	<0.0010	0.0020
Taseko R.	W14	6/6/2006	0.0015	0.0013	0.0016	0.0019
Taseko R.	W14	7/5/2006	<0.0010	0.0021	<0.0010	<0.0050
Taseko R.	W14	8/8/2006	<0.0010	0.0051	<0.0010	0.0070
Taseko R.	W14	8/16/2006	<0.0010	0.0042	<0.0010	0.0058
Taseko R.	W14	8/22/2006	<0.0010	0.0042	<0.0010	0.0058
Taseko R.	W14	8/29/2006	<0.0010	0.0044	<0.0010	0.0061
Taseko R.	W14	9/5/2006	<0.0010	0.0044	<0.0010	<0.0070
Taseko R.	W14	10/4/2006	<0.0010	0.0040	<0.0010	<0.0060
Taseko R.	W14	11/1/2006	<0.0010	0.00357	0.000833	0.00283

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Taseko R.	W19	7/14/1997	12			58	26.1	7.54	7.01	22	11.6		1.4	36	2	0.5	0.05	7
Taseko R.	W19	7/21/1997	12			58	24.4	7.48	7.14	19	13.3		1.3	32	4	0.5	0.08	7
Taseko R.	W19	7/29/1997	13			56	23.6	8.4	6.62	20	15.1		1.7	32	6	0.5	0.04	7
Taseko R.	W19	8/4/1997	15			54	22.7	8.4	6.84	20	13.4		0.9	32	6	0.5	0.03	7
Taseko R.	W19	8/12/1997				62	23.4		6.97	19	14.3		0.7	34	8	0.5	0.02	7
Taseko R.	W19	9/15/1997	10.5			58	21.6	7.71	7.15	16	23.8		1.1	30	8	0.5	0.03	6
Taseko R.	W19	9/22/1997	11.5			60	22.5	7.19	7.47	17	21.9		1	25	7	1.2	0.19	1
Taseko R.	W19	9/29/1997	9.2			60	21.3	7.62	7.4	17	24.8		1.4	28	5	0.5	0.04	6
Taseko R.	W19	10/6/1997	8.1			59	22	8.04	7.47	16	22.4		1.4	28	8	0.5	0.02	6
Taseko R.	W19	10/13/1997	6.8			63	22.2	7.61	7.46	17	16		1.1	29	3	0.5	0.1	6
Taseko R.	W19	11/16/1997	1.8			65	23.9	8.1	7.1	19	17		1.1	34	3	0.5	0.02	7
Taseko R.	W19	12/17/1997	0.1			68	26.9	8.01	7.03	20	14.7		1.1	36	5	0.5	0.04	7
Taseko R.	W19	1/20/1998	0.4			73	29.2	7.01	7.32	24	12.2		1.1	40	3	0.5	0.05	7
Taseko R.	W19	2/18/1998	0.5			68	32.5	7.8	7.19	22	12		0.8	40	2	0.5	0.04	7
Taseko R.	W19	3/10/1998				75	31.1		7.37	24	12.5		0.7	41	2	0.5	0.03	7
Taseko R.	W19	4/14/1998	4.9			71	31.5	7.62	7.28	25	9.6		0.5	38	1	0.5	0.02	8
Taseko R.	W19	5/12/1998	9.4			58	24.6	7.57	7.38	19	13.5		1.4	32	7	0.5	0.02	7
Taseko R.	W19	6/17/1998	9.5			54	23.6		7.15	17	15.8		0.9	33	3	0.5	0.03	7
Taseko R.	W20	9/16/1997	10			60	22.5	7.18	7.17	18	18.4		1.8	30	6	0.5	0.03	6
Taseko R.	W20	9/23/1997	9			64	23.7		7.33	18	19.6		1.7	26	9	0.5	0.02	1
Taseko R.	W20	9/30/1997	8.7			59	22.9	7.85	7.12	17	22		1.3	29	7	0.5	0.03	6
Taseko R.	W20	10/7/1997	7.7			60	22.8	8.23	7.21	17	22.2		1.1	31	4	0.5	0.02	6
Taseko R.	W20	10/14/1997	7			64	24.7	7.48	7.26	19	17.3		1.5	31	3	0.5	0.04	6
Taseko R.	W20	11/17/1997	1			68	26.6	8.2	7.01	20	16		1	36	3	0.5	0.04	7
Taseko R.	W20	12/18/1997	0.2			82	30.7	7.99	7.46	25	13.6		1.2	42	3	0.5	0.03	7
Taseko R.	W20	1/21/1998	0.2			77	33.2	6.56	7.16	26	10.6		0.7	43	1	0.5	0.04	7
Taseko R.	W20	2/17/1998	0.5			82	33.3	8.16	7.16	30	9.5		0.8	45	2	0.5	0.03	7
Taseko R.	W20	3/11/1998	0.4			70	33.4	9	7.31	28	8.7		0.8	45	5	0.5	0.03	7
Taseko R.	W20	4/15/1998	1.7			84	37.3	7.87	7.73	33	7.8		1.1	48	4	0.5	0.03	7
Taseko R.	W20	5/13/1998	6.6			58	25.5	7.35	7.13	20	11.7		0.7	35	3	0.5	0.02	7
Taseko R.	W20	6/16/1998	10			57	24.1	8.4	6.92	18	17		1.5	31	5	0.5	0.05	7
Taseko R.	W20	7/14/1998	8.9			53	22.3	7.2	7.76	18	28.8		1.4	32	10	0.5	0.05	6
Taseko R.	W20	7/21/1998	8.8			52	23.1	6.98	7.45	17	29.2		0.8	31	12	0.5	0.02	6
Taseko R.	W20	7/28/1998	14			47	21.7	7.01	6.59	17	34.9		1	31	22	0.5	0.02	6
Taseko R.	W20	8/4/1998	10.5			46	21	7.1	7.38	16	70.2		10.7	33	38	0.5	0.02	5
Taseko R.	W20	8/11/1998	9.7			45	19.6	6.14	7.01	15	74.1		0.9	27	22	0.5	0.02	5
Tete Angela C	W17	6/9/1996				98.6	41.9		7.23	42.1	2.5		18.9	60	3	0.5	0.04	<1.0
Tete Angela C	W17	6/17/1996				82.2	40.6		7.4	42.9	1.4		16.4	59	1	0.9	0.04	<1.0
Tete Angela C	W17	8/11/1996				122	58.9		7.94	65.7	0.6		7.6	78	1	0.5	0.05	<1.0
Tete Angela C	W17	8/15/1996				130	61.6		8.11	67.5	0.4		5.7	78	1	0.5	0.05	<1.0
Tete Angela C	W17	8/24/1996				141	67.1		7.96	73	1.3		3.3	91	1	0.5	0.06	1.1
Tete Angela C	W17	9/3/1996				139	69		8	76.7	1.4		3.2	94	2	0.5	0.05	1.1
Tete Angela C	W17	9/14/1996				132	61.2		8	69.6	1.9		5.6	81	7	0.5	0.06	1.1
Tete Angela C	W17	5/8/1997	0.5			62	30.7	7.79	7.35	35	5.2		12.8	44	31	0.5	0.03	1
Tete Angela C	W17	5/14/1997	5.1			114	57	7.46	7.27	68	0.9		15.4	79	2	0.5	0.04	1
Tete Angela C	W17	5/19/1997	2.4			130	69.7	7.1	7.15	73	1.1		14.1	87	4	0.5	0.05	1
Tete Angela C	W17	5/27/1997	6.1			128	62.9	7.43	7.56	69	0.7		16.3	84	2	0.5	0.04	1
Tete Angela C	W17	6/3/1997	6.6			142	70.1	7.6	7.45	78	1.4		13.9	90	5	0.7	0.05	1
Tete Angela C	W17	7/28/1997	16			104	50.6	7.6	7.3	58	0.9		10.1	65	1	0.5	0.04	1
Tete Angela C	W17	9/16/1997	7			158	70.7	7.26	7.67	77	0.7		3.5	96	2	0.5	0.07	1
Tete Angela C	W17	9/23/1997	11			147	65.8		7.67	73	0.5		5.1	99	3	0.6	0.09	7

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Taseko R.	W19	7/14/1997	0.008	0.013	0.001	0.001	0.001	0.01	0.081	0.42	0.0002	0.00014	0.0003	0.0004	0.00822
Taseko R.	W19	7/21/1997	0.006	0.021	0.001	0.001	0.001	0.011	0.075	0.48	0.00044	0.00011	0.0003	0.0005	0.00801
Taseko R.	W19	7/29/1997	0.01	0.014	0.001	0.001	0.003	0.022	0.094	0.415	0.00005	0.00006	0.0003	0.0004	0.00802
Taseko R.	W19	8/4/1997	0.01	0.011	0.001	0.001	0.003	0.017	0.097	0.498	0.00006	0.00006	0.0003	0.0004	0.00821
Taseko R.	W19	8/12/1997	0.013	0.02	0.002	0.001	0.001	0.015	0.122	0.438	0.00007	0.00009	0.0003	0.0004	0.00829
Taseko R.	W19	9/15/1997	0.009	0.005	0.001	0.002	0.008	0.021	0.12	1.06	0.00005	0.00006	0.0003	0.0005	0.00785
Taseko R.	W19	9/22/1997	0.04	0.005	0.001	0.001	0.003	0.03	0.141	1.19	0.00005	0.00005	0.0003	0.0005	0.00792
Taseko R.	W19	9/29/1997	0.009	0.01	0.001	0.003	0.004	0.039	0.105	0.889	0.00007	0.0001	0.0004	0.0005	0.00767
Taseko R.	W19	10/6/1997	0.005	0.01	0.001	0.001	0.002	0.033	0.122	0.973	0.00005	0.00006	0.0003	0.0005	0.00787
Taseko R.	W19	10/13/1997	0.007	0.019	0.001	0.001	0.002	0.023	0.11	0.875	0.00005	0.00005	0.0003	0.0005	0.00796
Taseko R.	W19	11/16/1997	0.015	0.02	0.001	0.002	0.002	0.02	0.107	0.764	0.00006	0.00006	0.0003	0.0004	0.00814
Taseko R.	W19	12/17/1997	0.009	0.017	0.001	0.001	0.001	0.015	0.105	0.601	0.00005	0.00006	0.0003	0.0004	0.00837
Taseko R.	W19	1/20/1998	0.005	0.019	0.001	0.001	0.002	0.011	0.108	0.341	0.00005	0.00005	0.0003	0.0004	0.0092
Taseko R.	W19	2/18/1998	0.009	0.019	0.005	0.001	0.004	0.009	0.099	0.462	0.00005	0.00006	0.0003	0.0004	0.00905
Taseko R.	W19	3/10/1998	0.009	0.019	0.001	0.002	0.002	0.004	0.103	0.604	0.00006	0.00006	0.0003	0.0004	0.00879
Taseko R.	W19	4/14/1998	0.009	0.017	0.001	0.001	0.001	0.008	0.126	0.426	0.00005	0.00006	0.0003	0.0004	0.00938
Taseko R.	W19	5/12/1998	0.01	0.016	0.002	0.001	0.001	0.016	0.108	0.577	0.00005	0.00005	0.0003	0.0004	0.00828
Taseko R.	W19	6/17/1998	0.007	0.011	0.001	0.001	0.001	0.022	0.1	0.727	0.00005	0.00005	0.0003	0.0005	0.00808
Taseko R.	W20	9/16/1997	0.01	0.005	0.001	0.002	0.004	0.021	0.136	1.02	0.00006	0.00007	0.0003	0.0005	0.00786
Taseko R.	W20	9/23/1997	0.013	0.008	0.001	0.001	0.003	0.027	0.129	0.836	0.00005	0.00006	0.0003	0.0005	0.00794
Taseko R.	W20	9/30/1997	0.013	0.01	0.001	0.003	0.004	0.035	0.112	0.943	0.00005	0.00007	0.0003	0.0004	0.00794
Taseko R.	W20	10/7/1997	0.005	0.01	0.001	0.001	0.001	0.032	0.103	0.858	0.00005	0.00006	0.0003	0.0004	0.00763
Taseko R.	W20	10/14/1997	0.007	0.011	0.001	0.002	0.003	0.022	0.114	0.814	0.00005	0.00006	0.0003	0.0004	0.0078
Taseko R.	W20	11/17/1997	0.015	0.02	0.001	0.002	0.004	0.019	0.124	0.64	0.00008	0.00009	0.0003	0.0004	0.00846
Taseko R.	W20	12/18/1997	0.011	0.013	0.001	0.001	0.003	0.013	0.11	0.501	0.00006	0.00006	0.0004	0.0004	0.0103
Taseko R.	W20	1/21/1998	0.007	0.018	0.001	0.001	0.001	0.008	0.107	0.338	0.00007	0.00006	0.0004	0.0004	0.00894
Taseko R.	W20	2/17/1998	0.005	0.02	0.001	0.001	0.001	0.007	0.11	0.4	0.00006	0.00006	0.0003	0.0004	0.00906
Taseko R.	W20	3/11/1998	0.006	0.018	0.001	0.002	0.002	0.008	0.082	0.368	0.00005	0.00006	0.0003	0.0004	0.00812
Taseko R.	W20	4/15/1998	0.008	0.015	0.001	0.001	0.001	0.005	0.087	0.333	0.00005	0.00005	0.0003	0.0004	0.00908
Taseko R.	W20	5/13/1998	0.01	0.023	0.001	0.001	0.002	0.018	0.107	0.549	0.00005	0.00006	0.0003	0.0005	0.00815
Taseko R.	W20	6/16/1998	0.015	0.015	0.001	0.001	0.003	0.024	0.093	0.559	0.00006	0.00008	0.0003	0.0004	0.00771
Taseko R.	W20	7/14/1998	0.011	0.005	0.001	0.002	0.003	0.033	0.083	0.749	0.00005	0.00008	0.0003	0.0005	0.00721
Taseko R.	W20	7/21/1998	0.016	0.015	0.001	0.001	0.002	0.029	0.09	0.779	0.00005	0.00005	0.0003	0.0005	0.00761
Taseko R.	W20	7/28/1998	0.028	0.005	0.001	0.001	0.001	0.071	0.081	1.4	0.00005	0.00008	0.0003	0.0009	0.00686
Taseko R.	W20	8/4/1998	0.053	0.005	0.001	0.001	0.003	0.038	0.095	3.98	0.00005	0.00009	0.0003	0.0013	0.0066
Taseko R.	W20	8/11/1998	0.033	0.011	0.001	0.001	0.001	0.091	0.088	2.73	0.00005	0.00007	0.0003	0.001	0.00671
Tete Angela C	W17	6/9/1996	<0.005	<0.005	0.002	0.003	0.008	0.015	0.014	0.239	0.0002	<0.0001	0.0002	0.0002	<0.010
Tete Angela C	W17	6/17/1996	0.005	<0.005	0.002	0.002	0.007	0.014	0.031	0.029	0.0001	<0.0001	0.0002	0.0002	<0.010
Tete Angela C	W17	8/11/1996	<0.005	<0.005	0.001	0.007	0.007	0.009	0.019	0.029	<0.0001	<0.0001	0.0005	0.0005	<0.010
Tete Angela C	W17	8/15/1996	<0.005	<0.005	0.001	0.004	0.005	0.008	0.015	0.021	<0.0001	<0.0001	0.0005	0.0005	<0.010
Tete Angela C	W17	8/24/1996	<0.005	<0.005	0.001	0.005	0.006	0.008	<0.005	0.027	<0.0001	<0.0001	0.0006	0.0006	<0.010
Tete Angela C	W17	9/3/1996	<0.005	<0.005	0.001	0.004	0.004	0.007	<0.005	0.013	<0.0001	<0.0001	0.0006	0.0006	<0.010
Tete Angela C	W17	9/14/1996	<0.005	<0.005	<0.001	0.003	0.009	0.016	0.01	0.035	0.0001	<0.0001	0.0005	0.0005	<0.010
Tete Angela C	W17	5/8/1997	0.007	0.013	0.001	0.003	0.004	0.043	0.029	0.265	0.00014	0.00005	0.0002	0.0004	0.00179
Tete Angela C	W17	5/14/1997	0.014	0.005	0.001	0.003	0.016	0.021	0.013	0.029	0.0005	0.0005	0.0008	0.0008	0.00157
Tete Angela C	W17	5/19/1997	0.005	0.006	0.001	0.003	0.007	0.013	0.01	0.016	0.00011	0.00006	0.0008	0.0008	0.00136
Tete Angela C	W17	5/27/1997	0.005	0.005	0.001	0.002	0.002	0.002	0.011	0.013	0.00005	0.00005	0.0008	0.0008	0.00145
Tete Angela C	W17	6/3/1997	0.005	0.005	0.001	0.001	0.007	0.009	0.009	0.02	0.00008	0.00011	0.0009	0.0009	0.00168
Tete Angela C	W17	7/28/1997	0.005	0.005	0.001	0.002	0.006	0.006	0.035	0.041	0.00005	0.00005	0.0004	0.0004	0.002
Tete Angela C	W17	9/16/1997	0.005	0.005	0.001	0.004	0.008	0.008	0.005	0.011	0.00005	0.00006	0.0005	0.0005	0.00228
Tete Angela C	W17	9/23/1997	0.005	0.005	0.001	0.001	0.004	0.007	0.01	0.043	0.00005	0.00005	0.0005	0.0005	0.00221

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Taseko R.	W19	7/14/1997	0.0128	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	8.78	8.67	0.0005	0.0005
Taseko R.	W19	7/21/1997	0.0137	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	8.21	8.25	0.0005	0.0005
Taseko R.	W19	7/29/1997	0.0133	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	7.96	7.86	0.0005	0.0005
Taseko R.	W19	8/4/1997	0.0135	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	7.68	7.54	0.0005	0.0005
Taseko R.	W19	8/12/1997	0.0131	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.95	7.89	0.0005	0.0005
Taseko R.	W19	9/15/1997	0.0188	0.0005	0.0005	0.0005	0.0005	0.01	0.011	0.00005	0.00005	7.3	7.44	0.0005	0.0007
Taseko R.	W19	9/22/1997	0.0165	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	7.59	7.91	0.0005	0.0007
Taseko R.	W19	9/29/1997	0.0168	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.21	7.4	0.0005	0.0006
Taseko R.	W19	10/6/1997	0.0164	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.45	7.68	0.0005	0.0007
Taseko R.	W19	10/13/1997	0.0161	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.48	7.68	0.0005	0.0006
Taseko R.	W19	11/16/1997	0.0147	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	7.99	8.34	0.0005	0.0005
Taseko R.	W19	12/17/1997	0.0144	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	8.92	8.87	0.0005	0.0005
Taseko R.	W19	1/20/1998	0.0135	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	9.65	9.5	0.0005	0.0005
Taseko R.	W19	2/18/1998	0.0138	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	10.7	10.2	0.0005	0.0005
Taseko R.	W19	3/10/1998	0.0139	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	10.3	9.97	0.0005	0.0005
Taseko R.	W19	4/14/1998	0.0131	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	10.3	10.5	0.0005	0.0005
Taseko R.	W19	5/12/1998	0.0139	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.27	8.24	0.0005	0.0005
Taseko R.	W19	6/17/1998	0.0144	0.0005	0.0005	0.0005	0.0005	0.012	0.011	0.00005	0.00005	7.99	8.15	0.0005	0.0005
Taseko R.	W20	9/16/1997	0.0172	0.0005	0.0005	0.0005	0.0005	0.01	0.011	0.00005	0.00005	7.53	7.63	0.0005	0.0005
Taseko R.	W20	9/23/1997	0.0148	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	7.88	8.15	0.0005	0.0005
Taseko R.	W20	9/30/1997	0.0173	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.68	7.88	0.0005	0.0006
Taseko R.	W20	10/7/1997	0.016	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	7.61	7.72	0.0005	0.0005
Taseko R.	W20	10/14/1997	0.0153	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.18	8.24	0.0005	0.0005
Taseko R.	W20	11/17/1997	0.0139	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	8.72	8.94	0.0005	0.0005
Taseko R.	W20	12/18/1997	0.0176	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	9.93	9.92	0.0005	0.0005
Taseko R.	W20	1/21/1998	0.0128	0.0005	0.0005	0.0005	0.0005	0.016	0.016	0.00005	0.00005	10.7	10.6	0.0005	0.0005
Taseko R.	W20	2/17/1998	0.0123	0.0005	0.0005	0.0005	0.0005	0.017	0.017	0.00005	0.00005	10.5	10.7	0.0005	0.0005
Taseko R.	W20	3/11/1998	0.0122	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	10.4	13.2	0.0005	0.0005
Taseko R.	W20	4/15/1998	0.0126	0.0005	0.0005	0.0005	0.0005	0.015	0.015	0.00005	0.00005	11.1	11.1	0.0005	0.0005
Taseko R.	W20	5/13/1998	0.0137	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	8.32	8.5	0.0005	0.0005
Taseko R.	W20	6/16/1998	0.0136	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	8.05	8.19	0.0005	0.0005
Taseko R.	W20	7/14/1998	0.0167	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	7.38	7.59	0.0005	0.0005
Taseko R.	W20	7/21/1998	0.0174	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.8	8.07	0.0005	0.0005
Taseko R.	W20	7/28/1998	0.0262	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	7.37	8	0.0005	0.0012
Taseko R.	W20	8/4/1998	0.041	0.0005	0.0005	0.0005	0.0005	0.009	0.01	0.00005	0.00005	7.15	7.99	0.0005	0.0021
Taseko R.	W20	8/11/1998	0.0325	0.0005	0.0005	0.0005	0.0005	0.009	0.01	0.00005	0.00005	6.71	7.43	0.0005	0.0015
Tete Angela C	W17	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.4	8.02	<0.001	<0.001
Tete Angela C	W17	6/17/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.06	7.29	<0.001	<0.001
Tete Angela C	W17	8/11/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	12.4	12.3	<0.001	<0.001
Tete Angela C	W17	8/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	12.6	12.6	<0.001	<0.001
Tete Angela C	W17	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	13.4	13.4	<0.001	<0.001
Tete Angela C	W17	9/3/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	14.2	14.1	<0.001	<0.001
Tete Angela C	W17	9/14/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	12.7	12.6	<0.001	<0.001
Tete Angela C	W17	5/8/1997	0.00533	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	5.96	6.01	0.0005	0.0011
Tete Angela C	W17	5/14/1997	0.00174	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	12.2	11.8	0.0005	0.0005
Tete Angela C	W17	5/19/1997	0.00152	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	15	15.2	0.0005	0.0005
Tete Angela C	W17	5/27/1997	0.00149	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	13.9	14.2	0.0007	0.0007
Tete Angela C	W17	6/3/1997	0.00184	0.0005	0.0005	0.0005	0.0005	0.004	0.005	0.00005	0.00005	15.6	15.3	0.0006	0.0005
Tete Angela C	W17	7/28/1997	0.0021	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	10.4	10.6	0.0008	0.0008
Tete Angela C	W17	9/16/1997	0.00235	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	14.3	13.9	0.0007	0.0006
Tete Angela C	W17	9/23/1997	0.00238	0.0005	0.0005	0.0005	0.0005	0.004	0.003	0.00005	0.00005	13.3	13.4	0.0008	0.0008

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Taseko R.	W19	7/14/1997	0.0001	0.0002	0.0006	0.0015	0.05	0.36	0.00005	0.00012	0.001	0.001	1.01	1.13	0.00191	0.0114
Taseko R.	W19	7/21/1997	0.0001	0.0003	0.0006	0.0018	0.04	0.4	0.00005	0.00014	0.001	0.001	0.94	1.05	0.00183	0.0122
Taseko R.	W19	7/29/1997	0.0001	0.0003	0.0006	0.002	0.06	0.43	0.00005	0.00015	0.001	0.001	0.89	1.02	0.00218	0.0119
Taseko R.	W19	8/4/1997	0.0001	0.0002	0.0006	0.0018	0.06	0.38	0.00005	0.00012	0.001	0.001	0.85	0.94	0.00223	0.0116
Taseko R.	W19	8/12/1997	0.0001	0.0002	0.0007	0.0018	0.08	0.4	0.00005	0.00015	0.001	0.001	0.86	0.96	0.00234	0.0107
Taseko R.	W19	9/15/1997	0.0001	0.0005	0.0006	0.0031	0.08	0.64	0.00005	0.0003	0.001	0.001	0.81	1.04	0.0022	0.0223
Taseko R.	W19	9/22/1997	0.0001	0.0004	0.0006	0.0024	0.09	0.55	0.00005	0.00018	0.001	0.001	0.86	1.07	0.00249	0.0206
Taseko R.	W19	9/29/1997	0.0001	0.0005	0.0006	0.0026	0.06	0.48	0.00005	0.00019	0.001	0.001	0.8	0.98	0.00231	0.0216
Taseko R.	W19	10/6/1997	0.0003	0.0004	0.0008	0.0025	0.07	0.6	0.00005	0.00018	0.001	0.001	0.83	1.07	0.00237	0.0194
Taseko R.	W19	10/13/1997	0.0004	0.0004	0.0006	0.0022	0.05	0.53	0.00005	0.00015	0.001	0.001	0.87	1.06	0.00194	0.0171
Taseko R.	W19	11/16/1997	0.0001	0.0003	0.0006	0.0019	0.06	0.36	0.00005	0.00014	0.001	0.001	0.95	1.11	0.00176	0.0131
Taseko R.	W19	12/17/1997	0.0001	0.0003	0.0006	0.0018	0.08	0.54	0.00005	0.00015	0.001	0.001	1.12	1.3	0.00172	0.0125
Taseko R.	W19	1/20/1998	0.0001	0.0002	0.0006	0.0013	0.07	0.29	0.00005	0.00009	0.001	0.001	1.24	1.31	0.00166	0.00726
Taseko R.	W19	2/18/1998	0.0001	0.0002	0.0005	0.0015	0.09	0.27	0.00005	0.0001	0.001	0.001	1.42	1.45	0.00168	0.00928
Taseko R.	W19	3/10/1998	0.0001	0.0002	0.0007	0.0015	0.08	0.29	0.00006	0.00011	0.001	0.001	1.3	1.41	0.00211	0.0101
Taseko R.	W19	4/14/1998	0.0001	0.0002	0.0005	0.0013	0.08	0.35	0.00005	0.0001	0.001	0.001	1.4	1.6	0.0017	0.00712
Taseko R.	W19	5/12/1998	0.0001	0.0003	0.0007	0.0016	0.07	0.45	0.00008	0.00014	0.001	0.001	1	1.1	0.00208	0.0132
Taseko R.	W19	6/17/1998	0.0001	0.0003	0.0006	0.0019	0.07	0.56	0.00005	0.00015	0.001	0.001	0.9	1.1	0.0021	0.0149
Taseko R.	W20	9/16/1997	0.0001	0.0005	0.0006	0.0024	0.1	0.62	0.00005	0.0002	0.001	0.001	0.91	1.13	0.00226	0.0196
Taseko R.	W20	9/23/1997	0.0001	0.0003	0.0006	0.0023	0.08	0.47	0.00005	0.00021	0.001	0.001	0.98	1.16	0.00207	0.0158
Taseko R.	W20	9/30/1997	0.0005	0.0005	0.0006	0.0025	0.07	0.48	0.00005	0.00019	0.001	0.001	0.91	1.05	0.00191	0.02
Taseko R.	W20	10/7/1997	0.0001	0.0004	0.0005	0.0023	0.07	0.56	0.00005	0.00017	0.001	0.001	0.91	1.11	0.00174	0.0174
Taseko R.	W20	10/14/1997	0.0004	0.0007	0.0006	0.0022	0.08	0.55	0.00005	0.00016	0.001	0.001	1.03	1.24	0.00194	0.0172
Taseko R.	W20	11/17/1997	0.0001	0.0003	0.0006	0.0018	0.08	0.34	0.00005	0.00013	0.001	0.001	1.17	1.32	0.00195	0.0119
Taseko R.	W20	12/18/1997	0.0001	0.0002	0.0005	0.0015	0.08	0.35	0.00005	0.00011	0.001	0.001	1.44	1.56	0.00167	0.00937
Taseko R.	W20	1/21/1998	0.0001	0.0002	0.0006	0.0013	0.09	0.28	0.00005	0.00009	0.001	0.001	1.61	1.71	0.00172	0.00806
Taseko R.	W20	2/17/1998	0.0001	0.0002	0.0006	0.0012	0.08	0.28	0.00005	0.00008	0.001	0.001	1.74	1.86	0.00161	0.00744
Taseko R.	W20	3/11/1998	0.0001	0.0002	0.0005	0.0022	0.06	0.29	0.00005	0.00013	0.001	0.001	1.78	1.87	0.00135	0.00991
Taseko R.	W20	4/15/1998	0.0001	0.0001	0.0005	0.0012	0.06	0.28	0.00005	0.00009	0.001	0.001	2.3	2.4	0.00159	0.00772
Taseko R.	W20	5/13/1998	0.0001	0.0003	0.0006	0.0017	0.06	0.38	0.00005	0.00014	0.001	0.001	1.2	1.3	0.00184	0.0156
Taseko R.	W20	6/16/1998	0.0001	0.0003	0.0006	0.0019	0.06	0.54	0.00005	0.00014	0.001	0.001	1	1.1	0.00176	0.0147
Taseko R.	W20	7/14/1998	0.0001	0.0004	0.0007	0.0028	0.05	0.7	0.00005	0.00023	0.001	0.001	0.9	1.2	0.00163	0.0201
Taseko R.	W20	7/21/1998	0.0001	0.0004	0.0005	0.0039	0.07	0.68	0.00005	0.00024	0.001	0.001	0.9	1.1	0.00181	0.0195
Taseko R.	W20	7/28/1998	0.0001	0.0009	0.0006	0.004	0.05	1.4	0.00005	0.00048	0.001	0.002	0.8	1.3	0.00177	0.0425
Taseko R.	W20	8/4/1998	0.0001	0.0016		0.007	0.07	1.95	0.00005	0.00076	0.001	0.003	0.8	1.5	0.00267	0.0759
Taseko R.	W20	8/11/1998	0.0001	0.0012	0.0005	0.0061	0.06	1.62	0.00005	0.00064	0.001	0.002	0.7	1.4	0.0018	0.0537
Tete Angela C	W17	6/9/1996	<0.001	<0.001	<0.001	<0.001	0.204	0.316	<0.001	<0.001			5.69	5.76	0.012	0.03
Tete Angela C	W17	6/17/1996	<0.001	<0.001	<0.001	<0.001	0.197	0.307	<0.001	<0.001			5.58	5.74	0.012	0.033
Tete Angela C	W17	8/11/1996	<0.001	<0.001	0.001	<0.001	0.108	0.133	<0.001	<0.001			6.76	6.7	0.005	0.006
Tete Angela C	W17	8/15/1996	<0.001	<0.001	<0.001	<0.001	0.1	0.117	<0.001	<0.001			7.31	7.32	0.006	0.006
Tete Angela C	W17	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.127	0.221	<0.001	<0.001			8.16	8.16	0.008	0.011
Tete Angela C	W17	9/3/1996	<0.001	<0.001	<0.001	<0.001	0.104	0.153	<0.001	<0.001			8.17	8.14	0.007	0.007
Tete Angela C	W17	9/14/1996	<0.001	<0.001	<0.001	<0.001	0.109	0.214	<0.001	<0.001			7.16	7	0.005	0.012
Tete Angela C	W17	5/8/1997	0.0001	0.0006	0.003	0.0011	0.32	0.89	0.00045	0.00007	0.001	0.001	3.84	3.89	0.00802	0.0657
Tete Angela C	W17	5/14/1997	0.0001	0.0004	0.0012	0.0013	0.2	0.26	0.00005	0.00005	0.001	0.001	6.45	6.2	0.00393	0.0129
Tete Angela C	W17	5/19/1997	0.0001	0.0001	0.001	0.0011	0.17	0.23	0.00005	0.00005	0.001	0.001	7.8	7.93	0.00619	0.00953
Tete Angela C	W17	5/27/1997	0.0001	0.0001	0.0013	0.0013	0.15	0.18	0.00005	0.00005	0.001	0.001	6.84	6.91	0.00863	0.00997
Tete Angela C	W17	6/3/1997	0.0001	0.0001	0.0012	0.0012	0.18	0.24	0.00005	0.00005	0.001	0.001	7.54	7.32	0.0172	0.0208
Tete Angela C	W17	7/28/1997	0.0001	0.0001	0.0007	0.0007	0.11	0.14	0.00005	0.00005	0.001	0.001	5.98	6.01	0.00504	0.00651
Tete Angela C	W17	9/16/1997	0.0001	0.0001	0.0004	0.0009	0.14	0.16	0.00005	0.00005	0.001	0.001	8.51	8.37	0.00842	0.00948
Tete Angela C	W17	9/23/1997	0.0007	0.0001	0.0006	0.0006	0.11	0.17	0.00005	0.00005	0.001	0.001	7.89	7.89	0.00495	0.0134

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Taseko R.	W19	7/14/1997	0.00118	0.00129	0.0001	0.0003					0.0005	0.0005	2.15	2.45
Taseko R.	W19	7/21/1997	0.00122	0.00126	0.0001	0.0004					0.0005	0.0005	2.02	2.44
Taseko R.	W19	7/29/1997	0.00127	0.00123	0.0001	0.0004					0.0005	0.0005	2.06	2.46
Taseko R.	W19	8/4/1997	0.00131	0.00118	0.0001	0.0003					0.0005	0.0005	1.96	2.26
Taseko R.	W19	8/12/1997	0.00129	0.00126	0.0001	0.0003					0.0005	0.0005	2.04	2.42
Taseko R.	W19	9/15/1997	0.00125	0.00126	0.0001	0.0007					0.0005	0.0005	1.84	2.63
Taseko R.	W19	9/22/1997	0.00126	0.0012	0.0001	0.0005					0.0005	0.0005	1.88	2.63
Taseko R.	W19	9/29/1997	0.00127	0.00121	0.0001	0.0006					0.0005	0.0005	1.8	2.62
Taseko R.	W19	10/6/1997	0.00126	0.0012	0.0001	0.0004					0.0005	0.0005	1.79	2.51
Taseko R.	W19	10/13/1997	0.00128	0.00125	0.0001	0.0004					0.0005	0.0005	1.75	2.49
Taseko R.	W19	11/16/1997	0.00126	0.00125	0.0001	0.0004					0.0005	0.0005	1.87	2.34
Taseko R.	W19	12/17/1997	0.00125	0.00123	0.0001	0.0003					0.0005	0.0005	2.09	2.76
Taseko R.	W19	1/20/1998	0.00136	0.00133	0.0001	0.0002					0.0005	0.0005	2.25	2.44
Taseko R.	W19	2/18/1998	0.00132	0.00132	0.0001	0.0002					0.0005	0.0005	2.3	2.43
Taseko R.	W19	3/10/1998	0.00129	0.00128	0.0001	0.0003					0.0005	0.0005	2.15	2.58
Taseko R.	W19	4/14/1998	0.00133	0.00126	0.0001	0.0002					0.0005	0.0005	2.24	2.64
Taseko R.	W19	5/12/1998	0.00128	0.00129	0.0001	0.0004					0.0005	0.0005	2.12	2.82
Taseko R.	W19	6/17/1998	0.00133	0.00134	0.0001	0.0004					0.0005	0.0005	1.99	2.79
Taseko R.	W20	9/16/1997	0.00118	0.00115	0.0001						0.0005	0.0005	1.9	2.61
Taseko R.	W20	9/23/1997	0.0012	0.00116	0.0001						0.0005	0.0005	1.91	2.44
Taseko R.	W20	9/30/1997	0.00121	0.00117	0.0001						0.0005	0.0005	1.88	2.59
Taseko R.	W20	10/7/1997	0.00125	0.00121	0.0001						0.0005	0.0005	1.85	2.46
Taseko R.	W20	10/14/1997	0.00124	0.0012	0.0001						0.0005	0.0005	1.93	2.66
Taseko R.	W20	11/17/1997	0.00123	0.00118	0.0001						0.0005	0.0005	2.1	2.43
Taseko R.	W20	12/18/1997	0.00137	0.00132	0.0001						0.0005	0.0005	2.31	2.64
Taseko R.	W20	1/21/1998	0.00127	0.00127	0.0001						0.0005	0.0005	2.49	2.86
Taseko R.	W20	2/17/1998	0.00128	0.00126	0.0001						0.0005	0.0005	2.4	2.76
Taseko R.	W20	3/11/1998	0.00122	0.00122	0.0001						0.0005	0.0005	2.23	2.41
Taseko R.	W20	4/15/1998	0.0012	0.00119	0.0001						0.0005	0.0005	2.44	2.88
Taseko R.	W20	5/13/1998	0.00121	0.00118	0.0001						0.0005	0.0005	2.18	2.63
Taseko R.	W20	6/16/1998	0.00129	0.00129	0.0001						0.0005	0.0005	2.1	2.93
Taseko R.	W20	7/14/1998	0.00125	0.00121	0.0001						0.0005	0.0007	1.99	3.26
Taseko R.	W20	7/21/1998	0.00128	0.00119	0.0001						0.0005	0.0005	2.01	2.88
Taseko R.	W20	7/28/1998	0.00124	0.00118	0.0001						0.0005	0.0005	1.85	3.83
Taseko R.	W20	8/4/1998	0.00122	0.00122							0.0005	0.0005	1.78	5.23
Taseko R.	W20	8/11/1998	0.00115	0.00116							0.0005	0.0005	1.71	4.62
Tete Angela C	W17	6/9/1996	<0.001	<0.001	0.001	0.001			0.55		<0.0005	0.0009	2.08	2.1
Tete Angela C	W17	6/17/1996	<0.001	<0.001	<0.001	<0.001			0.49		<0.0005	0.0011	1.52	1.56
Tete Angela C	W17	8/11/1996	<0.001	<0.001	0.001	0.001			0.4		<0.0005	<0.0005	8.69	8.62
Tete Angela C	W17	8/15/1996	<0.001	<0.001	<0.001	<0.001			0.51		<0.0005	<0.0005	8.65	8.65
Tete Angela C	W17	8/24/1996	<0.001	<0.001	<0.001	<0.001			0.42		<0.0005	<0.0005	8.74	8.76
Tete Angela C	W17	9/3/1996	<0.001	<0.001	<0.001	<0.001			0.42		<0.0005	0.0007	8.65	8.63
Tete Angela C	W17	9/14/1996	<0.001	<0.001	<0.001	<0.001			0.35		<0.0005	<0.0005	8.64	8.46
Tete Angela C	W17	5/8/1997	0.00012	0.00015	0.0009	0.0019					0.0005	0.0006	3.38	3.63
Tete Angela C	W17	5/14/1997	0.00028	0.00029	0.0021	0.0021					0.0005	0.0005	6.81	6.55
Tete Angela C	W17	5/19/1997	0.00028	0.00028	0.0018	0.0019					0.0005	0.0005	8.24	8.34
Tete Angela C	W17	5/27/1997	0.00029	0.00028	0.002	0.002					0.0005	0.0005	7.51	7.61
Tete Angela C	W17	6/3/1997	0.00031	0.00031	0.002	0.002					0.0005	0.0005	7.76	7.53
Tete Angela C	W17	7/28/1997	0.00013	0.00014	0.0011	0.0011					0.0005	0.0005	8.45	8.47
Tete Angela C	W17	9/16/1997	0.00026	0.00026	0.0007	0.0009					0.0005	0.0005	8.66	8.52
Tete Angela C	W17	9/23/1997	0.00025	0.00025	0.0008	0.0009					0.0005	0.0005	8.7	8.73

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Taseko R.	W19	7/14/1997	0.00001	0.00001			0.0458	0.0465			0.0001	0.0001	0.01	0.02	0.00016	0.00016
Taseko R.	W19	7/21/1997	0.00001	0.00001			0.0449	0.0461			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W19	7/29/1997	0.00001	0.00001			0.0416	0.0438			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W19	8/4/1997	0.00001	0.00001			0.0426	0.0435			0.0001	0.0001	0.01	0.02	0.0002	0.00018
Taseko R.	W19	8/12/1997	0.00001	0.00001			0.0412	0.0417			0.0001	0.0001	0.01	0.02	0.00016	0.00017
Taseko R.	W19	9/15/1997	0.00001	0.00001			0.0378	0.0425			0.0001	0.0001	0.01	0.04	0.00013	0.00018
Taseko R.	W19	9/22/1997	0.00001	0.00001			0.0404	0.043			0.0001	0.0001	0.01	0.03	0.00014	0.00018
Taseko R.	W19	9/29/1997	0.00001	0.00001			0.0404	0.0434			0.0001	0.0001	0.01	0.03	0.00016	0.00019
Taseko R.	W19	10/6/1997	0.00001	0.00001			0.0396	0.0423			0.0001	0.0001	0.01	0.03	0.00015	0.00018
Taseko R.	W19	10/13/1997	0.00001	0.00001			0.0409	0.0432			0.0001	0.0001	0.01	0.02	0.00013	0.00016
Taseko R.	W19	11/16/1997	0.00001	0.00001			0.0433	0.0457			0.0001	0.0001	0.01	0.02	0.00015	0.00018
Taseko R.	W19	12/17/1997	0.00001	0.00001			0.0411	0.0425			0.0001	0.0001	0.01	0.02	0.00016	0.00017
Taseko R.	W19	1/20/1998	0.00001	0.00001			0.0494	0.0512			0.0001	0.0001	0.01	0.01	0.00015	0.00017
Taseko R.	W19	2/18/1998	0.00001	0.00001			0.0542	0.057			0.0001	0.0001	0.01	0.01	0.00014	0.00018
Taseko R.	W19	3/10/1998	0.00001	0.00001			0.0517	0.0536			0.0001	0.0005	0.01	0.02	0.00015	0.00019
Taseko R.	W19	4/14/1998	0.00001	0.00001			0.0535	0.054			0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W19	5/12/1998	0.00001	0.00001			0.045	0.045			0.0001	0.0001	0.01	0.03	0.00011	0.00016
Taseko R.	W19	6/17/1998	0.00001	0.00001			0.0434	0.0449			0.0001	0.0001	0.01	0.02	0.00012	0.00017
Taseko R.	W20	9/16/1997	0.00001	0.00001			0.039				0.0001	0.0001	0.01	0.03	0.00013	0.00016
Taseko R.	W20	9/23/1997	0.00001	0.00001			0.0418				0.0001	0.0001	0.01	0.03	0.00012	0.00016
Taseko R.	W20	9/30/1997	0.00001	0.00001			0.0406				0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W20	10/7/1997	0.00001	0.00001			0.0409				0.0001	0.0001	0.01	0.03	0.00014	0.00017
Taseko R.	W20	10/14/1997	0.00001	0.00001			0.0423				0.0001	0.0001	0.01	0.03	0.00013	0.00016
Taseko R.	W20	11/17/1997	0.00001	0.00001			0.045				0.0001	0.0001	0.01	0.02	0.00015	0.00018
Taseko R.	W20	12/18/1997	0.00001	0.00001			0.0589				0.0001	0.0001	0.01	0.02	0.00017	0.0002
Taseko R.	W20	1/21/1998	0.00001	0.00001			0.0427				0.0001	0.0001	0.01	0.01	0.00016	0.00018
Taseko R.	W20	2/17/1998	0.00001	0.00001			0.0559				0.0001	0.0001	0.01	0.02	0.00016	0.00018
Taseko R.	W20	3/11/1998	0.00001	0.00001			0.0526				0.0001	0.0001	0.01	0.01	0.00016	0.00018
Taseko R.	W20	4/15/1998	0.00001	0.00001	2		0.0517				0.0001	0.0001	0.01	0.02	0.00018	0.0002
Taseko R.	W20	5/13/1998	0.00001	0.00001			0.0462				0.0001	0.0001	0.01	0.02	0.00012	0.00016
Taseko R.	W20	6/16/1998	0.00001	0.00001			0.0419				0.0001	0.0001	0.01	0.03	0.00013	0.00017
Taseko R.	W20	7/14/1998	0.00001	0.00001			0.0387				0.0001	0.0001	0.01	0.04	0.00013	0.00018
Taseko R.	W20	7/21/1998	0.00001	0.00001			0.0392				0.0001	0.0001	0.01	0.03	0.00013	0.00019
Taseko R.	W20	7/28/1998	0.00001	0.00001			0.0373				0.0001	0.0001	0.01	0.05	0.00011	0.00022
Taseko R.	W20	8/4/1998	0.00001	0.00004			0.035				0.0001	0.0001	0.01	0.11	0.00009	0.00027
Taseko R.	W20	8/11/1998	0.00001	0.00003			0.0335				0.0001	0.0001	0.01	0.1	0.00009	0.00023
Tete Angela C	W17	6/9/1996	<0.0001	<0.0001	2.29		0.028	0.031					<0.010	<0.010	<0.00001	0.00001
Tete Angela C	W17	6/17/1996	<0.0001	<0.0001	2.26		0.026	0.026					<0.010	<0.010	0.00001	0.00001
Tete Angela C	W17	8/11/1996	<0.0001	<0.0001	4.04		0.051	0.051					<0.010	<0.010	0.00004	0.00004
Tete Angela C	W17	8/15/1996	<0.0001	<0.0001	4.29		0.054	0.054					<0.010	<0.010	0.00006	0.00006
Tete Angela C	W17	8/24/1996	<0.0001	<0.0001	5.45		0.057	0.057					<0.010	<0.010	0.00007	0.00007
Tete Angela C	W17	9/3/1996	<0.0001	<0.0001	5.03		0.054	0.054					<0.010	<0.010	0.00007	0.00007
Tete Angela C	W17	9/14/1996	<0.0001	<0.0001	4.42		0.05	0.05					<0.010	<0.010	0.00006	0.00006
Tete Angela C	W17	5/8/1997	0.00001	0.00001			0.0219	0.0251			0.0001	0.0001	0.01	0.01	0.00001	0.00004
Tete Angela C	W17	5/14/1997	0.00001	0.00001	3	3	0.0436	0.0436			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Tete Angela C	W17	5/19/1997	0.00001	0.00001	4	4	0.0469	0.0486			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Tete Angela C	W17	5/27/1997	0.00001	0.00001	4	4	0.0505	0.0513			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Tete Angela C	W17	6/3/1997	0.00001	0.00001	4	4	0.0598	0.0597			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Tete Angela C	W17	7/28/1997	0.00001	0.00001	4	4	0.0413	0.0418			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Tete Angela C	W17	9/16/1997	0.00001	0.00001	6	5	0.0538	0.0534			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Tete Angela C	W17	9/23/1997	0.00001	0.00001	5	5	0.0524	0.0521			0.0001	0.0001	0.01	0.01	0.00006	0.00006

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Taseko R.	W19	7/14/1997	0.001	0.001	0.001	0.002
Taseko R.	W19	7/21/1997	0.001	0.001	0.002	0.002
Taseko R.	W19	7/29/1997	0.001	0.001	0.001	0.003
Taseko R.	W19	8/4/1997	0.001	0.001	0.001	0.001
Taseko R.	W19	8/12/1997	0.001	0.001	0.001	0.002
Taseko R.	W19	9/15/1997	0.001	0.002	0.001	0.006
Taseko R.	W19	9/22/1997	0.001	0.002	0.001	0.003
Taseko R.	W19	9/29/1997	0.001	0.002	0.002	0.004
Taseko R.	W19	10/6/1997	0.001	0.002	0.005	0.004
Taseko R.	W19	10/13/1997	0.001	0.002	0.001	0.003
Taseko R.	W19	11/16/1997	0.001	0.001	0.001	0.002
Taseko R.	W19	12/17/1997	0.001	0.001	0.001	0.003
Taseko R.	W19	1/20/1998	0.001	0.001	0.001	0.001
Taseko R.	W19	2/18/1998	0.001	0.001	0.001	0.002
Taseko R.	W19	3/10/1998	0.001	0.001	0.001	0.002
Taseko R.	W19	4/14/1998	0.001	0.001	0.001	0.002
Taseko R.	W19	5/12/1998	0.001	0.001	0.002	0.002
Taseko R.	W19	6/17/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	9/16/1997	0.001	0.002	0.001	0.004
Taseko R.	W20	9/23/1997	0.001	0.001	0.001	0.003
Taseko R.	W20	9/30/1997	0.001	0.002	0.001	0.005
Taseko R.	W20	10/7/1997	0.001	0.002	0.001	0.003
Taseko R.	W20	10/14/1997	0.001	0.002	0.002	0.003
Taseko R.	W20	11/17/1997	0.001	0.001	0.001	0.002
Taseko R.	W20	12/18/1997	0.001	0.001	0.001	0.002
Taseko R.	W20	1/21/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	2/17/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	3/11/1998	0.001	0.001	0.001	0.004
Taseko R.	W20	4/15/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	5/13/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	6/16/1998	0.001	0.001	0.001	0.002
Taseko R.	W20	7/14/1998	0.001	0.002	0.001	0.003
Taseko R.	W20	7/21/1998	0.001	0.002	0.001	0.004
Taseko R.	W20	7/28/1998	0.001	0.004	0.001	0.005
Taseko R.	W20	8/4/1998	0.001	0.008	0.001	0.01
Taseko R.	W20	8/11/1998	0.001	0.005	0.001	0.007
Tete Angela C	W17	6/9/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	6/17/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	8/11/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	8/15/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	8/24/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	9/3/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	9/14/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W17	5/8/1997	0.001	0.002	0.004	0.003
Tete Angela C	W17	5/14/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	5/19/1997	0.001	0.001	0.001	0.002
Tete Angela C	W17	5/27/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	6/3/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	7/28/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	9/16/1997	0.001	0.001	0.003	0.002
Tete Angela C	W17	9/23/1997	0.002	0.002	0.001	0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Tete Angela C	W17	9/30/1997	5.2			156	69.5	8.14	7.68	78	0.4		3.9	97	1	0.5	0.06	2
Tete Angela C	W17	10/7/1997	2.9			151	67.1	8.28	7.49	72	0.5		4	90	2	0.5	0.06	1
Tete Angela C	W17	10/14/1997	5.2			151	66.7	8.09	7.44	73	0.3		4.3	91	1	0.5	0.06	2
Tete Angela C	W17	11/17/1997	0.2			177	78.5	8	7.35	91	0.7		2.7	108	2	0.5	0.06	2
Tete Angela C	W17	12/18/1997	0			168	75.1	7.88	7.12	82	2		1.8	99	1	0.5	0.06	2
Tete Angela C	W17	1/21/1998	0			172	82.7	6.38	7.35	85	0.5		1.3	104	1	0.5	0.06	2
Tete Angela C	W17	2/17/1998	0.3			177	82.6	7.43	7.46	90	0.6		1.7	108	1	0.5	0.06	1
Tete Angela C	W17	3/11/1998	0.5			167	83.5		7.58	91	0.6		2.2	110	1	0.5	0.06	2
Tete Angela C	W17	4/15/1998	0.4			166	81.5	7.74	7.82	116	0.4		1.4	116	1	0.5	0.05	2
Tete Angela C	W18	5/30/1996				60.8	31.3		7.18	29.9	1.7		19.2	50	3	0.5	0.04	<1.0
Tete Angela C	W18	6/11/1996				136	71.4		7.42	66.8	0.7		16.3	87	2	0.6	0.07	1.9
Tete Angela C	W18	6/17/1996				143	69.3		7.59	74.8	1.2		13.6	90	1	0.8	0.05	2.6
Tete Angela C	W18	8/11/1996				160	83.1		7.91	89.9	2.2		14	102	2	0.5	0.05	1.2
Tete Angela C	W18	8/15/1996				170	85.9		8.13	89.6	1.8		14.9	105	3	0.5	0.08	1.2
Tete Angela C	W18	8/24/1996				180	88.5		7.77	97	12.2		10.7	117	17	0.5	0.05	1.3
Tete Angela C	W18	9/3/1996				178	91.7		7.7	97.9	3.2		11.6	119	3	0.5	0.06	1.2
Tete Angela C	W18	9/14/1996				162	80.2		7.87	90	1.8		9.8	107	<1	0.5	0.06	1.8
Tete Angela C	W18	5/8/1997	0.5	12.8		110	56.9	8.13	7.41	61	1.2		14.1	74	3	0.5	0.04	1
Tete Angela C	W18	5/14/1997	6.1			65	32.7	7.47	7.1	34	0.8		15.9	49	4	0.5	0.04	1
Tete Angela C	W18	5/19/1997	2			74	35.7	7.35	7.12	43	0.9		13.4	54	1	0.5	0.04	1
Tete Angela C	W18	5/27/1997	6.2			72	34.8	7.45	7.24	38	0.8		15.2	52	3	0.5	0.03	1
Tete Angela C	W18	6/3/1997	5.8			89	42	7.66	7.39	48	1.2		11	57	2	0.5	0.05	1
Tete Angela C	W18	7/28/1997	16			172	85.1	6.5	7.76	97	2		13.2	118	4	0.5	0.07	2
Tete Angela C	W18	9/23/1997	12			225	106		7.41	109	3.8		15.5	142	8	0.5	0.02	6
Tete Angela C	W18	9/30/1997	5.8			177	80.3	7.94	7.34	81	2.2		9.1	107	2	0.5	0.05	7
Tete Angela C	W18	10/7/1997	5			188	85.4	8.19	7.17	86	1.7		10.4	113	1	0.5	0.05	8
Tete Angela C	W18	10/14/1997	3.9			164	70.7	7.37	7.22	73	0.9		8.9	97	1	0.5	0.05	7
Tete Angela C	W18	11/17/1997	0.7			287	135	8	7.06	142	1.6		13.8	178	5	0.5	0.07	9
Tete Angela C	W18	12/18/1997	0			220	100	7.33	6.93	106	2.5		6.8	138	6	0.5	0.05	5
Tete Angela C	W18	1/21/1998	0.1			366	191	6.5	6.91	202	8.5		10.5	257	27	0.5	0.08	6
Tete Angela C.	WC	5/16/2006	12.30	8.80	236	218	115		8.23	131	1.29	10.4		134	<3.0	0.52	0.094	1.44
Tete Angela C.	WC	5/23/2006	10.9	9.4	223.4	221	117		8.23	127	1.54	11.8		151	<3.0	<0.50	0.080	1.10
Tete Angela C.	WC	5/30/2006	9.20	9.10	148.5	148	82.4		8.15	81.0	5.36	14.6		120	12.0	<0.50	0.071	0.89
Tete Angela C.	WC	6/7/2006	9.60	9.40	214.6	213	120		8.26	114	1.74	14.7		140	<3.0	<0.50	0.083	1.03
Tete Angela C.	WC	7/5/2006	16.70	8.00	225.3	219	117		8.28	120	0.92	6.8		149	<3.0	<0.50	0.079	2.32
Tete Angela C.	WC	8/9/2006	12.5		290	241	125		8.33	134	0.47	4.7		152	<1.0	<0.50	0.072	2.18
Tete Angela C.	WC	8/16/2006	15.50	9.20	240	241	120		8.30	128	0.47	5.3		144	<3.0	<0.50	0.076	2.05
Vick C	W13	7/4/1995				472	246		7.91	275	0.28		5.3	332	<1	1.4	0.14	9.8
Vick C	W13	7/13/1995				491	251		8.01	282	0.21		4.4	338	2	0.7	0.15	10.3
Vick C	W13	7/19/1995				504	247		8.11	309	0.2		3.9	359	2	1.4	0.15	11.6
Vick C	W13	9/27/1995				501	252		8.16	309	0.27		3.7	364	<1	1.4	0.17	12.7
Vick C	W13	10/4/1995				478	257		8.15	300	0.1		3.4	356	<1	1.2	0.21	11.9
Vick C	W13	10/11/1995				481	254		8.41	279	0.2		3.6	340	1	1	0.17	12.6
Vick C	W13	10/18/1995				473	242		8.05	248	0.1		4.7	316	<1	1.4	0.17	12.7
Vick C	W13	10/27/1995				468	242		7.97	250	0.1		3.9	317	<1	1.2	0.16	12.9
Vick C	W13	5/29/1996				350	166		7.95	200	0.6		12.3	223	<1	0.7	0.14	4.2
Vick C	W13	6/9/1996				384	188		7.98	213	0.5		6.2	260	<1	1	0.14	6.1
Vick C	W13	6/19/1996				417	212		8.05	228	0.3		5.2	283	3	1.1	0.14	8.6
Vick C	W13	6/27/1996				397	211		8.1	225	0.3		17.9	287	3	0.5	0.13	3.5
Vick C	W13	7/10/1996				417	205		8.03	230	0.3		7.9	281	1	0.8	0.12	7.6
Vick C	W13	8/6/1996				447	237		8.08	252	0.2		6.2	310	1	0.5	0.15	7.1

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Tete Angela C	W17	9/30/1997	0.005	0.005	0.001	0.004	0.007	0.009	0.005	0.012	0.00005	0.00005	0.0005	0.0005	0.0023
Tete Angela C	W17	10/7/1997	0.005	0.005	0.001	0.002	0.004	0.006	0.005	0.163	0.00005	0.00006	0.0005	0.0005	0.00195
Tete Angela C	W17	10/14/1997	0.005	0.005	0.001	0.002	0.004	0.005	0.005	0.049	0.00005	0.00005	0.0005	0.0005	0.00196
Tete Angela C	W17	11/17/1997	0.005	0.005	0.001	0.003	0.006	0.007	0.004	0.013	0.00005	0.00005	0.0006	0.0005	0.0025
Tete Angela C	W17	12/18/1997	0.005	0.028	0.001	0.003	0.006	0.02	0.003	0.028	0.00005	0.00005	0.0005	0.0005	0.00234
Tete Angela C	W17	1/21/1998	0.005	0.073	0.001	0.005	0.009	0.012	0.002	0.021	0.00005	0.00005	0.0006	0.0007	0.00241
Tete Angela C	W17	2/17/1998	0.005	0.072	0.001	0.006	0.01	0.011	0.002	0.005	0.00005	0.00005	0.0006	0.0006	0.00229
Tete Angela C	W17	3/11/1998	0.005	0.097	0.001	0.01	0.011	0.015	0.002	0.01	0.00005	0.00005	0.0006	0.0007	0.00232
Tete Angela C	W17	4/15/1998	0.005	0.064	0.001	0.008	0.01	0.011	0.002	0.007	0.00005	0.00005	0.0007	0.0007	0.00236
Tete Angela C	W18	5/30/1996	<0.005	<0.005	<0.001	0.003	0.005	0.015	0.047	0.076	<0.0001	<0.0001	0.0002	0.0002	<0.010
Tete Angela C	W18	6/11/1996	<0.005	<0.005	0.001	0.01	0.01	0.014	0.013	0.03	0.0001	<0.0001	0.001	0.001	<0.010
Tete Angela C	W18	6/17/1996	<0.005	<0.005	0.001	0.004	0.008	0.013	0.023	0.029	<0.0001	<0.0001	0.001	0.001	<0.010
Tete Angela C	W18	8/11/1996	<0.005	<0.005	0.001	0.011	0.016	0.021	0.012	0.033	0.0004	<0.0001	0.0015	0.0016	<0.010
Tete Angela C	W18	8/15/1996	<0.005	0.006	<0.001	0.008	0.012	0.021	0.011	0.02	0.0002	<0.0001	0.0013	0.0015	<0.010
Tete Angela C	W18	8/24/1996	0.017	<0.005	0.004	0.007	0.012	0.055	0.005	0.063	<0.0001	<0.0001	0.0012	0.0014	<0.010
Tete Angela C	W18	9/3/1996	0.037	0.006	0.001	0.014	0.021	0.034	<0.005	0.024	0.0002	<0.0001	0.0012	0.0015	<0.010
Tete Angela C	W18	9/14/1996	0.023	<0.005	0.002	0.006	0.014	0.017	<0.005	0.011	0.0001	<0.0001	0.0011	0.0013	<0.010
Tete Angela C	W18	5/8/1997	0.007	0.011	0.001	0.004	0.004	0.023	0.012	0.025	0.00013	0.00006	0.0008	0.0009	0.00173
Tete Angela C	W18	5/14/1997	0.02	0.005	0.001	0.002	0.002	0.023	0.046	0.099	0.0005	0.0005	0.0002	0.0002	0.00175
Tete Angela C	W18	5/19/1997	0.005	0.006	0.001	0.003	0.003	0.013	0.032	0.052	0.00011	0.00005	0.0002	0.0003	0.00147
Tete Angela C	W18	5/27/1997	0.005	0.005	0.001	0.002	0.002	0.01	0.044	0.046	0.00005	0.00005	0.0003	0.0003	0.00147
Tete Angela C	W18	6/3/1997	0.005	0.005	0.001	0.003	0.007	0.009	0.039	0.056	0.00007	0.00008	0.0003	0.0004	0.00172
Tete Angela C	W18	7/28/1997	0.005	0.005	0.001	0.004	0.009	0.014	0.007	0.026	0.00007	0.00007	0.0012	0.0013	0.00182
Tete Angela C	W18	9/23/1997	0.069	0.01	0.001	0.009	0.014	0.049	0.007	0.049	0.00008	0.00008	0.001	0.0013	0.00354
Tete Angela C	W18	9/30/1997	0.01	0.005	0.001	0.005	0.006	0.007	0.005	0.026	0.00008	0.00009	0.0006	0.0007	0.00228
Tete Angela C	W18	10/7/1997	0.005	0.005	0.001	0.003	0.003	0.003	0.006	0.035	0.00005	0.00006	0.0005	0.0006	0.00199
Tete Angela C	W18	10/14/1997	0.005	0.005	0.001	0.002	0.002	0.002	0.005	0.018	0.00007	0.00008	0.0004	0.0004	0.00157
Tete Angela C	W18	11/17/1997	0.005	0.005	0.001	0.002	0.007	0.011	0.01	0.079	0.0001	0.00009	0.0006	0.0008	0.00335
Tete Angela C	W18	12/18/1997	0.005	0.005	0.001	0.001	0.002	0.011	0.004	0.029	0.00005	0.00005	0.0004	0.0004	0.0026
Tete Angela C	W18	1/21/1998	0.006	0.005	0.001	0.002	0.005	0.037	0.003	0.053	0.00007	0.00008	0.0012	0.0014	0.00656
Tete Angela C.	WC	5/16/2006	<0.0050	<0.0050	<0.0010	0.0065	0.0105	0.0107	0.0022	0.0152	<0.00010	<0.00010	0.00065	0.00069	0.00471
Tete Angela C.	WC	5/23/2006	<0.0050	<0.0050	<0.0010	0.0061	0.0114	0.0149	0.0066	0.0117	<0.00010	<0.00010	0.00076	0.00081	0.00488
Tete Angela C.	WC	5/30/2006	0.0093	<0.0050	<0.0010	0.0049	0.0134	0.0336	0.0228	0.261	<0.00010	<0.00010	0.00058	0.00075	0.00331
Tete Angela C.	WC	6/7/2006	<0.0050	<0.0050	<0.0010	0.0076	0.0129	0.0190	0.0091	0.0325	<0.00010	<0.00010	0.00091	0.00086	0.00458
Tete Angela C.	WC	7/5/2006	0.0100	<0.0050	0.0010	0.0057	0.0071	0.0087	<0.0050	0.0048	<0.00010	<0.00010	0.00050	0.00052	0.00568
Tete Angela C.	WC	8/9/2006	<0.0050	<0.0050	<0.0010	0.0028	0.0055	0.0075	<0.0030	0.0029	<0.00010	<0.00010	0.00048	0.00049	0.00627
Tete Angela C.	WC	8/16/2006	0.0100	<0.0050	0.0010	0.0048	0.0066	0.0037	<0.0030	0.0044	<0.00010	<0.00010	0.00051	0.00053	0.00590
Vick C	W13	7/4/1995	<0.005	0.044	0.001	0.015	0.016	0.016	0.023	<0.005	<0.0001	<0.0001	0.0005	0.0006	0.02
Vick C	W13	7/13/1995	<0.005	0.048	0.001	0.008	0.008	0.008	<0.005	0.036	<0.0001	<0.0001	0.0004	0.0006	0.019
Vick C	W13	7/19/1995	0.007	0.086	0.001	0.005	0.006	0.006	0.034	0.029	<0.0001	<0.0001	0.0005	0.0006	0.022
Vick C	W13	9/27/1995	<0.005	0.018	0.001	0.007	0.008	0.008	0.008	0.007	<0.0001	<0.0001	0.0005	0.0005	0.023
Vick C	W13	10/4/1995	<0.005	0.019	0.001	0.006	0.006	0.006	<0.005	0.013	<0.0001	<0.0001	0.0005	0.0006	0.021
Vick C	W13	10/11/1995	<0.005	0.018	0.001	0.007	0.008	0.008	0.034	0.054	0.0001	0.0001	0.0005	0.0005	0.02
Vick C	W13	10/18/1995	<0.005	0.023	0.001	0.007	0.008	0.008	0.012	0.033	<0.0001	<0.0001	0.0005	0.0005	0.017
Vick C	W13	10/27/1995	<0.005	0.026	0.002	0.006	0.007	0.007	0.022	0.022	<0.0001	<0.0001	0.0005	0.0005	0.023
Vick C	W13	5/29/1996	<0.005	<0.005	<0.001	0.012	0.013	0.013	<0.005	0.011	<0.0001	<0.0001	0.0004	0.0003	0.012
Vick C	W13	6/9/1996	<0.005	0.009	0.001	0.012	0.012	0.012	<0.005	0.009	<0.0001	<0.0001	0.0008	0.0007	0.017
Vick C	W13	6/19/1996	<0.005	0.018	0.001	0.01	0.01	0.01	<0.005	<0.005	<0.0001	<0.0001	0.0009	0.0009	0.015
Vick C	W13	6/27/1996	<0.005	0.015	0.001	0.012	0.017	0.017	0.041	0.029	0.0001	<0.0001	0.0008	0.0008	0.016
Vick C	W13	7/10/1996	<0.005	0.014	<0.001	0.01	0.01	0.01	0.005	0.017	0.0001	<0.0001	0.0007	0.0007	0.018
Vick C	W13	8/6/1996	<0.005	0.019	0.001	0.012	0.012	0.012	0.029	0.009	<0.0001	<0.0001	0.0009	0.0008	0.02

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Tete Angela C	W17	9/30/1997	0.00229	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	13.9	13.7	0.0008	0.0008
Tete Angela C	W17	10/7/1997	0.00341	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	13.2	13	0.0009	0.0013
Tete Angela C	W17	10/14/1997	0.00239	0.0005	0.0005	0.0005	0.0005	0.003	0.004	0.00005	0.00005	13.4	13.7	0.0009	0.001
Tete Angela C	W17	11/17/1997	0.0026	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	15.5	15.8	0.0006	0.0006
Tete Angela C	W17	12/18/1997	0.00259	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	15	14.6	0.0006	0.0007
Tete Angela C	W17	1/21/1998	0.00263	0.0005	0.0005	0.0005	0.0005	0.004	0.003	0.00005	0.00005	16.4	16	0.0007	0.0007
Tete Angela C	W17	2/17/1998	0.00233	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	16.2	16.6	0.0009	0.0009
Tete Angela C	W17	3/11/1998	0.00248	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	16.4	16.2	0.0008	0.001
Tete Angela C	W17	4/15/1998	0.00234	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	15.9	15.8	0.0008	0.0008
Tete Angela C	W18	5/30/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.6	6.88	<0.001	<0.001
Tete Angela C	W18	6/11/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	15.9	15.8	<0.001	<0.001
Tete Angela C	W18	6/17/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	15.2	15.4	<0.001	<0.001
Tete Angela C	W18	8/11/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	19.1	19	<0.001	<0.001
Tete Angela C	W18	8/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	19.4	19.2	<0.001	<0.001
Tete Angela C	W18	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	19.6	19.3	<0.001	<0.001
Tete Angela C	W18	9/3/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	20.6	21.3	<0.001	<0.001
Tete Angela C	W18	9/14/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	18.4	18.2	<0.001	<0.001
Tete Angela C	W18	5/8/1997	0.00188	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	12.5	12	0.0005	0.0005
Tete Angela C	W18	5/14/1997	0.00252	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	6.65	6.53	0.0005	0.0006
Tete Angela C	W18	5/19/1997	0.00165	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.00005	0.00005	7.28	7.33	0.0006	0.0006
Tete Angela C	W18	5/27/1997	0.00156	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.00005	0.00005	7.29	7.32	0.0007	0.0006
Tete Angela C	W18	6/3/1997	0.00184	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	8.76	8.65	0.0008	0.0009
Tete Angela C	W18	7/28/1997	0.00197	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	19	18.8	0.0005	0.0006
Tete Angela C	W18	9/23/1997	0.00425	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	23.2	23.8	0.0009	0.0013
Tete Angela C	W18	9/30/1997	0.00249	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	17.5	17.1	0.0007	0.0007
Tete Angela C	W18	10/7/1997	0.00224	0.0005	0.0005	0.0005	0.0005	0.007	0.008	0.00005	0.00005	18.5	18.6	0.0006	0.0008
Tete Angela C	W18	10/14/1997	0.00162	0.0005	0.0005	0.0005	0.0005	0.006	0.005	0.00005	0.00005	15.4	15.7	0.0006	0.0006
Tete Angela C	W18	11/17/1997	0.00372	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00023	0.00005	29.4	29.4	0.0008	0.0009
Tete Angela C	W18	12/18/1997	0.0028	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	22.1	21.4	0.0006	0.0005
Tete Angela C	W18	1/21/1998	0.0071	0.0005	0.0005	0.0005	0.0005	0.005	0.006	0.00005	0.00005	41.8	41.6	0.0007	0.0007
Tete Angela C.	WC	5/16/2006	0.00500	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	20.8	22.5	<0.00050	<0.00050
Tete Angela C.	WC	5/23/2006	0.00482	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	21.4	21.8	<0.00050	<0.00050
Tete Angela C.	WC	5/30/2006	0.00611	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.6	15.9	<0.00050	0.00206
Tete Angela C.	WC	6/7/2006	0.00496	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	22.5	22.5	<0.00080	<0.00050
Tete Angela C.	WC	7/5/2006	0.00588	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	22.3	23.2	<0.00050	<0.00050
Tete Angela C.	WC	8/9/2006	0.00636	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	24.5	24.8	<0.0020	<0.0020
Tete Angela C.	WC	8/16/2006	0.00601	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	23.2	23.7	<0.00050	<0.00050
Vick C	W13	7/4/1995	0.023	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	48.1	51.5	<0.001	<0.001
Vick C	W13	7/13/1995	0.019	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	48	47.7	<0.001	<0.001
Vick C	W13	7/19/1995	0.022	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	46.6	48.1	<0.001	<0.001
Vick C	W13	9/27/1995	0.023	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	47.3	47.6	<0.001	<0.001
Vick C	W13	10/4/1995	0.02	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	48.5	48.6	<0.001	<0.001
Vick C	W13	10/11/1995	0.02	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	47.9	48.8	<0.001	<0.001
Vick C	W13	10/18/1995	0.016	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	46	46	<0.001	<0.001
Vick C	W13	10/27/1995	0.022	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	45.6	44.9	<0.001	<0.001
Vick C	W13	5/29/1996	0.017	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	32.5	35.2	<0.001	<0.001
Vick C	W13	6/9/1996	0.017	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	36.7	37.3	<0.001	<0.001
Vick C	W13	6/19/1996	0.015	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	41	42.1	0.002	0.002
Vick C	W13	6/27/1996	0.016	<0.005	<0.005	<0.10	<0.10	0.12		<0.0002	<0.0002	41.3	40.7	<0.001	<0.001
Vick C	W13	7/10/1996	0.018	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	39.9	41.8	<0.001	<0.001
Vick C	W13	8/6/1996	0.019	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	46.4	45.6	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Tete Angela C	W17	9/30/1997	0.0001	0.0001	0.0005	0.0005	0.12	0.15	0.00005	0.00005	0.001	0.001	8.45	8.35	0.00592	0.0095
Tete Angela C	W17	10/7/1997	0.0001	0.0006	0.0005	0.0007	0.1	0.35	0.00005	0.00005	0.001	0.001	8.28	8.13	0.00589	0.0308
Tete Angela C	W17	10/14/1997	0.0001	0.0004	0.0004	0.0007	0.13	0.2	0.00005	0.00005	0.001	0.001	8.1	8.02	0.00779	0.0102
Tete Angela C	W17	11/17/1997	0.0001	0.0001	0.0003	0.0004	0.09	0.14	0.00005	0.00005	0.001	0.001	9.68	9.84	0.00758	0.0107
Tete Angela C	W17	12/18/1997	0.0001	0.0001	0.0002	0.0003	0.08	0.16	0.00005	0.00005	0.001	0.001	9.1	8.82	0.00883	0.013
Tete Angela C	W17	1/21/1998	0.0001	0.0001	0.0003	0.0003	0.08	0.17	0.00005	0.00005	0.001	0.001	10.1	9.81	0.00817	0.0146
Tete Angela C	W17	2/17/1998	0.0001	0.0001	0.0002	0.0002	0.08	0.12	0.00005	0.00005	0.001	0.001	10.3	10.3	0.00929	0.0098
Tete Angela C	W17	3/11/1998	0.0001	0.0001	0.0002	0.0004	0.08	0.13	0.00005	0.00006	0.001	0.001	10.3	10.1	0.0104	0.0126
Tete Angela C	W17	4/15/1998	0.0001	0.0001	0.0002	0.0002	0.09	0.13	0.00005	0.00005	0.001	0.001	10.1	10	0.00792	0.00896
Tete Angela C	W18	5/30/1996	<0.001	<0.001	0.001	<0.001	0.123	0.208	<0.001	<0.001			3.61	3.76	<0.005	0.01
Tete Angela C	W18	6/11/1996	<0.001	<0.001	0.002	0.001	0.21	0.239	<0.001	<0.001			7.68	7.6	0.021	0.022
Tete Angela C	W18	6/17/1996	<0.001	<0.001	0.001	0.001	0.227	0.259	<0.001	<0.001			7.61	7.73	0.02	0.024
Tete Angela C	W18	8/11/1996	<0.001	<0.001	0.001	0.001	0.355	0.474	<0.001	<0.001			8.61	8.48	0.023	0.028
Tete Angela C	W18	8/15/1996	<0.001	<0.001	0.002	0.001	0.341	0.459	<0.001	<0.001			9.13	9.04	0.017	0.02
Tete Angela C	W18	8/24/1996	<0.001	<0.001	<0.001	0.001	0.395	0.61	<0.001	<0.001			9.61	9.46	0.073	0.06
Tete Angela C	W18	9/3/1996	<0.001	<0.001	<0.001	<0.001	0.342	0.627	<0.001	<0.001			9.77	10	0.046	0.081
Tete Angela C	W18	9/14/1996	<0.001	<0.001	<0.001	<0.001	0.242	0.353	<0.001	<0.001			8.34	8.24	0.009	0.013
Tete Angela C	W18	5/8/1997	0.0001	0.0001	0.0011	0.0012	0.2	0.26	0.00005	0.00005	0.001	0.001	6.25	6	0.00438	0.0163
Tete Angela C	W18	5/14/1997	0.0001	0.0003	0.0008	0.002	0.21	0.33	0.00005	0.00005	0.001	0.001	3.91	3.82	0.00244	0.0206
Tete Angela C	W18	5/19/1997	0.0001	0.0003	0.0007	0.0007	0.15	0.2	0.00005	0.00005	0.001	0.001	4.26	4.3	0.00281	0.00872
Tete Angela C	W18	5/27/1997	0.0001	0.0001	0.0008	0.0009	0.12	0.16	0.00005	0.00005	0.001	0.001	4.03	4.07	0.00354	0.0078
Tete Angela C	W18	6/3/1997	0.0001	0.0001	0.0007	0.0008	0.12	0.17	0.00005	0.00005	0.001	0.001	4.88	4.82	0.00471	0.0078
Tete Angela C	W18	7/28/1997	0.0001	0.0001	0.0009	0.001	0.37	0.5	0.00005	0.00005	0.001	0.001	9.15	8.97	0.0414	0.0455
Tete Angela C	W18	9/23/1997	0.0001	0.0002	0.0017	0.0018	0.46	0.9	0.00005	0.00005	0.001	0.001	11.6	11.8	0.106	0.178
Tete Angela C	W18	9/30/1997	0.0001	0.0001	0.0015	0.0014	0.15	0.25	0.00005	0.00005	0.001	0.001	8.88	8.74	0.0118	0.0255
Tete Angela C	W18	10/7/1997	0.0001	0.0006	0.0011	0.0016	0.2	0.29	0.00005	0.00009	0.001	0.001	9.54	9.41	0.0269	0.0286
Tete Angela C	W18	10/14/1997	0.0001	0.0004	0.0009	0.0009	0.12	0.18	0.00005	0.00005	0.001	0.001	7.85	7.97	0.0157	0.0163
Tete Angela C	W18	11/17/1997	0.0001	0.0009	0.0014	0.0015	0.23	0.42	0.00005	0.00005	0.001	0.001	15	15	0.0399	0.0653
Tete Angela C	W18	12/18/1997	0.0005	0.0004	0.0007	0.0007	0.13	0.22	0.00005	0.00005	0.001	0.001	11	10.6	0.0417	0.0416
Tete Angela C	W18	1/21/1998	0.0015	0.0014	0.0006	0.0009	0.39	0.92	0.00005	0.00005	0.001	0.001	21	20.8	1.37	1.32
Tete Angela C.	WC	5/16/2006	<0.00010	<0.00010	0.00089	0.00085	0.121	0.205	<0.000050	<0.000050	<0.0050	<0.0050	15.3	16.6	0.00522	0.0144
Tete Angela C.	WC	5/23/2006	<0.00010	<0.00010	0.0011	0.00092	0.271	0.266	<0.000050	<0.000050	<0.0050	<0.0050	15.4	15.7	0.0202	0.0148
Tete Angela C.	WC	5/30/2006	<0.00010	0.00038	0.00111	0.00178	0.133	0.709	<0.000050	0.000070	<0.0050	<0.0050	10.6	10.7	0.0111	0.0909
Tete Angela C.	WC	6/7/2006	<0.00010	0.00011	0.00097	0.00112	0.227	0.340	<0.000050	<0.000050	<0.0050	<0.0050	15.5	15.4	0.00473	0.0270
Tete Angela C.	WC	7/5/2006	<0.00010	<0.00010	0.00084	0.00090	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	14.9	15.4	0.00359	0.0102
Tete Angela C.	WC	8/9/2006	<0.00010	<0.00010	0.00079	0.00081	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	15.4	15.6	0.000377	0.00794
Tete Angela C.	WC	8/16/2006	<0.00010	<0.00010	0.00074	0.00079	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	15.1	15.5	0.000710	0.00927
Vick C	W13	7/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			30.5	33	<0.005	<0.005
Vick C	W13	7/13/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			31.9	31.7	0.005	0.005
Vick C	W13	7/19/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.033	<0.001	<0.001			31.6	32.9	0.006	0.008
Vick C	W13	9/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			32.4	32.8	<0.005	0.005
Vick C	W13	10/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			32.9	33.6	<0.005	<0.005
Vick C	W13	10/11/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			32.6	33.1	<0.005	<0.005
Vick C	W13	10/18/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			30.9	31.1	<0.005	<0.005
Vick C	W13	10/27/1995	<0.001	<0.001	<0.001	0.002	<0.030	<0.030	<0.001	<0.001			31	30.7	<0.005	<0.005
Vick C	W13	5/29/1996	<0.001	<0.001	0.001	0.001	<0.030	<0.030	<0.001	<0.001			20.5	22	<0.005	<0.005
Vick C	W13	6/9/1996	<0.001	<0.001	0.001	0.001	<0.030	<0.030	<0.001	<0.001			23.3	23.7	<0.005	<0.005
Vick C	W13	6/19/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			26.6	27.2	<0.005	<0.005
Vick C	W13	6/27/1996	<0.001	<0.001	0.002	0.002	<0.030	0.034	<0.001	<0.001			26.2	25.5	<0.005	<0.005
Vick C	W13	7/10/1996	<0.001	<0.001	0.001	0.001	<0.030	<0.030	<0.001	<0.001			25.5	26.5	<0.005	<0.005
Vick C	W13	8/6/1996	<0.001	<0.001	0.001	0.001	<0.030	<0.030	<0.001	<0.001			29.3	29.1	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Tete Angela C	W17	9/30/1997	0.00026	0.00028	0.0008	0.0009					0.0005	0.0005	8.8	8.67
Tete Angela C	W17	10/7/1997	0.00027	0.00026	0.0006	0.0011					0.0005	0.0005	8.75	8.63
Tete Angela C	W17	10/14/1997	0.00026	0.00028	0.0006	0.0008					0.0005	0.0005	8.6	8.51
Tete Angela C	W17	11/17/1997	0.00029	0.00029	0.0005	0.0005					0.0005	0.0005	9.48	9.61
Tete Angela C	W17	12/18/1997	0.00028	0.00029	0.0003	0.0004					0.0005	0.0005	9.65	9.44
Tete Angela C	W17	1/21/1998	0.00032	0.00031	0.0004	0.0005					0.0005	0.0005	10.4	10.1
Tete Angela C	W17	2/17/1998	0.00034	0.00033	0.0003	0.0003					0.0005	0.0005	10.5	10.5
Tete Angela C	W17	3/11/1998	0.00034	0.00033	0.0003	0.0003					0.0005	0.0005	10.2	9.92
Tete Angela C	W17	4/15/1998	0.00033	0.00033	0.0003	0.0003					0.0005	0.0005	10.3	10.1
Tete Angela C	W18	5/30/1996	<0.001	<0.001	0.001	0.001			0.26		<0.0005	0.0006	4.87	5.16
Tete Angela C	W18	6/11/1996	<0.001	<0.001	0.002	0.002			0.33		<0.0005	<0.0005	8	7.95
Tete Angela C	W18	6/17/1996	<0.001	<0.001	0.002	0.002			0.33		<0.0005	<0.0005	7.49	7.65
Tete Angela C	W18	8/11/1996	<0.001	<0.001	0.002	0.002			0.33		<0.0005	<0.0005	8.45	8.35
Tete Angela C	W18	8/15/1996	<0.001	<0.001	0.002	0.002			0.36		<0.0005	<0.0005	8.13	8.08
Tete Angela C	W18	8/24/1996	<0.001	<0.001	0.001	0.002			0.35		<0.0005	<0.0005	6.84	7.1
Tete Angela C	W18	9/3/1996	<0.001	<0.001	0.002	0.002			0.39		<0.0005	0.0006	6.42	6.65
Tete Angela C	W18	9/14/1996	<0.001	<0.001	0.001	0.001			0.28		<0.0005	<0.0005	8.39	8.3
Tete Angela C	W18	5/8/1997	0.00029	0.00031	0.0018	0.0019					0.0005	0.0006	6.51	6.36
Tete Angela C	W18	5/14/1997	0.00014	0.0001	0.0014	0.0014					0.0005	0.0005	4.42	4.34
Tete Angela C	W18	5/19/1997	0.00009	0.00009	0.0012	0.0013					0.0005	0.0005	5.6	5.66
Tete Angela C	W18	5/27/1997	0.00009	0.00009	0.0014	0.0014					0.0005	0.0005	5.9	5.96
Tete Angela C	W18	6/3/1997	0.00012	0.00011	0.0013	0.0014					0.0005	0.0005	6.83	6.76
Tete Angela C	W18	7/28/1997	0.00039	0.0004	0.0018	0.0018					0.0005	0.0005	8.21	8.08
Tete Angela C	W18	9/23/1997	0.00031	0.00031	0.0024	0.0027					0.0005	0.0005	7.12	7.34
Tete Angela C	W18	9/30/1997	0.00027	0.00029	0.0017	0.0017					0.0005	0.0005	6.53	6.49
Tete Angela C	W18	10/7/1997	0.00025	0.00026	0.0016	0.0017					0.0005	0.0005	8.39	8.28
Tete Angela C	W18	10/14/1997	0.00026	0.00024	0.0014	0.0015					0.0005	0.0005	7.58	7.71
Tete Angela C	W18	11/17/1997	0.00038	0.00034	0.002	0.0022					0.0005	0.0005	13.1	12.8
Tete Angela C	W18	12/18/1997	0.00024	0.00023	0.0011	0.0012					0.0005	0.0005	10.2	9.87
Tete Angela C	W18	1/21/1998	0.00042	0.00042	0.0026	0.0026					0.0005	0.0005	15.4	15.2
Tete Angela C.	WC	5/16/2006	0.000509	0.000510	0.00187	0.00186	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.16	8.79
Tete Angela C.	WC	5/23/2006	0.000533	0.000545	0.00205	0.00202	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.21	8.29
Tete Angela C.	WC	5/30/2006	0.000367	0.000647	0.00204	0.00298	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.85	7.31
Tete Angela C.	WC	6/7/2006	0.000476	0.000462	0.00222	0.00227	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.70	8.69
Tete Angela C.	WC	7/5/2006	0.000402	0.000390	0.00104	0.00113	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.36	8.42
Tete Angela C.	WC	8/9/2006	0.000397	0.000411	0.00088	0.00086	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.68	8.72
Tete Angela C.	WC	8/16/2006	0.000435	0.000425	0.00078	0.00072	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.01	8.22
Vick C	W13	7/4/1995	0.002	0.002	<0.001	<0.001			2.55		<0.0005	<0.0005	8.15	8.84
Vick C	W13	7/13/1995	0.001	0.001	<0.001	<0.001			2.71		<0.0005	<0.0005	8.46	8.39
Vick C	W13	7/19/1995	0.001	0.002	<0.001	<0.001			3		<0.0005	<0.0005	8.26	8.57
Vick C	W13	9/27/1995	0.001	0.001	<0.001	<0.001			2.97		<0.0005	<0.0005	8.18	8.28
Vick C	W13	10/4/1995	0.002	0.001	<0.001	<0.001			2.78		<0.0005	<0.0005	8.17	8.51
Vick C	W13	10/11/1995	0.001	0.002	<0.001	<0.001			2.73		<0.0005	<0.0005	7.97	8.09
Vick C	W13	10/18/1995	0.001	0.001	<0.001	<0.001			2.72		<0.0005	<0.0005	7.39	7.4
Vick C	W13	10/27/1995	0.001	0.001	<0.001	<0.001			3.1		<0.0005	<0.0005	7.2	7.15
Vick C	W13	5/29/1996	<0.001	<0.001	<0.001	<0.001			1.61		<0.0005	0.0007	7.64	7.81
Vick C	W13	6/9/1996	0.001	0.001	0.001	<0.001			1.74		<0.0005	<0.0005	7.89	8.01
Vick C	W13	6/19/1996	0.001	0.001	<0.001	<0.001			2.06		<0.0005	<0.0005	8.03	8.18
Vick C	W13	6/27/1996	<0.001	0.001	0.001	0.001			1.83		<0.0005	<0.0005	8.97	8.87
Vick C	W13	7/10/1996	0.001	0.001	<0.001	<0.001			1.6		<0.0005	<0.0005	8.43	8.5
Vick C	W13	8/6/1996	0.001	0.001	<0.001	<0.001			1.88		<0.0005	0.0008	9.01	9.08

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Tete Angela C	W17	9/30/1997	0.00001	0.00001	5	5	0.0542	0.0542			0.0001	0.0001	0.01	0.01	0.00008	0.00007
Tete Angela C	W17	10/7/1997	0.00001	0.00001	5	5	0.0495	0.0502			0.0001	0.0001	0.01	0.01	0.00008	0.00008
Tete Angela C	W17	10/14/1997	0.00001	0.00001	5	5	0.0495	0.0497			0.0001	0.0001	0.01	0.01	0.00008	0.00009
Tete Angela C	W17	11/17/1997	0.00001	0.00001	6	6	0.0677	0.0677			0.0001	0.0001	0.01	0.01	0.00012	0.00013
Tete Angela C	W17	12/18/1997	0.00001	0.00001	5	5	0.0586	0.0582			0.0001	0.0001	0.01	0.01	0.00012	0.00011
Tete Angela C	W17	1/21/1998	0.00001	0.00001	6	6	0.0464	0.046			0.0001	0.0001	0.01	0.01	0.00013	0.00013
Tete Angela C	W17	2/17/1998	0.00001	0.00001	6	6	0.0593	0.0594			0.0001	0.0001	0.01	0.01	0.00014	0.00014
Tete Angela C	W17	3/11/1998	0.00001	0.00001	6	6	0.0573	0.0578			0.0001	0.0001	0.01	0.01	0.00015	0.00016
Tete Angela C	W17	4/15/1998	0.00001	0.00001	6	6	0.0524	0.0499			0.0001	0.0001	0.01	0.01	0.00016	0.00016
Tete Angela C	W18	5/30/1996	<0.0001	<0.0001	1.85		0.028	0.029					<0.010	<0.010	0.00001	0.00001
Tete Angela C	W18	6/11/1996	<0.0001	<0.0001	3.95		0.06	0.06					<0.010	<0.010	0.00004	0.00004
Tete Angela C	W18	6/17/1996	<0.0001	<0.0001	4.29		0.061	0.063					<0.010	<0.010	0.00005	0.00005
Tete Angela C	W18	8/11/1996	<0.0001	<0.0001	4.74		0.077	0.077					<0.010	<0.010	0.00006	0.00006
Tete Angela C	W18	8/15/1996	<0.0001	<0.0001	5.3		0.071	0.071					<0.010	<0.010	0.00007	0.00008
Tete Angela C	W18	8/24/1996	<0.0001	<0.0001	5.76		0.082	0.081					<0.010	<0.010	0.00011	0.00011
Tete Angela C	W18	9/3/1996	<0.0001	<0.0001	5.4		0.086	0.088					<0.010	<0.010	0.00013	0.00013
Tete Angela C	W18	9/14/1996	<0.0001	<0.0001	4.78		0.073	0.072					<0.010	<0.010	0.00006	0.00006
Tete Angela C	W18	5/8/1997	0.00001	0.00001	3	3	0.0459	0.0456			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Tete Angela C	W18	5/14/1997	0.00001	0.00001	2		0.0242	0.0241			0.0001	0.0001	0.01	0.01	0.00001	0.00002
Tete Angela C	W18	5/19/1997	0.00001	0.00001	2	2	0.0258	0.0259			0.0001	0.0001	0.01	0.01	0.00002	0.00002
Tete Angela C	W18	5/27/1997	0.00001	0.00001	2	2	0.0258	0.0261			0.0001	0.0001	0.01	0.01	0.00002	0.00002
Tete Angela C	W18	6/3/1997	0.00001	0.00001	3	3	0.0328	0.0329			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Tete Angela C	W18	7/28/1997	0.00001	0.00001	6	6	0.0664	0.0659			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Tete Angela C	W18	9/23/1997	0.00001	0.00001	7	7	0.0836	0.0825			0.0001	0.0001	0.01	0.01	0.00012	0.00012
Tete Angela C	W18	9/30/1997	0.00001	0.00001	6	6	0.0672	0.0659			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Tete Angela C	W18	10/7/1997	0.00001	0.00001	6	6	0.0717	0.0706			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Tete Angela C	W18	10/14/1997	0.00001	0.00001	5	5	0.0588	0.0597			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Tete Angela C	W18	11/17/1997	0.00001	0.00001	9	9	0.129	0.124			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Tete Angela C	W18	12/18/1997	0.00001	0.00001	7	6	0.0744	0.0728			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Tete Angela C	W18	1/21/1998	0.00001	0.00001	11	10	0.128	0.126			0.0001	0.0001	0.01	0.01	0.00017	0.00016
Tete Angela C.	WC	5/16/2006	<0.000010	<0.000010	6.5	7.1	0.0886	0.0885	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000149	0.000142
Tete Angela C.	WC	5/23/2006	<0.000010	<0.000010	6.6	6.8	0.0880	0.0887	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000125	0.000130
Tete Angela C.	WC	5/30/2006	0.000019	0.000084	5.3	5.4	0.0620	0.0686	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000078	0.000098
Tete Angela C.	WC	6/7/2006	<0.000010	<0.000010	6.4	6.4	0.101	0.0999	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000082	0.000085
Tete Angela C.	WC	7/5/2006	<0.000010	<0.000010	6.4	6.7	0.101	0.103	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000151	0.000151
Tete Angela C.	WC	8/9/2006	<0.000010	<0.000010	6.4	6.5	0.110	0.110	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000164	0.000159
Tete Angela C.	WC	8/16/2006	<0.000010	<0.000010	6.3	6.4	0.0969	0.0943	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000166	0.000154
Vick C	W13	7/4/1995	<0.0001	<0.0001	14.3		0.318	0.339					<0.010	<0.010	0.00084	0.00087
Vick C	W13	7/13/1995	<0.0001	<0.0001	14.3		0.334	0.33					<0.010	<0.010	0.00066	0.00077
Vick C	W13	7/19/1995	<0.0001	<0.0001	15.1		0.33	0.336					<0.010	<0.010	0.00069	0.00104
Vick C	W13	9/27/1995	<0.0001	<0.0001	17		0.327	0.33					<0.010	<0.010	0.00078	0.00078
Vick C	W13	10/4/1995	<0.0001	<0.0001	15.8		0.342	0.346					<0.010	<0.010	0.00085	0.00086
Vick C	W13	10/11/1995	<0.0001	<0.0001	15.3		0.329	0.336					<0.010	<0.010	0.00085	0.00085
Vick C	W13	10/18/1995	<0.0001	<0.0001	15.2		0.314	0.314					<0.010	<0.010	0.00078	0.00071
Vick C	W13	10/27/1995	<0.0001	<0.0001	15.5		0.314	0.311					<0.010	<0.010	0.00074	0.00074
Vick C	W13	5/29/1996	<0.0001	<0.0001	11		0.209	0.22					<0.010	<0.010	0.00045	0.00046
Vick C	W13	6/9/1996	<0.0001	<0.0001	12.7		0.243	0.243					<0.010	<0.010	0.00047	0.00048
Vick C	W13	6/19/1996	<0.0001	<0.0001	14.6		0.274	0.281					<0.010	<0.010	0.00064	0.00065
Vick C	W13	6/27/1996	<0.0001	<0.0001	12.4		0.252	0.245					<0.010	<0.010	0.00059	0.00058
Vick C	W13	7/10/1996	<0.0001	<0.0001	12.8		0.265	0.275					<0.010	<0.010	0.00056	0.00062
Vick C	W13	8/6/1996	<0.0001	<0.0001	15.3		0.315	0.311					<0.010	<0.010	0.00059	0.0006

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Tete Angela C	W17	9/30/1997	0.002	0.002	0.002	0.002
Tete Angela C	W17	10/7/1997	0.001	0.002	0.001	0.002
Tete Angela C	W17	10/14/1997	0.002	0.002	0.001	0.001
Tete Angela C	W17	11/17/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	12/18/1997	0.001	0.001	0.001	0.001
Tete Angela C	W17	1/21/1998	0.001	0.001	0.002	0.001
Tete Angela C	W17	2/17/1998	0.002	0.002	0.001	0.001
Tete Angela C	W17	3/11/1998	0.002	0.002	0.001	0.001
Tete Angela C	W17	4/15/1998	0.002	0.002	0.002	0.001
Tete Angela C	W18	5/30/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	6/11/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	6/17/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	8/11/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	8/15/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	8/24/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	9/3/1996	<0.030	<0.030	<0.005	<0.005
Tete Angela C	W18	9/14/1996	<0.030	<0.030	<0.005	0.01
Tete Angela C	W18	5/8/1997	0.001	0.001	0.001	0.001
Tete Angela C	W18	5/14/1997	0.001	0.001	0.001	0.002
Tete Angela C	W18	5/19/1997	0.001	0.001	0.001	0.001
Tete Angela C	W18	5/27/1997	0.001	0.001	0.001	0.001
Tete Angela C	W18	6/3/1997	0.001	0.001	0.001	0.002
Tete Angela C	W18	7/28/1997	0.001	0.001	0.002	0.001
Tete Angela C	W18	9/23/1997	0.001	0.002	0.001	0.001
Tete Angela C	W18	9/30/1997	0.001	0.001	0.002	0.002
Tete Angela C	W18	10/7/1997	0.001	0.001	0.002	0.004
Tete Angela C	W18	10/14/1997	0.001	0.001	0.002	0.002
Tete Angela C	W18	11/17/1997	0.001	0.001	0.003	0.002
Tete Angela C	W18	12/18/1997	0.001	0.001	0.002	0.001
Tete Angela C	W18	1/21/1998	0.001	0.001	0.002	0.002
Tete Angela C.	WC	5/16/2006	0.0010	0.0011	<0.0010	<0.0010
Tete Angela C.	WC	5/23/2006	0.0012	0.0012	<0.0010	<0.0010
Tete Angela C.	WC	5/30/2006	0.0011	0.0021	<0.0010	<0.0050
Tete Angela C.	WC	6/7/2006	0.0011	0.0013	<0.0010	0.0015
Tete Angela C.	WC	7/5/2006	0.0012	0.0012	<0.0010	<0.0010
Tete Angela C.	WC	8/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Tete Angela C.	WC	8/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick C	W13	7/4/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	7/13/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	7/19/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	9/27/1995	<0.030	<0.030	0.005	<0.005
Vick C	W13	10/4/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	10/11/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	10/18/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	10/27/1995	<0.030	<0.030	<0.005	<0.005
Vick C	W13	5/29/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	6/9/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	6/19/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	6/27/1996	<0.030	<0.030	<0.005	0.009
Vick C	W13	7/10/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	8/6/1996	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Vick C	W13	8/16/1996				488	250		8.15	272	0.3		7.4	334	<1	1.1	0.19	8.4
Vick C	W13	8/24/1996				479	244		8.22	271	0.3		2.6	324	<1	0.6	0.17	8.9
Vick C	W13	8/29/1996				477	249		8.28	272	0.3		0.5	323	1	0.6	0.16	9.1
Vick C	W13	9/6/1996				462	231		8.24	258	0.1		0.5	307	<1	0.6	0.19	8.9
Vick C	W13	2/28/1997				519	238		8.11	275	0.7		2.5	330	2	0.9	0.15	14
Vick C	W13	5/4/1997				384	174		8.15	218	0.4		6.4	258	1	0.7	0.17	7.0
Vick C	W13	5/7/1997	2.8			357	192	8.7	8.07	232	0.2		5.4	274	1	0.8	0.16	7.0
Vick C	W13	5/13/1997	3.1			417	207	8.27	7.98	236	0.5		5.1	282	1	0.8	0.15	8.0
Vick C	W13	5/19/1997	2.3			445	224	8.18	7.95	266	0.2		4.7	316	1	0.8	0.15	9.0
Vick C	W13	5/26/1997	3.4			427	210	8.2	7.91	257	0.7		4.2	302	2	0.9	0.14	9.0
Vick C	W13	6/2/1997	4.9			449	224	8.06	7.92	259	0.2		4	311	1	1.2	0.44	9.0
Vick C	W13	7/29/1997	9			455	226	8.7	8.07	266	1.1		3.4	310	1	0.5	0.18	6.0
Vick C	W13	9/15/1997	11.5			496	248	7.63	7.94	277	0.4		4.2	336	1	0.6	0.19	11.0
Vick C	W13	9/22/1997	7			483	246	7.68	7.88	270	0.1		5.8	334		0.8	0.18	13.0
Vick C	W13	9/29/1997	6.7			498	246	8.12	7.92	266	0.1		3.3	328	1	0.8	0.16	13.0
Vick C	W13	10/6/1997	4.4			485	237	8.25	7.75	259	0.6		4.9	320	2	0.8	0.16	13.0
Vick C	W13	10/13/1997	4.4			487	238	8.08	7.75	267	0.1		4.8	326	1	0.7	0.16	14.0
Vick C	W13	11/16/1997	1.6			502	242	8.2	7.72	280	0.1		3.3	336	1	0.8	0.15	14.0
Vick C	W13	12/17/1997	1			466	237	8.21	7.68	255	0.2		2.2	311	1	0.5	0.14	13.0
Vick C	W13	1/20/1998	0.8			484	252	7.2	7.65	264	0.2		2.4	332	1	0.8	0.19	16.0
Vick C	W13	2/18/1998	1.1			482	261	8.21	7.6	277	0.3		4.1	343	1	0.9	0.18	13.0
Vick C	W13	3/10/1998				467	251		7.82	273	0.4		1.1	335	1	0.9	0.17	15.0
Vick C	W13	4/12/1998	1			444	236	8.05	8.04	256	0.2		1.5	290	1	0.8	0.16	13.0
Vick Creek	W13	5/9/2006	2.60	12.60	421	398	199		8.30	211	0.17	6.0		232	<3.0	1.0	0.15	10.5
Vick Creek	W13	5/16/2006	4.80	10.90	405.6	370	138		8.17	204	0.55	6.1		272	<3.0	1.1	0.16	9.5
Vick Creek	W13	5/24/2006	4.60	10.60	416.1	413	209		8.34	233	1.23	5.5		244	<3.0	1.3	0.15	10.2
Vick Creek	W13	5/29/2006	5.90	10.70	384.4	382	207		8.36	221	0.44	8.1		244	<3.0	1.0	0.16	8.8
Vick Creek	W13	6/7/2006	6.70	10.60	388.2	386	208		8.35	223	0.24	9.0		231	<3.0	0.9	0.16	7.2
Vick Creek	W13	7/5/2006	9.90	9.60	454.3	445	231		8.14	245	1.18	5.0		275	<3.0	1.2	0.17	9.1
Vick Creek	W23	5/13/1998	6.9			203	104	7.28	7.78	97	0.2		26	133	1	2.1	0.09	4
Vick Creek	W23	5/20/1998	4			197	104	7.8	7.55	102	0.6		26.5	134	1	1.7	0.1	2
Vick Creek	W23	5/27/1998	8			207	108	7.9	7.76	110	0.6		22.8	136	2	1.6	0.1	2
Vick Creek	W23	6/2/1998	7			229	121	8	7.62	118	0.4		24.4	145	1	1.6	0.08	1
Vick Creek	W23	6/9/1998	13			235	122	8	7.84	126	0.4		26.1	152	1	1.4	0.09	1
Vick Creek	W23	6/16/1998	9			238	125	8.2	7.88	122	0.3		25.5	150	2	1.2	0.09	1
Vick Creek	W23	7/9/1998	10.1			230	129	7.44	8.07	121	0.2		28	155	1	1.6	0.21	1
Vick Creek	W23	7/14/1998	5.9			231	127	7.55	8.04	129	0.3		23.1	167	1	1.2	0.13	1
Vick Creek	W23	7/21/1998	9.3			270	149	7.3	7.98	148	1.1		26.5	193	7	1.4	0.1	1
Big Onion	W10	12/1/1992				312	175		8.06	172	1.41			274	3	0.5	0.08	6.8
Big Onion	W10	1/7/1993				340	180		8.02	187	2.08			295	4	1.5	0.1	7.6
Big Onion	W10	1/27/1993				342	164		7.96	173	1.3			271	<1	1.5	0.1	6.4
Big Onion	W10	3/2/1993				326	176		7.87	177	0.97			281	4	2	0.11	6.4
Big Onion	W10	3/31/1993				285	143		7.97	178	1.81			228	1	0.6	0.09	5.1
Big Onion	W10	5/6/1993				306	155		8.03	157	3.63			240	7	1.6	0.1	7
Big Onion	W10	5/13/1993				305	160		8.23	161	6			236	9	1.5	0.1	9.2
Big Onion	W10	5/19/1993				304	156		8.37	162	7.5			240	9	1.9	0.1	8.4
Big Onion	W10	5/27/1993				300	147		8.4	163	8.11			184	11	2.5	0.09	8.2
Big Onion	W10	6/3/1993				297	145		8.29	161	8.3			180	16	1.2	0.09	7.7
Big Onion	W10	8/17/1993				228	125		8.89	122	12.2			156	17	1	0.09	6.3
Big Onion	W10	8/24/1993				250	136		8.75	132	4.96			170	9	1	0.09	7.5
Big Onion	W10	8/31/1993				243	128		8.87	132	8.43			167	10	1.2	0.1	8.2

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Vick C	W13	8/16/1996	<0.005	0.032	<0.001	0.009	0.009	0.009	<0.005	0.007	<0.0001	<0.0001	0.0006	0.0007	0.016
Vick C	W13	8/24/1996	0.009	0.028	0.001	0.01	0.011	0.011	<0.005	<0.005	<0.0001	<0.0001	0.0006	0.0006	0.021
Vick C	W13	8/29/1996	0.023	<0.005	0.002	0.011	0.011	0.011	<0.005	<0.005	<0.0001	<0.0001	0.0007	0.0007	0.022
Vick C	W13	9/6/1996	<0.005	0.02	0.001	0.008	0.01	0.01	<0.005	0.009	<0.0001	<0.0001	0.0007	0.0007	0.019
Vick C	W13	2/28/1997	0.005	0.071	<0.001	0.008	0.008	0.008	<0.005	0.031	0.0001	<0.0001	0.0006	0.0006	0.018
Vick C	W13	5/4/1997	0.005	0.023	0.001	0.008	0.017	0.017					0.0005	0.0005	0.016
Vick C	W13	5/7/1997	0.005	0.04	0.001	0.007	0.013	0.013	0.001	0.005	0.00008	0.00006	0.0006	0.0005	0.0158
Vick C	W13	5/13/1997	0.005	0.042	0.001	0.005	0.012	0.012	0.001	0.005	0.0005	0.0005	0.0006	0.0005	0.0166
Vick C	W13	5/19/1997	0.005	0.04	0.001	0.005	0.01	0.01	0.001	0.005	0.00011	0.0001	0.0006	0.0006	0.0176
Vick C	W13	5/26/1997	0.006	0.068	0.001	0.007	0.007	0.007	0.001	0.006	0.00005	0.00005	0.0007	0.0007	0.0171
Vick C	W13	6/2/1997	0.005	0.033	0.001	0.009	0.011	0.011	0.001	0.007	0.00011	0.00009	0.0006	0.0006	0.02
Vick C	W13	7/29/1997	0.005	0.028	0.001	0.008	0.01	0.01	0.002	0.016	0.00005	0.00006	0.0007	0.0006	0.0193
Vick C	W13	9/15/1997	0.005	0.005	0.001	0.005	0.007	0.007	0.002	0.026	0.00005	0.00005	0.0006	0.0005	0.0207
Vick C	W13	9/22/1997	0.005	0.028	0.001	0.004	0.006	0.006	0.002	0.014	0.00005	0.00005	0.0006	0.0006	0.0199
Vick C	W13	9/29/1997	0.005	0.006	0.001	0.005	0.008	0.008	0.001	0.005	0.00005	0.00007	0.0006	0.0005	0.0205
Vick C	W13	10/6/1997	0.005	0.005	0.001	0.002	0.002	0.002	0.001	0.005	0.00005	0.00005	0.0005	0.0005	0.0194
Vick C	W13	10/13/1997	0.005	0.012	0.001	0.004	0.007	0.007	0.001	0.006	0.00005	0.00005	0.0006	0.0006	0.0196
Vick C	W13	11/16/1997	0.005	0.057	0.001	0.007	0.008	0.008	0.001	0.004	0.00007	0.00008	0.0006	0.0005	0.0199
Vick C	W13	12/17/1997	0.005	0.042	0.001	0.004	0.008	0.008	0.001	0.009	0.00005	0.00005	0.0006	0.0005	0.0181
Vick C	W13	1/20/1998	0.005	0.039	0.001	0.006	0.012	0.012	0.001	0.004	0.00005	0.00005	0.0006	0.0006	0.0209
Vick C	W13	2/18/1998	0.005	0.059	0.001	0.004	0.007	0.007	0.001	0.01	0.00005	0.00005	0.0005	0.0006	0.0188
Vick C	W13	3/10/1998	0.005	0.073	0.001	0.002	0.005	0.005	0.001	0.006	0.00006	0.00006	0.0005	0.0005	0.0205
Vick C	W13	4/12/1998	0.005	0.035	0.001	0.003	0.009	0.009	0.001	0.003	0.00005	0.00005	0.0006	0.0006	0.0181
Vick Creek	W13	5/9/2006	<0.0050	0.0351	<0.0010	0.0070	0.0090	0.0098	<0.0010	0.0025	<0.00010	<0.00010	0.00051	0.00052	0.0156
Vick Creek	W13	5/16/2006	<0.0050	0.0093	<0.0010	0.0088	0.0103	0.0122	<0.0010	0.0029	<0.00010	<0.00010	0.00064	0.00059	0.0160
Vick Creek	W13	5/24/2006	<0.0050	<0.0050	<0.0010	0.0068	0.0089	0.0097	0.0019	0.0024	<0.00010	<0.00010	0.00063	0.00065	0.0178
Vick Creek	W13	5/29/2006	<0.0050	<0.0050	<0.0010	0.0091	0.0127	0.0115	0.0136	0.0046	<0.00010	<0.00010	0.00061	0.00066	0.0168
Vick Creek	W13	6/7/2006	<0.0050	0.0070	<0.0010	0.0101	0.0130	0.0149	<0.0010	0.0031	<0.00010	<0.00010	0.00085	0.00068	0.0177
Vick Creek	W13	7/5/2006	<0.0050	0.0122	<0.0010	0.0137	0.0109	0.0110	<0.0050	0.0052	<0.00010	<0.00010	0.00064	0.00073	0.0205
Vick Creek	W23	5/13/1998	0.006	0.005	0.001	0.002	0.002	0.002	0.005	0.012	0.00005	0.00006	0.0006	0.0006	0.00305
Vick Creek	W23	5/20/1998	0.006	0.005	0.001	0.001	0.001	0.001	0.004	0.003	0.00006	0.00006	0.0005	0.0006	0.00303
Vick Creek	W23	5/27/1998	0.005	0.005	0.001	0.002	0.003	0.004	0.003	0.015	0.00005	0.00005	0.0005	0.0005	0.00302
Vick Creek	W23	6/2/1998	0.005	0.005	0.001	0.001	0.001	0.001	0.005	0.014	0.00005	0.00006	0.0005	0.0005	0.00305
Vick Creek	W23	6/9/1998	0.005	0.005	0.001	0.003	0.003	0.003	0.006	0.014	0.00006	0.00006	0.0006	0.0006	0.00394
Vick Creek	W23	6/16/1998	0.005	0.005	0.001	0.001	0.001	0.001	0.004	0.006	0.00006	0.00006	0.0006	0.0006	0.00345
Vick Creek	W23	7/9/1998	0.005	0.005	0.001	0.002	0.002	0.002	0.003	0.004	0.00007	0.00009	0.0007	0.0007	0.00377
Vick Creek	W23	7/14/1998	0.005	0.005	0.001	0.001	0.001	0.001	0.003	0.004	0.00005	0.00005	0.0007	0.0006	0.00342
Vick Creek	W23	7/21/1998	0.005	0.005	0.001	0.001	0.001	0.002	0.004	0.006	0.00006	0.00005	0.0007	0.0007	0.00524
Big Onion	W10	12/1/1992	0.063	0.014	<0.001	<0.001	0.021	0.022	0.014	0.033	<0.0002	<0.0002	<0.0001	<0.0001	0.015
Big Onion	W10	1/7/1993	0.182	0.017	0.001	<0.001	0.013	0.021	0.005	0.017	<0.0001	0.0002	<0.0001	0.0001	0.015
Big Onion	W10	1/27/1993	0.314	0.027	0.03*	0.008	0.026	0.027	<0.005	0.022	<0.0001	0.0002	<0.0001	0.0017	0.014
Big Onion	W10	3/2/1993	0.21	0.019	<0.001	0.008	0.021	0.021	0.009	0.062	0.0002	0.0002	<0.0001	<0.0001	0.018
Big Onion	W10	3/31/1993	0.039	0.03	<0.001	0.013	0.03	0.03	0.007	0.019	0.0001	0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	5/6/1993	0.008	0.005	0.001	0.028	0.029	0.045	0.01	0.061	<0.0001	<0.0001	<0.0001	<0.0001	0.014
Big Onion	W10	5/13/1993	0.007	<0.005	<0.001	0.03	0.039	0.041	0.014	0.049	0.0001	0.0001	<0.0001	<0.0001	0.014
Big Onion	W10	5/19/1993	<0.005	0.224	<0.001	0.021	0.024	0.035	0.037	0.171	0.0001	0.0001	<0.0001	<0.0001	0.014
Big Onion	W10	5/27/1993	0.007	<0.005	<0.001	0.023	0.038	0.041	<0.005	0.054	0.0001	0.0002	<0.0001	0.0002	0.015
Big Onion	W10	6/3/1993	0.025	<0.005	<0.001	0.003	0.01	0.041	0.005	0.049	<0.0001	<0.0001	<0.0001	<0.0001	0.012
Big Onion	W10	8/17/1993	0.031	<0.005	0.001	<0.001	<0.001	0.015	0.109	0.579	0.0002	0.0002	<0.0001	<0.0001	<0.010
Big Onion	W10	8/24/1993	<0.005	<0.005	0.001	0.006	0.012	0.029	0.008	0.02	<0.0001	0.0002	<0.0001	<0.0001	0.013
Big Onion	W10	8/31/1993	0.02	<0.005	0.005	0.005	0.018	0.026	<0.005	0.059	0.0002	0.0003	<0.0001	0.0001	0.014

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Vick C	W13	8/16/1996	0.016	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	47.5	47.9	<0.001	<0.001
Vick C	W13	8/24/1996	0.021	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	45.7	46.7	<0.001	<0.001
Vick C	W13	8/29/1996	0.018	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	47.8	48.3	<0.001	<0.001
Vick C	W13	9/6/1996	0.021	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	45.1	45.2	<0.001	<0.001
Vick C	W13	2/28/1997	0.019	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	44.8	48.2	<0.001	<0.001
Vick C	W13	5/4/1997	0.016									34.2	35.5		
Vick C	W13	5/7/1997	0.0162	0.0005	0.0005	0.0005	0.0005	0.028	0.029	0.00005	0.00005	38.5	37.7	0.0005	0.0005
Vick C	W13	5/13/1997	0.0162	0.0005	0.0005	0.0005	0.0005	0.029	0.028	0.00005	0.00005	40	39	0.0007	0.0005
Vick C	W13	5/19/1997	0.018	0.0005	0.0005	0.0005	0.0005	0.03	0.033	0.00005	0.00005	43.2	43.8	0.0009	0.0011
Vick C	W13	5/26/1997	0.0172	0.0005	0.0005	0.0005	0.0005	0.036	0.033	0.00005	0.00005	40.9	41.3	0.0013	0.001
Vick C	W13	6/2/1997	0.019	0.0005	0.0005	0.0005	0.0005	0.038	0.036	0.00005	0.00005	44	43.5	0.0007	0.0005
Vick C	W13	7/29/1997	0.0195	0.0005	0.0005	0.0005	0.0005	0.043	0.042	0.00005	0.00005	42.9	41.8	0.001	0.0007
Vick C	W13	9/15/1997	0.0209	0.0005	0.0005	0.0005	0.0005	0.042	0.038	0.00005	0.00005	47	47.5	0.001	0.0007
Vick C	W13	9/22/1997	0.0199	0.0005	0.0005	0.0005	0.0005	0.035	0.038	0.00005	0.00005	46.9	46.6	0.0005	0.0006
Vick C	W13	9/29/1997	0.0197	0.0005	0.0005	0.0005	0.0005	0.04	0.04	0.00005	0.00005	46.5	46	0.0006	0.0007
Vick C	W13	10/6/1997	0.0191	0.0005	0.0005	0.0005	0.0005	0.046	0.042	0.00005	0.00005	44.4	45.3	0.0008	0.0007
Vick C	W13	10/13/1997	0.0194	0.0005	0.0005	0.0005	0.0005	0.04	0.042	0.00005	0.00005	45.1	45.8	0.0009	0.0009
Vick C	W13	11/16/1997	0.0194	0.0005	0.0005	0.0005	0.0005	0.031	0.032	0.00005	0.00005	45.2	45.2	0.0008	0.0006
Vick C	W13	12/17/1997	0.0185	0.0005	0.0005	0.0005	0.0005	0.035	0.032	0.00005	0.00005	46.2	46.5	0.001	0.0005
Vick C	W13	1/20/1998	0.0202	0.0005	0.0005	0.0005	0.0005	0.033	0.032	0.00005	0.00005	48.5	48	0.0007	0.0006
Vick C	W13	2/18/1998	0.0191	0.0005	0.0005	0.0005	0.0005	0.037	0.037	0.00005	0.00005	50.1	50	0.0007	0.0008
Vick C	W13	3/10/1998	0.0202	0.0005	0.0005	0.0005	0.0005	0.039	0.039	0.00005	0.00005	48.3	48.5	0.0006	0.0007
Vick C	W13	4/12/1998	0.0178	0.0005	0.0005	0.0005	0.0005	0.035	0.034	0.00005	0.00005	46.8	46.1	0.0007	0.0006
Vick Creek	W13	5/9/2006	0.0153	<0.00050	<0.00050	<0.00050	<0.00050	0.029	0.029	<0.000017	<0.000020	39.0	39.7	<0.00050	<0.00050
Vick Creek	W13	5/16/2006	0.0162	<0.00050	<0.00050	<0.00050	<0.00050	<0.050	0.030	<0.000017	<0.000017	39.5	39.0	<0.00050	<0.00050
Vick Creek	W13	5/24/2006	0.0179	<0.00050	<0.00050	<0.00050	<0.00050	0.032	0.032	<0.000017	<0.000017	41.8	42.2	0.00061	<0.00080
Vick Creek	W13	5/29/2006	0.0170	<0.00050	<0.00050	<0.00050	<0.00050	0.031	0.033	<0.000017	<0.000017	41.4	42.2	<0.00050	<0.00050
Vick Creek	W13	6/7/2006	0.0172	<0.00050	<0.00050	<0.00050	<0.00050	0.038	0.036	<0.000017	<0.000017	42.2	40.5	<0.0020	<0.00050
Vick Creek	W13	7/5/2006	0.0207	<0.00050	<0.00050	<0.00050	<0.00050	0.041	0.042	<0.000017	<0.000017	44.9	47.4	<0.00050	0.00061
Vick Creek	W23	5/13/1998	0.00332	0.0005	0.0005	0.0005	0.0005	0.014	0.014	0.00005	0.00005	25.9	24.7	0.0005	0.0005
Vick Creek	W23	5/20/1998	0.00311	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	25.7	25.6	0.0005	0.0005
Vick Creek	W23	5/27/1998	0.00303	0.0005	0.0005	0.0005	0.0005	0.014	0.013	0.00005	0.00005	27.2	26.8	0.0005	0.0005
Vick Creek	W23	6/2/1998	0.00315	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	30.6	29.8	0.0005	0.0005
Vick Creek	W23	6/9/1998	0.00373	0.0005	0.0005	0.0005	0.0005	0.018	0.018	0.00005	0.00005	31.4	31.8	0.0005	0.0005
Vick Creek	W23	6/16/1998	0.00348	0.0005	0.0005	0.0005	0.0005	0.013	0.012	0.00005	0.00005	31.4	30.7	0.0005	0.0005
Vick Creek	W23	7/9/1998	0.00396	0.0005	0.0005	0.0005	0.0005	0.016	0.016	0.00005	0.00005	33	31.7	0.0008	0.0008
Vick Creek	W23	7/14/1998	0.00342	0.0005	0.0005	0.0005	0.0005	0.012	0.012	0.00005	0.00005	32.3	31.4	0.0006	0.0005
Vick Creek	W23	7/21/1998	0.00504	0.0005	0.0005	0.0005	0.0005	0.015	0.014	0.00005	0.00005	37.9	38	0.0005	0.0005
Big Onion	W10	12/1/1992	0.015	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	43.1	44.1	<0.001	<0.001
Big Onion	W10	1/7/1993	0.017	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	44.5	45.1	<0.001	<0.001
Big Onion	W10	1/27/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	39	39.1	<0.001	<0.001
Big Onion	W10	3/2/1993	0.018	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	43.9	45.2	<0.001	<0.001
Big Onion	W10	3/31/1993	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	35.3	35.3	<0.001	<0.001
Big Onion	W10	5/6/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	38.1	38.9	<0.001	<0.001
Big Onion	W10	5/13/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	39.7	40.7	<0.001	<0.001
Big Onion	W10	5/19/1993	0.016	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	38	39.5	<0.001	<0.001
Big Onion	W10	5/27/1993	0.016	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	34.9	34.9	<0.001	<0.001
Big Onion	W10	6/3/1993	0.018	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	34.6	36.7	<0.001	<0.001
Big Onion	W10	8/17/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	28.2	29.3	<0.001	<0.001
Big Onion	W10	8/24/1993	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.9	30.2	<0.001	<0.001
Big Onion	W10	8/31/1993	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	27.1	28.5	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Vick C	W13	8/16/1996	<0.001	<0.001	<0.001	0.001	<0.030	<0.030	<0.001	<0.001			32	32.2	0.007	0.006
Vick C	W13	8/24/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			31.6	32.2	0.006	0.006
Vick C	W13	8/29/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			31.5	32	0.006	0.006
Vick C	W13	9/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			28.7	28.9	<0.005	<0.005
Vick C	W13	2/28/1997	<0.001	<0.001	<0.001	<0.001	<0.030	0.031	<0.001	<0.001			30.7	32.9	<0.005	0.005
Vick C	W13	5/4/1997			0.007	<0.001							21.6	22.3		
Vick C	W13	5/7/1997	0.0001	0.0001	0.0007	0.0007	0.01	0.01	0.00005	0.00005	0.001	0.001	23.4	22.9	0.00212	0.00295
Vick C	W13	5/13/1997	0.0003	0.0002	0.0006	0.0008	0.01	0.01	0.00005	0.00005	0.002	0.001	26	25.2	0.00209	0.00289
Vick C	W13	5/19/1997	0.0001	0.0002	0.0007	0.0008	0.01	0.01	0.00005	0.00005	0.002	0.002	28.3	28.9	0.00243	0.00351
Vick C	W13	5/26/1997	0.0001	0.0001	0.0008	0.0008	0.01	0.01	0.00005	0.00005	0.002	0.002	26.2	26.4	0.0018	0.00326
Vick C	W13	6/2/1997	0.0002	0.0001	0.0008	0.0008	0.01	0.01	0.00005	0.00005	0.002	0.002	27.7	27.4	0.00223	0.00365
Vick C	W13	7/29/1997	0.0001	0.0001	0.0009	0.0009			0.00005	0.00005	0.002	0.002	28.8	27.9	0.00539	0.0067
Vick C	W13	9/15/1997	0.0001	0.0001	0.0007	0.0007		0.03	0.00005	0.00005	0.003	0.003	31.8	31.7	0.0065	0.0097
Vick C	W13	9/22/1997	0.0001	0.0001	0.0007	0.0008			0.00005	0.00005	0.002	0.002	31.2	31.2	0.00546	0.00664
Vick C	W13	9/29/1997	0.0001	0.0005	0.0007	0.0007			0.00005	0.00005	0.003	0.003	31.5	31.4	0.00607	0.00711
Vick C	W13	10/6/1997	0.0001	0.0001	0.0007	0.0007			0.00005	0.00005	0.003	0.003	30.6	30.9	0.00625	0.00644
Vick C	W13	10/13/1997	0.0001	0.0003	0.0007	0.0007			0.00005	0.00005	0.003	0.003	30.5	30.6	0.00509	0.00621
Vick C	W13	11/16/1997	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.002	0.002	31.5	31.8	0.0043	0.00498
Vick C	W13	12/17/1997	0.0001	0.0001	0.0006	0.0006			0.00005	0.00005	0.002	0.002	29.5	29.6	0.00308	0.00526
Vick C	W13	1/20/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.002	0.002	31.9	31.3	0.0024	0.00381
Vick C	W13	2/18/1998	0.0001	0.0001	0.0005	0.0007			0.00005	0.00005	0.002	0.002	33	32.8	0.00286	0.0042
Vick C	W13	3/10/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.002	0.002	31.6	31.5	0.00271	0.00359
Vick C	W13	4/12/1998	0.0001	0.0001	0.0006	0.0006			0.00005	0.00005	0.002	0.002	29	28.6	0.00194	0.00249
Vick Creek	W13	5/9/2006	<0.00010	<0.00010	0.00052	0.00061	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	24.6	25.2	0.000391	0.000841
Vick Creek	W13	5/16/2006	<0.00010	<0.00010	0.00061	0.00061	0.051	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	25.0	23.8	0.000118	0.00102
Vick Creek	W13	5/24/2006	<0.00010	<0.00010	<0.0010	0.00064	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	25.4	25.6	0.000582	0.00122
Vick Creek	W13	5/29/2006	<0.00010	<0.00010	0.00069	0.00072	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	25.1	25.6	0.000345	0.00159
Vick Creek	W13	6/7/2006	<0.00010	<0.00010	0.00078	0.00079	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	25.0	24.2	0.000451	0.00146
Vick Creek	W13	7/5/2006	<0.00010	<0.00010	0.00072	0.00074	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	28.8	30.4	0.000797	0.00311
Vick Creek	W23	5/13/1998	0.0001	0.0001	0.0006	0.0021			0.00005	0.00007	0.001	0.001	9.5	9.1	0.00062	0.00916
Vick Creek	W23	5/20/1998	0.0001	0.0001	0.0006	0.0006			0.00005	0.00005	0.001	0.001	9.6	9.5	0.00122	0.00173
Vick Creek	W23	5/27/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	9.6	9.5	0.00057	0.00188
Vick Creek	W23	6/2/1998	0.0001	0.0001	0.0005	0.0006			0.00005	0.00005	0.001	0.001	10.9	10.7	0.0012	0.0111
Vick Creek	W23	6/9/1998	0.0001	0.0001	0.0005	0.0006			0.00005	0.00005	0.001	0.001	10.6	10.8	0.00306	0.00518
Vick Creek	W23	6/16/1998	0.0001	0.0001	0.0005	0.0004			0.00005	0.00005	0.001	0.001	11.2	10.9	0.00404	0.00797
Vick Creek	W23	7/9/1998	0.0001	0.0001	0.0004	0.0005	0.03	0.04	0.00005	0.00005	0.001	0.001	11.3	10.8	0.00354	0.0118
Vick Creek	W23	7/14/1998	0.0001	0.0001	0.0004	0.0004			0.00005	0.00005	0.001	0.001	11.2	10.8	0.00567	0.00983
Vick Creek	W23	7/21/1998	0.0001	0.0001	0.0003	0.0003		0.03	0.00005	0.00005	0.001	0.001	13.3	13.3	0.0481	0.0408
Big Onion	W10	12/1/1992	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	0.001			16.4	16.7	<0.005	<0.005
Big Onion	W10	1/7/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			16.6	16.9	<0.005	<0.005
Big Onion	W10	1/27/1993	<0.001	<0.001	0.001	0.001	<0.030	0.051	<0.001	<0.001			16.1	16.6	<0.005	0.006
Big Onion	W10	3/2/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			16.1	16.5	0.008	0.01
Big Onion	W10	3/31/1993	<0.001	<0.001	0.001	0.002	<0.030	0.048	<0.001	<0.001			13.3	13.3	<0.005	0.01
Big Onion	W10	5/6/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.036	<0.001	<0.001			14.5	14.5	<0.005	0.013
Big Onion	W10	5/13/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.047	<0.001	<0.001			14.7	15	<0.005	0.012
Big Onion	W10	5/19/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.058	<0.001	<0.001			14.9	15.2	<0.005	0.009
Big Onion	W10	5/27/1993	<0.001	<0.001	<0.001	0.001	<0.030	0.102	<0.001	<0.001			14.5	14.5	<0.005	0.007
Big Onion	W10	6/3/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.045	<0.001	<0.001			14.2	14.6	<0.005	0.007
Big Onion	W10	8/17/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.218	<0.001	<0.001			13.2	13.4	<0.005	0.009
Big Onion	W10	8/24/1993	<0.001	<0.001	0.002	0.003	<0.030	<0.030	<0.001	<0.001			14.8	14.8	<0.005	0.011
Big Onion	W10	8/31/1993	0.024*	0.045	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.7	15	<0.005	0.007

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Vick C	W13	8/16/1996	0.001	0.001	<0.001	<0.001			2.26		<0.0005	0.0007	8.91	8.98
Vick C	W13	8/24/1996	0.001	0.001	<0.001	<0.001			1.89		<0.0005	<0.0005	8.7	8.88
Vick C	W13	8/29/1996	0.001	0.001	<0.001	<0.001			1.98		<0.0005	<0.0005	8.72	8.87
Vick C	W13	9/6/1996	0.001	0.001	<0.001	<0.001			2.51		<0.0005	<0.0005	8.72	8.77
Vick C	W13	2/28/1997	0.002	0.002	<0.001	<0.001			2.71		<0.0005	<0.0005	7.29	7.88
Vick C	W13	5/4/1997	0.001	0.001					1.86		0.0012	0.0005	7.38	7.67
Vick C	W13	5/7/1997	0.00127	0.00124	0.0001	0.0002				2	0.0005	0.0008	7.6	7.44
Vick C	W13	5/13/1997	0.00125	0.00129	0.0004	0.0004				2	0.0005	0.0005	7.79	7.49
Vick C	W13	5/19/1997	0.00135	0.00134	0.0003	0.0004			2	2	0.0011	0.0006	8.08	8.21
Vick C	W13	5/26/1997	0.00134	0.00133	0.0003	0.0002			2	2	0.0005	0.0005	7.67	7.73
Vick C	W13	6/2/1997	0.00145	0.00146	0.0003	0.0002			2	2	0.0005	0.0005	7.93	7.83
Vick C	W13	7/29/1997	0.00126	0.00132	0.0001	0.0002					0.0005	0.0005	9.04	8.74
Vick C	W13	9/15/1997	0.00131	0.00128	0.0001	0.0002			3	2	0.0005	0.0005	8.51	8.5
Vick C	W13	9/22/1997	0.00137	0.00133	0.0005	0.0004			3	2	0.0005	0.0005	8.23	8.25
Vick C	W13	9/29/1997	0.00134	0.0013	0.0001	0.0001			2	2	0.0005	0.0005	8.19	8.13
Vick C	W13	10/6/1997	0.00132	0.00136	0.0001	0.0001			3	3	0.0005	0.0005	7.94	8.04
Vick C	W13	10/13/1997	0.00138	0.00136	0.0001	0.0001			2	3	0.0005	0.0005	7.78	7.82
Vick C	W13	11/16/1997	0.00131	0.00132	0.0001	0.0001			3	3	0.0005	0.0005	7.71	7.73
Vick C	W13	12/17/1997	0.00146	0.00144	0.0001	0.0001					0.0005	0.0005	7.75	7.76
Vick C	W13	1/20/1998	0.00175	0.0017	0.0002	0.0002			2	2	0.0006	0.0008	7.93	7.77
Vick C	W13	2/18/1998	0.00159	0.00157	0.0001	0.0001			2		0.0005	0.0005	8.1	8.06
Vick C	W13	3/10/1998	0.00165	0.00162	0.0001	0.0001			2	2	0.0005	0.0006	7.7	7.71
Vick C	W13	4/12/1998	0.00167	0.00169	0.0003	0.0001			2	3	0.0005	0.0005	7.84	7.75
Vick Creek	W13	5/9/2006	0.00146	0.00158	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.51	6.78
Vick Creek	W13	5/16/2006	0.00166	0.00154	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.77	6.70
Vick Creek	W13	5/24/2006	0.00162	0.00153	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.83	6.84
Vick Creek	W13	5/29/2006	0.00145	0.00139	<0.00050	0.00051	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.81	7.05
Vick Creek	W13	6/7/2006	0.00154	0.00143	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.69	7.41
Vick Creek	W13	7/5/2006	0.00155	0.00157	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.23	7.58
Vick Creek	W23	5/13/1998	0.0004	0.0004	0.0009	0.0009					0.0005	0.0005	5.97	5.79
Vick Creek	W23	5/20/1998	0.00046	0.00048	0.0005	0.0006					0.0005	0.0005	5.88	5.83
Vick Creek	W23	5/27/1998	0.00042	0.00043	0.0008	0.0008					0.0005	0.0005	7	6.9
Vick Creek	W23	6/2/1998	0.00043	0.00043	0.0008	0.0009					0.0005	0.0005	8.61	8.41
Vick Creek	W23	6/9/1998	0.00059	0.00079	0.0008	0.0008					0.0005	0.0005	9.24	9.35
Vick Creek	W23	6/16/1998	0.00046	0.00047	0.001	0.0011					0.0005	0.0005	9.42	9.15
Vick Creek	W23	7/9/1998	0.00057	0.00057	0.0007	0.0007					0.0005	0.0005	10.9	10.4
Vick Creek	W23	7/14/1998	0.00048	0.00049	0.0007	0.0009					0.0005	0.0005	11.1	10.7
Vick Creek	W23	7/21/1998	0.00061	0.00063	0.0008	0.0008					0.0005	0.0005	11	11
Big Onion	W10	12/1/1992	<0.001	<0.001	<0.001	<0.001			1.31		<0.0005	<0.0005	5.7	5.82
Big Onion	W10	1/7/1993	<0.001	<0.001	<0.001	<0.001			1.55		<0.0005	<0.0005	6.36	6.46
Big Onion	W10	1/27/1993	<0.001	<0.001	0.001	0.002			1.4		<0.0005	<0.0005	6.29	6.33
Big Onion	W10	3/2/1993	<0.001	<0.001	<0.001	0.001			1.47		<0.0005	<0.0005	6.62	6.79
Big Onion	W10	3/31/1993	<0.001	<0.001	<0.001	<0.001			1.75		<0.0005	<0.0005	5.32	5.32
Big Onion	W10	5/6/1993	<0.001	<0.001	<0.001	<0.001			1.22		<0.0005	<0.0005	5.85	5.94
Big Onion	W10	5/13/1993	<0.001	<0.001	<0.001	<0.001			1.2		<0.0005	<0.0005	5.86	6
Big Onion	W10	5/19/1993	<0.001	<0.001	<0.001	<0.001			1.2		<0.0005	<0.0005	5.92	6.1
Big Onion	W10	5/27/1993	<0.001	0.001	<0.001	<0.001			1.18		<0.0005	<0.0005	5.64	5.64
Big Onion	W10	6/3/1993	<0.001	<0.001	<0.001	<0.001			1.27		<0.0005	<0.0005	5.71	5.88
Big Onion	W10	8/17/1993	<0.001	0.002	<0.001	<0.001			1		<0.0005	<0.0005	5.78	6.09
Big Onion	W10	8/24/1993	<0.001	<0.001	<0.001	<0.001			1.1		<0.0005	<0.0005	6.65	6.69
Big Onion	W10	8/31/1993	<0.001	<0.001	<0.001	<0.001			0.86		<0.0005	<0.0005	6.48	6.62

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Vick C	W13	8/16/1996	<0.0001	<0.0001	15.4		0.317	0.319					<0.010	<0.010	0.00074	0.00074
Vick C	W13	8/24/1996	<0.0001	<0.0001	16.3		0.313	0.32					<0.010	<0.010	0.00077	0.0007
Vick C	W13	8/29/1996	<0.0001	<0.0001	14.4		0.332	0.333					<0.010	<0.010	0.00072	0.00071
Vick C	W13	9/6/1996	<0.0001	<0.0001	14.6		0.308	0.31					<0.010	<0.010	0.00063	0.00064
Vick C	W13	2/28/1997	<0.0001	<0.0001	14.1		0.305	0.327					<0.010	<0.010	0.00099	0.00107
Vick C	W13	5/4/1997			12.1		0.235	0.245					0.01	0.01	0.00056	0.00056
Vick C	W13	5/7/1997	0.00001	0.00001	13	13	0.281	0.279			0.0001	0.0001	0.01	0.01	0.00061	0.00059
Vick C	W13	5/13/1997	0.00001	0.00001	14	13	0.285	0.283			0.0001	0.0001	0.01	0.01	0.00067	0.00064
Vick C	W13	5/19/1997	0.00001	0.00001	14	15	0.305	0.308			0.0001	0.0001	0.01	0.01	0.00075	0.00076
Vick C	W13	5/26/1997	0.00001	0.00001	14	14	0.291	0.293			0.0001	0.0001	0.01	0.01	0.00073	0.00073
Vick C	W13	6/2/1997	0.00001	0.00001	14	14	0.314	0.313			0.0001	0.0001	0.01	0.01	0.00081	0.00076
Vick C	W13	7/29/1997	0.00001	0.00001	16	16	0.261	0.261			0.0001	0.0001	0.01	0.01	0.00057	0.00058
Vick C	W13	9/15/1997	0.00001	0.00001	16	16	0.306	0.3			0.0001	0.0001	0.01	0.01	0.00073	0.00072
Vick C	W13	9/22/1997	0.00001	0.00001	15	15	0.288	0.284			0.0001	0.0001	0.01	0.01	0.0007	0.00071
Vick C	W13	9/29/1997	0.00001	0.00001	16	15	0.28	0.269			0.0001	0.0001	0.01	0.01	0.00077	0.00074
Vick C	W13	10/6/1997	0.00001	0.00001	15	15	0.31	0.307			0.0001	0.0001	0.01	0.01	0.00073	0.00071
Vick C	W13	10/13/1997	0.00001	0.00001	15	15	0.309	0.301			0.0001	0.0001	0.01	0.01	0.00073	0.00073
Vick C	W13	11/16/1997	0.00001	0.00001	14	14	0.347	0.344			0.0001	0.0001	0.01	0.01	0.00081	0.00081
Vick C	W13	12/17/1997	0.00001	0.00001	15	15	0.312	0.309			0.0001	0.0001	0.01	0.01	0.0008	0.00078
Vick C	W13	1/20/1998	0.00001	0.00001	17	17	0.311	0.303			0.0001	0.0001	0.01	0.01	0.00091	0.00086
Vick C	W13	2/18/1998	0.00001	0.00001	16	16	0.33	0.331			0.0001	0.0001	0.01	0.01	0.00087	0.00086
Vick C	W13	3/10/1998	0.00001	0.00001	16	16	0.315	0.317			0.0001	0.0001	0.01	0.01	0.0009	0.00089
Vick C	W13	4/12/1998	0.00001	0.00001	17	16	0.292	0.293			0.0001	0.0001	0.01	0.01	0.0008	0.0008
Vick Creek	W13	5/9/2006	<0.000010	<0.000010	13.8	14.1	0.249	0.241	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000667	0.000652
Vick Creek	W13	5/16/2006	0.000077	<0.000010	13.9	13.5	0.247	0.243	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000641	0.000602
Vick Creek	W13	5/24/2006	<0.000010	<0.000010	14.7	14.7	0.265	0.266	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000712	0.000697
Vick Creek	W13	5/29/2006	0.000014	0.000010	14.9	15.2	0.257	0.261	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000632	0.000610
Vick Creek	W13	6/7/2006	<0.000010	<0.000010	13.9	13.5	0.304	0.290	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000419	0.000543
Vick Creek	W13	7/5/2006	<0.000010	<0.000010	15.2	16.1	0.307	0.308	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000678	0.000643
Vick Creek	W23	5/13/1998	0.00001	0.00001	7	7	0.0978	0.0984			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	5/20/1998	0.00001	0.00001	7	7	0.095	0.0954			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	5/27/1998	0.00001	0.00001	7	7	0.104	0.104			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	6/2/1998	0.00001	0.00001	7	7	0.103	0.102			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	6/9/1998	0.00001	0.00001	7	7	0.13	0.123			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	6/16/1998	0.00001	0.00001	7	7	0.123	0.119			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	7/9/1998	0.00001	0.00001	7	6	0.124	0.124			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	7/14/1998	0.00001	0.00001	7	6	0.125	0.124			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Vick Creek	W23	7/21/1998	0.00001	0.00001	7	7	0.144	0.143			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Big Onion	W10	12/1/1992	<0.0001	<0.0001	9.5		0.192	0.194							0.00009	0.00009
Big Onion	W10	1/7/1993	<0.0001	<0.0001	9.11		0.199	0.201							0.00006	0.00006
Big Onion	W10	1/27/1993	<0.0001	<0.0001	8.64		0.192	0.192							0.00007	0.00007
Big Onion	W10	3/2/1993	<0.0001	<0.0001	8.96		0.195	0.2							0.00007	0.00007
Big Onion	W10	3/31/1993	<0.0001	<0.0001	7.67		0.157	0.157							0.00006	0.00006
Big Onion	W10	5/6/1993	<0.0001	<0.0001	8.16		0.169	0.172							0.00005	0.00005
Big Onion	W10	5/13/1993	<0.0001	<0.0001	7.21		0.165	0.176							0.00005	0.00005
Big Onion	W10	5/19/1993	<0.0001	<0.0001	7.28		0.162	0.162							0.00006	0.00006
Big Onion	W10	5/27/1993	<0.0001	<0.0001	8.31		0.172	0.172							0.00006	0.00006
Big Onion	W10	6/3/1993	<0.0001	<0.0001	8.33		0.172	0.173							0.00007	0.00007
Big Onion	W10	8/17/1993	<0.0001	<0.0001	7.28		0.139	0.143							0.00004	0.00004
Big Onion	W10	8/24/1993	<0.0001	<0.0001	8.61		0.149	0.149							0.00003	0.00005
Big Onion	W10	8/31/1993	<0.0001	<0.0001	8.33		0.146	0.15							0.00007	0.00007

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Vick C	W13	8/16/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	8/24/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	8/29/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	9/6/1996	<0.030	<0.030	<0.005	<0.005
Vick C	W13	2/28/1997	<0.030	<0.030	<0.005	<0.005
Vick C	W13	5/4/1997				
Vick C	W13	5/7/1997	0.001	0.001	0.001	0.001
Vick C	W13	5/13/1997	0.001	0.001	0.001	0.001
Vick C	W13	5/19/1997	0.001	0.001	0.001	0.001
Vick C	W13	5/26/1997	0.001	0.001	0.001	0.001
Vick C	W13	6/2/1997	0.001	0.001	0.001	0.001
Vick C	W13	7/29/1997	0.001	0.001	0.001	0.001
Vick C	W13	9/15/1997	0.001	0.001	0.003	0.001
Vick C	W13	9/22/1997	0.001	0.001	0.001	0.001
Vick C	W13	9/29/1997	0.001	0.001	0.001	0.001
Vick C	W13	10/6/1997	0.001	0.001	0.001	0.003
Vick C	W13	10/13/1997	0.001	0.001	0.002	0.002
Vick C	W13	11/16/1997	0.001	0.001	0.001	0.001
Vick C	W13	12/17/1997	0.001	0.001	0.001	0.001
Vick C	W13	1/20/1998	0.001	0.001	0.001	0.001
Vick C	W13	2/18/1998	0.001	0.001	0.001	0.001
Vick C	W13	3/10/1998	0.001	0.001	0.001	0.001
Vick C	W13	4/12/1998	0.001	0.001	0.001	0.001
Vick Creek	W13	5/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W13	5/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W13	5/24/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W13	5/29/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W13	6/7/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W13	7/5/2006	<0.0010	<0.0010	<0.0010	<0.0010
Vick Creek	W23	5/13/1998	0.001	0.001	0.001	0.001
Vick Creek	W23	5/20/1998	0.001	0.001	0.001	0.001
Vick Creek	W23	5/27/1998	0.001	0.001	0.001	0.002
Vick Creek	W23	6/2/1998	0.001	0.001	0.001	0.001
Vick Creek	W23	6/9/1998	0.001	0.001	0.001	0.002
Vick Creek	W23	6/16/1998	0.001	0.001	0.001	0.001
Vick Creek	W23	7/9/1998	0.001	0.001	0.002	0.001
Vick Creek	W23	7/14/1998	0.001	0.001	0.001	0.001
Vick Creek	W23	7/21/1998	0.001	0.001	0.003	0.001
Big Onion	W10	12/1/1992	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	1/7/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	1/27/1993	<0.030	<0.030	<0.005	0.006
Big Onion	W10	3/2/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	3/31/1993	<0.030	<0.030	<0.005	0.006
Big Onion	W10	5/6/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/13/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/19/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/27/1993	<0.030	<0.030	<0.005	0.008
Big Onion	W10	6/3/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/17/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/24/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/31/1993	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Big Onion	W10	9/14/1993				260	120		8.33	132	6.44		15.4	183	11	1	0.09	7.6
Big Onion	W10	9/20/1993				264	128		8.83	131	5.71			166	8	0.8	0.09	8.6
Big Onion	W10	5/4/1994				262	133		7.62	140	1.94			163	1	1.1	0.08	10.1
Big Onion	W10	5/12/1994				274	134		7.97	145	1.5			181	3	1.1	0.09	9
Big Onion	W10	5/18/1994				269	125		7.92	132	0.79			214	6	1.1	0.1	8.6
Big Onion	W10	5/26/1994				276	137		8.11	144	1.38		10.7	178	<1	1.2	0.1	8.6
Big Onion	W10	5/31/1994				277	136		8.21	145	2.53		14.9	183	3	1.1	0.1	8.9
Big Onion	W10	8/10/1994				260	141		8.68	142	4.3		12.6	178	8	1.1	0.12	7.4
Big Onion	W10	8/16/1994				260	127		8.73	139	4.6		14	174	7	1.1	0.1	8
Big Onion	W10	8/24/1994				254	129		8.92	134	4.69		16.8	172	16	0.5	0.1	7.5
Big Onion	W10	8/30/1994				255	132		8.99	137	7.3		13.6	173	13	1	0.09	7.9
Big Onion	W10	9/6/1994				254	127		8.93	138	9.8		14.2	187	14	0.7	0.12	7.6
Big Onion	W10	6/21/1995				271	145		8.39	146	2.78		10.7	198	5	1.2	0.1	7.5
Big Onion	W10	6/28/1995				268	142		8.53	144	2.62		13.7	182	4	1.2	0.09	7
Big Onion	W10	7/4/1995				268	141		8.44	143	27.3		14.7	182	7	1.3	0.09	6.5
Big Onion	W10	7/13/1995				269	137		8.61	144	4.5		12.5	194	6	0.7	0.1	7.1
Big Onion	W10	7/17/1995				272	128		8.54	150	5.5		11.1	177	20	1.1	0.11	6.9
Big Onion	W10	9/27/1995				262	133		8.8	149	5.3		12.3	183	7	1.2	0.11	8.1
Big Onion	W10	10/4/1995				263	132		8.67	144	8.08		12.7	178	15	1.2	0.13	7.3
Big Onion	W10	10/11/1995				262	135		8.91	142	4.1		13.2	178	7	2.5	0.11	7.6
Big Onion	W10	10/18/1995				261	135		8.51	134	3		14.3	175	7	1.3	0.11	8.4
Big Onion	W10	10/27/1995				265	133		8.3	140	6.2		14.3	179	15	1.4	0.1	9.2
Big Onion	W10	5/29/1996				62.3	26.5		7.36	21.5	15.3		1.2	40	3	0.5	0.05	7.1
Big Onion	W10	6/9/1996				288	146		7.92	151	2.9		10.9	187	4	1	0.1	9.1
Big Onion	W10	6/19/1996				288	148		8.1	151	2.3		9.5	204	3	1.2	0.09	9
Big Onion	W10	6/27/1996				281	147		8.21	149	1.8		13.6	203	5	0.5	0.13	6.5
Big Onion	W10	7/10/1996				283	131		8.32	146	2.6		10.7	193	6	0.8	0.1	9
Big Onion	W10	8/6/1996				282	141		8.16	152	3		6.9	193	7	0.7	0.1	5.9
Big Onion	W10	8/16/1996				274	131		8.75	148	16.2		10.4	191	26	0.7	0.13	6.1
Big Onion	W10	8/24/1996				272	138		8.7	146	3		8.7	191	6	0.7	0.13	6.1
Big Onion	W10	8/29/1996				264	135		8.93	143	5.4		6.9	185	10	0.7	0.13	6.4
Big Onion	W10	9/6/1996				266	137		8.74	144	2.9		9.3	188	7	0.7	0.12	6.1
Big Onion	W10	2/27/1997				346	165		7.74	183	1.6		13.8	218	2	1	0.12	7
Big Onion	W10	5/8/1997	10.6			268	141	7.98	7.92	162	0.9		9.4	185	5	0.9	0.11	5
Big Onion	W10	5/13/1997	14			295	145	8.31	8	164	1.5		10.7	189	3	0.8	0.09	5
Big Onion	W10	5/19/1997	11.6			296	145	8.07	8.04	168	1.6		10.3	209	1	0.9	0.12	5
Big Onion	W10	5/26/1997	13.8			291	148	8	8	168	1.7		11.3	195	3	0.8	0.11	6
Big Onion	W10	6/2/1997	15.1			292	147	8.26	8.06	164	2.8		11.2	191	4	1.3	0.1	5
Big Onion	W10	7/29/1997	18.9			264	136	8.82	8.53	154	4.2		10.4	179	10	0.7	0.14	6
Big Onion	W10	9/14/1997	15			259	126		8.35	133	12.2		14.6	166	20	0.7	0.16	6
Big Onion	W10	9/21/1997	15			258	128	8.76	8.34	133	3.8		15.6	167	6	0.7	0.14	6
Big Onion	W10	9/28/1997	12			256	126	9.03	8.31	133	5.6		16.1	167	8	0.7	0.11	6
Big Onion	W10	10/5/1997	7.9			253	128	9.22	8.22	129	4.8		16.1	165	5	0.7	0.11	6
Big Onion	W10	10/12/1997	5.9			261	123	8.98	8.28	134	3.6		16.2	166	7	0.7	0.12	6
Big Onion	W10	11/15/1997	1			283	133		8.04	149	1.7		15.2	180	1	0.8	0.11	6
Big Onion	W10	12/17/1997	0.2			300	150	9.51	7.65	157	1.2		15.1	193	2	0.6	0.16	7
Big Onion	W10	1/20/1998	0.3			318	172	7.15	7.54	176	1.1		14.2	235	1	0.9	0.15	7
Big Onion	W10	2/26/1998	2.2			322	170	6.78	7.63	178	2.1		14	212	14	1	0.15	6
Big Onion	W10	3/11/1998	0.1			314	161		7.54	163	1		12.5	216	4	0.9	0.14	6
Big Onion	W10	4/12/1998	5			234	66.5	6.98	7.82	128	1.8		8.9	129	1	0.8	0.1	5
Big Onion	W10	5/16/2006	8.50	8.50	327.4	306	165		8.26	163	1.43	11.4		189	<3.0	1.28	0.134	10.9

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Big Onion	W10	9/14/1993	0.021	<0.005	<0.001	0.011	0.012	0.017	0.006	0.014	<0.0001	0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	9/20/1993	0.021	<0.005	<0.001	0.011	0.023	0.032	0.005	0.023	<0.0001	0.0002	<0.0001	<0.0001	<0.010
Big Onion	W10	5/4/1994	0.034	0.008	0.003	0.002	0.014	0.022	0.007	0.037	<0.0001	<0.0001	<0.0001	0.0001	0.013
Big Onion	W10	5/12/1994	0.044	0.009	0.004	0.001	0.009	0.019	0.005	0.027	<0.0001	<0.0001	0.0001	0.0001	0.013
Big Onion	W10	5/18/1994	0.043	0.008	0.002	0.003	0.012	0.022	0.005	0.026	<0.0001	<0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	5/26/1994	0.052	0.008	0.002	0.005	0.015	0.015	<0.005	0.01	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Big Onion	W10	5/31/1994	0.02	0.007	0.003	0.007	0.015	0.02	<0.005	0.034	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Big Onion	W10	8/10/1994	0.009	<0.005	0.002	0.019	0.032	0.038	<0.005	0.037	<0.0001	<0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	8/16/1994	0.014	<0.005	0.002	0.014	0.015	0.019	0.005	0.136	<0.0002	<0.0002	<0.0001	<0.0001	0.011
Big Onion	W10	8/24/1994	0.022	<0.005	0.003	0.007	0.02	0.038	<0.005	0.012	0.0001	0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	8/30/1994	0.037	<0.005	0.002	0.013	0.03	0.047	0.006	0.17	0.0001	0.0001	<0.0001	0.0001	0.011
Big Onion	W10	9/6/1994	0.006	0.005	0.002	0.003	0.026	0.034	0.005	0.048	0.0001	0.0001	<0.0001	<0.0001	0.012
Big Onion	W10	6/21/1995	0.005	<0.005	0.002	0.003	0.004	0.032	0.01	0.086	<0.0001	0.0001	<0.0001	<0.0001	0.01
Big Onion	W10	6/28/1995	<0.005	<0.005	0.001	0.003	0.014	0.014	0.019	0.089	<0.0001	<0.0001	<0.0001	<0.0001	0.01
Big Onion	W10	7/4/1995	<0.005	<0.005	0.002	0.005	0.005	0.025	0.026	0.135	<0.0001	<0.0001	<0.0001	<0.0001	0.012
Big Onion	W10	7/13/1995	0.013	<0.005	0.003	0.003	0.003	0.012	0.008	0.055	<0.0001	<0.0001	<0.0001	<0.0001	0.012
Big Onion	W10	7/17/1995	0.021	<0.005	0.002	0.002	0.013	0.014	0.042	0.1	<0.0001	<0.0001	<0.0001	0.0001	<0.010
Big Onion	W10	9/27/1995	0.005	<0.005	0.003	0.002	0.004	0.018	0.006	0.078	<0.0001	<0.0001	<0.0001	<0.0001	0.011
Big Onion	W10	10/4/1995	0.007	<0.005	0.003	<0.001	0.011	0.041	<0.005	0.198	<0.0001	<0.0001	<0.0001	<0.0001	0.012
Big Onion	W10	10/11/1995	<0.005	<0.005	0.003	0.002	0.005	0.021	<0.005	0.049	<0.0001	<0.0001	0.0001	0.0001	0.011
Big Onion	W10	10/18/1995	<0.005	<0.005	0.003	<0.001	<0.001	0.02	<0.005	0.034	<0.0001	<0.0001	<0.0001	<0.0001	<0.010
Big Onion	W10	10/27/1995	0.009	<0.005	0.003	0.001	0.01	0.026	0.021	0.184	<0.0001	<0.0001	<0.0001	0.0001	0.014
Big Onion	W10	5/29/1996	<0.005	0.018	0.006	0.027	0.027	0.029	0.105*	0.383	0.0001	<0.0001	0.0003	0.0005	<0.010
Big Onion	W10	6/9/1996	0.012	<0.005	0.001	0.002	0.007	0.027	0.005	0.017	0.0002	0.0001	0.0004	0.0004	0.01
Big Onion	W10	6/19/1996	<0.005	<0.005	0.002	0.002	0.014	0.014	<0.005	0.005	0.0002	0.0001	0.0005	0.0005	<0.010
Big Onion	W10	6/27/1996	0.008	0.008	0.001	0.002	0.01	0.025	0.006	0.066	0.0003	0.0001	0.0004	0.0004	0.011
Big Onion	W10	7/10/1996	<0.005	<0.005	0.001	0.004	0.01	0.02	0.007	0.031	0.0003	0.0001	0.0004	0.0004	0.011
Big Onion	W10	8/6/1996	0.053	<0.005	0.002	0.004	0.009	0.032	0.007	0.022	0.0005	0.0001	0.0004	0.0005	0.012
Big Onion	W10	8/16/1996	0.033	<0.005	<0.001	0.002	0.01	0.054	<0.005	0.447	0.0005	0.0001	0.0004	0.0004	<0.010
Big Onion	W10	8/24/1996	0.009	<0.005	0.001	0.003	0.011	0.029	<0.005	0.01	0.0002	0.0001	0.0004	0.0004	0.014
Big Onion	W10	8/29/1996	0.019	<0.005	0.002	0.003	0.013	0.046	<0.005	0.268	0.0005	0.0001	0.0004	0.0005	<0.010
Big Onion	W10	9/6/1996	0.007	<0.005	0.005	0.004	0.004	0.033	<0.005	0.012	0.0004	0.0001	0.0004	0.0001	0.014
Big Onion	W10	2/27/1997	0.085	0.008	0.003	0.002	0.016	0.038	<0.005	0.008	0.0001	0.0001	0.0004	0.0004	0.012
Big Onion	W10	5/8/1997	0.065	0.011	0.002	0.001	0.007	0.018	0.001	0.008	0.00022	0.0001	0.0004	0.0003	0.0108
Big Onion	W10	5/13/1997	0.035	0.005	0.001	0.001	0.007	0.017	0.003	0.034	0.0005	0.0005	0.0004	0.0003	0.0107
Big Onion	W10	5/19/1997	0.009	0.005	0.001	0.002	0.002	0.016	0.001	0.014	0.00023	0.00012	0.0004	0.0004	0.011
Big Onion	W10	5/26/1997	0.012	0.005	0.001	0.001	0.001	0.018	0.002	0.007	0.00006	0.00006	0.0004	0.0004	0.0106
Big Onion	W10	6/2/1997	0.014	0.005	0.001	0.001	0.008	0.019	0.003	0.023	0.00012	0.00011	0.0004	0.0004	0.0116
Big Onion	W10	7/29/1997	0.005	0.005	0.001	0.001	0.001	0.018	0.023	0.004	0.00012	0.00012	0.0004	0.0004	0.0103
Big Onion	W10	9/14/1997	0.005	0.006	0.001	0.001	0.004	0.031	0.006	0.048	0.00014	0.00015	0.0004	0.0004	0.01
Big Onion	W10	9/21/1997	0.005	0.005	0.001	0.001	0.006	0.015	0.006	0.018	0.00011	0.00012	0.0004	0.0004	0.00982
Big Onion	W10	9/28/1997	0.005	0.005	0.001	0.002	0.003	0.013	0.003	0.033	0.00014	0.00015	0.0004	0.0004	0.00964
Big Onion	W10	10/5/1997	0.005	0.005	0.001	0.001	0.002	0.011	0.004	0.02	0.00015	0.00015	0.0004	0.0004	0.00977
Big Onion	W10	10/12/1997	0.005	0.005	0.001	0.002	0.006	0.016	0.003	0.02	0.00014	0.00014	0.0004	0.0004	0.00932
Big Onion	W10	11/15/1997	0.019	0.005	0.001	0.002	0.016	0.033	0.002	0.012	0.00015	0.00016	0.0004	0.0004	0.0103
Big Onion	W10	12/17/1997	0.026	0.005	0.001	0.001	0.009	0.029	0.017	0.005	0.00014	0.00015	0.0004	0.0004	0.0104
Big Onion	W10	1/20/1998	0.099	0.005	0.001	0.003	0.004	0.003	0.001	0.005	0.00014	0.00014	0.0005	0.0005	0.0118
Big Onion	W10	2/26/1998	0.075	0.005	0.001	0.001	0.001	0.007	0.003	0.006	0.00014	0.00014	0.0004	0.0004	0.0128
Big Onion	W10	3/11/1998	0.128	0.014	0.001	0.001	0.002	0.014	0.001	0.006	0.00013	0.00013	0.0004	0.0005	0.0113
Big Onion	W10	4/12/1998	0.011	0.005	0.001	0.001	0.007	0.015	0.003	0.021	0.00007	0.00008	0.0002	0.0002	0.00503
Big Onion	W10	5/16/2006	0.0313	<0.0050	<0.0010	0.0032	0.0037	0.0136	0.0026	0.0143	0.00026	0.00026	0.00063	0.00066	0.0134

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Big Onion	W10	9/14/1993	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	25.4	27.2	<0.001	<0.001
Big Onion	W10	9/20/1993	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	27.2	28	<0.001	<0.001
Big Onion	W10	5/4/1994	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31	31.7	<0.001	<0.001
Big Onion	W10	5/12/1994	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31.6	31.9	<0.001	<0.001
Big Onion	W10	5/18/1994	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.7	29.7	<0.001	<0.001
Big Onion	W10	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	32.2	32.9	<0.001	<0.001
Big Onion	W10	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	32.3	32.3	<0.001	<0.001
Big Onion	W10	8/10/1994	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	33.5	34.2	<0.001	<0.001
Big Onion	W10	8/16/1994	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	28.6	28.6	<0.001	<0.001
Big Onion	W10	8/24/1994	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.6	31.9	<0.001	<0.001
Big Onion	W10	8/30/1994	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	30	30.2	<0.001	<0.001
Big Onion	W10	9/6/1994	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	28	28	<0.001	<0.001
Big Onion	W10	6/21/1995	0.01	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	33.8	33.6	<0.001	<0.001
Big Onion	W10	6/28/1995	0.01	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	32.9	33.1	<0.001	<0.001
Big Onion	W10	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	32.7	32.7	<0.001	<0.001
Big Onion	W10	7/13/1995	0.015	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31.5	32.1	<0.001	<0.001
Big Onion	W10	7/17/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	28.9	30.4	<0.001	<0.001
Big Onion	W10	9/27/1995	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.3	29.6	<0.001	<0.001
Big Onion	W10	10/4/1995	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.4	30.5	<0.001	<0.001
Big Onion	W10	10/11/1995	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.9	29.8	<0.001	<0.001
Big Onion	W10	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	30.2	31	<0.001	<0.001
Big Onion	W10	10/27/1995	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	29.7	30.8	<0.001	<0.001
Big Onion	W10	5/29/1996	0.013	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.85	8.98	<0.001	<0.001
Big Onion	W10	6/9/1996	0.01	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	35.2	35	<0.001	<0.001
Big Onion	W10	6/19/1996	0.01	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	35.4	34.5	0.001	0.001
Big Onion	W10	6/27/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	35.6	35.6	<0.001	<0.001
Big Onion	W10	7/10/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	30.9	33.7	<0.001	<0.001
Big Onion	W10	8/6/1996	0.011	<0.005	<0.005	<0.10	<0.10	0.11		<0.0002	<0.0002	33.3	33.5	<0.001	<0.001
Big Onion	W10	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	30.1	30.3	<0.001	<0.001
Big Onion	W10	8/24/1996	0.014	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31	31.6	<0.001	<0.001
Big Onion	W10	8/29/1996	0.011	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31.1	31.5	<0.001	<0.001
Big Onion	W10	9/6/1996	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	31.4	32.1	<0.001	<0.001
Big Onion	W10	2/27/1997	0.012	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	38.5	39.3	<0.001	<0.001
Big Onion	W10	5/8/1997	0.0109	0.0005	0.0005	0.0005	0.0005	0.065	0.067	0.00005	0.00005	34.1	33.9	0.0005	0.0005
Big Onion	W10	5/13/1997	0.0108	0.0005	0.0005	0.0005	0.0005	0.063	0.061	0.00005	0.00005	34.3	33.1	0.0005	0.0005
Big Onion	W10	5/19/1997	0.0111	0.0005	0.0005	0.0005	0.0005	0.063	0.065	0.00005	0.00005	34.4	36.6	0.0005	0.0005
Big Onion	W10	5/26/1997	0.0108	0.0005	0.0005	0.0005	0.0005	0.068	0.068	0.00005	0.00005	35.6	35.4	0.0006	0.0005
Big Onion	W10	6/2/1997	0.0114	0.0005	0.0005	0.0005	0.0005	0.072	0.069	0.00005	0.00005	35.2	35.3	0.0005	0.0005
Big Onion	W10	7/29/1997	0.0101	0.0005	0.0005	0.0005	0.0005	0.074	0.073	0.00005	0.00005	30.1	29.4	0.0005	0.0005
Big Onion	W10	9/14/1997	0.0106	0.0005	0.0005	0.0005	0.0005	0.066	0.069	0.00005	0.00005	26.5	27	0.0005	0.0005
Big Onion	W10	9/21/1997	0.01	0.0005	0.0005	0.0005	0.0005	0.078	0.076	0.00005	0.00005	27	27.4	0.0005	0.0005
Big Onion	W10	9/28/1997	0.01	0.0005	0.0005	0.0005	0.0005	0.07	0.062	0.00005	0.00005	26	27.2	0.0005	0.0005
Big Onion	W10	10/5/1997	0.00999	0.0005	0.0005	0.0005	0.0005	0.072	0.067	0.00005	0.00005	26.6	26.1	0.0005	0.0005
Big Onion	W10	10/12/1997	0.00924	0.0005	0.0005	0.0005	0.0005	0.079	0.079	0.00005	0.00005	25.7	26.1	0.0005	0.0005
Big Onion	W10	11/15/1997	0.0107	0.0005	0.0005	0.0005	0.0005	0.065	0.065	0.00005	0.00005	28.4	28.4	0.0005	0.0005
Big Onion	W10	12/17/1997	0.0103	0.0005	0.0005	0.0005	0.0005	0.077	0.075	0.00005	0.00005	32.7	32.2	0.0005	0.0005
Big Onion	W10	1/20/1998	0.0116	0.0005	0.0005	0.0005	0.0005	0.086	0.083	0.00005	0.00005	37.7	37.4	0.0005	0.0005
Big Onion	W10	2/26/1998	0.0131	0.0005	0.0005	0.0005	0.0005	0.083	0.082	0.00005	0.00005	37.5	38	0.0005	0.0005
Big Onion	W10	3/11/1998	0.0117	0.0005	0.0005	0.0005	0.0005	0.073	0.075	0.00005	0.00005	35.2	36.7	0.0005	0.0005
Big Onion	W10	4/12/1998	0.00594	0.0005	0.0005	0.0005	0.0005	0.029	0.033	0.00005	0.00005	15.4	18.6	0.0005	0.0005
Big Onion	W10	5/16/2006	0.0135	<0.00050	<0.00050	<0.00050	<0.00050	0.079	0.078	<0.000017	<0.000017	36.4	37.0	<0.00050	<0.00050

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Big Onion	W10	9/14/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.032	<0.001	<0.001			13.8	14.3	<0.005	0.009
Big Onion	W10	9/20/1993	<0.001	<0.001	<0.001	0.001	<0.030	<0.030	<0.001	<0.001			14.5	14.6	<0.005	0.008
Big Onion	W10	5/4/1994	<0.001	<0.001	<0.001*	<0.001*	<0.030	0.05	<0.001	<0.001			13.4	13.7	<0.005	0.013
Big Onion	W10	5/12/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.037	<0.001	<0.001			13.3	13.3	<0.005	0.009
Big Onion	W10	5/18/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.034	<0.001	<0.001			12.4	12.4	<0.005	0.006
Big Onion	W10	5/26/1994	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			13.6	13.9	<0.005	<0.005
Big Onion	W10	5/31/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.044	<0.001	<0.001			13.4	13.4	<0.005	0.006
Big Onion	W10	8/10/1994	<0.001	<0.001	<0.001	0.001	<0.030	0.043	<0.001	<0.001			14	14.4	<0.005	0.013
Big Onion	W10	8/16/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.036	<0.001	<0.001			13.6	13.6	<0.005	0.008
Big Onion	W10	8/24/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.043	<0.001	<0.001			13.4	14.5	<0.005	0.012
Big Onion	W10	8/30/1994	<0.001	<0.001	<0.001	0.001	<0.030	0.131	<0.001	<0.001			13.8	14	<0.005	0.015
Big Onion	W10	9/6/1994	<0.001	<0.001	<0.001	<0.001	<0.030	0.056	<0.001	<0.001			13.8	13.8	<0.005	0.008
Big Onion	W10	6/21/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.038	<0.001	<0.001			14.7	14.7	<0.005	0.008
Big Onion	W10	6/28/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.4	14.5	<0.005	0.006
Big Onion	W10	7/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.031	<0.001	<0.001			14.4	14.4	<0.005	0.006
Big Onion	W10	7/13/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.039	<0.001	<0.001			14.3	14.5	<0.005	0.007
Big Onion	W10	7/17/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.072	<0.001	<0.001			13.6	14.3	<0.005	0.008
Big Onion	W10	9/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.5	14.6	<0.005	<0.005
Big Onion	W10	10/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.06	<0.001	<0.001			14.3	14.4	<0.005	<0.005
Big Onion	W10	10/11/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.5	14.4	<0.005	<0.005
Big Onion	W10	10/18/1995	<0.001	<0.001	<0.001	0.001	<0.030	<0.030	<0.001	<0.001			14.5	14.7	<0.005	<0.005
Big Onion	W10	10/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.05	<0.001	<0.001			14.2	14.4	<0.005	<0.005
Big Onion	W10	5/29/1996	<0.001	<0.001	<0.001	0.002	0.067	0.315	<0.001	<0.001			1.07	1.18	<0.005	0.009
Big Onion	W10	6/9/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.039	<0.001	<0.001			14.1	14.1	<0.005	0.007
Big Onion	W10	6/19/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.5	14.1	<0.005	<0.005
Big Onion	W10	6/27/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.036	<0.001	<0.001			14.1	14.1	<0.005	0.005
Big Onion	W10	7/10/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.035	<0.001	<0.001			13	14	<0.005	0.007
Big Onion	W10	8/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.043	<0.001	<0.001			14	14.2	<0.005	0.015
Big Onion	W10	8/16/1996	<0.001	<0.001	<0.001	0.002	<0.030	0.504	<0.001	<0.001			13.7	13.5	<0.005	0.012
Big Onion	W10	8/24/1996	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			14.6	14.9	<0.005	0.007
Big Onion	W10	8/29/1996	<0.001	<0.001	<0.001	0.001	<0.030	0.398	<0.001	<0.001			14	13.9	<0.005	0.015
Big Onion	W10	9/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.034	<0.001	<0.001			14.2	14.3	<0.005	0.008
Big Onion	W10	2/27/1997	<0.001	<0.001	<0.001	0.002	<0.030	<0.030	<0.001	<0.001			16.7	17.1	0.015	0.023
Big Onion	W10	5/8/1997	0.0001	0.0001	0.0003	0.0006	0.01	0.03	0.00005	0.00005	0.001	0.001	13.6	13.6	0.00351	0.0141
Big Onion	W10	5/13/1997	0.0002	0.0002	0.0004	0.0006	0.01	0.03	0.00005	0.00005	0.001	0.001	14.5	13.8	0.00183	0.00767
Big Onion	W10	5/19/1997	0.0001	0.0001	0.0004	0.0004	0.01	0.02	0.00005	0.00005	0.001	0.001	14.3	15.2	0.00082	0.00525
Big Onion	W10	5/26/1997	0.0001	0.0001	0.0005	0.0005	0.01	0.02	0.00005	0.00005	0.001	0.001	14.4	14.2	0.00139	0.00621
Big Onion	W10	6/2/1997	0.0001	0.0001	0.0005	0.0006	0.01	0.04	0.00005	0.00005	0.001	0.001	14.3	14.1	0.00126	0.00795
Big Onion	W10	7/29/1997	0.0001	0.0001	0.0007	0.0006			0.00005	0.00005	0.001	0.001	14.7	14.6	0.00686	0.00126
Big Onion	W10	9/14/1997	0.0001	0.0001	0.0005	0.0006		0.06	0.00005	0.00005	0.001	0.001	14.6	14.3	0.00101	0.00791
Big Onion	W10	9/21/1997	0.0001	0.0001	0.0006	0.0006			0.00005	0.00005	0.001	0.001	14.8	14.9	0.00086	0.00393
Big Onion	W10	9/28/1997	0.0001	0.0001	0.0005	0.0006		0.04	0.00005	0.00005	0.001	0.001	14.7	14.8	0.00063	0.00466
Big Onion	W10	10/5/1997	0.0003	0.0001	0.0005	0.0006			0.00005	0.00005	0.001	0.001	15	14.4	0.00054	0.00366
Big Onion	W10	10/12/1997	0.0001	0.0001	0.0007	0.0006			0.00005	0.00005	0.001	0.001	14.4	14.3	0.00062	0.00375
Big Onion	W10	11/15/1997	0.0001	0.0001	0.001	0.0006			0.00005	0.00005	0.001	0.001	15.1	15	0.00049	0.00194
Big Onion	W10	12/17/1997	0.0001	0.0004	0.0005	0.0006			0.00005	0.00005	0.001	0.001	16.5	16.1	0.00044	0.00154
Big Onion	W10	1/20/1998	0.0001	0.0001	0.0006	0.0006		0.03	0.00005	0.00023	0.001	0.001	18.9	18.6	0.00065	0.00319
Big Onion	W10	2/26/1998	0.0001	0.0001	0.0006	0.0007			0.00005	0.00005	0.001	0.001	18.4	18.5	0.00957	0.0137
Big Onion	W10	3/11/1998	0.0001	0.0001	0.0006	0.0007			0.00005	0.00005	0.001	0.001	17.8	17.9	0.0109	0.0148
Big Onion	W10	4/12/1998	0.0001	0.0001	0.0003	0.0004		0.07	0.00005	0.00006	0.001	0.001	6.82	8.09	0.00335	0.00595
Big Onion	W10	5/16/2006	<0.00010	<0.00010	0.00043	0.00046	<0.030	0.032	<0.000050	0.000060	<0.0050	<0.0050	18.1	18.4	0.000149	0.00727

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Big Onion	W10	9/14/1993	<0.001	<0.001	<0.001	<0.001			1.09		<0.0005	<0.0005	6.25	6.6
Big Onion	W10	9/20/1993	<0.001	<0.001	<0.001	<0.001			1.06		<0.0005	<0.0005	6.73	6.79
Big Onion	W10	5/4/1994	<0.001	<0.001	<0.001	<0.001			1.55		<0.0005	<0.0005	5.86	6.01
Big Onion	W10	5/12/1994	<0.001	<0.001	<0.001	<0.001			1.35		<0.0005	<0.0005	5.5	5.57
Big Onion	W10	5/18/1994	<0.001	<0.001	<0.001	<0.001			1.08		<0.0005	<0.0005	5.65	5.65
Big Onion	W10	5/26/1994	<0.001	<0.001	<0.001	<0.001			1.37		<0.0005	<0.0005	5.61	5.78
Big Onion	W10	5/31/1994	<0.001	<0.001	<0.001	<0.001			1.38		<0.0005	<0.0005	5.69	5.69
Big Onion	W10	8/10/1994	<0.001	<0.001	<0.001	<0.001			1		<0.0005	<0.0005	6.45	6.58
Big Onion	W10	8/16/1994	<0.001	0.001	<0.001	<0.001			0.92		<0.0005	<0.0005	5.87	5.87
Big Onion	W10	8/24/1994	<0.001	<0.001	<0.001	<0.001			0.95		<0.0005	<0.0005	6.2	6.69
Big Onion	W10	8/30/1994	<0.001	<0.001	<0.001	<0.001			1		<0.0005	<0.0005	6.38	6.42
Big Onion	W10	9/6/1994	<0.001	<0.001	<0.001	<0.001			0.9		<0.0005	<0.0005	6.62	6.63
Big Onion	W10	6/21/1995	<0.001	<0.001	<0.001	<0.001			1.22		<0.0005	<0.0005	6.01	6.09
Big Onion	W10	6/28/1995	<0.001	<0.001	<0.001	0.001			1.24		<0.0005	<0.0005	5.92	6.03
Big Onion	W10	7/4/1995	<0.001	<0.001	<0.001	<0.001			1.21		<0.0005	<0.0005	5.99	6.05
Big Onion	W10	7/13/1995	<0.001	<0.001	<0.001	<0.001			1.36		<0.0005	<0.0005	6.27	6.36
Big Onion	W10	7/17/1995	<0.001	<0.001	<0.001	0.004			1.31		<0.0005	<0.0005	5.97	6.29
Big Onion	W10	9/27/1995	<0.001	<0.001	<0.001	<0.001			1.53		<0.0005	<0.0005	6.41	6.43
Big Onion	W10	10/4/1995	<0.001	<0.001	<0.001	<0.001			1.39		<0.0005	<0.0005	6.38	6.46
Big Onion	W10	10/11/1995	<0.001	<0.001	<0.001	0.001			1.35		<0.0005	<0.0005	6.21	6.19
Big Onion	W10	10/18/1995	<0.001	<0.001	<0.001	<0.001			1.42		<0.0005	<0.0005	5.85	5.98
Big Onion	W10	10/27/1995	<0.001	<0.001	<0.001	<0.001			1.56		<0.0005	<0.0005	5.67	5.79
Big Onion	W10	5/29/1996	0.001	0.001	<0.001	<0.001			0.56		<0.0005	0.0007	1.98	2.27
Big Onion	W10	6/9/1996	<0.001	<0.001	<0.001	<0.001			1.06		<0.0005	<0.0005	5.33	5.34
Big Onion	W10	6/19/1996	<0.001	<0.001	<0.001	<0.001			1.1		<0.0005	<0.0005	5.51	5.44
Big Onion	W10	6/27/1996	<0.001	<0.001	<0.001	<0.001			1.06		<0.0005	<0.0005	5.35	5.35
Big Onion	W10	7/10/1996	<0.001	<0.001	<0.001	<0.001			1.02		<0.0005	<0.0005	5.52	5.52
Big Onion	W10	8/6/1996	<0.001	<0.001	<0.001	<0.001			0.98		<0.0005	<0.0005	6.24	6.34
Big Onion	W10	8/16/1996	<0.001	<0.001	<0.001	<0.001			1.01		<0.0005	0.0008	5.98	6.13
Big Onion	W10	8/24/1996	<0.001	<0.001	<0.001	<0.001			0.87		<0.0005	<0.0005	6.27	6.4
Big Onion	W10	8/29/1996	<0.001	<0.001	<0.001	<0.001			0.9		<0.0005	<0.0005	6.1	6.28
Big Onion	W10	9/6/1996	<0.001	<0.001	<0.001	<0.001			1.3		<0.0005	<0.0005	6.58	6.63
Big Onion	W10	2/27/1997	<0.001	<0.001	<0.001	<0.001			1.83		<0.0005	<0.0005	7.98	8.2
Big Onion	W10	5/8/1997	0.00037	0.00035	0.0001	0.0001					0.0005	0.0005	6.58	6.55
Big Onion	W10	5/13/1997	0.0004	0.00041	0.0003	0.0003					0.0005	0.0005	6.58	6.31
Big Onion	W10	5/19/1997	0.00042	0.00038	0.0002	0.0003					0.0005	0.0005	6.52	6.91
Big Onion	W10	5/26/1997	0.00041	0.00038	0.0002	0.0002					0.0005	0.0006	6.43	6.37
Big Onion	W10	6/2/1997	0.0004	0.00046	0.0001	0.0002					0.0005	0.0005	6.42	6.34
Big Onion	W10	7/29/1997	0.00037	0.00039	0.0001	0.0001					0.0005	0.0005	6.48	6.45
Big Onion	W10	9/14/1997	0.00042	0.00042	0.0002	0.0002					0.0005	0.0005	6.46	6.41
Big Onion	W10	9/21/1997	0.00044	0.00044	0.0002	0.0002					0.0005	0.0005	6.45	6.55
Big Onion	W10	9/28/1997	0.00045	0.00045	0.0002	0.0002					0.0005	0.0005	6.5	6.6
Big Onion	W10	10/5/1997	0.00045	0.00048	0.0003	0.0004					0.0005	0.0005	6.63	6.38
Big Onion	W10	10/12/1997	0.00046	0.00045	0.0002	0.0003					0.0005	0.0005	6.33	6.38
Big Onion	W10	11/15/1997	0.00051	0.00051	0.0001	0.0001				2	0.0005	0.0005	6.72	6.76
Big Onion	W10	12/17/1997	0.00052	0.00053	0.0001	0.0001					0.0005	0.0005	7.5	7.3
Big Onion	W10	1/20/1998	0.00058	0.00056	0.0002	0.0002				2	0.0005	0.0005	8.42	8.23
Big Onion	W10	2/26/1998	0.00051	0.00052	0.0001	0.0001				2	0.0005	0.0005	8.21	8.24
Big Onion	W10	3/11/1998	0.00051	0.00052	0.0002	0.0002					0.0005	0.0005	7.5	7.71
Big Onion	W10	4/12/1998	0.00021	0.00024	0.0001	0.0002					0.0005	0.0005	2.88	3.45
Big Onion	W10	5/16/2006	0.000828	0.000772	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.38	3.39

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Big Onion	W10	9/14/1993	<0.0001	<0.0001	9.48		0.139	0.145							0.00005	0.00007
Big Onion	W10	9/20/1993	<0.0001	<0.0001	7.76		0.15	0.15							0.00004	0.00004
Big Onion	W10	5/4/1994	<0.0001	<0.0001	7.29		0.151	0.154							0.00004	0.00004
Big Onion	W10	5/12/1994	<0.0001	<0.0001	7.25		0.149	0.149							0.00004	0.00004
Big Onion	W10	5/18/1994	<0.0001	<0.0001	7.17		0.14	0.14							0.00004	0.00005
Big Onion	W10	5/26/1994	<0.0001	<0.0001	7.35		0.148	0.154							0.00004	0.00006
Big Onion	W10	5/31/1994	<0.0001	<0.0001	7.2		0.148	0.148							0.00004	0.00004
Big Onion	W10	8/10/1994	<0.0001	<0.0001	7.31		0.151	0.157							0.00006	0.00006
Big Onion	W10	8/16/1994	<0.0001	<0.0001	8.35		0.149	0.149							0.00007	0.00007
Big Onion	W10	8/24/1994	<0.0001	<0.0001	7.21		0.146	0.158							0.00004	0.00004
Big Onion	W10	8/30/1994	<0.0001	<0.0001	7.92		0.145	0.145							0.00006	0.00006
Big Onion	W10	9/6/1994	<0.0001	<0.0001	7.69		0.142	0.143							0.00002	0.00003
Big Onion	W10	6/21/1995	<0.0001	<0.0001	7.98		0.162	0.16					<0.010	<0.010	0.00004	0.00004
Big Onion	W10	6/28/1995	<0.0001	<0.0001	7.93		0.155	0.156					<0.010	<0.010	0.00007	0.00008
Big Onion	W10	7/4/1995	<0.0001	<0.0001	8		0.16	0.159					<0.010	<0.010	0.00004	0.00004
Big Onion	W10	7/13/1995	<0.0001	<0.0001	7.96		0.16	0.167					<0.010	<0.010	0.00003	0.00005
Big Onion	W10	7/17/1995	<0.0001	<0.0001	8.04		0.151	0.159					<0.010	<0.010	0.00009	0.00011
Big Onion	W10	9/27/1995	<0.0001	<0.0001	9.67		0.155	0.156					<0.010	<0.010	0.00006	0.00005
Big Onion	W10	10/4/1995	<0.0001	<0.0001	9.47		0.159	0.163					<0.010	<0.010	0.00006	0.00006
Big Onion	W10	10/11/1995	<0.0001	<0.0001	8.26		0.156	0.149					<0.010	<0.010	0.00007	0.00007
Big Onion	W10	10/18/1995	<0.0001	<0.0001	8.27		0.152	0.158					<0.010	<0.010	0.0001	0.00005
Big Onion	W10	10/27/1995	<0.0001	<0.0001	8.31		0.152	0.155					<0.010	<0.010	0.00006	0.00005
Big Onion	W10	5/29/1996	<0.0001	<0.0001	1.18		0.05	0.052					<0.010	0.019	0.00014	0.00017
Big Onion	W10	6/9/1996	<0.0001	<0.0001	8.39		0.169	0.167					<0.010	<0.010	0.00005	0.00005
Big Onion	W10	6/19/1996	<0.0001	<0.0001	8.72		0.166	0.162					<0.010	<0.010	0.00006	0.00007
Big Onion	W10	6/27/1996	<0.0001	<0.0001	8.1		0.168	0.168					<0.010	<0.010	0.00006	0.00006
Big Onion	W10	7/10/1996	<0.0001	<0.0001	7.41		0.153	0.161					<0.010	<0.010	0.00006	0.00006
Big Onion	W10	8/6/1996	<0.0001	<0.0001	8.26		0.169	0.17					<0.010	<0.010	0.00006	0.00005
Big Onion	W10	8/16/1996	<0.0001	<0.0001	7.99		0.153	0.153					<0.010	<0.010	0.00005	0.00007
Big Onion	W10	8/24/1996	<0.0001	<0.0001	8.91		0.161	0.162					<0.010	<0.010	0.00006	0.00005
Big Onion	W10	8/29/1996	<0.0001	<0.0001	7.81		0.163	0.162					<0.010	<0.010	0.00006	0.00007
Big Onion	W10	9/6/1996	<0.0001	<0.0001	7.85		0.162	0.164					<0.010	<0.010	0.00005	0.00005
Big Onion	W10	2/27/1997	<0.0001	<0.0001	9.16		0.185	0.19					<0.010	<0.010	0.00008	0.00005
Big Onion	W10	5/8/1997	0.00001	0.00001	8	8	0.166	0.167			0.0001	0.0001	0.01	0.01	0.00005	0.00004
Big Onion	W10	5/13/1997	0.00001	0.00001	8	8	0.17	0.168			0.0001	0.0001	0.01	0.01	0.00006	0.00005
Big Onion	W10	5/19/1997	0.00001	0.00001	8	9	0.172	0.174			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Big Onion	W10	5/26/1997	0.00001	0.00001	8	8	0.17	0.169			0.0001	0.0001	0.01	0.01	0.00006	0.00005
Big Onion	W10	6/2/1997	0.00001	0.00001	8	8	0.178	0.176			0.0001	0.0001	0.01	0.01	0.00005	0.00006
Big Onion	W10	7/29/1997	0.00001	0.00001	9	9	0.134	0.135			0.0001	0.0001	0.01	0.01	0.00005	0.00005
Big Onion	W10	9/14/1997	0.00001	0.00001	9	8	0.14	0.14			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Big Onion	W10	9/21/1997	0.00001	0.00001	8	8	0.131	0.132			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Big Onion	W10	9/28/1997	0.00001	0.00001	9	9	0.123	0.124			0.0001	0.0001	0.01	0.01	0.00007	0.00006
Big Onion	W10	10/5/1997	0.00001	0.00001	9	8	0.135	0.135			0.0001	0.0001	0.01	0.01	0.00007	0.00006
Big Onion	W10	10/12/1997	0.00001	0.00001	8	8	0.145	0.147			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Big Onion	W10	11/15/1997	0.00001	0.00001	9	9	0.177	0.179			0.0001	0.0001	0.01	0.01	0.00007	0.00006
Big Onion	W10	12/17/1997	0.00001	0.00001	9	9	0.149	0.147			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Big Onion	W10	1/20/1998	0.00001	0.00001	11	10	0.151	0.146			0.0001	0.0001	0.01	0.01	0.00008	0.00008
Big Onion	W10	2/26/1998	0.00001	0.00001	10	10	0.189	0.188			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Big Onion	W10	3/11/1998	0.00001	0.00001	10	10	0.174	0.176			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Big Onion	W10	4/12/1998	0.00001	0.00001	4	5	0.0712	0.0815			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Big Onion	W10	5/16/2006	<0.000010	<0.000010	10.8	11.0	0.158	0.156	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000147	0.000126

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Big Onion	W10	9/14/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	9/20/1993	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/4/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/12/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/18/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/26/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/31/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/10/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/16/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/24/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/30/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	9/6/1994	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	6/21/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	6/28/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	7/4/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	7/13/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	7/17/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	9/27/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	10/4/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	10/11/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	10/18/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	10/27/1995	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/29/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	6/9/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	6/19/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	6/27/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	7/10/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/6/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/16/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/24/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	8/29/1996	<0.030	<0.030	<0.005	0.005
Big Onion	W10	9/6/1996	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	2/27/1997	<0.030	<0.030	<0.005	<0.005
Big Onion	W10	5/8/1997	0.001	0.001	0.001	0.001
Big Onion	W10	5/13/1997	0.001	0.001	0.002	0.002
Big Onion	W10	5/19/1997	0.001	0.001	0.001	0.001
Big Onion	W10	5/26/1997	0.001	0.001	0.005	0.001
Big Onion	W10	6/2/1997	0.001	0.001	0.001	0.002
Big Onion	W10	7/29/1997	0.001	0.001	0.002	0.001
Big Onion	W10	9/14/1997	0.001	0.002	0.001	0.001
Big Onion	W10	9/21/1997	0.002	0.001	0.001	0.001
Big Onion	W10	9/28/1997	0.001	0.001	0.001	0.003
Big Onion	W10	10/5/1997	0.001	0.001	0.001	0.002
Big Onion	W10	10/12/1997	0.002	0.002	0.002	0.001
Big Onion	W10	11/15/1997	0.001	0.001	0.001	0.001
Big Onion	W10	12/17/1997	0.001	0.001	0.001	0.001
Big Onion	W10	1/20/1998	0.001	0.001	0.001	0.001
Big Onion	W10	2/26/1998	0.001	0.001	0.001	0.001
Big Onion	W10	3/11/1998	0.001	0.001	0.002	0.002
Big Onion	W10	4/12/1998	0.001	0.001	0.002	0.001
Big Onion	W10	5/16/2006	0.0017	0.0018	<0.0010	<0.0010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Big Onion	W10	5/23/2006	8.50	8.50	306.8	305	161		8.25	164	2.64	11.8		187	3.6	1.22	0.123	10.6
Big Onion	W10	5/30/2006	14.40	8.50	306.8	300	160		8.34	162	2.76	12.2		194	7.5	1.32	0.131	10.8
Big Onion	W10	6/6/2006	16.50	7.80	307.3	300	161		8.28	162	1.75	13.4		189	<3.0	1.22	0.130	10.7
Big Onion	W10	7/5/2006	22.20	8.40	304.1	295	156		8.31	154	4.57	13.9		198	6.0	1.27	0.138	10.9
Big Onion	W10	8/8/2006	18.20		350	311	159		8.51	155	2.98	12.8		202	6.6	1.36	0.137	10.0
Big Onion	W10	8/16/2006	18.20	9.10	307.0	312	151		8.44	149	1.99	15.2		190	3.7	1.33	0.140	10.00
Big Onion	W10	8/22/2006	18.80	8.90	316.2	295	142		8.34	159	17.2	16.6		192	79.0	1.64	0.147	10.1
Big Onion	W10	8/29/2006	17.40	11.50	316.2	304	141		8.37	163	4.81			199	12.2	1.37	0.151	9.84
Big Onion	W10	9/6/2006	16.80	8.00	310	300	154		8.49	165	11.6	15.1		193	4.3	1.37	0.163	10.1
Big Onion	W10	10/4/2006	9.50	7.90	348	288	153		8.39	161	1.39			190	<3.0	1.36	0.139	10.5
Big Onion	WB	5/9/2006	4.70	10.70	258	258	135		8.19	124	0.11	10.3		161	<3.0	0.68	0.071	5.72
Big Onion	WB	5/16/2006	6.90	10.5	257	257	140		8.13	152	0.36	8.7		156	<3.0	0.69	0.083	5.82
Big Onion	WB	5/23/2006	7.60	10.1	282	282	151		8.21	151	0.51	8.4		170	<3.0	0.59	0.076	5.97
Big Onion	WB	5/30/2006	8.70	8.7	253	253	140		8.22	135	0.20	9.8		171	<3.0	0.55	0.087	4.60
Big Onion	WB	6/6/2006	10.00	9.4	276	276	153		8.20	153	0.19	10.8		172	<3.0	<0.50	0.080	3.81
Beece C	W11	12/1/1992				49.9	21.7		7.69	21.8	0.65			39	3	0.5	0.04	4.2
Beece C	W11	1/7/1993				56	22.7		7.59	23.2	0.54			41	<1	0.5	0.07	3.8
Beece C	W11	1/27/1993				57.2	24.3		6.64	25.2	0.5			45	<1	0.5	0.06	4.8
Beece C	W11	3/2/1993				65.3	29.7		7.9	30.3	0.27			51	<1	0.6	0.07	2.5
Beece C	W11	3/31/1993				69.1	28.7		7.83	30.6	0.24			55	3	0.7	0.07	4.6
Beece C	W11	5/5/1993				68.6	27.3		7.64	29	1.05			52	<1	1.1	0.07	4.5
Beece C	W11	5/13/1993				28.2	11.2		7.51	11.1	15.7			21	19	0.5	0.07	2.6
Beece C	W11	5/19/1993				28.7	10.9		7.3	11.2	5.4			23	3	0.8	0.06	<1.0
Beece C	W11	5/27/1993				26.7	10.5		7	10.2	5.44			15	<1	0.8	0.05	1.6
Beece C	W11	6/3/1993				29.2	11		7.5	10.4	3.8			13	5	0.5	0.05	1.4
Beece C	W11	8/17/1993				31.9	14.6		7.7	12.8	11.8			20	3	0.5	0.05	2.1
Beece C	W11	8/24/1993				31.9	13.5		7.4	13.5	7.21			20	4	0.5	0.05	2.4
Beece C	W11	8/31/1993				33	12.9		7.43	14.6	8.1			20	2	0.7	0.05	1.6
Beece C	W11	9/14/1993				37	13.2		6.18	14.2	6.95		0.64	22	3	0.5	0.06	2.1
Beece C	W11	9/20/1993				41	15.6		7.6	15	2.42			24	<1	0.5	0.06	3.2
Beece C	W11	5/4/1994				73.1	32.7		7.53	36.1	1.52			45	5	0.5	0.07	4.2
Beece C	W11	5/12/1994				40	15.7		7.29	16.7	3.8			24	8	0.5	0.06	2
Beece C	W11	5/18/1994				59.3	26.5		7.35	28.1	1.63			39	3	0.5	0.05	3.7
Beece C	W11	5/26/1994				35	14.1		7.51	14.7	5.03		3	21	5	0.5	0.07	2.5
Beece C	W11	5/31/1994				44.9	18.3		7.62	19.9	1.8		3.2	27	2	0.5	0.07	3.3
Beece C	W11	8/10/1994				27.1	11.4		7.46	11.3	6.5		0.7	18	8	0.6	0.07	2.7
Beece C	W11	8/16/1994				29.8	11.6		7.42	11.7	7.16		0.7	16	4	0.5	0.06	1.2
Beece C	W11	8/24/1994				30.7	12.8		7.2	13.3	5.16		0.7	18	5	0.5	0.07	1.5
Beece C	W11	8/30/1994				32.2	13.8		7.32	12.9	6.05		0.5	20	4	0.5	0.06	3
Beece C	W11	9/6/1994				34.4	14.2		7.3	13.8	9.2		0.7	21	6	0.5	0.09	2.2
Beece C	W11	6/21/1995				26.9	11		7.46	10.7	10.1		1.3	16	13	0.5	0.06	1
Beece C	W11	6/28/1995				26.4	10.8		7.32	10.6	3.42		0.8	16	3	0.5	0.05	1.7
Beece C	W11	7/4/1995				23.6	9.72		7.35	9.3	3.61		1.5	13	3	0.5	0.05	1
Beece C	W11	7/13/1995				26	10.4		7.62	10.5	2.66		1.1	16	1	0.5	0.06	1.8
Beece C	W11	7/17/1995				24.9	9.32		7.38	10.6	3.1		0.6	14	7	0.5	0.07	1.5
Beece C	W11	9/27/1995				36.5	14.3		7.92	16	2.26		0.9	21	1	0.5	0.08	<1.0
Beece C	W11	10/4/1995				43	17.4		7.6	18.8	0.95		1.2	26	<1	0.5	0.09	3
Beece C	W11	10/11/1995				45.2	18		7.85	19.7	1		1.1	26	<1	0.5	0.07	2
Beece C	W11	10/18/1995				48	19.9		7.55	18.4	1.1		2.2	30	<1	0.7	0.07	3.8
Beece C	W11	10/27/1995				45.3	19.9		7.45	18	0.8		1.3	31	2	0.5	0.07	3.8
Beece C	W11	5/29/1996				68.4	30.6		7.42	32.7	2.6		6.9	42	3	0.5	0.07	2.6

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Big Onion	W10	5/23/2006	0.0120	<0.0050	<0.0010	<0.0010	0.0048	0.0115	0.0022	0.0129	0.00029	0.00027	0.00076	0.00075	0.0135
Big Onion	W10	5/30/2006	0.0267	<0.0050	<0.0010	<0.0010	0.0024	0.0033	<0.0050	0.0144	0.00028	0.00026	0.00069	0.00072	0.0131
Big Onion	W10	6/6/2006	0.0280	<0.0050	0.0011	<0.0010	0.0024	0.0052	0.0039	0.0151	0.00030	0.00030	0.00085	0.00076	0.0132
Big Onion	W10	7/5/2006	0.0200	<0.0050	<0.0010	<0.0010	0.0054	0.0128	<0.0050	0.0243	0.00030	0.00029	0.00078	0.00077	0.0134
Big Onion	W10	8/8/2006	0.0170	<0.0050	<0.0010	<0.0010	0.0066	0.0186	0.0043	0.119	0.00036	0.00038	0.00087	0.00084	0.0140
Big Onion	W10	8/16/2006	0.0105	<0.0050	<0.0010	<0.0010	0.0070	0.0130	<0.0050	0.0244	0.00033	0.00033	0.00085	0.00081	0.0129
Big Onion	W10	8/22/2006	0.0106	<0.0050	<0.0020	0.0012	0.0115	0.0373	<0.0050	0.291	0.00034	0.00038	0.00088	0.00089	0.0136
Big Onion	W10	8/29/2006	0.0433	<0.0050	<0.0010	<0.0010	0.0068	0.0158	0.0056	0.477	0.00036	<0.0005	0.00082	0.00095	0.0131
Big Onion	W10	9/6/2006	0.0367	0.0080	<0.0010	<0.0010	0.0067	0.0131	0.0044	0.0537	0.00039	0.00037	0.00090	0.00085	0.0136
Big Onion	W10	10/4/2006	0.0320	<0.0050	<0.0010	<0.0010	0.0062	0.0146	<0.0030	0.0135	0.00037	0.00037	0.00085	0.00091	0.0127
Big Onion	WB	5/9/2006	<0.0050	<0.0050	<0.0010	<0.0010	<0.0020	<0.0020	<0.0030	0.0017	0.00014	0.00014	0.00020	0.00021	0.00940
Big Onion	WB	5/16/2006	<0.0050	<0.0050	<0.0010	0.0010	0.0032	<0.0020	0.0012	0.0021	0.00016	0.00015	0.00023	0.00022	0.0107
Big Onion	WB	5/23/2006	<0.0050	<0.0050	<0.0010	<0.0010	<0.0020	0.0027	0.0023	0.0018	0.00018	0.00016	0.00024	0.00026	0.0119
Big Onion	WB	5/30/2006	<0.0050	<0.0050	<0.0010	<0.0010	<0.0020	<0.0020	<0.0050	0.0242	0.00017	0.00020	0.00025	0.00025	0.0113
Big Onion	WB	6/6/2006	<0.0050	<0.0050	<0.0010	<0.0010	0.0045	0.0055	0.0013	0.0124	0.00016	0.00016	0.00032	0.00028	0.0127
Beece C	W11	12/1/1992	<0.005	0.041	<0.001	0.001	0.002	0.002	0.035	0.077	<0.0002	<0.0002	0.0003	0.0005	<0.010
Beece C	W11	1/7/1993	<0.005	0.07	<0.001	0.002	0.002	0.003	0.042	0.059	<0.0001	0.0001	0.0012	0.0012	<0.010
Beece C	W11	1/27/1993	0.014	0.075	0.001	<0.001	<0.001	0.003	<0.005	0.037	<0.0001	0.0002	0.0004	0.0004	<0.010
Beece C	W11	3/2/1993	<0.005	0.077	<0.001	0.002	0.002	0.002	0.011	0.032	0.0002	0.0002	0.0004	0.0004	<0.010
Beece C	W11	3/31/1993	<0.005	0.074	<0.001	<0.001	0.002	0.002	0.019	0.024	0.0001	0.0001	0.0004	0.0004	<0.010
Beece C	W11	5/5/1993	<0.005	<0.005	<0.001	0.003	0.003	0.006	0.024	0.12	<0.0001	<0.0001	0.0005	0.0005	<0.010
Beece C	W11	5/13/1993	0.016	0.056	<0.001	0.024	0.024	0.039	0.183	0.825	0.0001	0.0001	0.0006	0.0013	<0.010
Beece C	W11	5/19/1993	<0.005	0.036	0.002	0.008	0.008	0.012	0.065	0.29	0.0001	0.0001	0.0005	0.0005	<0.010
Beece C	W11	5/27/1993	<0.005	0.014	<0.001	0.01	0.01	0.013	0.036	0.158	0.0001	0.0001	0.0006	0.0008	<0.010
Beece C	W11	6/3/1993	<0.005	<0.005	0.001	0.006	0.006	0.01	0.063	0.063	<0.0001	<0.0001	0.0004	0.0005	<0.010
Beece C	W11	8/17/1993	0.011	<0.005	0.002	<0.001	<0.001	0.023	0.231	0.352	0.0002	0.0002	0.0007	0.0007	<0.010
Beece C	W11	8/24/1993	<0.005	<0.005	0.001	0.006	0.008	0.011	0.122	0.25	<0.0001	<0.0001	0.0006	0.0008	<0.010
Beece C	W11	8/31/1993	<0.005	<0.005	0.004	0.003	0.005	0.009	0.131	0.489	0.0002	0.0003	0.0006	0.0007	<0.010
Beece C	W11	9/14/1993	<0.005	<0.005	0.002	0.004	0.008	0.008	0.156	0.342	<0.0001	0.0001	0.0005	0.0009	<0.010
Beece C	W11	9/20/1993	<0.005	0.006	<0.001	0.001	0.004	0.005	0.04	0.098	<0.0001	0.0002	0.0004	0.0005	<0.010
Beece C	W11	5/4/1994	0.005	<0.005	0.002	0.003	0.007	0.008	0.105	0.132	<0.0001	<0.0001	0.0005	0.0005	<0.010
Beece C	W11	5/12/1994	<0.005	0.014	0.002	<0.001	0.005	0.025	0.11	0.404	<0.0001	<0.0001	0.0005	0.0008	<0.010
Beece C	W11	5/18/1994	<0.005	<0.005	0.002	0.002	0.006	0.013	0.062	0.241	<0.0001	<0.0001	0.0004	0.0006	<0.010
Beece C	W11	5/26/1994	<0.005	0.009	0.003	0.004	0.005	0.011	0.083	0.339	<0.0001	<0.0001	0.0007	0.0008	<0.010
Beece C	W11	5/31/1994	<0.005	<0.005	0.002	<0.001	0.003	0.024	0.055	0.141	<0.0001	<0.0001	0.0007	0.0007	<0.010
Beece C	W11	8/10/1994	0.007	0.007	0.004	<0.001	0.015	0.02	0.11	0.318	<0.0001	<0.0001	0.0009	0.001	<0.010
Beece C	W11	8/16/1994	<0.005	<0.005	0.001	<0.001	0.005	0.01	0.156	0.33	<0.0002	<0.0002	0.0007	0.0008	<0.010
Beece C	W11	8/24/1994	<0.005	<0.005	0.003	0.01	0.01	0.012	0.068	0.152	<0.0001	<0.0001	0.0007	0.0008	<0.010
Beece C	W11	8/30/1994	<0.005	<0.005	0.003	0.005	0.016	0.017	0.096	0.325	0.0001	0.0001	0.0007	0.001	<0.010
Beece C	W11	9/6/1994	0.006	<0.005	0.004	0.005	0.009	0.01	0.101	0.57	<0.0001	<0.0001	0.0007	0.0009	<0.010
Beece C	W11	6/21/1995	<0.005	0.022	0.003	0.003	0.003	0.028	0.07	0.45	<0.0001	0.0001	0.0006	0.0009	<0.010
Beece C	W11	6/28/1995	<0.005	<0.005	0.001	0.002	0.002	0.015	0.086	0.18	<0.0001	0.0001	0.0006	0.0008	<0.010
Beece C	W11	7/4/1995	<0.005	<0.005	0.001	0.001	0.001	0.006	0.104	0.245	<0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W11	7/13/1995	0.006	<0.005	0.001	0.001	0.001	0.006	0.064	0.12	<0.0001	<0.0001	0.0006	0.0008	<0.010
Beece C	W11	7/17/1995	<0.005	<0.005	0.002	0.003	0.007	0.014	0.08	0.21	<0.0001	<0.0001	0.0006	0.0011	<0.010
Beece C	W11	9/27/1995	<0.005	<0.005	0.002	<0.001	<0.001	0.006	0.063	0.195	0.0001	0.0001	0.0005	0.0006	<0.010
Beece C	W11	10/4/1995	<0.005	<0.005	0.002	<0.001	0.001	0.004	0.019	0.072	<0.0001	<0.0001	0.0005	0.0005	<0.010
Beece C	W11	10/11/1995	<0.005	0.006	0.001	0.003	0.004	0.005	0.025	0.102	<0.0001	<0.0001	0.0003	0.0004	<0.010
Beece C	W11	10/18/1995	<0.005	0.027	0.002	0.001	0.001	0.004	0.12	0.11	<0.0001	<0.0001	0.0005	0.0005	<0.010
Beece C	W11	10/27/1995	<0.005	0.02	0.002	<0.001	0.001	0.002	0.049	0.099	0.0001	0.0001	0.0005	0.0005	<0.010
Beece C	W11	5/29/1996	<0.005	<0.005	0.001	0.005	0.006	0.013	0.05	0.113	0.0001	<0.0001	0.0006	0.0006	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Big Onion	W10	5/23/2006	0.0137	<0.00050	<0.00050	<0.00050	<0.00050	0.081	0.083	<0.000017	<0.000017	34.8	34.7	0.00064	<0.00070
Big Onion	W10	5/30/2006	0.0134	<0.00050	<0.00050	<0.00050	<0.00050	0.082	0.082	<0.000017	<0.000017	34.2	35.4	<0.00050	<0.00050
Big Onion	W10	6/6/2006	0.0132	<0.00050	<0.00050	<0.00050	<0.00050	0.093	0.088	<0.000017	<0.000017	34.6	34.5	<0.00090	<0.00050
Big Onion	W10	7/5/2006	0.0135	<0.00050	<0.00050	<0.00050	<0.00050	0.089	0.090	<0.000017	<0.000017	31.9	32.8	<0.00050	<0.00050
Big Onion	W10	8/8/2006	0.0151	<0.00050	<0.00050	<0.00050	<0.00050	0.094	0.094	<0.000017	<0.000017	32.8	31.9	0.00125	<0.00050
Big Onion	W10	8/16/2006	0.0130	<0.00050	<0.00050	<0.00050	<0.00050	0.095	0.094	<0.000017	<0.000017	30.6	30.4	<0.00050	<0.00050
Big Onion	W10	8/22/2006	0.0166	<0.00050	<0.00050	<0.00050	<0.00050	0.104	0.105	<0.00017	<0.000017	27.9	30.4	<0.00050	<0.00050
Big Onion	W10	8/29/2006	0.0175	<0.00050	<0.00050	<0.00050	<0.00050	0.095	0.103	<0.000017	0.000029	27.4	30.7	<0.00050	0.00059
Big Onion	W10	9/6/2006	0.0138	<0.00050	<0.00050	<0.00050	<0.00050	0.103	0.102	<0.000017	0.000019	29.6	30.0	<0.00050	<0.00050
Big Onion	W10	10/4/2006	0.0130	<0.00050	<0.00050	<0.00050	<0.00050	0.084	0.085	<0.000017	<0.000017	30.0	30.6	<0.00050	<0.00050
Big Onion	WB	5/9/2006	0.00928	<0.00050	<0.00050	<0.00050	<0.00050	0.038	0.037	<0.000017	<0.000017	31.0	31.4	<0.00050	<0.00050
Big Onion	WB	5/16/2006	0.0108	<0.00050	<0.00050	<0.00050	<0.00050	0.046	0.045	<0.000017	<0.000017	32.8	33.8	<0.00050	<0.00050
Big Onion	WB	5/23/2006	0.0122	<0.00050	<0.00050	<0.00050	<0.00050	0.051	0.053	<0.000017	<0.000017	35.1	35.0	<0.00050	<0.00070
Big Onion	WB	5/30/2006	0.0125	<0.00050	<0.00050	<0.00050	<0.00050	0.051	0.052	<0.000017	<0.000017	32.6	32.5	<0.00050	<0.00050
Big Onion	WB	6/6/2006	0.0130	<0.00050	<0.00050	<0.00050	<0.00050	0.061	0.059	<0.000017	<0.000017	36.1	34.2	<0.00090	<0.00050
Beece C	W11	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.36	6.47	<0.001	<0.001
Beece C	W11	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.64	6.78	<0.001	<0.001
Beece C	W11	1/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.06	7.13	<0.001	<0.001
Beece C	W11	3/2/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.64	8.83	<0.001	<0.001
Beece C	W11	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.24	8.28	<0.001	<0.001
Beece C	W11	5/5/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.59	7.59	<0.001	<0.001
Beece C	W11	5/13/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.38	3.7	<0.001	0.001
Beece C	W11	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.36	3.49	<0.001	<0.001
Beece C	W11	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.2	3.23	<0.001	<0.001
Beece C	W11	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.19	3.53	<0.001	<0.001
Beece C	W11	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.64	4.8	<0.001	<0.001
Beece C	W11	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.24	4.39	<0.001	<0.001
Beece C	W11	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.06	4.27	<0.001	<0.001
Beece C	W11	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.15	4.25	<0.001	<0.001
Beece C	W11	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.88	4.96	<0.001	<0.001
Beece C	W11	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.75	8.97	<0.001	<0.001
Beece C	W11	5/12/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.57	4.77	<0.001	<0.001
Beece C	W11	5/18/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.17	7.17	<0.001	<0.001
Beece C	W11	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.13	4.13	<0.001	<0.001
Beece C	W11	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.28	5.28	<0.001	<0.001
Beece C	W11	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.74	3.8	<0.001	<0.001
Beece C	W11	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.66	3.66	<0.001	<0.001
Beece C	W11	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.03	4.35	<0.001	<0.001
Beece C	W11	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.4	4.57	<0.001	<0.001
Beece C	W11	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.44	4.49	<0.001	<0.001
Beece C	W11	6/21/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.43	3.71	<0.001	<0.001
Beece C	W11	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.39	3.45	<0.001	<0.001
Beece C	W11	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.14	3.23	<0.001	<0.001
Beece C	W11	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.3	3.33	<0.001	<0.001
Beece C	W11	7/17/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.97	3.08	<0.001	<0.001
Beece C	W11	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.46	4.53	<0.001	<0.001
Beece C	W11	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.3	5.36	<0.001	<0.001
Beece C	W11	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.43	5.7	<0.001	<0.001
Beece C	W11	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.89	5.81	<0.001	<0.001
Beece C	W11	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.89	5.79	<0.001	<0.001
Beece C	W11	5/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.25	8.51	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Big Onion	W10	5/23/2006	<0.00010	<0.00010	<0.0010	0.00046	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	18.0	18.0	0.000155	0.00726
Big Onion	W10	5/30/2006	<0.00010	<0.00010	0.00047	0.00052	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	18.1	18.4	0.000193	0.00652
Big Onion	W10	6/6/2006	<0.00010	<0.00010	0.00045	0.00051	<0.030	<0.030	<0.000050	0.000065	<0.0050	<0.0050	18.1	17.9	0.000968	0.00614
Big Onion	W10	7/5/2006	<0.00010	<0.00010	0.00053	0.00063	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	18.6	19.0	0.000304	0.00614
Big Onion	W10	8/8/2006	<0.00010	0.00011	0.00051	0.00102	<0.030	0.132	<0.000050	0.000088	<0.0050	<0.0050	18.7	17.9	0.000358	0.0127
Big Onion	W10	8/16/2006	<0.00010	<0.00010	0.00060	0.00052	<0.030	<0.030	<0.000050	0.000120	<0.0050	<0.0050	18.2	18.5	0.000408	0.00778
Big Onion	W10	8/22/2006	<0.00010	0.00019	0.00046	0.00112	<0.030	0.298	<0.000050	0.000135	<0.0050	<0.0050	17.6	18.1	0.000477	0.0171
Big Onion	W10	8/29/2006	<0.00010	0.00029	0.00053	0.00197	<0.030	0.511	<0.000050	0.000235	<0.0050	<0.0050	17.6	18.7	0.000253	0.0194
Big Onion	W10	9/6/2006	<0.00010	<0.00010	0.00046	0.00068	<0.030	0.048	<0.000050	<0.000050	<0.0050	<0.0050	19.5	19.5	0.000237	0.00918
Big Onion	W10	10/4/2006	<0.00010	<0.00010	0.00043	0.00044	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	18.9	19.3	0.000207	0.00748
Big Onion	WB	5/9/2006	<0.00010	<0.00010	0.00064	0.00058	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	14.1	14.3	0.000068	0.000081
Big Onion	WB	5/16/2006	<0.00010	<0.00010	0.00063	0.00068	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	14.0	14.5	<0.000050	0.000165
Big Onion	WB	5/23/2006	<0.00010	<0.00010	<0.0010	0.00122	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	15.3	15.4	0.000161	0.000247
Big Onion	WB	5/30/2006	<0.00010	<0.00010	0.00074	0.00094	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	14.3	14.2	0.000119	0.00502
Big Onion	WB	6/6/2006	<0.00010	<0.00010	0.00075	0.00079	<0.030	<0.030	<0.000050	<0.000050	<0.0050	<0.0050	15.3	14.5	0.000128	0.00449
Beece C	W11	12/1/1992	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.42	1.44	<0.005	<0.005
Beece C	W11	1/7/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.49	1.51	<0.005	<0.005
Beece C	W11	1/27/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.61	1.64	<0.005	<0.005
Beece C	W11	3/2/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.97	2.02	<0.005	<0.005
Beece C	W11	3/31/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.98	1.99	<0.005	<0.005
Beece C	W11	5/5/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.116	<0.001	<0.001			1.94	1.94	<0.005	<0.005
Beece C	W11	5/13/1993	<0.001	<0.001	0.002	0.004	0.069	0.919	<0.001	<0.001			0.662	0.898	<0.005	0.022
Beece C	W11	5/19/1993	<0.001	<0.001	0.001	0.001	0.05	0.184	<0.001	<0.001			0.619	0.685	<0.005	<0.005
Beece C	W11	5/27/1993	<0.001	<0.001	<0.001	<0.001	0.038	0.128	<0.001	<0.001			0.606	0.606	<0.005	<0.005
Beece C	W11	6/3/1993	<0.001	<0.001	<0.001	0.001	0.033	0.112	<0.001	<0.001			0.59	0.63	<0.005	<0.005
Beece C	W11	8/17/1993	<0.001	<0.001	0.001	0.002	0.106	0.253	<0.001	<0.001			0.744	0.789	<0.005	0.007
Beece C	W11	8/24/1993	<0.001	<0.001	0.001	0.001	0.062	0.162	<0.001	<0.001			0.695	0.737	<0.005	<0.005
Beece C	W11	8/31/1993	<0.001	<0.001	<0.001	<0.001	0.078	0.237	<0.001	<0.001			0.682	0.76	<0.005	<0.005
Beece C	W11	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.07	0.155	<0.001	<0.001			0.687	0.743	<0.005	<0.005
Beece C	W11	9/20/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.066	<0.001	<0.001			0.833	0.872	<0.005	<0.005
Beece C	W11	5/4/1994	<0.001	<0.001	0.001*	0.007*	0.056	0.097	<0.001	<0.001			2.65	2.72	<0.005	<0.005
Beece C	W11	5/12/1994	<0.001	<0.001	0.001	0.002	0.06	0.245	<0.001	<0.001			1.05	1.11	<0.005	0.008
Beece C	W11	5/18/1994	<0.001	<0.001	<0.001	<0.001	0.073	0.158	<0.001	<0.001			2.09	2.09	<0.005	<0.005
Beece C	W11	5/26/1994	<0.001	<0.001	0.001	0.001	0.045	0.206	<0.001	<0.001			0.914	0.956	<0.005	<0.005
Beece C	W11	5/31/1994	<0.001	<0.001	<0.001	0.001	0.032	0.076	<0.001	<0.001			1.24	1.24	<0.005	<0.005
Beece C	W11	8/10/1994	<0.001	<0.001	<0.001	0.002	0.076	0.192	<0.001	<0.001			0.513	0.567	<0.005	<0.005
Beece C	W11	8/16/1994	<0.001	<0.001	<0.001	0.002	0.065	0.235	<0.001	<0.001			0.592	0.645	<0.005	0.005
Beece C	W11	8/24/1994	<0.001	<0.001	<0.001	0.001	0.068	0.189	<0.001	<0.001			0.655	0.734	<0.005	<0.005
Beece C	W11	8/30/1994	<0.001	<0.001	<0.001	0.001	0.059	0.205	<0.001	<0.001			0.686	0.755	<0.005	<0.005
Beece C	W11	9/6/1994	<0.001	<0.001	<0.001	0.001	0.073	0.184	<0.001	<0.001			0.756	0.808	<0.005	0.005
Beece C	W11	6/21/1995	<0.001	<0.001	<0.001	0.002	0.042	0.241	<0.001	<0.001			0.602	0.701	<0.005	0.008
Beece C	W11	6/28/1995	<0.001	<0.001	<0.001	<0.001	0.031	0.091	<0.001	0.001			0.556	0.575	<0.005	<0.005
Beece C	W11	7/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.115	<0.001	<0.001			0.457	0.518	<0.005	<0.005
Beece C	W11	7/13/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.075	<0.001	<0.001			0.534	0.548	<0.005	<0.005
Beece C	W11	7/17/1995	<0.001	<0.001	<0.001	<0.001	0.047	0.177	<0.001	<0.001			0.459	0.496	<0.005	<0.005
Beece C	W11	9/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.076	<0.001	<0.001			0.773	0.789	<0.005	<0.005
Beece C	W11	10/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.034	<0.001	<0.001			1	0.984	<0.005	<0.005
Beece C	W11	10/11/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.035	<0.001	<0.001			1.07	1.11	<0.005	<0.005
Beece C	W11	10/18/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.048	<0.001	<0.001			1.27	1.29	<0.005	<0.005
Beece C	W11	10/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.25	1.23	<0.005	<0.005
Beece C	W11	5/29/1996	<0.001	<0.001	0.001	0.001	0.045	0.11	<0.001	<0.001			2.42	2.49	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Big Onion	W10	5/23/2006	0.000867	0.000814	0.00052	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.23	3.20
Big Onion	W10	5/30/2006	0.000869	0.000802	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.90	2.99
Big Onion	W10	6/6/2006	0.000819	0.000825	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.14	3.04
Big Onion	W10	7/5/2006	0.000946	0.000878	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	2.45	2.55
Big Onion	W10	8/8/2006	0.000956	0.000933	<0.00050	0.00064	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.96	3.89
Big Onion	W10	8/16/2006	0.000914	0.000922	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.90	3.09
Big Onion	W10	8/22/2006	0.000934	0.000966	<0.00050	0.00077	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	3.84	4.35
Big Onion	W10	8/29/2006	0.000925	0.000935	<0.00050	0.00109	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	4.08	4.90
Big Onion	W10	9/6/2006	0.00108	0.00106	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	4.83	4.96
Big Onion	W10	10/4/2006	0.00106	0.00104	<0.00050	<0.00050	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	4.30	4.51
Big Onion	WB	5/9/2006	0.000285	0.000304	0.00065	0.00074	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.19	5.25
Big Onion	WB	5/16/2006	0.000338	0.000315	0.00089	0.00091	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.33	5.48
Big Onion	WB	5/23/2006	0.000313	0.000314	0.00096	0.00091	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.59	5.68
Big Onion	WB	5/30/2006	0.000306	0.000348	0.00101	0.00120	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.19	5.20
Big Onion	WB	6/6/2006	0.000327	0.000312	0.00097	0.00110	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.93	5.64
Beece C	W11	12/1/1992	0.001	0.001	<0.001	<0.001			0.19		<0.0005	<0.0005	3.43	3.5
Beece C	W11	1/7/1993	0.001	0.001	<0.001	<0.001			0.19		<0.0005	<0.0005	3.48	3.56
Beece C	W11	1/27/1993	<0.001	<0.001	<0.001	<0.001			0.2		<0.0005	<0.0005	3.52	3.56
Beece C	W11	3/2/1993	<0.001	<0.001	<0.001	<0.001			0.2		<0.0005	<0.0005	3.68	3.74
Beece C	W11	3/31/1993	0.001	0.001	<0.001	<0.001			0.22		<0.0005	<0.0005	3.52	3.57
Beece C	W11	5/5/1993	<0.001	0.001	<0.001	<0.001			0.32		<0.0005	<0.0005	3.28	3.28
Beece C	W11	5/13/1993	<0.001	<0.001	<0.001	<0.001			0.24		<0.0005	<0.0005	2.25	3.1
Beece C	W11	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.18		<0.0005	<0.0005	2.43	2.62
Beece C	W11	5/27/1993	<0.001	<0.001	<0.001	<0.001			0.17		<0.0005	<0.0005	2.28	2.36
Beece C	W11	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	2.35	2.51
Beece C	W11	8/17/1993	<0.001	<0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.53	2.7
Beece C	W11	8/24/1993	<0.001	<0.001	<0.001	<0.001			0.15		<0.0005	<0.0005	2.39	2.57
Beece C	W11	8/31/1993	0.001	0.002	<0.001	<0.001			0.17		<0.0005	<0.0005	2.33	3.05
Beece C	W11	9/14/1993	<0.001	0.001	<0.001	<0.001			0.18		<0.0005	<0.0005	2.52	2.64
Beece C	W11	9/20/1993	<0.001	<0.001	<0.001	<0.001			0.17		<0.0005	<0.0005	2.81	2.97
Beece C	W11	5/4/1994	<0.001	<0.001	<0.001	<0.001			0.29		<0.0005	<0.0005	4.11	4.26
Beece C	W11	5/12/1994	<0.001	<0.001	<0.001	<0.001			0.18		<0.0005	<0.0005	3.21	3.56
Beece C	W11	5/18/1994	<0.001	<0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	3.97	3.98
Beece C	W11	5/26/1994	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	3.09	3.14
Beece C	W11	5/31/1994	<0.001	<0.001	<0.001	<0.001			0.18		<0.0005	<0.0005	3.55	3.55
Beece C	W11	8/10/1994	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.23	2.41
Beece C	W11	8/16/1994	<0.001	0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.2	2.32
Beece C	W11	8/24/1994	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	2.35	2.61
Beece C	W11	8/30/1994	<0.001	<0.001	<0.001	<0.001			0.15		<0.0005	<0.0005	2.54	2.93
Beece C	W11	9/6/1994	<0.001	<0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.62	2.73
Beece C	W11	6/21/1995	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	2.34	2.69
Beece C	W11	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	2.29	2.43
Beece C	W11	7/4/1995	<0.001	0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.04	2.39
Beece C	W11	7/13/1995	<0.001	<0.001	<0.001	<0.001			0.12		<0.0005	<0.0005	2.14	2.22
Beece C	W11	7/17/1995	<0.001	<0.001	<0.001	<0.001			0.12		<0.0005	<0.0005	1.91	2.28
Beece C	W11	9/27/1995	0.001	0.002	<0.001	<0.001			0.16		<0.0005	<0.0005	2.48	2.64
Beece C	W11	10/4/1995	0.001	0.001	<0.001	<0.001			0.12		<0.0005	<0.0005	2.79	2.9
Beece C	W11	10/11/1995	<0.001	0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.8	2.94
Beece C	W11	10/18/1995	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.81	2.88
Beece C	W11	10/27/1995	0.001	0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.83	2.86
Beece C	W11	5/29/1996	<0.001	<0.001	<0.001	<0.001			0.29		<0.0005	0.0007	3.63	3.8

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Big Onion	W10	5/23/2006	<0.000010	<0.000010	10.3	10.8	0.160	0.160	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000151	0.000130
Big Onion	W10	5/30/2006	0.000022	0.000015	10.8	11.0	0.160	0.161	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000154	0.000143
Big Onion	W10	6/6/2006	<0.000010	<0.000010	10.4	10.3	0.179	0.176	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000155	0.000138
Big Onion	W10	7/5/2006	<0.000010	<0.000010	10.8	11.1	0.167	0.167	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000166	0.000148
Big Onion	W10	8/8/2006	<0.000010	<0.000010	11.2	10.7	0.175	0.174	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000162	0.000167
Big Onion	W10	8/16/2006	<0.000010	<0.000010	10.9	11.1	0.147	0.147	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000166	0.000162
Big Onion	W10	8/22/2006	<0.000010	<0.000010	10.9	11.3	0.162	0.172	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.013	0.000176	0.000182
Big Onion	W10	8/29/2006	<0.000010	<0.000010	10.1	10.8	0.153	0.165	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	0.017	0.000161	0.000181
Big Onion	W10	9/6/2006	<0.000010	<0.000010	11.8	11.8	0.161	0.158	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000179	0.000168
Big Onion	W10	10/4/2006	<0.000010	<0.000010	11.7	12.1	0.155	0.158	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000178	0.000152
Big Onion	WB	5/9/2006	<0.000010	<0.000010	6.6	6.7	0.137	0.137	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000052	0.000053
Big Onion	WB	5/16/2006	<0.000010	<0.000010	6.9	7.2	0.146	0.144	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000057	0.000050
Big Onion	WB	5/23/2006	<0.000010	<0.000010	7.7	7.7	0.160	0.162	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000059	0.000058
Big Onion	WB	5/30/2006	0.000106	0.000666	7.5	7.5	0.153	0.155	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000046	0.000050
Big Onion	WB	6/6/2006	<0.000010	<0.000010	7.5	7.1	0.191	0.187	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000030	0.000053
Beece C	W11	12/1/1992	<0.0001	<0.0001	1.81		0.043	0.043							<0.00005	<0.00005
Beece C	W11	1/7/1993	<0.0001	<0.0001	2.14		0.037	0.037							<0.00005	<0.00005
Beece C	W11	1/27/1993	<0.0001	<0.0001	2.04		0.041	0.041							<0.00005	<0.00005
Beece C	W11	3/2/1993	<0.0001	<0.0001	2.31		0.054	0.056							<0.00005	<0.00005
Beece C	W11	3/31/1993	<0.0001	<0.0001	2.79		0.039	0.039							<0.00005	<0.00005
Beece C	W11	5/5/1993	<0.0001	<0.0001	2.32		0.036	0.036							<0.00005	0.00005
Beece C	W11	5/13/1993	<0.0001	0.0001	1.09		0.02	0.023							0.00005	0.00007
Beece C	W11	5/19/1993	<0.0001	<0.0001	1.05		0.02	0.02							0.00003	0.00003
Beece C	W11	5/27/1993	<0.0001	<0.0001	1.11		0.021	0.021							0.00003	0.00003
Beece C	W11	6/3/1993	<0.0001	<0.0001	1.1		0.019	0.019							0.00003	0.00003
Beece C	W11	8/17/1993	<0.0001	<0.0001	1.05		0.024	0.025							0.00002	0.00004
Beece C	W11	8/24/1993	<0.0001	<0.0001	1.02		0.019	0.025							0.00003	0.00004
Beece C	W11	8/31/1993	<0.0001	<0.0001	0.98		0.024	0.025							0.00003	0.00004
Beece C	W11	9/14/1993	<0.0001	<0.0001	1.35		0.024	0.025							0.00002	0.00003
Beece C	W11	9/20/1993	<0.0001	<0.0001	1.47		0.029	0.029							0.00002	0.00002
Beece C	W11	5/4/1994	<0.0001	<0.0001	2.27		0.055	0.055							0.00004	0.00005
Beece C	W11	5/12/1994	<0.0001	<0.0001	1.38		0.028	0.028							0.00005	0.00006
Beece C	W11	5/18/1994	<0.0001	<0.0001	1.91		0.045	0.045							0.00004	0.0001
Beece C	W11	5/26/1994	<0.0001	<0.0001	1.29		0.02	0.02							0.00002	0.00004
Beece C	W11	5/31/1994	<0.0001	<0.0001	1.59		0.033	0.033							0.00003	0.00004
Beece C	W11	8/10/1994	<0.0001	<0.0001	0.82		0.019	0.021							0.00002	0.00004
Beece C	W11	8/16/1994	<0.0001	<0.0001	0.95		0.021	0.022							0.00002	0.00003
Beece C	W11	8/24/1994	<0.0001	<0.0001	0.97		0.023	0.024							0.00002	0.00003
Beece C	W11	8/30/1994	<0.0001	<0.0001	1.14		0.023	0.026							0.00001	0.00003
Beece C	W11	9/6/1994	<0.0001	<0.0001	1.14		0.025	0.026							0.00002	0.00003
Beece C	W11	6/21/1995	<0.0001	<0.0001	1.24		0.022	0.024					<0.010	<0.010	0.00003	0.00004
Beece C	W11	6/28/1995	<0.0001	<0.0001	1.08		0.021	0.023					<0.010	<0.010	0.00003	0.00004
Beece C	W11	7/4/1995	<0.0001	<0.0001	0.92		0.02	0.022					<0.010	<0.010	0.00001	0.00002
Beece C	W11	7/13/1995	<0.0001	<0.0001	0.96		0.022	0.023					<0.010	<0.010	0.00001	0.00003
Beece C	W11	7/17/1995	<0.0001	<0.0001	0.87		0.022	0.025					<0.010	<0.010	0.00004	0.00006
Beece C	W11	9/27/1995	<0.0001	<0.0001	1.29		0.028	0.028					<0.010	<0.010	0.00003	0.00004
Beece C	W11	10/4/1995	<0.0001	<0.0001	1.92		0.033	0.033					<0.010	<0.010	0.00003	0.00004
Beece C	W11	10/11/1995	<0.0001	<0.0001	1.75		0.034	0.036					<0.010	<0.010	0.00003	0.00004
Beece C	W11	10/18/1995	<0.0001	<0.0001	1.68		0.036	0.036					<0.010	<0.010	0.00004	0.00004
Beece C	W11	10/27/1995	<0.0001	<0.0001	1.8		0.036	0.035					<0.010	<0.010	0.00003	0.00003
Beece C	W11	5/29/1996	<0.0001	<0.0001	1.94		0.054	0.054					<0.010	<0.010	0.00007	0.00007

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Big Onion	W10	5/23/2006	0.0020	0.0020	0.0012	<0.0010
Big Onion	W10	5/30/2006	0.0022	0.0022	<0.0010	<0.0010
Big Onion	W10	6/6/2006	0.0024	0.0025	<0.0010	<0.0010
Big Onion	W10	7/5/2006	0.0030	0.0030	<0.0010	0.0026
Big Onion	W10	8/8/2006	0.0031	0.0035	<0.0010	0.0024
Big Onion	W10	8/16/2006	0.0029	0.0029	<0.0010	<0.0010
Big Onion	W10	8/22/2006	0.0033	0.0041	<0.0010	<0.0030
Big Onion	W10	8/29/2006	0.0030	0.0047	<0.0010	0.0050
Big Onion	W10	9/6/2006	0.0034	0.0035	<0.0010	<0.0070
Big Onion	W10	10/4/2006	0.0032	0.0032	<0.0010	<0.0010
Big Onion	WB	5/9/2006	<0.0010	<0.0010	<0.0010	<0.0010
Big Onion	WB	5/16/2006	<0.0010	<0.0010	<0.0010	<0.0010
Big Onion	WB	5/23/2006	<0.0010	<0.0010	<0.0010	<0.0010
Big Onion	WB	5/30/2006	<0.0010	<0.0010	<0.0010	<0.0050
Big Onion	WB	6/6/2006	<0.0010	<0.0010	<0.0010	<0.0010
Beece C	W11	12/1/1992	<0.030	<0.030	<0.005	<0.005
Beece C	W11	1/7/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	1/27/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	3/2/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	3/31/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/5/1993	<0.030	<0.030	<0.005	0.006
Beece C	W11	5/13/1993	<0.030	<0.030	<0.005	0.006
Beece C	W11	5/19/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/27/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	6/3/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/17/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/24/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/31/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	9/14/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	9/20/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/4/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/12/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/18/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/26/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/31/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/10/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/16/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/24/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/30/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	9/6/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W11	6/21/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	6/28/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	7/4/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	7/13/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	7/17/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	9/27/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	10/4/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	10/11/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	10/18/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	10/27/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/29/1996	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Beece C	W11	6/9/1996				40.6	17.2		7.15	19.5	5.6		4.9	26	4	0.5	0.06	1.7
Beece C	W11	6/18/1996				44.5	18.2		7.39	20.1	1.4		3.9	28	3	0.5	0.07	2.7
Beece C	W11	6/27/1996				38	17.2		7.34	15.6	5.1		5.7	24	11	0.5	0.08	1.6
Beece C	W11	7/10/1996				27.4	10		7.51	11.4	5.5		2.2	15	11	0.5	0.06	1.7
Beece C	W11	8/6/1996				25.3	10.3		7.34	10.9	1.7		1.1	16	4	0.5	0.06	1.4
Beece C	W11	8/16/1996				27.2	10.6		7.45	10.9	1.8		1.2	16	1	0.5	0.06	1.4
Beece C	W11	8/24/1996				25.7	10		7.4	10.8	2.8		1.3	15	4	0.5	0.05	1.4
Beece C	W11	8/29/1996				26.4	9.04		7.5	9.6	2.8		1.3	14	1	0.5	0.06	1.4
Beece C	W11	9/6/1996				35.4	14.2		7.62	14.9	1.1		1.8	21	1	0.5	0.07	2
Beece C	W11	2/27/1997				70	26.7		7.7	32	0.2		1.4	41	1	0.5	0.06	4
Beece C	W11	5/19/1997	2.1			42	16.6	7.32	7.16	18	2.7		4.9	24	4	0.5	0.08	2
Beece C	W11	5/26/1997	4.8			46	18.2	7.29	7.09	20	2.9		8.9	29	6	0.5	0.07	2
Beece C	W11	6/2/1997	4.5			34	12.8	7.53	6.94	14	5.1		4	19	9	0.5	0.04	2
Beece C	W11	6/9/1997	8			44	13.2	7.52	7.45	16	2.1		2.6	19	1	0.5	0.08	2
Beece C	W11	6/15/1997	7.4			26	8.62	6.99	6.75	10	4.8		1.7	12	9	0.5	0.05	1
Beece C	W11	7/28/1997	13			26	10.2	7.8	7.34	12	2.5		1.1	15	1	0.5	0.1	2
Beece C	W11	9/14/1997	8			37	12.8		6.93	13	1.6		0.9	17	2	0.5	0.06	2
Beece C	W11	9/21/1997	6			40	14	7.71	7.43	15	1		1.4	19		0.5	0.05	2
Beece C	W11	9/28/1997	6.3			36	12.4	7.34	7.3	12	1.8		1.2	17	2	0.5	0.04	2
Beece C	W11	10/5/1997	5.1			38	12.6	7.76	6.33	12	1.4		1.4	17	1	0.5	0.06	2
Beece C	W11	10/12/1997	1.5			44	15.1	7.15	7.16	15	0.5		1.2	20	1	0.5	0.06	2
Beece C	W11	11/15/1997	0			57	20.8	8.1	7.17	20	0.4		1.4	27	3	0.5	0.07	3
Beece C	W11	12/17/1997	0.1			57	21.2	7.88	7.16	20	0.4		1.2	31	1	0.5	0.06	3
Beece C	W11	1/18/1998	0.5			62	23.5	7.67	7.12	23	0.4		0.7	34	1	0.5	0.07	3
Beece C	W11	2/26/1998	0.3			71	28.7	7.05	7.19	27	0.3		0.8	40	1	0.5	0.06	3
Beece C	W11	3/9/1998	0.3			70	28.3	6.59	7.43	28	0.2		0.5	41	1	0.5	0.07	4
Beece C	W11	4/12/1998	0.5			66	32.1	7.53	7.11	29	0.1		0.5	40	2	0.5	0.06	4
Beece C	W12	12/1/1992				40.2	16.8		7.48	17	0.58			32	1	0.5	0.05	3.7
Beece C	W12	1/7/1993				46	17.1		7.3	17.5	0.7			32	1	0.5	0.06	3.7
Beece C	W12	1/27/1993				44.9	18.1		6.78	18.8	0.6			33	1	0.5	0.06	2.5
Beece C	W12	3/2/1993				51	20.2		7.74	22.1	0.44			38	<1	1.1	0.07	1.5
Beece C	W12	3/31/1993				53.6	21.1		7.72	23.3	0.37			43	<1	0.6	0.07	3.4
Beece C	W12	5/5/1993				55.1	20.1		7.68	21	0.76			41	3	0.9	0.07	2.8
Beece C	W12	5/13/1993				23.3	8.99		7.09	8.2	15			14	17	0.5	0.07	1.7
Beece C	W12	5/19/1993				23.7	8.88		7.05	9	5.5			16	5	0.7	0.06	1.3
Beece C	W12	5/27/1993				22.7	8.59		6.95	10.1	6.3			14	2	0.6	0.05	1.8
Beece C	W12	6/3/1993				25	9.49		7.31	8.7	4.6			13	5	0.5	0.05	2.9
Beece C	W12	8/17/1993				27.3	12.2		7.44	10.7	11.1			18	3	0.5	0.05	2.2
Beece C	W12	8/24/1993				27.5	11.7		7.3	13.3	7.26			17	5	0.6	0.05	<1.0
Beece C	W12	8/31/1993				30	11		7.3	12.2	8.59			19	3	0.5	0.05	1.9
Beece C	W12	9/14/1993				33	11.6		5.98	12.6	6.04		0.8	21	2	0.5	0.06	2.3
Beece C	W12	9/20/1993				37	13.8		7.52	13.7	2.3			22	<1	0.5	0.05	2.1
Beece C	W12	5/4/1994				55	23.3		7.38	26.8	1.54			33	1	0.5	0.07	2.9
Beece C	W12	5/12/1994				32	12.2		7.16	13.4	3.5			20	3	0.6	0.06	1.9
Beece C	W12	5/17/1994				42.6	17.8		7.1	19.7	1.59			28	1	0.5	0.06	2.9
Beece C	W12	5/26/1994				27.7	10.8		7.29	11.3	2.64		2.4	18	2	0.5	0.07	3.1
Beece C	W12	5/31/1994				35.2	14.1		7.44	14.4	1.26		2.8	22	<1	0.5	0.08	3.5
Beece C	W12	8/10/1994				25.5	10		7.08	9.8	6.9		0.8	15	8	0.5	0.06	1.9
Beece C	W12	8/16/1994				25.4	10		6.96	9.2	10.7		0.5	14	6	0.5	0.06	1.3
Beece C	W12	8/24/1994				26.8	11.5		7.11	11.7	5.49		0.6	16	5	0.5	0.07	1.3
Beece C	W12	8/30/1994				29.7	11.9		7.15	11.5	5.2		0.5	16	3	0.5	0.06	2.1

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Beece C	W11	6/9/1996	<0.005	0.012	0.002	0.002	0.005	0.014	0.059	0.174	0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W11	6/18/1996	<0.005	<0.005	0.001	0.002	0.003	0.008	0.044	0.086	0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W11	6/27/1996	0.005	0.009	0.002	0.002	0.006	0.025	0.066	0.722	0.0002	0.0001	0.0006	0.0008	<0.010
Beece C	W11	7/10/1996	<0.005	0.005	0.002	0.002	0.003	0.011	0.042	0.281	0.0002	0.0001	0.0008	0.001	<0.010
Beece C	W11	8/6/1996	<0.005	0.005	0.001	0.002	0.002	0.006	0.034	0.092	0.0002	0.0001	0.001	0.0008	<0.010
Beece C	W11	8/16/1996	<0.005	<0.005	<0.001	0.002	0.002	0.006	0.04	0.114	0.0002	0.0001	0.0005	0.0005	<0.010
Beece C	W11	8/24/1996	<0.005	<0.005	0.001	0.002	0.003	0.009	0.025	0.156	0.0001	0.0001	0.0006	0.0008	<0.010
Beece C	W11	8/29/1996	0.005	<0.005	0.002	0.003	0.003	0.011	0.047	0.181	0.0002	0.0001	0.0007	0.0008	<0.010
Beece C	W11	9/6/1996	<0.005	<0.005	0.001	<0.001	<0.001	0.001	0.02	0.06	0.0001	0.0001	0.0007	0.0008	<0.010
Beece C	W11	2/27/1997	0.005	0.068	<0.001	<0.001	<0.001	0.002	0.013	0.007	0.0001	0.0001	0.0004	0.0004	<0.010
Beece C	W11	5/19/1997	0.005	0.01	0.001	0.002	0.005	0.011	0.054	0.163	0.00015	0.00011	0.0005	0.0006	0.00139
Beece C	W11	5/26/1997	0.005	0.009	0.001	0.001	0.001	0.011	0.074	0.182	0.00009	0.00011	0.0006	0.0007	0.00163
Beece C	W11	6/2/1997	0.005	0.021	0.001	0.001	0.002	0.014	0.054	0.229	0.00019	0.00012	0.0006	0.0008	0.00115
Beece C	W11	6/9/1997	0.005	0.005	0.001	0.001	0.005	0.005	0.042	0.076	0.00015	0.00016	0.0006	0.0007	0.00123
Beece C	W11	6/15/1997	0.005	0.005	0.001	0.001	0.003	0.01	0.039	0.193	0.00017	0.0001	0.0006	0.0008	0.00084
Beece C	W11	7/28/1997	0.005	0.007	0.001	0.001	0.001	0.003	0.036	0.087	0.00013	0.00013	0.0007	0.0007	0.001
Beece C	W11	9/14/1997	0.005	0.005	0.001	0.001	0.001	0.01	0.042	0.101	0.00013	0.00013	0.0006	0.0006	0.00115
Beece C	W11	9/21/1997	0.005	0.008	0.001	0.001	0.001	0.004	0.031	0.096	0.0001	0.00011	0.0006	0.0006	0.00117
Beece C	W11	9/28/1997	0.005	0.013	0.001	0.001	0.002	0.005	0.036	0.094	0.00013	0.00014	0.0006	0.0006	0.00105
Beece C	W11	10/5/1997	0.005	0.009	0.001	0.001	0.001	0.003	0.028	0.061	0.00013	0.00013	0.0006	0.0006	0.00104
Beece C	W11	10/12/1997	0.005	0.007	0.001	0.001	0.002	0.003	0.022	0.059	0.00013	0.00013	0.0005	0.0005	0.0011
Beece C	W11	11/15/1997	0.005	0.016	0.001	0.001	0.002	0.003	0.013	0.027	0.00012	0.00013	0.0004	0.0004	0.00176
Beece C	W11	12/17/1997	0.005	0.052	0.001	0.001	0.001	0.001	0.011	0.022	0.00012	0.00012	0.0004	0.0004	0.00164
Beece C	W11	1/18/1998	0.005	0.066	0.001	0.001	0.001	0.001	0.009	0.025	0.00011	0.00011	0.0004	0.0004	0.00178
Beece C	W11	2/26/1998	0.005	0.064	0.001	0.001	0.001	0.001	0.007	0.021	0.00012	0.00012	0.0004	0.0004	0.00207
Beece C	W11	3/9/1998	0.005	0.071	0.001	0.001	0.001	0.001	0.007	0.011	0.00011	0.00011	0.0004	0.0004	0.00202
Beece C	W11	4/12/1998	0.005	0.04	0.001	0.001	0.001	0.001	0.006	0.013	0.00011	0.00011	0.0004	0.0004	0.00217
Beece C	W12	12/1/1992	<0.005	0.056	<0.001	0.002	0.002	0.002	0.055	0.089	<0.0002	<0.0002	0.0004	0.0006	<0.010
Beece C	W12	1/7/1993	<0.005	0.074	0.001	0.002	0.002	0.002	0.055	0.078	<0.0001	0.0002	0.0013	0.0013	<0.010
Beece C	W12	1/27/1993	<0.005	0.07	0.001	0.001	0.001	0.002	0.031	0.061	<0.0001	0.0002	0.0004	0.0005	<0.010
Beece C	W12	3/2/1993	<0.005	0.067	<0.001	0.002	0.002	0.002	0.018	0.05	0.0002	0.0003	0.0005	0.0005	<0.010
Beece C	W12	3/31/1993	<0.005	0.08	<0.001	<0.001	<0.001	0.002	0.021	0.039	0.0001	0.0001	0.0005	0.0006	<0.010
Beece C	W12	5/5/1993	<0.005	0.013	<0.001	0.007	0.007	0.008	0.032	0.212	<0.0001	<0.0001	0.0006	0.0006	<0.010
Beece C	W12	5/13/1993	0.017*	0.067	<0.001	0.021	0.021	0.029	0.146	0.761	0.0001	0.0002	0.0008	0.0017	<0.010
Beece C	W12	5/19/1993	<0.005	0.056	0.002	0.011	0.011	0.017	0.093	0.267	0.0001	0.0001	0.0006	0.0007	<0.010
Beece C	W12	5/27/1993	<0.005	0.012	<0.001	0.012	0.012	0.02	0.03	0.18	0.0001	0.0001	0.0006	0.0008	<0.010
Beece C	W12	6/3/1993	0.005	0.009	<0.001	0.003	0.003	0.01	0.07	0.07	<0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W12	8/17/1993	0.009	<0.005	0.003	0.004	0.004	0.022	0.155	0.487	0.0002	0.0002	0.0009	0.0009	<0.010
Beece C	W12	8/24/1993	<0.005	<0.005	0.001	0.012	0.012	0.012	0.083	0.26	<0.0001	0.0002	0.0007	0.0008	<0.010
Beece C	W12	8/31/1993	<0.005	<0.005	0.005	0.004	0.004	0.009	0.132	0.489	0.0001	0.0003	0.0007	0.0009	<0.010
Beece C	W12	9/14/1993	<0.005	<0.005	<0.001	0.005	0.005	0.008	0.154	0.431	<0.0001	<0.0001	0.0006	0.0009	<0.010
Beece C	W12	9/20/1993	<0.005	0.02	<0.001	0.003	0.003	0.005	0.045	0.155	<0.0001	0.0002	0.0005	0.0006	<0.010
Beece C	W12	5/4/1994	0.006	0.006	0.002	0.003	0.003	0.007	0.117	0.143	<0.0001	<0.0001	0.0006	0.0006	<0.010
Beece C	W12	5/12/1994	<0.005	0.021	0.003	<0.001	<0.001	0.016	0.086	0.3	<0.0001	<0.0001	0.0006	0.0009	<0.010
Beece C	W12	5/17/1994	<0.005	<0.005	0.002	0.003	0.003	0.015	0.11	0.235	<0.0001	<0.0001	0.0005	0.0006	<0.010
Beece C	W12	5/26/1994	<0.005	0.016	0.003	0.004	0.004	0.014	0.065	0.293	<0.0001	<0.0001	0.0007	0.001	<0.010
Beece C	W12	5/31/1994	<0.005	<0.005	0.001	0.003	0.003	0.003	0.054	0.123	<0.0001	<0.0001	0.0008	0.0009	<0.010
Beece C	W12	8/10/1994	0.007	0.028	0.005	<0.001	<0.001	0.022	0.108	0.33	<0.0001	<0.0001	0.0009	0.0011	<0.010
Beece C	W12	8/16/1994	<0.005	0.005	0.001	<0.001	<0.001	0.016	0.108	0.49	<0.0002	<0.0002	0.0008	0.0011	<0.010
Beece C	W12	8/24/1994	<0.005	<0.005	0.004	0.009	0.009	0.012	0.035	0.162	<0.0001	<0.0001	0.0006	0.0009	<0.010
Beece C	W12	8/30/1994	<0.005	<0.005	0.003	0.001	0.001	0.015	0.089	0.265	<0.0001	<0.0001	0.0008	0.001	<0.010

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Beece C	W11	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.94	5.33	<0.001	<0.001
Beece C	W11	6/18/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.29	5.49	<0.001	<0.001
Beece C	W11	6/27/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.95	4.98	<0.001	<0.001
Beece C	W11	7/10/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.05	3.47	<0.001	<0.001
Beece C	W11	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.36	3.82	<0.001	<0.001
Beece C	W11	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.32	3.1	<0.001	<0.001
Beece C	W11	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.16	3.24	<0.001	<0.001
Beece C	W11	8/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.88	3	<0.001	<0.001
Beece C	W11	9/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.45	4.39	<0.001	<0.001
Beece C	W11	2/27/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.6	8.05	<0.001	<0.001
Beece C	W11	5/19/1997	0.00212	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	4.86	4.81	0.0005	0.0005
Beece C	W11	5/26/1997	0.00234	0.0005	0.0005	0.0005	0.0005	0.006	0.005	0.00005	0.00005	5.28	5.29	0.0005	0.0005
Beece C	W11	6/2/1997	0.00228	0.0005	0.0005	0.0005	0.0005	0.004	0.005	0.00005	0.00005	3.87	3.86	0.0005	0.0005
Beece C	W11	6/9/1997	0.00151	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	3.95	3.95	0.0005	0.0005
Beece C	W11	6/15/1997	0.0019	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	2.73	2.73	0.0005	0.0005
Beece C	W11	7/28/1997	0.0013	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	3.18	3.17	0.0005	0.0005
Beece C	W11	9/14/1997	0.00149	0.0005	0.0005	0.0005	0.0005	0.004	0.005	0.00005	0.00005	4.01	3.94	0.0005	0.0005
Beece C	W11	9/21/1997	0.00147	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	4.35	4.37	0.0005	0.0005
Beece C	W11	9/28/1997	0.0014	0.0005	0.0005	0.0005	0.0005	0.005	0.006	0.00005	0.00005	3.92	3.91	0.0005	0.0005
Beece C	W11	10/5/1997	0.00126	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	3.92	4.01	0.0005	0.0005
Beece C	W11	10/12/1997	0.0013	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	4.57	4.47	0.0005	0.0005
Beece C	W11	11/15/1997	0.00187	0.0005	0.0005	0.0005	0.0005	0.008	0.009	0.00005	0.00005	6.06	6.05	0.0005	0.0005
Beece C	W11	12/17/1997	0.00174	0.0005	0.0005	0.0005	0.0005	0.008	0.007	0.00005	0.00005	6.32	6.26	0.0005	0.0005
Beece C	W11	1/18/1998	0.00188	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	6.86	7.2	0.0005	0.0005
Beece C	W11	2/26/1998	0.00217	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	8.33	8.14	0.0005	0.0005
Beece C	W11	3/9/1998	0.00208	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	8.24	8.23	0.0005	0.0005
Beece C	W11	4/12/1998	0.00213	0.0005	0.0005	0.0005	0.0005	0.011	0.011	0.00005	0.00005	9.33	8.94	0.0005	0.0005
Beece C	W12	12/1/1992	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.3	5.4	<0.001	<0.001
Beece C	W12	1/7/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.39	5.46	<0.001	<0.001
Beece C	W12	1/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.64	5.74	<0.001	<0.001
Beece C	W12	3/2/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.27	6.46	<0.001	<0.001
Beece C	W12	3/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.47	6.51	<0.001	<0.001
Beece C	W12	5/5/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.05	6.21	<0.001	<0.001
Beece C	W12	5/13/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.9	3.09	<0.001	0.001
Beece C	W12	5/19/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.85	2.97	<0.001	<0.001
Beece C	W12	5/27/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.78	2.86	<0.001	<0.001
Beece C	W12	6/3/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.1	3.13	<0.001	<0.001
Beece C	W12	8/17/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.08	4.18	<0.001	<0.001
Beece C	W12	8/24/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.88	3.96	<0.001	<0.001
Beece C	W12	8/31/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.88	3.89	<0.001	<0.001
Beece C	W12	9/14/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.82	3.83	<0.001	<0.001
Beece C	W12	9/20/1993	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.51	4.56	<0.001	<0.001
Beece C	W12	5/4/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.94	7.13	<0.001	<0.001
Beece C	W12	5/12/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.84	3.95	<0.001	<0.001
Beece C	W12	5/17/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.37	5.37	<0.001	<0.001
Beece C	W12	5/26/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.44	3.47	<0.001	<0.001
Beece C	W12	5/31/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.42	4.42	<0.001	<0.001
Beece C	W12	8/10/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.38	3.58	<0.001	<0.001
Beece C	W12	8/16/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.33	3.33	<0.001	<0.001
Beece C	W12	8/24/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.74	3.9	<0.001	<0.001
Beece C	W12	8/30/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.93	4.09	<0.001	<0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Beece C	W11	6/9/1996	<0.001	<0.001	0.001	0.001	0.042	0.157	<0.001	<0.001			1.17	1.26	<0.005	0.006
Beece C	W11	6/18/1996	<0.001	<0.001	0.001	0.001	<0.030	0.066	<0.001	<0.001			1.22	1.26	<0.005	<0.005
Beece C	W11	6/27/1996	<0.001	<0.001	0.001	0.002	0.036	0.265	<0.001	<0.001			1.17	1.19	<0.005	0.008
Beece C	W11	7/10/1996	<0.001	<0.001	<0.001	0.001	<0.030	0.118	<0.001	<0.001			0.589	0.664	<0.005	<0.005
Beece C	W11	8/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.074	<0.001	<0.001			0.467	0.653	<0.005	<0.005
Beece C	W11	8/16/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.059	<0.001	<0.001			0.55	0.504	<0.005	<0.005
Beece C	W11	8/24/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.101	<0.001	<0.001			0.514	0.557	<0.005	<0.005
Beece C	W11	8/29/1996	<0.001	<0.001	<0.001	<0.001	0.038	0.136	<0.001	<0.001			0.446	0.506	<0.005	<0.005
Beece C	W11	9/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.055	<0.001	<0.001			0.757	0.754	<0.005	<0.005
Beece C	W11	2/27/1997	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001			1.87	1.93	<0.005	<0.005
Beece C	W11	5/19/1997	0.0001	0.0004	0.0011	0.0013	0.05	0.12	0.00005	0.00006	0.001	0.001	1.09	1.11	0.00081	0.0031
Beece C	W11	5/26/1997	0.0001	0.0001	0.0013	0.0016	0.05	0.13	0.00005	0.00009	0.001	0.001	1.21	1.24	0.00085	0.00361
Beece C	W11	6/2/1997	0.0001	0.0001	0.0009	0.0013	0.03	0.18	0.00005	0.00014	0.001	0.001	0.77	0.79	0.00082	0.00569
Beece C	W11	6/9/1997	0.0001	0.0001	0.0008	0.0009		0.05	0.00005	0.00005	0.001	0.001	0.8	0.8	0.00058	0.00169
Beece C	W11	6/15/1997	0.0001	0.0001	0.0006	0.0011		0.09	0.00005	0.00014	0.001	0.001	0.44	0.48	0.00067	0.00499
Beece C	W11	7/28/1997	0.0001	0.0001	0.0004	0.0006	0.03	0.07	0.00005	0.00006	0.001	0.001	0.55	0.56	0.0006	0.00178
Beece C	W11	9/14/1997	0.0001	0.0002	0.0004	0.0006		0.07	0.00005	0.00005	0.001	0.001	0.69	0.71	0.00065	0.00199
Beece C	W11	9/21/1997	0.0001	0.0001	0.0005	0.0006		0.05	0.00005	0.00005	0.001	0.001	0.77	0.77	0.00053	0.0019
Beece C	W11	9/28/1997	0.0001	0.0006	0.0004	0.0007		0.06	0.00005	0.00006	0.001	0.001	0.63	0.65	0.00056	0.00181
Beece C	W11	10/5/1997	0.0001	0.0001	0.0004	0.0006		0.05	0.00005	0.00005	0.001	0.001	0.68	0.69	0.0006	0.00134
Beece C	W11	10/12/1997	0.0004	0.0001	0.0005	0.0011		0.03	0.00005	0.00005	0.001	0.001	0.89	0.87	0.00058	0.00146
Beece C	W11	11/15/1997	0.0001	0.0001	0.0004	0.0005			0.00005	0.00005	0.001	0.001	1.37	1.36	0.0004	0.0007
Beece C	W11	12/17/1997	0.0001	0.0001	0.0003	0.0004			0.00005	0.00005	0.001	0.001	1.31	1.31	0.00019	0.00045
Beece C	W11	1/18/1998	0.0001	0.0001	0.0003	0.0004			0.00005	0.00005	0.001	0.001	1.54	1.56	0.00011	0.00031
Beece C	W11	2/26/1998	0.0001	0.0001	0.0009	0.0004			0.00005	0.00005	0.001	0.001	1.92	1.91	0.00011	0.00029
Beece C	W11	3/9/1998	0.0001	0.0001	0.0003	0.0003			0.00005	0.00005	0.001	0.001	1.86	1.91	0.00011	0.00024
Beece C	W11	4/12/1998	0.0001	0.0001	0.0004	0.0004			0.00005	0.00005	0.001	0.001	2.13	2.05	0.00018	0.00045
Beece C	W12	12/1/1992	<0.001	<0.001	<0.001	<0.001	<0.030	0.033	<0.001				0.877	0.901	<0.005	<0.005
Beece C	W12	1/7/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.031	<0.001				0.889	0.909	<0.005	<0.005
Beece C	W12	1/27/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001				0.97	0.999	<0.005	<0.005
Beece C	W12	3/2/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001				1.1	1.14	<0.005	<0.005
Beece C	W12	3/31/1993	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001				1.2	1.2	<0.005	<0.005
Beece C	W12	5/5/1993	<0.001	<0.001	<0.001	<0.001	0.051	0.123	<0.001				1.21	1.23	<0.005	<0.005
Beece C	W12	5/13/1993	<0.001	<0.001	0.002	0.004*	0.072	0.732	<0.001				0.426	0.66	<0.005	0.019
Beece C	W12	5/19/1993	<0.001	<0.001	0.001	0.001	0.051	0.192	<0.001				0.43	0.489	<0.005	<0.005
Beece C	W12	5/27/1993	<0.001	<0.001	<0.001	0.001	0.035	0.103	<0.001				0.401	0.401	<0.005	<0.005
Beece C	W12	6/3/1993	<0.001	<0.001	<0.001	<0.001	0.039	0.118	<0.001				0.428	0.456	<0.005	<0.005
Beece C	W12	8/17/1993	<0.001	<0.001	0.001	0.002	0.096	0.28	<0.001				0.484	0.557	<0.005	0.006
Beece C	W12	8/24/1993	<0.001	<0.001	0.001	0.001	0.071	0.166	<0.001				0.494	0.528	<0.005	<0.005
Beece C	W12	8/31/1993	<0.001	<0.001	<0.001	<0.001	0.073	0.222	<0.001				0.548	0.569	<0.005	<0.005
Beece C	W12	9/14/1993	<0.001	<0.001	<0.001	<0.001	0.066	0.16	<0.001				0.503	0.512	<0.005	<0.005
Beece C	W12	9/20/1993	<0.001	<0.001	<0.001	<0.001	<0.030	0.073	<0.001				0.625	0.633	<0.005	<0.005
Beece C	W12	5/4/1994	<0.001	<0.001	<0.001*	0.006*	0.062	0.094	<0.001				1.45	1.5	<0.005	<0.005
Beece C	W12	5/12/1994	<0.001	<0.001	0.001	0.001	0.05	0.177	<0.001				0.633	0.676	<0.005	0.005
Beece C	W12	5/17/1994	<0.001	<0.001	<0.001	<0.001	0.074	0.179	<0.001				1.08	1.08	<0.005	<0.005
Beece C	W12	5/26/1994	<0.001	<0.001	0.001	0.001	0.037	0.122	<0.001				0.532	0.562	<0.005	<0.005
Beece C	W12	5/31/1994	<0.001	<0.001	<0.001	<0.001	0.033	0.07	<0.001				0.737	0.758	<0.005	<0.005
Beece C	W12	8/10/1994	<0.001	<0.001	<0.001	0.002	0.064	0.22	<0.001				0.386	0.461	<0.005	0.006
Beece C	W12	8/16/1994	<0.001	<0.001	<0.001	0.002	0.054	0.352	<0.001				0.418	0.517	<0.005	0.007
Beece C	W12	8/24/1994	<0.001	<0.001	<0.001	0.001	0.049	0.201	<0.001				0.53	0.531	<0.005	<0.005
Beece C	W12	8/30/1994	<0.001	<0.001	<0.001	0.001	0.053	0.193	<0.001				0.502	0.558	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Beece C	W11	6/9/1996	<0.001	<0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	3.04	3.24
Beece C	W11	6/18/1996	<0.001	<0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	3.11	3.23
Beece C	W11	6/27/1996	<0.001	<0.001	<0.001	<0.001			0.23		<0.0005	<0.0005	3.01	3.14
Beece C	W11	7/10/1996	<0.001	<0.001	<0.001	<0.001			0.06		<0.0005	<0.0005	2.18	2.38
Beece C	W11	8/6/1996	<0.001	<0.001	<0.001	<0.001			0.12		<0.0005	0.0007	2.28	2.44
Beece C	W11	8/16/1996	<0.001	<0.001	<0.001	<0.001			0.12		0.0006	0.0005	2	2
Beece C	W11	8/24/1996	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2	2.21
Beece C	W11	8/29/1996	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	1.75	1.95
Beece C	W11	9/6/1996	<0.001	<0.001	<0.001	<0.001			0.25		<0.0005	<0.0005	2.52	2.57
Beece C	W11	2/27/1997	0.001	0.001	<0.001	<0.001			0.23		<0.0005	<0.0005	3.61	3.73
Beece C	W11	5/19/1997	0.00078	0.00075	0.0002	0.0002					0.0005	0.0005	3.11	3.21
Beece C	W11	5/26/1997	0.00081	0.00079	0.0002	0.0003					0.0005	0.0006	3.27	3.38
Beece C	W11	6/2/1997	0.00075	0.00075	0.0001	0.0002					0.0005	0.0007	2.73	2.91
Beece C	W11	6/9/1997	0.00082	0.00091	0.0002	0.0002					0.0006	0.0005	2.86	2.84
Beece C	W11	6/15/1997	0.00072	0.00066	0.0001	0.0002					0.0005	0.0005	2.07	2.19
Beece C	W11	7/28/1997	0.00085	0.00087	0.0001	0.0001					0.0005	0.0005	2.2	2.21
Beece C	W11	9/14/1997	0.00094	0.00096	0.0001	0.0002					0.0005	0.0005	2.46	2.51
Beece C	W11	9/21/1997	0.00105	0.00104	0.0001	0.0001					0.0005	0.0005	2.66	2.72
Beece C	W11	9/28/1997	0.00105	0.00107	0.0001	0.0001					0.0005	0.0005	2.4	2.45
Beece C	W11	10/5/1997	0.00112	0.00113	0.0001	0.0001					0.0005	0.0005	2.54	2.56
Beece C	W11	10/12/1997	0.00109	0.00107	0.0001	0.0001					0.0005	0.0005	2.7	2.7
Beece C	W11	11/15/1997	0.00099	0.00099	0.0001	0.0001					0.0005	0.0005	3.22	3.24
Beece C	W11	12/17/1997	0.00113	0.00112	0.0001	0.0001					0.0005	0.0005	3.29	3.27
Beece C	W11	1/18/1998	0.00114	0.00116	0.0001	0.0001					0.0005	0.0005	3.4	3.47
Beece C	W11	2/26/1998	0.00118	0.00115	0.0001	0.0001					0.0005	0.0005	3.56	3.51
Beece C	W11	3/9/1998	0.00116	0.00114	0.0001	0.0001					0.0005	0.0005	3.59	3.61
Beece C	W11	4/12/1998	0.00121	0.0012	0.0001	0.0001					0.0005	0.0005	3.59	3.52
Beece C	W12	12/1/1992	0.002	0.002	<0.001	<0.001			0.17		<0.0005	<0.0005	3.5	3.63
Beece C	W12	1/7/1993	0.001	0.001	<0.001	0.002			0.16		<0.0005	<0.0005	3.57	3.65
Beece C	W12	1/27/1993	<0.001	0.001	<0.001	<0.001			0.17		<0.0005	<0.0005	3.59	3.69
Beece C	W12	3/2/1993	<0.001	<0.001	<0.001	<0.001			0.19		<0.0005	<0.0005	3.82	3.94
Beece C	W12	3/31/1993	0.001	0.001	<0.001	<0.001			0.2		<0.0005	<0.0005	3.72	3.77
Beece C	W12	5/5/1993	0.001	0.001	<0.001	<0.001			0.3		<0.0005	<0.0005	3.44	3.64
Beece C	W12	5/13/1993	<0.001	<0.001	<0.001	<0.001			0.22		<0.0005	<0.0005	2.16	2.86
Beece C	W12	5/19/1993	<0.001	<0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.29	2.5
Beece C	W12	5/27/1993	<0.001	0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.15	2.3
Beece C	W12	6/3/1993	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.32	2.42
Beece C	W12	8/17/1993	<0.001	0.001	<0.001	<0.001			0.15		<0.0005	<0.0005	2.44	2.59
Beece C	W12	8/24/1993	<0.001	<0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.4	2.56
Beece C	W12	8/31/1993	<0.001	<0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.35	3
Beece C	W12	9/14/1993	<0.001	0.001	<0.001	<0.001			0.17		<0.0005	<0.0005	2.51	2.65
Beece C	W12	9/20/1993	0.001	0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	2.85	2.97
Beece C	W12	5/4/1994	<0.001	0.001	<0.001	<0.001			0.24		<0.0005	<0.0005	3.96	4.11
Beece C	W12	5/12/1994	<0.001	<0.001	<0.001	<0.001			0.17		<0.0005	<0.0005	3.04	3.3
Beece C	W12	5/17/1994	<0.001	<0.001	<0.001	<0.001			0.18		<0.0005	<0.0005	3.66	3.66
Beece C	W12	5/26/1994	<0.001	0.001	<0.001	<0.001			0.12		<0.0005	<0.0005	2.94	2.99
Beece C	W12	5/31/1994	<0.001	0.001	<0.001	<0.001			0.16		<0.0005	<0.0005	3.5	3.5
Beece C	W12	8/10/1994	<0.001	<0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.12	2.37
Beece C	W12	8/16/1994	<0.001	<0.001	<0.001	<0.001			0.12		<0.0005	<0.0005	2.03	2.28
Beece C	W12	8/24/1994	<0.001	0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.19	2.58
Beece C	W12	8/30/1994	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	<0.0005	2.46	2.84

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Beece C	W11	6/9/1996	<0.0001	<0.0001	1.61		0.034	0.037					<0.010	<0.010	0.00005	0.00007
Beece C	W11	6/18/1996	<0.0001	<0.0001	1.64		0.036	0.036					<0.010	<0.010	0.00005	0.00005
Beece C	W11	6/27/1996	<0.0001	<0.0001	1.45		0.038	0.038					<0.010	<0.010	0.00005	0.00007
Beece C	W11	7/10/1996	<0.0001	<0.0001	0.89		0.021	0.024					<0.010	<0.010	0.00004	0.00005
Beece C	W11	8/6/1996	<0.0001	<0.0001	1.05		0.022	0.026					<0.010	<0.010	0.00003	0.00004
Beece C	W11	8/16/1996	<0.0001	<0.0001	0.98		0.026	0.024					<0.010	<0.010	0.00003	0.00003
Beece C	W11	8/24/1996	<0.0001	<0.0001	1.01		0.022	0.024					<0.010	<0.010	0.00002	0.00003
Beece C	W11	8/29/1996	<0.0001	<0.0001	0.92		0.022	0.023					<0.010	<0.010	0.00002	0.00004
Beece C	W11	9/6/1996	<0.0001	<0.0001	1.15		0.028	0.029					<0.010	<0.010	0.00004	0.00004
Beece C	W11	2/27/1997	<0.0001	<0.0001	2.56		0.052	0.055					<0.010	<0.010	0.00004	0.00004
Beece C	W11	5/19/1997	0.00001	0.00001			0.0267	0.0284			0.0001	0.0001	0.01	0.01	0.00008	0.00009
Beece C	W11	5/26/1997	0.00001	0.00001			0.0312	0.0314			0.0001	0.0001	0.01	0.01	0.00009	0.0001
Beece C	W11	6/2/1997	0.00001	0.00001			0.0233	0.0239			0.0001	0.0001	0.01	0.01	0.00007	0.00008
Beece C	W11	6/9/1997	0.00001	0.00001			0.0248	0.0246			0.0001	0.0001	0.01	0.01	0.00006	0.00006
Beece C	W11	6/15/1997	0.00001	0.00001			0.0163	0.0172			0.0001	0.0001	0.01	0.01	0.00004	0.00007
Beece C	W11	7/28/1997	0.00001	0.00001			0.0192	0.0192			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	9/14/1997	0.00001	0.00001			0.0228	0.023			0.0001	0.0001	0.01	0.01	0.00002	0.00003
Beece C	W11	9/21/1997	0.00001	0.00001			0.0255	0.0261			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	9/28/1997	0.00001	0.00001			0.0226	0.023			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	10/5/1997	0.00001	0.00001			0.0237	0.0241			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W11	10/12/1997	0.00001	0.00001			0.0275	0.0279			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	11/15/1997	0.00001	0.00001			0.0373	0.038			0.0001	0.0001	0.01	0.01	0.00002	0.00003
Beece C	W11	12/17/1997	0.00001	0.00001	2	2	0.0435	0.0437			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	1/18/1998	0.00001	0.00001	2	2	0.048	0.054			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	2/26/1998	0.00001	0.00001	3	3	0.0481	0.0487			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W11	3/9/1998	0.00001	0.00001	3	3	0.0493	0.0493			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W11	4/12/1998	0.00001	0.00001	3	3	0.0496	0.0496			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Beece C	W12	12/1/1992	<0.0001	<0.0001	1.65		0.034	0.034							<0.00005	<0.00005
Beece C	W12	1/7/1993	<0.0001	<0.0001	1.82		0.034	0.034							<0.00005	<0.00005
Beece C	W12	1/27/1993	<0.0001	<0.0001	1.82		0.038	0.038							<0.00005	<0.00005
Beece C	W12	3/2/1993	<0.0001	<0.0001	1.93		0.034	0.034							<0.00005	<0.00005
Beece C	W12	3/31/1993	<0.0001	<0.0001	2.29		0.039	0.039							<0.00005	<0.00005
Beece C	W12	5/5/1993	<0.0001	<0.0001	1.99		0.037	0.037							<0.00005	0.00005
Beece C	W12	5/13/1993	<0.0001	<0.0001	0.97		0.02	0.02							0.00006	0.00011
Beece C	W12	5/19/1993	<0.0001	<0.0001	0.93		0.016	0.018							0.00003	0.00005
Beece C	W12	5/27/1993	<0.0001	<0.0001	1.06		0.017	0.017							0.00003	0.00005
Beece C	W12	6/3/1993	<0.0001	<0.0001	1.1		0.019	0.019							0.00003	0.00005
Beece C	W12	8/17/1993	<0.0001	<0.0001	0.96		0.013	0.013							0.00003	0.00004
Beece C	W12	8/24/1993	<0.0001	<0.0001	1		0.014	0.014							0.00003	0.00004
Beece C	W12	8/31/1993	<0.0001	<0.0001	0.01		0.015	0.017							0.00003	0.00004
Beece C	W12	9/14/1993	<0.0001	<0.0001	1.22		0.023	0.023							0.00002	0.00004
Beece C	W12	9/20/1993	<0.0001	<0.0001	1.41		0.024	0.025							0.00002	0.00002
Beece C	W12	5/4/1994	<0.0001	<0.0001	2.04		0.046	0.047							0.00006	0.00006
Beece C	W12	5/12/1994	<0.0001	<0.0001	1.25		0.019	0.021							0.00006	0.00008
Beece C	W12	5/17/1994	<0.0001	<0.0001	1.64		0.034	0.034							0.00004	0.00006
Beece C	W12	5/26/1994	<0.0001	<0.0001	1.14		0.02	0.02							0.00003	0.00004
Beece C	W12	5/31/1994	<0.0001	<0.0001	1.39		0.026	0.027							0.00003	0.00004
Beece C	W12	8/10/1994	<0.0001	<0.0001	0.76		0.017	0.019							0.00003	0.00004
Beece C	W12	8/16/1994	<0.0001	<0.0001	0.83		0.018	0.019							0.00002	0.00004
Beece C	W12	8/24/1994	<0.0001	<0.0001	0.9		0.019	0.022							0.00001	0.00003
Beece C	W12	8/30/1994	<0.0001	<0.0001	1.07		0.021	0.022							0.00003	0.00004

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Beece C	W11	6/9/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	6/18/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	6/27/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	7/10/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/6/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/16/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/24/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	8/29/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	9/6/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W11	2/27/1997	<0.030	<0.030	<0.005	<0.005
Beece C	W11	5/19/1997	0.001	0.001	0.001	0.001
Beece C	W11	5/26/1997	0.001	0.001	0.001	0.001
Beece C	W11	6/2/1997	0.001	0.001	0.001	0.002
Beece C	W11	6/9/1997	0.001	0.001	0.001	0.001
Beece C	W11	6/15/1997	0.001	0.001	0.001	0.001
Beece C	W11	7/28/1997	0.001	0.001	0.001	0.002
Beece C	W11	9/14/1997	0.001	0.001	0.001	0.001
Beece C	W11	9/21/1997	0.001	0.001	0.001	0.001
Beece C	W11	9/28/1997	0.001	0.001	0.001	0.002
Beece C	W11	10/5/1997	0.001	0.001	0.002	0.002
Beece C	W11	10/12/1997	0.001	0.001	0.002	0.006
Beece C	W11	11/15/1997	0.001	0.001	0.001	0.003
Beece C	W11	12/17/1997	0.001	0.001	0.001	0.001
Beece C	W11	1/18/1998	0.001	0.001	0.001	0.001
Beece C	W11	2/26/1998	0.001	0.001	0.001	0.001
Beece C	W11	3/9/1998	0.001	0.001	0.001	0.001
Beece C	W11	4/12/1998	0.001	0.001	0.001	0.001
Beece C	W12	12/1/1992	<0.030	<0.030	<0.005	<0.005
Beece C	W12	1/7/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	1/27/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	3/2/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	3/31/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/5/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/13/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/19/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/27/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/3/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/17/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/24/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/31/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	9/14/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	9/20/1993	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/4/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/12/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/17/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/26/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/31/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/10/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/16/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/24/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/30/1994	<0.030	<0.030	<0.005	<0.005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Beece C	W12	9/6/1994				30.9	12.2		7.42	11.7	6.7		0.7	19	3	0.5	0.09	2.3
Beece C	W12	6/21/1995				22.7	8.86		7.4	8.7	9.05		1.1	13	10	0.5	0.06	<1.0
Beece C	W12	6/28/1995				22.4	8.94		7.23	9	3.2		0.7	14	2	0.5	0.05	1.9
Beece C	W12	7/4/1995				21.3	8.41		7.38	7.7	3.93		1.4	12	2	0.5	0.05	1.2
Beece C	W12	7/13/1995				23.2	8.73		6.69	9.1	2.38		1.1	13	2	0.5	0.06	1.2
Beece C	W12	7/17/1995				20.8	7.73		7.27	8.1	3.1		0.5	13	3	0.5	0.06	1.3
Beece C	W12	9/27/1995				31.4	12.1		7.82	13.2	3.12		0.9	19	<1	0.7	0.08	2.1
Beece C	W12	10/4/1995				36.5	14.6		7.58	15.1	1.1		0.9	22	<1	0.5	0.09	2.5
Beece C	W12	10/11/1995				38.6	16.3		7.75	16.8	0.9		1.1	25	<1	0.5	0.07	3.4
Beece C	W12	10/18/1995				37.7	14.9		7.43	14.6	1.1		1.8	24	<1	0.5	0.07	3.7
Beece C	W12	10/27/1995				37.2	15.1		7.37	13.6	0.9		1.2	21	<1	0.5	0.07	2.6
Beece C	W12	5/29/1996				49.7	20.1		7.27	21.6	2.9		5.4	31	2	0.5	0.08	2.6
Beece C	W12	6/9/1996				34.5	14		6.9	15.5	2		4.2	22	2	0.5	0.07	2.3
Beece C	W12	6/18/1996				34.7	13.9		7.16	14.5	1.4		3.2	21	<1	0.5	0.07	2.1
Beece C	W12	6/27/1996				29.2	13		7.24	11.2	2.9		4.4	19	8	0.5	0.08	1.6
Beece C	W12	7/10/1996				22.7	8.14		6.78	9.2	4.3		1.6	11	7	0.5	0.04	<1.0
Beece C	W12	8/6/1996				29	12.1		7.25	12.6	1.6		1.2	18	3	0.5	0.04	1.5
Beece C	W12	8/16/1996				23.7	8.89		7.46	9.5	2.2		0.8	14	2	0.5	0.06	1.4
Beece C	W12	8/24/1996				22.4	8.87		7.31	9.4	3.4		0.8	13	3	0.5	0.06	1.4
Beece C	W12	8/29/1996				20.6	7.63		7.32	8.4	3.4		0.6	12	4	0.5	0.06	1.4
Beece C	W12	9/6/1996				30	11.7		7.56	13.2	1		1.4	19	1	0.5	0.07	1.8
Beece C	W12	2/27/1997				56	21.3		7.54	22	0.3		1.1	30	1	0.5	0.07	3
Beece C	W12	5/19/1997	2.1			34	13	7.29	6.92	13	2.7		4.6	19	3	0.5	0.09	2
Beece C	W12	5/26/1997	4.5			37	13.9	7.27	6.8	15	3.2		6.3	22	5	0.5	0.08	2
Beece C	W12	6/2/1997	2.8			29	10.2	7.5	6.59	12	4.7		3.2	16	9	0.5	0.07	2
Beece C	W12	6/9/1997	6.7			31	10.6	7.52	6.96	12	1.7		2.3	16	1	0.5	0.07	2
Beece C	W12	6/15/1997	6.2			26	7.19	6.79	6.98	8	3.8		1.5	10	8	0.5	0.08	1
Beece C	W12	7/28/1997	12			22	8.65	8.2	7	9	2.2		1.2	13	1	0.5	0.05	1
Beece C	W12	9/14/1997	8.5			32	10.6		6.79	11	1.7		0.9	14	1	0.5	0.05	2
Beece C	W12	9/21/1997	5			35	11.8	7.51	6.96	12	1.7		1	17	2	0.5	0.07	2
Beece C	W12	9/28/1997	5.2			31	10.5	7.17	6.62	10	2.2		1	15	2	0.5	0.07	2
Beece C	W12	10/5/1997	5			33	11.1	7.7	6.05	11	1.5		1.1	15	1	0.5	0.06	2
Beece C	W12	10/12/1997	1			43	12.8	7.07	7.54	13	0.7		1.2	18	1	0.5	0.07	2
Beece C	W12	11/15/1997	0			45	15.1	8.2	6.87	15	0.6		1.2	21	1	0.5	0.08	3
Beece C	W12	12/18/1997	0			49	16.6	7.56	7	15	0.4		1.3	21	3	0.5	0.06	3
Beece C	W12	1/18/1998	0.5			52	18	7.4	7.06	19	0.6		1.2	25	1	0.5	0.11	3
Beece C	W12	2/26/1998	0.3			57	20.7	7.45	7.04	21	0.7		1.3	29	1	0.5	0.07	3
Beece C	W12	3/9/1998	0.5			58	21	6.7	7.39	21	0.4		0.5	32	1	0.6	0.08	3
Beece C	W12	4/15/1998	0.6			55	22.3	7.7	7.5	22	0.3		0.5	30	1	0.5	0.06	3
Groundhog C Tributary	W16	8/25/1994				238	103		8.39	134	0.8		6.4	146	5	0.6	0.03	2
Groundhog C Tributary	W16	5/30/1996				75	36.7		7.19	37.1	1.1		17.1	53	7	0.5	0.04	<1.0
Groundhog C Tributary	W16	6/9/1996				68.3	36.2		7.4	35.6	1.7		19	55	2	0.5	0.04	<1.0
Groundhog C Tributary	W16	6/17/1996				84.1	42.1		7.53	43.7	1		12.9	59	1	0.7	0.04	1.8
Groundhog C Tributary	W16	8/11/1996				101	52		7.6	56.4	5.4		18.5	72	8	0.5	0.05	<1.0
Groundhog C Tributary	W16	8/15/1996				104	53.9		7.68	52.9	2.4		17	69	4	0.5	0.08	<1.0
Groundhog C Tributary	W16	8/24/1996				105	54		7.58	57.2	3.3		17.4	72	5	0.5	0.07	<1.0
Groundhog C Tributary	W16	9/3/1996				126	65.6		7.65	66.2	2.1		17.3	82	1	0.5	0.05	<1.0
Groundhog C Tributary	W16	9/14/1996				103	50.1		7.74	54.7	2.1		16.9	69	1	0.5	0.07	<1.0
Groundhog C Tributary	W16	5/13/1997	6			68	33.1	7.14	6.98	35	1.2		13.1	45	2	0.5	0.04	1
Groundhog C Tributary	W16	5/19/1997	5			84	45.6	7.33	6.79	48	1.8		13.2	59	1	0.5	0.04	1
Groundhog C Tributary	W16	5/27/1997	9.4			86	44.4	7.34	7.18	48	0.8		16.8	62	2	0.5	0.05	1

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Beece C	W12	9/6/1994	0.005	<0.005	0.003	0.003	0.003	0.008	0.099	0.418	0.0001	0.0001	0.0007	0.001	<0.010
Beece C	W12	6/21/1995	<0.005	0.029	0.003	0.002	0.002	0.026	0.079	0.4	<0.0001	0.0001	0.0007	0.001	<0.010
Beece C	W12	6/28/1995	<0.005	0.005	0.001	0.002	0.002	0.014	0.069	0.19	<0.0001	0.0001	0.0007	0.0008	<0.010
Beece C	W12	7/4/1995	<0.005	<0.005	0.001	0.003	0.003	0.007	0.101	0.27	<0.0001	<0.0001	0.0007	0.0008	<0.010
Beece C	W12	7/13/1995	0.006	<0.005	0.001	0.001	0.001	0.005	0.061	0.15	<0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W12	7/17/1995	<0.005	<0.005	0.002	0.001	0.001	0.01	0.079	0.26	<0.0001	<0.0001	0.0008	0.0008	<0.010
Beece C	W12	9/27/1995	<0.005	0.009	0.002	0.001	0.001	0.008	0.074	0.185	<0.0001	0.0001	0.0006	0.0007	<0.010
Beece C	W12	10/4/1995	<0.005	0.01	0.002	<0.001	<0.001	0.004	0.029	0.103	<0.0001	<0.0001	0.0006	0.0007	<0.010
Beece C	W12	10/11/1995	<0.005	0.011	0.001	0.001	0.001	0.004	0.086	0.107	0.0001	0.0001	0.0005	0.0006	<0.010
Beece C	W12	10/18/1995	<0.005	0.033	0.002	<0.001	<0.001	0.01	0.09	0.11	0.0001	0.0001	0.0005	0.0005	<0.010
Beece C	W12	10/27/1995	<0.005	0.023	0.002	<0.001	<0.001	0.002	0.053	0.092	<0.0001	<0.0001	0.0006	0.0006	<0.010
Beece C	W12	5/29/1996	<0.005	<0.005	<0.001	0.004	0.004	0.011	0.06	0.113	0.0001	0.0001	0.0005	0.0005	<0.010
Beece C	W12	6/9/1996	<0.005	<0.005	0.001	0.002	0.002	0.007	0.068	0.113	0.0001	<0.0001	0.0008	0.0008	<0.010
Beece C	W12	6/18/1996	<0.005	<0.005	0.001	0.001	0.001	0.007	0.046	0.078	0.0002	0.0001	0.0008	0.0008	<0.010
Beece C	W12	6/27/1996	<0.005	0.012	0.001	0.004	0.004	0.016	0.062	0.344	0.0003	0.0001	0.0008	0.001	<0.010
Beece C	W12	7/10/1996	<0.005	0.006	0.002	0.002	0.002	0.009	0.055	0.242	0.0002	0.0001	0.0009	0.0012	<0.010
Beece C	W12	8/6/1996	<0.005	<0.005	0.001	0.002	0.002	0.005	0.035	0.095	0.0002	0.0001	0.0008	0.0009	<0.010
Beece C	W12	8/16/1996	<0.005	<0.005	<0.001	0.001	0.001	0.007	0.033	0.134	0.0002	0.0001	0.0006	0.0007	<0.010
Beece C	W12	8/24/1996	<0.005	<0.005	0.002	0.003	0.003	0.012	0.033	0.168	0.0001	0.0001	0.0007	0.0008	<0.010
Beece C	W12	8/29/1996	<0.005	<0.005	0.001	0.003	0.003	0.012	0.037	0.208	0.0002	0.0001	0.0008	0.0009	<0.010
Beece C	W12	9/6/1996	0.006	<0.005	0.001	0.008	0.008	0.016	0.021	0.068	0.0001	0.0001	0.0008	0.0009	<0.010
Beece C	W12	2/27/1997	<0.005	0.062	<0.001	<0.001	<0.001	<0.001	0.01	0.021	0.0001	0.0001	0.0005	0.0006	<0.010
Beece C	W12	5/19/1997	0.005	0.026	0.001	0.001	0.002	0.01	0.06	0.18	0.00016	0.00013	0.0007	0.0008	0.00085
Beece C	W12	5/26/1997	0.007	0.016	0.001	0.002	0.002	0.011	0.08	0.202	0.00008	0.00009	0.0007	0.0009	0.00103
Beece C	W12	6/2/1997	0.005	0.033	0.001	0.001	0.002	0.01	0.054	0.197	0.00015	0.00011	0.0007	0.0009	0.00071
Beece C	W12	6/9/1997	0.006	0.008	0.002	0.001	0.001	0.003	0.039	0.077	0.00017	0.00013	0.0008	0.0008	0.00074
Beece C	W12	6/15/1997	0.005	0.01	0.001	0.001	0.003	0.008	0.039	0.174	0.0002	0.00012	0.0007	0.001	0.00059
Beece C	W12	7/28/1997	0.005	0.005	0.001	0.001	0.002	0.004	0.041	0.097	0.00012	0.00012	0.0008	0.0009	0.00074
Beece C	W12	9/14/1997	0.005	0.005	0.001	0.001	0.003	0.003	0.05	0.126	0.00012	0.00013	0.0007	0.0007	0.00086
Beece C	W12	9/21/1997	0.005	0.022	0.001	0.001	0.001	0.003	0.039	0.12	0.00013	0.00014	0.0007	0.0008	0.0008
Beece C	W12	9/28/1997	0.005	0.019	0.002	0.002	0.002	0.007	0.041	0.126	0.00014	0.00014	0.0007	0.0007	0.00076
Beece C	W12	10/5/1997	0.005	0.019	0.001	0.001	0.001	0.001	0.029	0.082	0.00013	0.00013	0.0007	0.0007	0.00072
Beece C	W12	10/12/1997	0.005	0.014	0.001	0.001	0.001	0.003	0.024	0.078	0.00012	0.00013	0.0005	0.0006	0.00073
Beece C	W12	11/15/1997	0.005	0.021	0.001	0.001	0.002	0.003	0.02	0.04	0.00014	0.00014	0.0005	0.0005	0.00105
Beece C	W12	12/18/1997	0.005	0.048	0.001	0.001	0.001	0.002	0.015	0.029	0.00014	0.00015	0.0005	0.0005	0.00098
Beece C	W12	1/18/1998	0.005	0.064	0.001	0.001	0.001	0.002	0.015	0.049	0.00012	0.00012	0.0005	0.0005	0.00108
Beece C	W12	2/26/1998	0.005	0.057	0.001	0.001	0.001	0.001	0.011	0.02	0.00013	0.00013	0.0005	0.0005	0.00119
Beece C	W12	3/9/1998	0.005	0.068	0.001	0.001	0.001	0.001	0.011	0.02	0.00013	0.00012	0.0005	0.0005	0.00117
Beece C	W12	4/15/1998	0.005	0.042	0.001	0.001	0.001	0.003	0.009	0.019	0.0001	0.0001	0.0005	0.0005	0.00127
Groundhog C Tributary	W16	8/25/1994	0.011	0.015	0.001	0.008	0.008	0.012	<0.005	0.012	<0.0001	<0.0001	0.0021	0.0021	<0.010
Groundhog C Tributary	W16	5/30/1996	<0.005	<0.005	<0.001	<0.001	<0.001	0.011	0.017	0.02	<0.0001	<0.0001	0.0001	0.0001	<0.010
Groundhog C Tributary	W16	6/9/1996	0.006	<0.005	0.002	0.002	0.002	0.015	0.055	0.073	<0.0001	<0.0001	0.0003	0.0003	<0.010
Groundhog C Tributary	W16	6/17/1996	0.006	<0.005	0.002	0.003	0.003	0.011	0.048	0.073	<0.0001	<0.0001	0.0003	0.0003	<0.010
Groundhog C Tributary	W16	8/11/1996	0.007	0.005	0.002	0.004	0.004	0.032	0.015	0.077	0.0002	<0.0001	0.0002	0.0002	<0.010
Groundhog C Tributary	W16	8/15/1996	0.012	<0.005	0.002	0.005	0.005	0.024	0.022	0.036	0.0002	<0.0001	<0.0001	0.0002	<0.010
Groundhog C Tributary	W16	8/24/1996	0.014	0.006	0.003	0.004	0.004	0.028	0.008	0.017	<0.0001	<0.0001	0.0002	0.0002	<0.010
Groundhog C Tributary	W16	9/3/1996	0.007	0.018	0.003	0.008	0.008	0.024	0.009	0.013	0.0002	<0.0001	0.0002	0.0003	<0.010
Groundhog C Tributary	W16	9/14/1996	0.015	0.007	0.002	0.003	0.003	0.019	0.009	0.023	0.0004	<0.0001	0.0002	0.0005	<0.010
Groundhog C Tributary	W16	5/13/1997	0.029	0.005	0.001	0.002	0.002	0.022	0.023	0.028	0.0005	0.0005	0.0001	0.0001	0.00177
Groundhog C Tributary	W16	5/19/1997	0.005	0.006	0.001	0.002	0.002	0.014	0.012	0.016	0.00017	0.00005	0.0001	0.0001	0.00141
Groundhog C Tributary	W16	5/27/1997	0.005	0.005	0.001	0.001	0.002	0.003	0.011	0.013	0.00016	0.00005	0.0001	0.0001	0.00141

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Beece C	W12	9/6/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.97	4.07	<0.001	<0.001
Beece C	W12	6/21/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.9	3.14	<0.001	<0.001
Beece C	W12	6/28/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.94	3.01	<0.001	<0.001
Beece C	W12	7/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.8	2.89	<0.001	<0.001
Beece C	W12	7/13/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.93	3.07	<0.001	<0.001
Beece C	W12	7/17/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.56	2.73	<0.001	<0.001
Beece C	W12	9/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.96	4.04	<0.001	<0.001
Beece C	W12	10/4/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.71	4.62	<0.001	<0.001
Beece C	W12	10/11/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	5.18	5.16	<0.001	<0.001
Beece C	W12	10/18/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.77	4.77	<0.001	<0.001
Beece C	W12	10/27/1995	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.81	4.94	<0.001	<0.001
Beece C	W12	5/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.13	6.3	<0.001	<0.001
Beece C	W12	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.38	4.58	<0.001	<0.001
Beece C	W12	6/18/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.38	4.31	<0.001	<0.001
Beece C	W12	6/27/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	4.1	4.01	<0.001	<0.001
Beece C	W12	7/10/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.66	2.98	<0.001	<0.001
Beece C	W12	8/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.74	3.41	<0.001	<0.001
Beece C	W12	8/16/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.95	2.95	<0.001	<0.001
Beece C	W12	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.93	2.97	<0.001	<0.001
Beece C	W12	8/29/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	2.54	2.66	<0.001	<0.001
Beece C	W12	9/6/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	3.82	3.88	<0.001	<0.001
Beece C	W12	2/27/1997	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.59	6.46	<0.001	<0.001
Beece C	W12	5/19/1997	0.00158	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	4.07	4.21	0.0005	0.0005
Beece C	W12	5/26/1997	0.00181	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	4.34	4.37	0.0005	0.0005
Beece C	W12	6/2/1997	0.00156	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	3.28	3.38	0.0005	0.0005
Beece C	W12	6/9/1997	0.001	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	3.34	3.4	0.0005	0.0005
Beece C	W12	6/15/1997	0.00144	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	2.36	2.46	0.0005	0.0005
Beece C	W12	7/28/1997	0.00106	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	2.83	2.82	0.0005	0.0005
Beece C	W12	9/14/1997	0.00128	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	3.44	3.71	0.0005	0.0005
Beece C	W12	9/21/1997	0.0012	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	3.84	3.92	0.0005	0.0005
Beece C	W12	9/28/1997	0.00127	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	3.46	3.55	0.0005	0.0005
Beece C	W12	10/5/1997	0.00103	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	3.65	3.81	0.0005	0.0005
Beece C	W12	10/12/1997	0.00097	0.0005	0.0005	0.0005	0.0005	0.004	0.005	0.00005	0.00005	4.1	4.15	0.0005	0.0005
Beece C	W12	11/15/1997	0.00118	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	4.77	4.87	0.0005	0.0005
Beece C	W12	12/18/1997	0.0011	0.0005	0.0005	0.0005	0.0005	0.006	0.006	0.00005	0.00005	5.29	5.39	0.0005	0.0005
Beece C	W12	1/18/1998	0.00122	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	5.63	5.68	0.0005	0.0005
Beece C	W12	2/26/1998	0.00126	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	6.43	6.63	0.0005	0.0005
Beece C	W12	3/9/1998	0.00124	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	6.5	6.44	0.0005	0.0005
Beece C	W12	4/15/1998	0.00136	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	6.83	6.81	0.0005	0.0005
Groundhog C Tributary	W16	8/25/1994	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	16.6	16.9	<0.001	<0.001
Groundhog C Tributary	W16	5/30/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	6.43	6.61	<0.001	<0.001
Groundhog C Tributary	W16	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	7.81	7.84	<0.001	<0.001
Groundhog C Tributary	W16	6/17/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.94	8.84	<0.001	<0.001
Groundhog C Tributary	W16	8/11/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	9.05	8.74	<0.001	<0.001
Groundhog C Tributary	W16	8/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	9.26	9.32	<0.001	<0.001
Groundhog C Tributary	W16	8/24/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	9.08	9.11	<0.001	<0.001
Groundhog C Tributary	W16	9/3/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	11.3	11.2	<0.001	<0.001
Groundhog C Tributary	W16	9/14/1996	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10		<0.0002	<0.0002	8.6	12.5	<0.001	<0.001
Groundhog C Tributary	W16	5/13/1997	0.00204	0.0005	0.0005	0.0005	0.0005	0.002	0.003	0.00005	0.00005	5.54	5.37	0.0005	0.0005
Groundhog C Tributary	W16	5/19/1997	0.00158	0.0005	0.0005	0.0005	0.0005	0.001	0.002	0.00005	0.00005	7.64	6.96	0.0005	0.0005
Groundhog C Tributary	W16	5/27/1997	0.00143	0.0005	0.0005	0.0005	0.0005	0.001	0.001	0.00005	0.00005	7.71	7.71	0.0005	0.0005

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Beece C	W12	9/6/1994	<0.001	<0.001	<0.001	<0.001	0.061	0.172	<0.001				0.557	0.586	<0.005	<0.005
Beece C	W12	6/21/1995	<0.001	<0.001	<0.001	0.001	0.039	0.223	<0.001				0.392	0.474	<0.005	0.006
Beece C	W12	6/28/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.103	<0.001				0.389	0.41	<0.005	<0.005
Beece C	W12	7/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.117	<0.001				0.347	0.384	<0.005	<0.005
Beece C	W12	7/13/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.083	<0.001				0.34	0.361	<0.005	<0.005
Beece C	W12	7/17/1995	<0.001	0.001	<0.001	<0.001	0.044	0.147	<0.001				0.324	0.349	<0.005	<0.005
Beece C	W12	9/27/1995	<0.001	<0.001	<0.001	<0.001	0.034	0.102	<0.001				0.537	0.564	<0.005	<0.005
Beece C	W12	10/4/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.032	<0.001				0.7	0.699	<0.005	<0.005
Beece C	W12	10/11/1995	<0.001	<0.001	<0.001	<0.001	0.047	0.044	<0.001				0.822	0.822	<0.005	<0.005
Beece C	W12	10/18/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.053	<0.001				0.73	0.734	<0.005	<0.005
Beece C	W12	10/27/1995	<0.001	<0.001	<0.001	<0.001	<0.030	0.032	<0.001				0.752	0.763	<0.005	<0.005
Beece C	W12	5/29/1996	<0.001	<0.001	0.001	0.001	0.047	0.095	<0.001				1.17	1.21	<0.005	<0.005
Beece C	W12	6/9/1996	<0.001	<0.001	<0.001	0.001	0.039	0.081	<0.001				0.738	0.765	<0.005	<0.005
Beece C	W12	6/18/1996	<0.001	<0.001	<0.001	0.001	<0.030	0.052	<0.001				0.72	0.738	<0.005	<0.005
Beece C	W12	6/27/1996	<0.001	<0.001	<0.001	0.001	0.034	0.135	<0.001				0.659	0.631	<0.005	<0.005
Beece C	W12	7/10/1996	<0.001	<0.001	<0.001	0.001	<0.030	0.109	<0.001				0.362	0.427	<0.005	<0.005
Beece C	W12	8/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.072	<0.001				0.66	0.503	<0.005	<0.005
Beece C	W12	8/16/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.074	<0.001				0.37	0.389	<0.005	<0.005
Beece C	W12	8/24/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.112	<0.001				0.378	0.408	<0.005	<0.005
Beece C	W12	8/29/1996	<0.001	<0.001	<0.001	<0.001	0.033	0.145	<0.001				0.315	0.344	<0.005	<0.005
Beece C	W12	9/6/1996	<0.001	<0.001	<0.001	<0.001	<0.030	0.056	<0.001				0.534	0.549	<0.005	<0.005
Beece C	W12	2/27/1997	<0.001	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001				1.18	1.19	<0.005	<0.005
Beece C	W12	5/19/1997	0.0001	0.0001	0.001	0.0013	0.05	0.13	0.00005	0.00009	0.001	0.001	0.69	0.72	0.00118	0.00712
Beece C	W12	5/26/1997	0.0001	0.0001	0.0014	0.0015	0.05	0.14	0.00005	0.00011	0.001	0.001	0.74	0.76	0.00115	0.0038
Beece C	W12	6/2/1997	0.0001	0.0001	0.0008	0.0011	0.03	0.13	0.00005	0.00012	0.001	0.001	0.48	0.54	0.00089	0.00367
Beece C	W12	6/9/1997	0.0001	0.0001	0.001	0.0008		0.05	0.00005	0.00005	0.001	0.001	0.55	0.52	0.00072	0.00159
Beece C	W12	6/15/1997	0.0001	0.0001	0.0005	0.001		0.07	0.00005	0.00015	0.001	0.001	0.31	0.34	0.00076	0.00392
Beece C	W12	7/28/1997	0.0001	0.0001	0.0004	0.0005		0.06	0.00005	0.00005	0.001	0.001	0.39	0.4	0.00074	0.00167
Beece C	W12	9/14/1997	0.0001	0.0001	0.0004	0.0008		0.09	0.00005	0.00008	0.001	0.001	0.49	0.62	0.00082	0.00233
Beece C	W12	9/21/1997	0.0001	0.0001	0.0004	0.0006		0.07	0.00005	0.00006	0.001	0.001	0.55	0.56	0.00076	0.00242
Beece C	W12	9/28/1997	0.0001	0.0003	0.0004	0.0007		0.09	0.00005	0.00008	0.001	0.001	0.44	0.47	0.00077	0.00292
Beece C	W12	10/5/1997	0.0001	0.0001	0.0004	0.0009		0.06	0.00005	0.00005	0.001	0.001	0.48	0.55	0.00073	0.00184
Beece C	W12	10/12/1997	0.0004	0.0005	0.0004	0.0008		0.04	0.00005	0.00005	0.001	0.001	0.63	0.63	0.00089	0.00206
Beece C	W12	11/15/1997	0.0003	0.0001	0.0004	0.0005		0.03	0.00005	0.00005	0.001	0.001	0.77	0.8	0.00068	0.0011
Beece C	W12	12/18/1997	0.0001	0.0001	0.0003	0.0003			0.00005	0.00005	0.001	0.001	0.82	0.84	0.00032	0.00068
Beece C	W12	1/18/1998	0.0001	0.0001	0.0003	0.0003			0.00005	0.00005	0.001	0.001	0.96	0.95	0.00029	0.00058
Beece C	W12	2/26/1998	0.0001	0.0001	0.0003	0.0003			0.00005	0.00005	0.001	0.001	1.14	1.16	0.00023	0.00047
Beece C	W12	3/9/1998	0.0001	0.0001	0.0003	0.0003			0.00005	0.00005	0.001	0.001	1.16	1.14	0.00023	0.00043
Beece C	W12	4/15/1998	0.0001	0.0001	0.0003	0.0004			0.00005	0.00006	0.001	0.001	1.3	1.3	0.00018	0.00044
Groundhog C Tributary	W16	8/25/1994	<0.001	<0.001	<0.001	0.002	0.125	0.17	<0.001	<0.001			15	15	0.013	0.018
Groundhog C Tributary	W16	5/30/1996	<0.001	<0.001	<0.001	<0.001	0.187	0.26	<0.001	<0.001			5.01	5.2	<0.005	0.013
Groundhog C Tributary	W16	6/9/1996	<0.001	<0.001	<0.001	<0.001	0.138	0.216	<0.001	<0.001			4.07	4.09	0.005	0.011
Groundhog C Tributary	W16	6/17/1996	<0.001	<0.001	<0.001	<0.001	0.131	0.169	<0.001	<0.001			4.81	4.75	0.005	0.007
Groundhog C Tributary	W16	8/11/1996	<0.001	<0.001	<0.001	<0.001	0.405	0.77	<0.001	<0.001			7.14	6.8	0.019	0.081
Groundhog C Tributary	W16	8/15/1996	<0.001	<0.001	<0.001	<0.001	0.563	0.879	<0.001	<0.001			7.47	7.49	0.01	0.078
Groundhog C Tributary	W16	8/24/1996	<0.001	<0.001	<0.001	<0.001	0.327	0.54	<0.001	<0.001			7.61	7.64	0.018	0.074
Groundhog C Tributary	W16	9/3/1996	<0.001	<0.001	<0.001	<0.001	0.684	0.874	<0.001	<0.001			9.04	8.93	0.024	0.044
Groundhog C Tributary	W16	9/14/1996	<0.001	<0.001	<0.001	<0.001	0.33	0.158	<0.001	<0.001			6.95	7.15	0.01	0.007
Groundhog C Tributary	W16	5/13/1997	0.0006	0.0002	0.0006	0.0007	0.51	0.66	0.00005	0.00005	0.001	0.001	4.69	4.52	0.027	0.0407
Groundhog C Tributary	W16	5/19/1997	0.0002	0.0002	0.0004	0.0004	0.34	0.45	0.00005	0.00005	0.001	0.001	6.45	5.84	0.0106	0.0173
Groundhog C Tributary	W16	5/27/1997	0.0001	0.0001	0.0004	0.0004	0.27	0.36	0.00005	0.00005	0.001	0.001	6.11	6.15	0.0111	0.0169

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Beece C	W12	9/6/1994	0.001	0.001	<0.001	<0.001			0.15		<0.0005	<0.0005	2.58	2.7
Beece C	W12	6/21/1995	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.18	2.5
Beece C	W12	6/28/1995	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	2.14	2.34
Beece C	W12	7/4/1995	<0.001	<0.001	<0.001	<0.001			0.1		<0.0005	<0.0005	1.96	2.24
Beece C	W12	7/13/1995	<0.001	<0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.06	2.25
Beece C	W12	7/17/1995	<0.001	<0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	1.77	2.03
Beece C	W12	9/27/1995	0.001	0.001	<0.001	<0.001			0.15		<0.0005	<0.0005	2.42	2.6
Beece C	W12	10/4/1995	0.001	0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.8	2.87
Beece C	W12	10/11/1995	<0.001	0.002	<0.001	<0.001			0.11		<0.0005	<0.0005	2.93	3.05
Beece C	W12	10/18/1995	0.001	0.001	<0.001	<0.001			0.09		<0.0005	<0.0005	2.7	2.8
Beece C	W12	10/27/1995	<0.001	0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	2.77	2.87
Beece C	W12	5/29/1996	0.001	0.001	<0.001	<0.001			0.26		<0.0005	0.0006	3.42	3.46
Beece C	W12	6/9/1996	<0.001	<0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	3.07	3.2
Beece C	W12	6/18/1996	<0.001	<0.001	<0.001	<0.001			0.19		<0.0005	<0.0005	3	3.01
Beece C	W12	6/27/1996	<0.001	<0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	2.85	2.87
Beece C	W12	7/10/1996	0.001	<0.001	<0.001	<0.001			0.06		<0.0005	<0.0005	2.05	2.23
Beece C	W12	8/6/1996	<0.001	<0.001	<0.001	<0.001			0.14		<0.0005	0.0006	2.36	2.36
Beece C	W12	8/16/1996	<0.001	<0.001	0.002	<0.001			0.1		<0.0005	0.0005	1.92	2.01
Beece C	W12	8/24/1996	<0.001	<0.001	<0.001	<0.001			0.13		<0.0005	<0.0005	1.94	2.19
Beece C	W12	8/29/1996	<0.001	<0.001	<0.001	<0.001			0.11		<0.0005	<0.0005	1.62	1.86
Beece C	W12	9/6/1996	0.001	0.001	<0.001	<0.001			0.23		<0.0005	<0.0005	2.42	2.51
Beece C	W12	2/27/1997	0.001	0.001	<0.001	<0.001			0.21		<0.0005	<0.0005	3.86	3.89
Beece C	W12	5/19/1997	0.00094	0.00091	0.0001	0.0002					0.0005	0.0005	3.01	3.21
Beece C	W12	5/26/1997	0.00099	0.00094	0.0001	0.0002					0.0005	0.0005	3.1	3.24
Beece C	W12	6/2/1997	0.00085	0.00084	0.0001	0.0001					0.0005	0.0005	2.57	2.81
Beece C	W12	6/9/1997	0.00093	0.00104	0.0002	0.0003					0.0005	0.0005	2.69	2.69
Beece C	W12	6/15/1997	0.00073	0.00066	0.0002	0.0003					0.0005	0.0005	1.91	2.08
Beece C	W12	7/28/1997	0.00092	0.0009	0.0001	0.0001					0.0005	0.0005	2.13	2.23
Beece C	W12	9/14/1997	0.00101	0.00101	0.0001	0.0001					0.0005	0.0005	2.37	2.55
Beece C	W12	9/21/1997	0.00115	0.00113	0.0001	0.0001					0.0005	0.0005	2.55	2.68
Beece C	W12	9/28/1997	0.00116	0.00109	0.0001	0.0001					0.0005	0.0005	2.33	2.44
Beece C	W12	10/5/1997	0.00116	0.00112	0.0001	0.0001					0.0005	0.0005	2.54	2.67
Beece C	W12	10/12/1997	0.00105	0.00101	0.0001	0.0001					0.0005	0.0005	2.7	2.75
Beece C	W12	11/15/1997	0.00124	0.00124	0.0001	0.0001					0.0005	0.0005	3.24	3.3
Beece C	W12	12/18/1997	0.00132	0.00131	0.0001	0.0001					0.0005	0.0005	3.3	3.36
Beece C	W12	1/18/1998	0.00132	0.00129	0.0001	0.0001					0.0014	0.0006	3.51	3.54
Beece C	W12	2/26/1998	0.0013	0.00128	0.0001	0.0001					0.0005	0.0005	3.62	3.7
Beece C	W12	3/9/1998	0.00133	0.00135	0.0001	0.0001					0.0005	0.0005	3.75	3.75
Beece C	W12	4/15/1998	0.00129	0.00129	0.0001	0.0001					0.0005	0.0005	3.74	3.71
Groundhog C Tributary	W16	8/25/1994	<0.001	<0.001	0.001	0.002			0.5		<0.0005	<0.0005	10.1	10.1
Groundhog C Tributary	W16	5/30/1996	<0.001	<0.001	<0.001	<0.001			0.48		<0.0005	0.0005	1.77	1.85
Groundhog C Tributary	W16	6/9/1996	<0.001	<0.001	0.001	0.001			0.24		<0.0005	<0.0005	5.82	5.83
Groundhog C Tributary	W16	6/17/1996	<0.001	<0.001	0.001	0.001			0.29		<0.0005	<0.0005	6.8	6.73
Groundhog C Tributary	W16	8/11/1996	<0.001	<0.001	0.001	0.002			0.24		<0.0005	<0.0005	2.14	2.12
Groundhog C Tributary	W16	8/15/1996	<0.001	<0.001	0.001	0.001			0.27		<0.0005	<0.0005	2.31	2.34
Groundhog C Tributary	W16	8/24/1996	<0.001	<0.001	0.001	0.001			0.23		<0.0005	<0.0005	1.94	2
Groundhog C Tributary	W16	9/3/1996	<0.001	<0.001	0.001	0.001			0.33		<0.0005	0.0006	2.7	2.68
Groundhog C Tributary	W16	9/14/1996	<0.001	<0.001	<0.001	<0.001			0.26		<0.0005	<0.0005	2.06	8.66
Groundhog C Tributary	W16	5/13/1997	0.0001	0.0001	0.0013	0.0013					0.0005	0.0005	2.75	2.67
Groundhog C Tributary	W16	5/19/1997	0.00008	0.00011	0.001	0.001					0.0005	0.0005	2.24	2.05
Groundhog C Tributary	W16	5/27/1997	0.00008	0.00008	0.001	0.001					0.0005	0.0005	1.9	1.92

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Beece C	W12	9/6/1994	<0.0001	<0.0001	1.06		0.022	0.023							0.00002	0.00002
Beece C	W12	6/21/1995	<0.0001	<0.0001	1.1		0.019	0.02					<0.010	<0.010	0.00003	0.00006
Beece C	W12	6/28/1995	<0.0001	<0.0001	0.98		0.018	0.019					<0.010	<0.010	0.00004	0.00005
Beece C	W12	7/4/1995	<0.0001	<0.0001	0.87		0.019	0.02					<0.010	<0.010	0.00002	0.00004
Beece C	W12	7/13/1995	<0.0001	<0.0001	0.87		0.024	0.025					<0.010	<0.010	0.00002	0.00003
Beece C	W12	7/17/1995	<0.0001	<0.0001	1.04		0.019	0.022					<0.010	<0.010	0.00004	0.00008
Beece C	W12	9/27/1995	<0.0001	<0.0001	1.18		0.024	0.025					<0.010	<0.010	0.00003	0.00004
Beece C	W12	10/4/1995	<0.0001	<0.0001	1.8		0.029	0.029					<0.010	<0.010	0.00004	0.00004
Beece C	W12	10/11/1995	<0.0001	<0.0001	1.65		0.032	0.033					<0.010	<0.010	0.00004	0.00005
Beece C	W12	10/18/1995	<0.0001	<0.0001	1.53		0.03	0.03					<0.010	<0.010	0.00004	0.00004
Beece C	W12	10/27/1995	<0.0001	<0.0001	1.6		0.029	0.03					<0.010	<0.010	0.00004	0.00004
Beece C	W12	5/29/1996	<0.0001	<0.0001	1.82		0.041	0.044					<0.010	<0.010	0.00008	0.00009
Beece C	W12	6/9/1996	<0.0001	<0.0001	1.18		0.031	0.033					<0.010	<0.010	0.00006	0.00007
Beece C	W12	6/18/1996	<0.0001	<0.0001	1.42		0.029	0.029					<0.010	<0.010	0.00005	0.00006
Beece C	W12	6/27/1996	<0.0001	<0.0001	1.32		0.032	0.031					<0.010	<0.010	0.00006	0.00008
Beece C	W12	7/10/1996	<0.0001	<0.0001	0.86		0.019	0.021					<0.010	<0.010	0.00004	0.00006
Beece C	W12	8/6/1996	<0.0001	<0.0001	1.2		0.026	0.022					<0.010	<0.010	0.00003	0.00004
Beece C	W12	8/16/1996	<0.0001	<0.0001	0.87		0.021	0.021					<0.010	<0.010	0.00003	0.00003
Beece C	W12	8/24/1996	<0.0001	<0.0001	0.88		0.021	0.021					<0.010	<0.010	0.00003	0.00004
Beece C	W12	8/29/1996	<0.0001	<0.0001	0.79		0.021	0.021					<0.010	<0.010	0.00002	0.00004
Beece C	W12	9/6/1996	<0.0001	<0.0001	1.08		0.025	0.025					<0.010	<0.010	0.00004	0.00005
Beece C	W12	2/27/1997	<0.0001	<0.0001	2.05		0.046	0.045					<0.010	<0.010	0.00004	0.00005
Beece C	W12	5/19/1997	0.00001	0.00001			0.0223	0.0236			0.0001	0.0001	0.01	0.01	0.0001	0.00011
Beece C	W12	5/26/1997	0.00001	0.00001			0.0257	0.026			0.0001	0.0001	0.01	0.01	0.00011	0.00013
Beece C	W12	6/2/1997	0.00001	0.00001			0.0195	0.0204			0.0001	0.0001	0.01	0.01	0.00008	0.0001
Beece C	W12	6/9/1997	0.00001	0.00001			0.0207	0.0213			0.0001	0.0001	0.01	0.01	0.00007	0.00007
Beece C	W12	6/15/1997	0.00001	0.00001			0.014	0.0147			0.0001	0.0001	0.01	0.01	0.00005	0.00008
Beece C	W12	7/28/1997	0.00001	0.00001			0.0164	0.0166			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W12	9/14/1997	0.00001	0.00001			0.0198	0.0199			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W12	9/21/1997	0.00001	0.00001			0.0221	0.0223			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W12	9/28/1997	0.00001	0.00001			0.0203	0.0201			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W12	10/5/1997	0.00001	0.00001			0.0211	0.0213			0.0001	0.0001	0.01	0.01	0.00004	0.00005
Beece C	W12	10/12/1997	0.00001	0.00001			0.0244	0.0247			0.0001	0.0001	0.01	0.01	0.00003	0.00004
Beece C	W12	11/15/1997	0.00001	0.00001			0.0302	0.0305			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Beece C	W12	12/18/1997	0.00001	0.00001			0.0325	0.033			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Beece C	W12	1/18/1998	0.00001	0.00001			0.049	0.045			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Beece C	W12	2/26/1998	0.00001	0.00001	2	2	0.0395	0.0394			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Beece C	W12	3/9/1998	0.00001	0.00001	2	2	0.0392	0.0398			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Beece C	W12	4/15/1998	0.00001	0.00001	2	2	0.0424	0.0429			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Groundhog C Tributary	W16	8/25/1994	<0.0001	<0.0001	11.1		0.034	0.034							0.00001	0.00003
Groundhog C Tributary	W16	5/30/1996	<0.0001	<0.0001	1.67		0.022	0.022					<0.010	<0.010	<0.00001	0.00001
Groundhog C Tributary	W16	6/9/1996	<0.0001	<0.0001	2.34		0.034	0.035					<0.010	<0.010	0.00001	0.00002
Groundhog C Tributary	W16	6/17/1996	<0.0001	<0.0001	2.84		0.037	0.037					<0.010	<0.010	0.00003	0.00003
Groundhog C Tributary	W16	8/11/1996	<0.0001	<0.0001	2.77		0.031	0.031					<0.010	<0.010	0.00003	0.00004
Groundhog C Tributary	W16	8/15/1996	<0.0001	<0.0001	2.78		0.034	0.034					<0.010	<0.010	0.00002	0.00003
Groundhog C Tributary	W16	8/24/1996	<0.0001	<0.0001	2.87		0.035	0.035					<0.010	<0.010	0.00002	0.00002
Groundhog C Tributary	W16	9/3/1996	<0.0001	<0.0001	3.19		0.04	0.04					<0.010	<0.010	0.00003	0.00003
Groundhog C Tributary	W16	9/14/1996	<0.0001	<0.0001	2.91		0.031	0.05					<0.010	<0.010	0.00002	0.00006
Groundhog C Tributary	W16	5/13/1997	0.00001	0.00001			0.0166	0.0167			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Groundhog C Tributary	W16	5/19/1997	0.00001	0.00001	3	2	0.0201	0.0207			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Groundhog C Tributary	W16	5/27/1997	0.00001	0.00001	2	3	0.0212	0.0214			0.0001	0.0001	0.01	0.01	0.00001	0.00001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Beece C	W12	9/6/1994	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/21/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/28/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	7/4/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	7/13/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	7/17/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	9/27/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	10/4/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	10/11/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	10/18/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	10/27/1995	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/29/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/9/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/18/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	6/27/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	7/10/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/6/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/16/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/24/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	8/29/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	9/6/1996	<0.030	<0.030	<0.005	<0.005
Beece C	W12	2/27/1997	<0.030	<0.030	<0.005	<0.005
Beece C	W12	5/19/1997	0.001	0.001	0.001	0.002
Beece C	W12	5/26/1997	0.001	0.001	0.001	0.001
Beece C	W12	6/2/1997	0.001	0.001	0.001	0.001
Beece C	W12	6/9/1997	0.001	0.001	0.001	0.002
Beece C	W12	6/15/1997	0.001	0.001	0.001	0.002
Beece C	W12	7/28/1997	0.001	0.001	0.001	0.001
Beece C	W12	9/14/1997	0.001	0.001	0.001	0.002
Beece C	W12	9/21/1997	0.001	0.001	0.002	0.002
Beece C	W12	9/28/1997	0.001	0.001	0.001	0.003
Beece C	W12	10/5/1997	0.001	0.001	0.001	0.001
Beece C	W12	10/12/1997	0.001	0.001	0.001	0.001
Beece C	W12	11/15/1997	0.001	0.001	0.002	0.001
Beece C	W12	12/18/1997	0.001	0.001	0.001	0.001
Beece C	W12	1/18/1998	0.001	0.001	0.001	0.001
Beece C	W12	2/26/1998	0.001	0.001	0.002	0.002
Beece C	W12	3/9/1998	0.001	0.001	0.001	0.001
Beece C	W12	4/15/1998	0.001	0.001	0.001	0.001
Groundhog C Tributary	W16	8/25/1994	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	5/30/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	6/9/1996	<0.030	<0.030	<0.005	0.005
Groundhog C Tributary	W16	6/17/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	8/11/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	8/15/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	8/24/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	9/3/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	9/14/1996	<0.030	<0.030	<0.005	<0.005
Groundhog C Tributary	W16	5/13/1997	0.001	0.001	0.002	0.003
Groundhog C Tributary	W16	5/19/1997	0.001	0.001	0.001	0.001
Groundhog C Tributary	W16	5/27/1997	0.001	0.001	0.001	0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Groundhog C Tributary	W16	6/3/1997	10.6			94	46	7.59	7.28	51	1		16.4	64	1	0.7	0.05	1
Groundhog C Tributary	W16	6/10/1997	10.5			99	48.3	7.27	7.21	53	1.9		13.9	63	1	0.5	0.04	1
Groundhog C Tributary	W16	7/28/1997	18			95	50.5	7.2	6.97	54	1.4		17.9	70	3	0.5	0.08	1
Groundhog C Tributary	W16	9/16/1997	10			190	88.3	7.16	7.57	97	3		8	120	4	0.5	0.09	1
Groundhog C Tributary	W16	9/23/1997	11			197	94.1		7.57	102	4.6		8.2	128	8	0.5	0.04	2
Groundhog C Tributary	W16	9/30/1997	6.2			193	89.8	7.91	7.59	98	2		7.2	120	3	0.5	0.09	1
Groundhog C Tributary	W16	10/7/1997	4.5			201	94.6	8.1	7.43	102	2		7.5	125	1	0.5	0.08	1
Groundhog C Tributary	W16	10/14/1997	5.8			198	89.8	7.79	7.47	101	1.7		7.5	122	1	0.5	0.08	1
Groundhog C Tributary	W16	12/18/1997	0			325	161	7.49	7.18	169	5.4		43.4	214	7	1.7	0.06	1
Groundhog C Tributary	W16	1/21/1998	0.3			291	157	6.35	7.5	163	2.2		16.5	196	1	0.8	0.11	1
Groundhog C Tributary	W16	2/17/1998	0.8			299	158	7.07	7.34	167	1.1		15.6	194	1	0.5	0.13	1
Groundhog C Tributary	W16	4/15/1998	0.9			270	157	7.49	7.85	155	3.7		26.3	199	1	0.6	0.14	1
Upper Groundhog Creek	W24	4/15/1998	0.6			231	103	7.54	7.85	126	0.8		1.2	143	1	0.7	0.1	3
Upper Groundhog Creek	W24	5/13/1998	7.4			172	77.2	7.72	7.86	82	1.1		11.3	102	2	0.5	0.05	1
Upper Groundhog Creek	W24	5/20/1998	5			158	75.9	8.2	7.76	82	1.1		12.6	101	1	0.5	0.04	1
Upper Groundhog Creek	W24	5/27/1998	8			164	81.6	8.2	7.92	89	1.5		12.5	108	3	0.5	0.07	1
Upper Groundhog Creek	W24	6/2/1998	8			174	89.2	8.3	7.79	94	1.4		12.1	113	4	0.5	0.05	1
Upper Groundhog Creek	W24	6/9/1998	12			187	91.5	8.5	8	99	1.7		10.7	118	3	0.5	0.05	1
Upper Groundhog Creek	W24	6/16/1998	9			197	94.5	9	8.01	100	1.6		10.4	119	2	0.5	0.06	1
Upper Groundhog Creek	W24	7/14/1998	6.9			229	118	7.89	8.14	123	1.1		13.6	158	5	0.5	0.09	1
Upper Groundhog Creek	W24	7/21/1998	12.3			242	119	7.97	8.15	135	1.2		12.5	170	4	0.5	0.07	1
Upper Groundhog Creek	W24	7/28/1998	14.2			240	113	7.05	7.84	136	1.9		7.6	168	5	0.6	0.14	2
Upper Groundhog Creek	W24	8/4/1998	7.7			247	111	7.77	7.97	135	1		5.9	166	3	0.5	0.07	2
Upper Groundhog Creek	W24	8/11/1998	8.7			243	102	6.35	8.08	134	1.2		6.7	167	1	0.6	0.09	2
Big L Creek	W15	10/27/1995				208	90.5		7.9	79.6	0.1		2	133	<1	6	0.08	17
Big L Creek	W15	5/30/1996				513	240		8.13	306	1.1		14.1	376	1	1.1	0.15	6.7
Big L Creek	W15	6/9/1996				508	236		8.15	302	0.2		7.8	366	<1	1.3	0.15	9.6
Big L Creek	W15	6/27/1996				505	243		8.2	300	0.6		20.6	378	1	0.6	0.16	5.3
Big L Creek	W15	7/10/1996				518	237		8.18	297	0.2		14.8	368	1	1.2	0.15	7.8
Big L Creek	W15	7/15/1996					243		2.03	1	0.4		13		1	0.5	0.16	4.6
Big L Creek	W15	5/4/1997				503	229		8.38	289	0.3		11.1	349	1	1.3	0.15	8
Groundwater Seepage	W21	9/17/1997	6			314	142	7.35	7.88	171	0.9		2.7	204	4	0.5	0.12	3
Groundwater Seepage	W21	9/21/1997	7.8			307	145	8.19	8.13	165	26.5		4.2	203	79	0.5	0.12	3
Groundwater Seepage	W21	9/28/1997	8.4			323	140	8.29	7.79	171	0.7		2.5	204	2	0.5	0.14	4
Groundwater Seepage	W21	10/6/1997	5.8			318	135	8.4	7.56	165	0.5		3.9	198	1	0.5	0.12	3
Groundwater Seepage	W21	10/13/1997	5.9			322	146	8.27	7.55	175	0.1		3.5	210	3	0.5	0.11	4
Groundwater Seepage	W21	11/12/1997				295	144		8	164	0.4		2.3	198	3	0.5	0.1	4
Groundwater Seepage	W21	11/15/1997	2			315	142	8.3	7.72	172	0.2		2.2	204	1	0.5	0.11	4
Groundwater Seepage	W21	5/12/1998	8			318	143		8.04	169	25.6		2.6	204	71	0.5	0.1	4
Groundwater Seepage	W21	6/17/1998	9			301	147	9.3	8.02	165	2.3		1.7	202	5	0.5	0.1	4
Groundwater Seepage	W21	7/14/1998	6.1			308	140	8.18	8.2	168	0.2		1.9	200	3	0.5	0.13	4
Groundwater Seepage	W21	8/11/1998	7.4			305	142	6.2	8.04	169	1		2.6	203	1	0.5	0.13	4
Groundwater Seepage	W22	10/17/1997	5			312	147	7.98	7.58	177			2.5	209		0.5	0.08	1
Groundwater Seepage	W22	11/12/1997				327	155		7.58	175	0.2		3.2	212	1	0.5	0.14	2
Groundwater Seepage	W22	11/15/1997	1			324	149	7.7	7.57	177	0.2		3.3	211	3	0.5	0.1	2
Groundwater Seepage	W22	12/18/1997	4.3			316	144	8.05	7.75	172	0.1		2.9	202	3	0.5	0.08	2
Groundwater Seepage	W22	1/18/1998	6.7			316	150	7.74	7.55	179	0.7		1.4	209	1	0.5	0.09	2
Groundwater Seepage	W22	2/26/1998	5.9			311	152	6.83	7.79	182	0.9		3.1	216	3	0.5	0.02	1
Groundwater Seepage	W22	3/11/1998	7.6			313	151		7.8	177	0.4		0.8	210	2	0.5	0.08	2
Groundwater Seepage	W22	4/12/1998	8.3			302	153	7.85	7.93	179	0.3		2.8	197	1	0.5	0.08	2
Groundwater Seepage	W22	5/12/1998	10.8			317	150	7.72	7.89	174	6.5		2.8	209	21	0.5	0.06	2

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Groundhog C Tributary	W16	6/3/1997	0.005	0.005	0.001	0.001	0.006	0.01	0.009	0.012	0.00005	0.00005	0.0002	0.0002	0.00169
Groundhog C Tributary	W16	6/10/1997	0.007	0.005	0.002	0.001	0.007	0.011	0.008	0.011	0.00006	0.00005	0.0002	0.0002	0.00147
Groundhog C Tributary	W16	7/28/1997	0.011	0.014	0.001	0.001	0.005	0.01	0.007	0.013	0.00005	0.00005	0.0002	0.0002	0.00126
Groundhog C Tributary	W16	9/16/1997	0.005	0.007	0.001	0.002	0.01	0.014	0.003	0.006	0.00005	0.00005	0.0002	0.0002	0.00175
Groundhog C Tributary	W16	9/23/1997	0.038	0.005	0.001	0.001	0.002	0.025	0.005	0.039	0.00005	0.00005	0.0001	0.0002	0.00183
Groundhog C Tributary	W16	9/30/1997	0.005	0.005	0.001	0.003	0.004	0.006	0.003	0.009	0.00005	0.00005	0.0002	0.0002	0.00163
Groundhog C Tributary	W16	10/7/1997	0.005	0.009	0.001	0.001	0.002	0.011	0.006	0.01	0.00005	0.00005	0.0002	0.0002	0.00165
Groundhog C Tributary	W16	10/14/1997	0.005	0.009	0.001	0.001	0.005	0.009	0.004	0.006	0.00005	0.00005	0.0001	0.0001	0.00157
Groundhog C Tributary	W16	12/18/1997	0.029	0.029	0.002	0.015	0.04	0.071	0.011	0.013	0.00005	0.00005	0.0005	0.0004	0.00408
Groundhog C Tributary	W16	1/21/1998	0.01	0.028	0.001	0.013	0.015	0.031	0.003	0.007	0.00005	0.00005	0.0005	0.0006	0.00432
Groundhog C Tributary	W16	2/17/1998	0.008	0.024	0.001	0.018	0.021	0.028	0.004	0.005	0.00005	0.00005	0.0005	0.0005	0.00346
Groundhog C Tributary	W16	4/15/1998	0.005	0.005	0.001	0.012	0.012	0.02	0.006	0.02	0.00005	0.00005	0.0004	0.0004	0.00431
Upper Groundhog Creek	W24	4/15/1998	0.009	0.072	0.001	0.015	0.025	0.029	0.001	0.009	0.00005	0.00005	0.002	0.0021	0.00121
Upper Groundhog Creek	W24	5/13/1998	0.012	0.007	0.001	0.003	0.006	0.009	0.003	0.02	0.00005	0.00005	0.001	0.001	0.00137
Upper Groundhog Creek	W24	5/20/1998	0.007	0.005	0.001	0.001	0.001	0.009	0.004	0.022	0.00005	0.00005	0.0006	0.0006	0.00138
Upper Groundhog Creek	W24	5/27/1998	0.005	0.005	0.001	0.003	0.01	0.017	0.003	0.023	0.00005	0.00005	0.0007	0.0007	0.00141
Upper Groundhog Creek	W24	6/2/1998	0.005	0.005	0.001	0.003	0.003	0.018	0.003	0.02	0.00005	0.00005	0.0009	0.0009	0.0016
Upper Groundhog Creek	W24	6/9/1998	0.005	0.005	0.001	0.008	0.011	0.018	0.003	0.021	0.00005	0.00007	0.0013	0.0013	0.00163
Upper Groundhog Creek	W24	6/16/1998	0.005	0.005	0.001	0.001	0.004	0.004	0.002	0.021	0.00005	0.00005	0.0013	0.0014	0.00152
Upper Groundhog Creek	W24	7/14/1998	0.005	0.005	0.001	0.003	0.006	0.006	0.002	0.012	0.00005	0.00005	0.0011	0.0011	0.00189
Upper Groundhog Creek	W24	7/21/1998	0.009	0.018	0.001	0.013	0.025	0.029	0.002	0.002	0.00005	0.00005	0.0016	0.0016	0.00194
Upper Groundhog Creek	W24	7/28/1998	0.022	0.04	0.002	0.019	0.028	0.04	0.003	0.021	0.00005	0.00005	0.0023	0.0022	0.00168
Upper Groundhog Creek	W24	8/4/1998	0.008	0.021	0.001	0.014	0.028	0.034	0.003	0.011	0.00005	0.00005	0.0026	0.0027	0.00152
Upper Groundhog Creek	W24	8/11/1998	0.008	0.007	0.001	0.018	0.028	0.036	0.003	0.014	0.00005	0.00005	0.0028	0.0028	0.00122
Big L Creek	W15	10/27/1995	0.009	0.328	0.013	<0.001	<0.001	<0.001		0.093		0.0135		0.0159	
Big L Creek	W15	5/30/1996	<0.005	<0.005	<0.001	0.014	0.014	0.017	<0.005	0.011	<0.0001	<0.0001	0.0016	0.0017	<0.010
Big L Creek	W15	6/9/1996	0.008	<0.005	0.001	0.014	0.014	0.014	<0.005	0.008	<0.0001	<0.0001	0.002	0.0019	<0.010
Big L Creek	W15	6/27/1996	<0.005	0.007	0.002	0.011	0.022	0.026	0.009	0.02	0.0002	<0.0001	0.0011	0.0012	<0.010
Big L Creek	W15	7/10/1996	<0.005	<0.005	<0.001	0.015	0.016	0.018	0.018	0.018	0.0001	<0.0001	0.002	0.0019	<0.010
Big L Creek	W15	7/15/1996	<0.005	343	<0.001	0.016	0.02	0.023	<0.005	0.011	<0.0001	<0.0001	0.0031	0.0021	<0.010
Big L Creek	W15	5/4/1997	0.005	0.007	0.001	0.011	0.024	0.024		0.005	0.0001		0.0018	0.0019	
Groundwater Seepage	W21	9/17/1997	0.005	0.024	0.001	0.006	0.01	0.012	0.002	0.036	0.00005	0.00005	0.0003	0.0003	0.00454
Groundwater Seepage	W21	9/21/1997	0.005	0.092	0.001	0.003	0.006	0.054	0.002	0.049	0.00005	0.00005	0.0003	0.0003	0.00484
Groundwater Seepage	W21	9/28/1997	0.005	0.04	0.001	0.003	0.004	0.007	0.001	0.009	0.00005	0.00006	0.0002	0.0002	0.00466
Groundwater Seepage	W21	10/6/1997	0.005	0.047	0.001	0.002	0.002	0.005	0.001	0.234	0.00005	0.00005	0.0003	0.0003	0.00457
Groundwater Seepage	W21	10/13/1997	0.005	0.056	0.002	0.002	0.003	0.005	0.001	0.01	0.00005	0.00005	0.0002	0.0003	0.00461
Groundwater Seepage	W21	11/12/1997	0.005	0.067	0.001	0.001	0.003	0.007	0.002	0.047	0.00005	0.00005	0.0003	0.0003	0.00384
Groundwater Seepage	W21	11/15/1997	0.005	0.126	0.001	0.002	0.005	0.005	0.001	0.005	0.00006	0.00006	0.0003	0.0003	0.00436
Groundwater Seepage	W21	5/12/1998	0.016	0.088	0.003	0.004	0.013	0.091	0.001	0.462	0.00005	0.00006	0.0003	0.0004	0.00455
Groundwater Seepage	W21	6/17/1998	0.005	0.195	0.001	0.004	0.009	0.017	0.001	0.038	0.00005	0.00005	0.0003	0.0003	0.00448
Groundwater Seepage	W21	7/14/1998	0.005	0.171	0.001	0.009	0.014	0.014	0.001	0.006	0.00005	0.00005	0.0003	0.0003	0.00441
Groundwater Seepage	W21	8/11/1998	0.005	0.144	0.001	0.011	0.015	0.017	0.001	0.014	0.00005	0.00005	0.0003	0.0003	0.00456
Groundwater Seepage	W22	10/17/1997	0.005	0.019	0.001	0.069	0.077		0.002		0.00007	0.00013	0.0031	0.0035	0.00347
Groundwater Seepage	W22	11/12/1997	0.005	0.035	0.001	0.042	0.06	0.06	0.002	0.136	0.00006	0.00006	0.0031	0.0029	0.0031
Groundwater Seepage	W22	11/15/1997	0.005	0.038	0.001	0.042	0.056	0.057	0.001	0.015	0.00007	0.00007	0.0032	0.003	0.0034
Groundwater Seepage	W22	12/18/1997	0.005	0.039	0.001	0.054	0.064	0.067	0.001	0.016	0.00006	0.00006	0.0034	0.0029	0.00346
Groundwater Seepage	W22	1/18/1998	0.005	0.055	0.001	0.053	0.062	0.069	0.001	0.013	0.00005	0.00005	0.0033	0.003	0.00335
Groundwater Seepage	W22	2/26/1998	0.005	0.055	0.001	0.054	0.065	0.065	0.001	0.044	0.00006	0.00006	0.0031	0.0032	0.00329
Groundwater Seepage	W22	3/11/1998	0.005	0.059	0.002	0.055	0.062	0.065	0.001	0.014	0.00006	0.00006	0.0032	0.0033	0.00331
Groundwater Seepage	W22	4/12/1998	0.005	0.045	0.001	0.049	0.059	0.059	0.001	0.009	0.00006	0.00006	0.0032	0.0029	0.00331
Groundwater Seepage	W22	5/12/1998	0.005	0.052	0.001	0.056	0.064	0.083	0.001	0.168	0.00005	0.00006	0.0031	0.003	0.00337

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Groundhog C Tributary	W16	6/3/1997	0.00177	0.0005	0.0005	0.0005	0.0005	0.002	0.003	0.00005	0.00005	8.04	7.85	0.0005	0.0005
Groundhog C Tributary	W16	6/10/1997	0.00152	0.0005	0.0005	0.0005	0.0005	0.002	0.001	0.00005	0.00014	8.24	7.93	0.0005	0.0005
Groundhog C Tributary	W16	7/28/1997	0.00161	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	8.46	8.33	0.0005	0.0005
Groundhog C Tributary	W16	9/16/1997	0.00206	0.0005	0.0005	0.0005	0.0005	0.002	0.002	0.00005	0.00005	14.4	14.6	0.0005	0.0005
Groundhog C Tributary	W16	9/23/1997	0.00317	0.0005	0.0005	0.0005	0.0005	0.004	0.004	0.00005	0.00005	16.2	16	0.0005	0.0005
Groundhog C Tributary	W16	9/30/1997	0.00215	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	14.9	14.5	0.0005	0.0005
Groundhog C Tributary	W16	10/7/1997	0.00185	0.0005	0.0005	0.0005	0.0005	0.003	0.004	0.00005	0.00005	15.9	15.8	0.0005	0.0005
Groundhog C Tributary	W16	10/14/1997	0.00169	0.0005	0.0005	0.0005	0.0005	0.003	0.004	0.00005	0.00005	15.3	15.3	0.0005	0.0005
Groundhog C Tributary	W16	12/18/1997	0.00412	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	24.4	23.2	0.0009	0.0006
Groundhog C Tributary	W16	1/21/1998	0.00504	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	26.7	27	0.001	0.001
Groundhog C Tributary	W16	2/17/1998	0.00354	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00005	0.00005	27.5	27.5	0.0012	0.0013
Groundhog C Tributary	W16	4/15/1998	0.00507	0.0005	0.0005	0.0005	0.0005	0.003	0.003	0.00005	0.00005	26.9	26.3	0.0007	0.0008
Upper Groundhog C	W24	4/15/1998	0.00145	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	17.5	16.8	0.0005	0.0005
Upper Groundhog C	W24	5/13/1998	0.00169	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	12.7	12.8	0.0005	0.0005
Upper Groundhog C	W24	5/20/1998	0.00186	0.0005	0.0005	0.0005	0.0005	0.007	0.009	0.00005	0.00005	12.6	12.5	0.0005	0.0005
Upper Groundhog C	W24	5/27/1998	0.00183	0.0005	0.0005	0.0005	0.0005	0.007	0.007	0.00005	0.00005	13.8	13.6	0.0005	0.0005
Upper Groundhog C	W24	6/2/1998	0.00189	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	15.5	15.8	0.0005	0.0005
Upper Groundhog C	W24	6/9/1998	0.002	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	16.3	16.2	0.0005	0.0005
Upper Groundhog C	W24	6/16/1998	0.00187	0.0005	0.0005	0.0005	0.0005	0.009	0.009	0.00005	0.00005	16.4	16.4	0.0005	0.0005
Upper Groundhog C	W24	7/14/1998	0.00213	0.0005	0.0005	0.0005	0.0005	0.008	0.008	0.00005	0.00005	19.7	19.4	0.0005	0.0005
Upper Groundhog C	W24	7/21/1998	0.00193	0.0005	0.0005	0.0005	0.0005	0.01	0.01	0.00005	0.00005	19.8	20.1	0.0005	0.0005
Upper Groundhog C	W24	7/28/1998	0.00218	0.0005	0.0005	0.0005	0.0005	0.012	0.013	0.00005	0.00005	19.2	18.9	0.0005	0.0005
Upper Groundhog C	W24	8/4/1998	0.0017	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	18.8	18.5	0.0005	0.0005
Upper Groundhog C	W24	8/11/1998	0.00155	0.0005	0.0005	0.0005	0.0005	0.013	0.013	0.00005	0.00005	17.3	17.5	0.0005	0.0005
Big L Creek	W15	10/27/1995	0.084		0.029		<0.10				0.032		5.02		0.065
Big L Creek	W15	5/30/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.26		<0.0002	<0.0002	38.4	38.8	<0.001	<0.001
Big L Creek	W15	6/9/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.36		<0.0002	<0.0002	40.1	42.2	<0.001	<0.001
Big L Creek	W15	6/27/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.23		<0.0002	<0.0002	38.2	38.4	<0.001	<0.001
Big L Creek	W15	7/10/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.25		<0.0002	<0.0002	37.7	38.2	<0.001	<0.001
Big L Creek	W15	7/15/1996	<0.010	<0.005	<0.005	<0.10	<0.10	0.32		<0.0002	<0.0002	40.4	39.9	0.002	<0.001
Big L Creek	W15	5/4/1997						0.31				37.1	35.7		
Groundwater Seepage	W21	9/17/1997	0.00481	0.0005	0.0005	0.0005	0.0005	0.022	0.023	0.00005	0.00005	25.9	25.4	0.0005	0.0006
Groundwater Seepage	W21	9/21/1997	0.00514	0.0005	0.0005	0.0005	0.0005	0.028	0.028	0.00005	0.00005	27	26.7	0.0005	0.0005
Groundwater Seepage	W21	9/28/1997	0.00466	0.0005	0.0005	0.0005	0.0005	0.024	0.023	0.00005	0.00005	25.3	25.6	0.0005	0.0005
Groundwater Seepage	W21	10/6/1997	0.00667	0.0005	0.0005	0.0005	0.0005	0.031	0.03	0.00005	0.00005	24.6	25.3	0.0007	0.0015
Groundwater Seepage	W21	10/13/1997	0.00462	0.0005	0.0005	0.0005	0.0005	0.031	0.029	0.00005	0.00005	27.1	26	0.0006	0.0005
Groundwater Seepage	W21	11/12/1997	0.00409	0.0005	0.0005	0.0005	0.0005	0.027	0.023	0.00005	0.00005	26.1	25.8	0.0008	0.0007
Groundwater Seepage	W21	11/15/1997	0.00432	0.0005	0.0005	0.0005	0.0005	0.02	0.021	0.00005	0.00005	25.9	25.4	0.0005	0.0005
Groundwater Seepage	W21	5/12/1998	0.00974	0.0005	0.0005	0.0005	0.0005	0.023	0.026	0.00005	0.00005	26.6	29	0.0006	0.0018
Groundwater Seepage	W21	6/17/1998	0.00522	0.0005	0.0005	0.0005	0.0005	0.024	0.023	0.00005	0.00005	27.1	26.6	0.0007	0.0005
Groundwater Seepage	W21	7/14/1998	0.00466	0.0005	0.0005	0.0005	0.0005	0.02	0.02	0.00005	0.00005	25.9	25.7	0.0007	0.0005
Groundwater Seepage	W21	8/11/1998	0.00464	0.0005	0.0005	0.0005	0.0005	0.022	0.022	0.00005	0.00005	26.1	25.8	0.0005	0.0005
Groundwater Seepage	W22	10/17/1997	0.0307	0.0005	0.0005	0.0005	0.0005	0.022	0.022	0.00005	0.00005	33.1	35.3	0.0009	
Groundwater Seepage	W22	11/12/1997	0.00319	0.0005	0.0005	0.0005	0.0005	0.032	0.03	0.00005	0.00005	35.1	34.5	0.0017	0.0016
Groundwater Seepage	W22	11/15/1997	0.0035	0.0005	0.0005	0.0005	0.0005	0.019	0.019	0.00005	0.00005	33.8	33.4	0.001	0.0008
Groundwater Seepage	W22	12/18/1997	0.00341	0.0005	0.0005	0.0005	0.0005	0.018	0.017	0.00005	0.00005	32.9	32.9	0.001	0.0007
Groundwater Seepage	W22	1/18/1998	0.00342	0.0005	0.0005	0.0005	0.0005	0.019	0.018	0.00005	0.00005	34	33.5	0.0009	0.0007
Groundwater Seepage	W22	2/26/1998	0.00352	0.0005	0.0005	0.0005	0.0005	0.019	0.019	0.00005	0.00005	34.5	35.2	0.0007	0.0008
Groundwater Seepage	W22	3/11/1998	0.00341	0.0005	0.0005	0.0005	0.0005	0.02	0.02	0.00005	0.00005	34.1	34.1	0.0012	0.0011
Groundwater Seepage	W22	4/12/1998	0.00327	0.0005	0.0005	0.0005	0.0005	0.018	0.018	0.00005	0.00005	34.9	35.5	0.001	0.0009
Groundwater Seepage	W22	5/12/1998	0.00408	0.0005	0.0005	0.0005	0.0005	0.019	0.019	0.00005	0.00005	34.2	33.4	0.001	0.0016

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Groundhog C Tributary	W16	6/3/1997	0.0001	0.0001	0.0004	0.0004	0.27	0.36	0.00005	0.00005	0.001	0.001	6.3	6.14	0.0146	0.0209
Groundhog C Tributary	W16	6/10/1997	0.0001	0.0001	0.0004	0.0004	0.25	0.37	0.00005	0.00005	0.001	0.001	6.73	6.45	0.0156	0.0293
Groundhog C Tributary	W16	7/28/1997	0.0001	0.0002	0.0003	0.0004	0.36	0.54	0.00005	0.00005	0.001	0.001	7.14	7.04	0.022	0.0597
Groundhog C Tributary	W16	9/16/1997	0.0002	0.0002	0.0004	0.0003	0.37	0.56	0.00005	0.00005	0.001	0.001	12.7	12.7	0.0913	0.115
Groundhog C Tributary	W16	9/23/1997	0.0001	0.001	0.0003	0.0003	0.44	1.11	0.00005	0.00005	0.001	0.001	13.1	12.9	0.0506	0.177
Groundhog C Tributary	W16	9/30/1997	0.0001	0.0002	0.0002	0.0002	0.38	0.56	0.00005	0.00005	0.001	0.001	12.8	12.5	0.0536	0.0892
Groundhog C Tributary	W16	10/7/1997	0.0001	0.0002	0.0003	0.0003	0.35	0.51	0.00005	0.00005	0.001	0.001	13.4	13.2	0.0443	0.0631
Groundhog C Tributary	W16	10/14/1997	0.0001	0.0001	0.0002	0.0002	0.34	0.49	0.00005	0.00005	0.001	0.001	12.6	12.5	0.0368	0.0479
Groundhog C Tributary	W16	12/18/1997	0.0005	0.0008	0.0009	0.0009	2.84	3.48	0.00005	0.00005	0.001	0.001	24.3	22.9	0.0731	0.0725
Groundhog C Tributary	W16	1/21/1998	0.0003	0.0004	0.0004	0.0004	1.33	1.8	0.00005	0.00005	0.001	0.001	21.9	21.7	0.0548	0.0891
Groundhog C Tributary	W16	2/17/1998	0.0005	0.0005	0.0003	0.0003	0.6	0.73	0.00005	0.00005	0.001	0.001	21.7	21.7	0.545	0.546
Groundhog C Tributary	W16	4/15/1998	0.0005	0.0006	0.0004	0.0004	2.6	3.37	0.00005	0.00005	0.001	0.001	21.8	21.3	0.213	0.226
Upper Groundhog C	W24	4/15/1998	0.0001	0.0001	0.0004	0.0004	0.11	0.18	0.00005	0.00005	0.001	0.001	14.5	14	0.0342	0.0595
Upper Groundhog C	W24	5/13/1998	0.0001	0.0001	0.0005	0.0006	0.14	0.24	0.00005	0.00005	0.001	0.001	11	11.1	0.0204	0.0424
Upper Groundhog C	W24	5/20/1998	0.0001	0.0001	0.0011	0.0006	0.12	0.24	0.00005	0.00005	0.001	0.001	10.8	10.5	0.0102	0.0375
Upper Groundhog C	W24	5/27/1998	0.0001	0.0001	0.0005	0.0006	0.1	0.22	0.00005	0.00005	0.001	0.001	11.4	11.2	0.0126	0.0356
Upper Groundhog C	W24	6/2/1998	0.0001	0.0001	0.0006	0.0007	0.1	0.21	0.00005	0.00005	0.001	0.001	12.3	12.4	0.015	0.0315
Upper Groundhog C	W24	6/9/1998	0.0001	0.0001	0.0006	0.0007	0.12	0.2	0.00005	0.00005	0.001	0.001	12.3	12.2	0.0175	0.0355
Upper Groundhog C	W24	6/16/1998	0.0001	0.0001	0.0005	0.0006	0.12	0.25	0.00005	0.00005	0.001	0.001	13	12.9	0.0172	0.039
Upper Groundhog C	W24	7/14/1998	0.0001	0.0001	0.0005	0.0006	0.16	0.26	0.00005	0.00005	0.001	0.001	16.7	16.2	0.0229	0.0381
Upper Groundhog C	W24	7/21/1998	0.0001	0.0001	0.0004	0.0004	0.17	0.28	0.00005	0.00005	0.001	0.001	16.8	16.7	0.0193	0.0192
Upper Groundhog C	W24	7/28/1998	0.0001	0.0001	0.0006	0.0007	0.12	0.24	0.00005	0.00005	0.001	0.001	15.8	15.5	0.0315	0.0646
Upper Groundhog C	W24	8/4/1998	0.0001	0.0001	0.0005	0.0005	0.16	0.23	0.00005	0.00005	0.001	0.001	15.6	15.5	0.0332	0.0472
Upper Groundhog C	W24	8/11/1998	0.0001	0.0001	0.0004	0.0005	0.14	0.2	0.00005	0.00005	0.001	0.001	14.4	14.6	0.0283	0.0447
Big L Creek	W15	10/27/1995		<0.001		0.068	0.154	0.154		0.062				1.12		0.037
Big L Creek	W15	5/30/1996	<0.001	<0.001	0.001	0.001	<0.030		<0.001	<0.001			35.1	36.1	<0.005	<0.005
Big L Creek	W15	6/9/1996	<0.001	<0.001	<0.001	<0.001	<0.030		<0.001	<0.001			33.1	34.2	<0.005	<0.005
Big L Creek	W15	6/27/1996	<0.001	<0.001	<0.001	<0.001	<0.030		<0.001	<0.001			35.9	36.4	<0.005	<0.005
Big L Creek	W15	7/10/1996	<0.001	<0.001	<0.001	<0.001	<0.030		<0.001	<0.001			34.6	34.9	<0.005	<0.005
Big L Creek	W15	7/15/1996	<0.001	<0.001	<0.001	0.001	<0.030		<0.001	<0.001			34.5	33.6	<0.005	<0.005
Big L Creek	W15	5/4/1997				0.001							33	32.3		
Groundwater Seepage	W21	9/17/1997	0.0001	0.0002	0.0002	0.0005		0.06	0.00005	0.00005	0.002	0.002	18.7	18.3	0.00031	0.00361
Groundwater Seepage	W21	9/21/1997	0.0001	0.0003	0.0002	0.0004		0.07	0.00005	0.00005	0.002	0.002	18.8	18.6	0.00014	0.00424
Groundwater Seepage	W21	9/28/1997	0.0001	0.0009	0.0002	0.0003			0.00005	0.00005	0.002	0.002	18.6	18.6	0.00005	0.00078
Groundwater Seepage	W21	10/6/1997	0.0001	0.0004	0.0003	0.0011		0.3	0.00005	0.00006	0.003	0.003	17.9	18.1	0.00013	0.0254
Groundwater Seepage	W21	10/13/1997	0.0005	0.0001	0.0003	0.0004			0.00005	0.00005	0.003	0.003	19	18.4	0.00008	0.00115
Groundwater Seepage	W21	11/12/1997	0.0004	0.0001	0.0003	0.0006		0.08	0.00005	0.00005	0.003	0.003	19.2	18.9	0.00087	0.00468
Groundwater Seepage	W21	11/15/1997	0.0001	0.0001	0.0002	0.0002			0.00005	0.00005	0.002	0.002	18.8	18.4	0.00005	0.00031
Groundwater Seepage	W21	5/12/1998	0.0001	0.0007	0.0002	0.0017		0.75	0.00005	0.00017	0.002	0.002	18.7	19.1	0.00011	0.0592
Groundwater Seepage	W21	6/17/1998	0.0001	0.0001	0.0003	0.0004		0.09	0.00005	0.00005	0.002	0.002	19.3	18.8	0.00005	0.00451
Groundwater Seepage	W21	7/14/1998	0.0001	0.0001	0.0003	0.0019			0.00005	0.00005	0.002	0.002	18.3	18	0.00005	0.00091
Groundwater Seepage	W21	8/11/1998	0.0001	0.0001	0.0001	0.0002			0.00005	0.00005	0.002	0.002	18.7	18.4	0.00005	0.00144
Groundwater Seepage	W22	10/17/1997			0.0007				0.00005		0.001	0.003	15.7	17.3		
Groundwater Seepage	W22	11/12/1997	0.0001	0.0002	0.0008	0.001		0.29	0.00005	0.00005	0.002	0.002	16.4	16.3	0.00024	0.003
Groundwater Seepage	W22	11/15/1997	0.0001	0.0001	0.0004	0.0005			0.00005	0.00005	0.001	0.001	15.7	15.5	0.00011	0.00068
Groundwater Seepage	W22	12/18/1997	0.0001	0.0005	0.0005	0.0005			0.00005	0.00005	0.001	0.001	15	14.8	0.00005	0.00081
Groundwater Seepage	W22	1/18/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	15.8	15.5	0.00006	0.0008
Groundwater Seepage	W22	2/26/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	16	16.4	0.00006	0.00168
Groundwater Seepage	W22	3/11/1998	0.0001	0.0001	0.0006	0.0006			0.00005	0.00005	0.001	0.001	15.9	15.9	0.00011	0.00093
Groundwater Seepage	W22	4/12/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	16	16.1	0.00007	0.00051
Groundwater Seepage	W22	5/12/1998	0.0001	0.0002	0.001	0.0011		0.2	0.00005	0.00005	0.001	0.001	15.8	15.4	0.00018	0.00883

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Groundhog C Tributary	W16	6/3/1997	0.0001	0.00012	0.0011	0.0011					0.0005	0.0005	1.52	1.47
Groundhog C Tributary	W16	6/10/1997	0.00009	0.00012	0.001	0.0011					0.0005	0.0005	1.4	1.34
Groundhog C Tributary	W16	7/28/1997	0.00007	0.00008	0.0011	0.0011					0.0005	0.0005	2.05	2.01
Groundhog C Tributary	W16	9/16/1997	0.00023	0.00026	0.0009	0.001					0.0005	0.0005	3.63	3.62
Groundhog C Tributary	W16	9/23/1997	0.0003	0.00031	0.0008	0.001					0.0005	0.0005	5.63	5.58
Groundhog C Tributary	W16	9/30/1997	0.00027	0.00028	0.0007	0.0007					0.0005	0.0005	4.93	4.85
Groundhog C Tributary	W16	10/7/1997	0.00032	0.00031	0.0004	0.0005					0.0005	0.0005	5.82	5.74
Groundhog C Tributary	W16	10/14/1997	0.00028	0.00029	0.0006	0.0005					0.0005	0.0005	5.43	5.46
Groundhog C Tributary	W16	12/18/1997	0.00041	0.00041	0.0024	0.0023			7	7	0.0005	0.0005	9.35	8.82
Groundhog C Tributary	W16	1/21/1998	0.0007	0.00071	0.0012	0.0012			3	3	0.0005	0.0005	12.3	12.1
Groundhog C Tributary	W16	2/17/1998	0.00057	0.00059	0.0014	0.0013			2	2	0.0005	0.0005	11.8	11.8
Groundhog C Tributary	W16	4/15/1998	0.00033	0.00034	0.0019	0.002			2		0.0005	0.0006	9.34	9.21
Upper Groundhog C	W24	4/15/1998	0.00056	0.00054	0.0007	0.0008					0.0005	0.0005	9.27	9.01
Upper Groundhog C	W24	5/13/1998	0.00025	0.00024	0.0024	0.002					0.0005	0.0005	7.5	7.56
Upper Groundhog C	W24	5/20/1998	0.00017	0.00018	0.0025	0.0023					0.0005	0.0005	8.07	7.85
Upper Groundhog C	W24	5/27/1998	0.00017	0.00018	0.0023	0.0024					0.0005	0.0005	8.14	7.98
Upper Groundhog C	W24	6/2/1998	0.00021	0.00022	0.0022	0.0023					0.0005	0.0005	7.53	7.65
Upper Groundhog C	W24	6/9/1998	0.00028	0.00027	0.002	0.0022					0.0005	0.0006	7.43	7.48
Upper Groundhog C	W24	6/16/1998	0.00028	0.00028	0.002	0.0023					0.0005	0.0005	7.78	7.78
Upper Groundhog C	W24	7/14/1998	0.00025	0.00024	0.0024	0.0026					0.0005	0.0005	9.99	9.8
Upper Groundhog C	W24	7/21/1998	0.00037	0.00037	0.0017	0.0017					0.0005	0.0005	9.14	9.22
Upper Groundhog C	W24	7/28/1998	0.00055	0.00054	0.0017	0.0019					0.0005	0.0005	8.45	8.39
Upper Groundhog C	W24	8/4/1998	0.0006	0.00064	0.0014	0.0015					0.0005	0.0005	8.31	8.25
Upper Groundhog C	W24	8/11/1998	0.00063	0.00061	0.0012	0.0012					0.0005	0.0005	7.14	7.32
Big L Creek	W15	10/27/1995		0.095		0.075						0.0094		0.344
Big L Creek	W15	5/30/1996	<0.001	<0.001	<0.001	<0.001			4.13		<0.0005	<0.0005	5.33	5.51
Big L Creek	W15	6/9/1996	<0.001	<0.001	0.001	0.001			3.33		<0.0005	<0.0005	5.91	6.08
Big L Creek	W15	6/27/1996	<0.001	<0.001	<0.001	<0.001			3.39		<0.0005	<0.0005	5.03	5.11
Big L Creek	W15	7/10/1996	<0.001	<0.001	<0.001	<0.001			4.18		<0.0005	<0.0005	5.18	5.12
Big L Creek	W15	7/15/1996	<0.001	<0.001	<0.001	0.001			3.96		<0.0005	<0.0005	6.18	5.85
Big L Creek	W15	5/4/1997							3.59		0.001	0.0005	5.41	5.29
Groundwater Seepage	W21	9/17/1997	0.00067	0.00071	0.0001	0.0004			4	3	0.0005	0.0005	9.94	9.78
Groundwater Seepage	W21	9/21/1997	0.00078	0.00072	0.0001	0.0001			3	4	0.0005	0.0005	10.5	10.4
Groundwater Seepage	W21	9/28/1997	0.00073	0.00069	0.0001	0.0001			4	4	0.0005	0.0005	10.1	10.1
Groundwater Seepage	W21	10/6/1997	0.0007	0.00052	0.0001	0.001			4	4	0.0005	0.0005	9.88	10
Groundwater Seepage	W21	10/13/1997	0.00076	0.00074	0.0001	0.0001			3	3	0.0005	0.0005	10.6	10.2
Groundwater Seepage	W21	11/12/1997	0.00075	0.00066	0.0001	0.0001			3	4	0.0005	0.0005	10.3	10.2
Groundwater Seepage	W21	11/15/1997	0.00075	0.00073	0.0001	0.0001			3	3	0.0005	0.0005	10.2	10
Groundwater Seepage	W21	5/12/1998	0.00077	0.00045	0.0001	0.0021			4	4	0.0005	0.0005	10.4	10.9
Groundwater Seepage	W21	6/17/1998	0.00075	0.0007	0.0001	0.0001			3	3	0.0005	0.0005	10.2	9.89
Groundwater Seepage	W21	7/14/1998	0.00074	0.00077	0.0001	0.0001			3	3	0.0005	0.0008	10.3	10.2
Groundwater Seepage	W21	8/11/1998	0.00075	0.00075					4	4	0.0005	0.0005	10.4	10.3
Groundwater Seepage	W22	10/17/1997	0.00032	0.00024					2	2	0.0005	0.0005	13.7	
Groundwater Seepage	W22	11/12/1997	0.0003	0.00031	0.0001	0.0003			3	3	0.0005	0.0005	14.1	14.1
Groundwater Seepage	W22	11/15/1997	0.00031	0.00031	0.0001	0.0002			2	2	0.0005	0.0005	13.6	13.5
Groundwater Seepage	W22	12/18/1997	0.00031	0.0003	0.0001	0.0001					0.0005	0.0005	13.4	13.2
Groundwater Seepage	W22	1/18/1998	0.00031	0.00031	0.0001	0.0001					0.0005	0.0005	13.7	13.4
Groundwater Seepage	W22	2/26/1998	0.00032	0.00029	0.0001	0.0001			3	3	0.0005	0.0005	13.6	13.9
Groundwater Seepage	W22	3/11/1998	0.00031	0.00032	0.0001	0.0001			2	2	0.0005	0.0005	13.2	13.2
Groundwater Seepage	W22	4/12/1998	0.00032	0.00032	0.0001	0.0001			2	2	0.0005	0.0005	13.4	13.4
Groundwater Seepage	W22	5/12/1998	0.00031	0.0003	0.0001	0.0004			2	3	0.0005	0.0005	14	13.9

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Groundhog C Tributary	W16	6/3/1997	0.00001	0.00001	2	2	0.0254	0.0256			0.0001	0.0001	0.01	0.01	0.00001	0.00002
Groundhog C Tributary	W16	6/10/1997	0.00001	0.00001	3	2	0.0266	0.0267			0.0001	0.0001	0.01	0.01	0.00001	0.00001
Groundhog C Tributary	W16	7/28/1997	0.00001	0.00001	3	3	0.0288	0.0292			0.0001	0.0001	0.01	0.01	0.00001	0.00002
Groundhog C Tributary	W16	9/16/1997	0.00001	0.00001	6	6	0.0428	0.0414			0.0001	0.0001	0.01	0.01	0.00013	0.00012
Groundhog C Tributary	W16	9/23/1997	0.00001	0.00001	6	5	0.0486	0.0483			0.0001	0.0001	0.01	0.01	0.00012	0.00013
Groundhog C Tributary	W16	9/30/1997	0.00001	0.00001	5	5	0.0443	0.0443			0.0001	0.0001	0.01	0.01	0.00013	0.00012
Groundhog C Tributary	W16	10/7/1997	0.00001	0.00001	6	6	0.0458	0.0449			0.0001	0.0001	0.01	0.01	0.00016	0.00015
Groundhog C Tributary	W16	10/14/1997	0.00001	0.00001	5	5	0.0453	0.0454			0.0001	0.0001	0.01	0.01	0.00014	0.00014
Groundhog C Tributary	W16	12/18/1997	0.00001	0.00001	9	9	0.0693	0.067			0.0001	0.0001	0.01	0.01	0.0001	0.00009
Groundhog C Tributary	W16	1/21/1998	0.00001	0.00001	8	8	0.0561	0.0553			0.0001	0.0001	0.01	0.01	0.00036	0.00035
Groundhog C Tributary	W16	2/17/1998	0.00001	0.00001	7	7	0.0779	0.0769			0.0001	0.0001	0.01	0.01	0.00031	0.00032
Groundhog C Tributary	W16	4/15/1998	0.00001	0.00001	7	7	0.0644	0.0629			0.0001	0.0001	0.01	0.01	0.00013	0.00014
Upper Groundhog C	W24	4/15/1998	0.00001	0.00001	18	17	0.0228	0.0224			0.0001	0.0001	0.01	0.01	0.00012	0.00012
Upper Groundhog C	W24	5/13/1998	0.00001	0.00001	8	8	0.0255	0.0251			0.0001	0.0001	0.01	0.01	0.00003	0.00003
Upper Groundhog C	W24	5/20/1998	0.00001	0.00001	6	6	0.0274	0.0264			0.0001	0.0001	0.01	0.01	0.00002	0.00002
Upper Groundhog C	W24	5/27/1998	0.00001	0.00001	7	6	0.0302	0.0302			0.0001	0.0001	0.01	0.01	0.00002	0.00002
Upper Groundhog C	W24	6/2/1998	0.00001	0.00001	7	7	0.0334	0.0338			0.0001	0.0001	0.01	0.01	0.00002	0.00003
Upper Groundhog C	W24	6/9/1998	0.00001	0.00003	8	8	0.037	0.0371			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Upper Groundhog C	W24	6/16/1998	0.00001	0.00001	8	8	0.0383	0.0375			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Upper Groundhog C	W24	7/14/1998	0.00001	0.00001	8	7	0.0509	0.0496			0.0001	0.0001	0.01	0.01	0.00004	0.00004
Upper Groundhog C	W24	7/21/1998	0.00001	0.00001	10	10	0.0469	0.047			0.0001	0.0001	0.01	0.01	0.00007	0.00008
Upper Groundhog C	W24	7/28/1998	0.00001	0.00001	12	12	0.0417	0.0413			0.0001	0.0001	0.01	0.01	0.0001	0.0001
Upper Groundhog C	W24	8/4/1998	0.00001	0.00001	15	15	0.0392	0.0395			0.0001	0.0001	0.01	0.01	0.00011	0.00012
Upper Groundhog C	W24	8/11/1998	0.00001	0.00001	17	17	0.0332	0.0334			0.0001	0.0001	0.01	0.01	0.00012	0.00012
Big L Creek	W15	10/27/1995		<0.0001				0.127						0.014		0.0279
Big L Creek	W15	5/30/1996	<0.0001	<0.0001	29.6		0.245	0.249					<0.010	<0.010	0.0003	0.00029
Big L Creek	W15	6/9/1996	<0.0001	<0.0001	28.1		0.248	0.26					<0.010	<0.010	0.00036	0.00035
Big L Creek	W15	6/27/1996	<0.0001	<0.0001	30.2		0.245	0.249					<0.010	<0.010	0.00022	0.00019
Big L Creek	W15	7/10/1996	<0.0001	<0.0001	28.4		0.247	0.25					<0.010	<0.010	0.00021	0.00021
Big L Creek	W15	7/15/1996	<0.0001	<0.0001	33.4		0.266	0.262					<0.010	<0.010	0.00029	0.00024
Big L Creek	W15	5/4/1997			23.6		0.233	0.227					0.01	0.01	0.00041	0.0004
Groundwater Seepage	W21	9/17/1997	0.00001	0.00001	13	13	0.153	0.153			0.0001	0.0001	0.01	0.01	0.00032	0.00031
Groundwater Seepage	W21	9/21/1997	0.00001	0.00001	13	13	0.144	0.142			0.0001	0.0001	0.01	0.01	0.00032	0.00031
Groundwater Seepage	W21	9/28/1997	0.00001	0.00001	13	13	0.133	0.13			0.0001	0.0001	0.01	0.01	0.00033	0.0003
Groundwater Seepage	W21	10/6/1997	0.00001	0.00001	12	12	0.156	0.153			0.0001	0.0001	0.01	0.01	0.00031	0.00035
Groundwater Seepage	W21	10/13/1997	0.00001	0.00001	13	13	0.152	0.15			0.0001	0.0001	0.01	0.01	0.00031	0.0003
Groundwater Seepage	W21	11/12/1997	0.00001	0.00001	12	12	0.165	0.164			0.0001	0.0001	0.01	0.01	0.00034	0.00032
Groundwater Seepage	W21	11/15/1997	0.00001	0.00001	13	13	0.171	0.171			0.0001	0.0001	0.01	0.01	0.00031	0.0003
Groundwater Seepage	W21	5/12/1998	0.00001	0.00001	13	12	0.163	0.175			0.0001	0.0001	0.01	0.02	0.00032	0.00053
Groundwater Seepage	W21	6/17/1998	0.00001	0.00001	13	12	0.163	0.159			0.0001	0.0001	0.01	0.01	0.00031	0.00031
Groundwater Seepage	W21	7/14/1998	0.00001	0.00001	13	12	0.155	0.16			0.0001	0.0001	0.01	0.01	0.00032	0.00032
Groundwater Seepage	W21	8/11/1998	0.00001	0.00001	12	12	0.159	0.158			0.0001	0.0001	0.01	0.01	0.00032	0.00032
Groundwater Seepage	W22	10/17/1997	0.00001	0.00001	13	13	0.226	0.258			0.0001	0.0001	0.01		0.00086	0.00103
Groundwater Seepage	W22	11/12/1997	0.00001	0.00001	13	12	0.244	0.241			0.0001	0.0001	0.01	0.01	0.00086	0.00085
Groundwater Seepage	W22	11/15/1997	0.00001	0.00001	13	13	0.247	0.254			0.0001	0.0001	0.01	0.01	0.00088	0.00087
Groundwater Seepage	W22	12/18/1997	0.00001	0.00001	13	12	0.198	0.195			0.0001	0.0001	0.01	0.01	0.00092	0.00086
Groundwater Seepage	W22	1/18/1998	0.00001	0.00001	14	13	0.211	0.207			0.0001	0.0001	0.01	0.01	0.00089	0.00085
Groundwater Seepage	W22	2/26/1998	0.00001	0.00001	13	13	0.239	0.242			0.0001	0.0001	0.01	0.01	0.0009	0.0009
Groundwater Seepage	W22	3/11/1998	0.00001	0.00001	13	13	0.227	0.224			0.0001	0.0001	0.01	0.01	0.00087	0.00088
Groundwater Seepage	W22	4/12/1998	0.00001	0.00001	14	13	0.22	0.219			0.0001	0.0001	0.01	0.01	0.00088	0.00086
Groundwater Seepage	W22	5/12/1998	0.00001	0.00001	13	13	0.233	0.227			0.0001	0.0001	0.01	0.01	0.00084	0.00084

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Groundhog C Tributary	W16	6/3/1997	0.001	0.001	0.001	0.001
Groundhog C Tributary	W16	6/10/1997	0.001	0.001	0.001	0.001
Groundhog C Tributary	W16	7/28/1997	0.001	0.001	0.001	0.002
Groundhog C Tributary	W16	9/16/1997	0.001	0.001	0.001	0.002
Groundhog C Tributary	W16	9/23/1997	0.001	0.001	0.002	0.002
Groundhog C Tributary	W16	9/30/1997	0.001	0.001	0.004	0.001
Groundhog C Tributary	W16	10/7/1997	0.001	0.001	0.002	0.003
Groundhog C Tributary	W16	10/14/1997	0.001	0.001	0.001	0.001
Groundhog C Tributary	W16	12/18/1997	0.001	0.001	0.005	0.003
Groundhog C Tributary	W16	1/21/1998	0.002	0.002	0.001	0.001
Groundhog C Tributary	W16	2/17/1998	0.002	0.002	0.002	0.001
Groundhog C Tributary	W16	4/15/1998	0.001	0.001	0.003	0.003
Upper Groundhog C	W24	4/15/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	5/13/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	5/20/1998	0.001	0.001	0.003	0.001
Upper Groundhog C	W24	5/27/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	6/2/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	6/9/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	6/16/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	7/14/1998	0.001	0.001	0.001	0.001
Upper Groundhog C	W24	7/21/1998	0.001	0.001	0.001	0.002
Upper Groundhog C	W24	7/28/1998	0.002	0.002	0.001	0.001
Upper Groundhog C	W24	8/4/1998	0.002	0.002	0.001	0.001
Upper Groundhog C	W24	8/11/1998	0.002	0.002	0.001	0.001
Big L Creek	W15	10/27/1995		0.085		0.098
Big L Creek	W15	5/30/1996	<0.030	<0.030	<0.005	<0.005
Big L Creek	W15	6/9/1996	<0.030	<0.030	<0.005	<0.005
Big L Creek	W15	6/27/1996	<0.030	<0.030	<0.005	<0.005
Big L Creek	W15	7/10/1996	<0.030	<0.030	<0.005	<0.005
Big L Creek	W15	7/15/1996	<0.030	<0.030	<0.005	0.013
Big L Creek	W15	5/4/1997				
Groundwater Seepage	W21	9/17/1997	0.001	0.001	0.002	0.004
Groundwater Seepage	W21	9/21/1997	0.001	0.001	0.001	0.001
Groundwater Seepage	W21	9/28/1997	0.001	0.001	0.001	0.001
Groundwater Seepage	W21	10/6/1997	0.001	0.002	0.001	0.006
Groundwater Seepage	W21	10/13/1997	0.001	0.001	0.002	0.001
Groundwater Seepage	W21	11/12/1997	0.001	0.001	0.002	0.002
Groundwater Seepage	W21	11/15/1997	0.001	0.001	0.001	0.001
Groundwater Seepage	W21	5/12/1998	0.001	0.003	0.001	0.005
Groundwater Seepage	W21	6/17/1998	0.001	0.001	0.001	0.001
Groundwater Seepage	W21	7/14/1998	0.001	0.001	0.001	0.001
Groundwater Seepage	W21	8/11/1998	0.001	0.001	0.001	0.001
Groundwater Seepage	W22	10/17/1997	0.013		0.001	
Groundwater Seepage	W22	11/12/1997	0.02	0.019	0.001	0.001
Groundwater Seepage	W22	11/15/1997	0.012	0.012	0.001	0.001
Groundwater Seepage	W22	12/18/1997	0.012	0.011	0.001	0.001
Groundwater Seepage	W22	1/18/1998	0.013	0.012	0.001	0.001
Groundwater Seepage	W22	2/26/1998	0.013	0.014	0.002	0.001
Groundwater Seepage	W22	3/11/1998	0.014	0.014	0.001	0.001
Groundwater Seepage	W22	4/12/1998	0.015	0.014	0.001	0.001
Groundwater Seepage	W22	5/12/1998	0.015	0.016	0.001	0.001

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Temp.	D. Oxygen	Field cond.	Lab cond.	T. Hardness	Field pH	Lab pH	T. Alkalinity	Turbidity	DOC	TOC	Dis. solids	TSS	D. Chloride	D. Fluoride	D. Sulphate
			°C	mg/L	µS/cm	umhos/cm	mg/L			mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997																		
DL 1997-1998 / 2006			DL: 0.1	DL: 0.1	DL: 10	DL: 1	DL: 0.05	DL: 0.2	DL: 0.2	DL: 1	DL: 0.1	DL: 0.5	DL: 0.5	DL: 1	DL: 1	DL: 0.5	DL: 0.02	DL: 1
Groundwater Seepa	W22	6/17/1998	8			306	152		8.01	170	0.3		2.7	206	1	0.5	0.07	1
Groundwater Seepa	W22	7/14/1998	4.8			315	146	7.57	8.2	178	0.1		2.8	211	1	0.5	0.1	2
Groundwater Seepa	W22	8/11/1998	6.2			313	148	6.61	8.07	179	0.2		3.9	211	1	0.5	0.1	2
Groundwater Seepa	W22	9/8/1998	5.8			303	152	7.7	7.89	181	0.3		2.5	216	1	0.5	0.08	2
Highlights indicates metal concentrations in the dissolved phase at least 10% higher than total concentrations, when both concentrations for a given parameter are higher than five times the detection limit.																		
Values in bold indicate outliers before the PRS issue (*) or after the PRS issue																		

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	Ammonia-N	Nitrate-N	Nitrite-N	Ortho-Phosphate	D. Phosphate	T. Phosphate	D. Al	T. Aluminium	D. Antimony	T. Antimony	D. Arsenic	T. Arsenic	D. Barium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997									DL: 0.005	DL: 0.005					DL: 0.01
DL 1997-1998 / 2006			DL: 0.005	DL: 0.005	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001	DL: 0.00005
Groundwater Seepa	W22	6/17/1998	0.005	0.017	0.001	0.047	0.057	0.057	0.001	0.011	0.00006	0.00008	0.0032	0.0029	0.00331
Groundwater Seepa	W22	7/14/1998	0.005	0.023	0.001	0.001	0.001	0.001	0.001	0.004	0.00005	0.00005	0.0031	0.0032	0.00328
Groundwater Seepa	W22	8/11/1998	0.005	0.022	0.001	0.053	0.053	0.059	0.002	0.007	0.00005	0.00005	0.0029	0.0028	0.00331
Groundwater Seepa	W22	9/8/1998	0.005	0.024	0.001	0.054	0.056	0.056	0.001	0.011	0.00006	0.00006	0.0027	0.0028	0.00322
Highlights indicates metal concentrations in															
Values in bold indicate outliers before the P															

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	T. Barium	D. Beryllium	T. Beryllium	Dis. Bismuth	T. Bismuth	D. Boron	T. Boron	D. Cadmium	T. Cadmium	D. Calcium	T. Calcium	D. Chromium	T. Chromium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.01	DL: 0.005	DL: 0.005	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.1	DL: 0.0002	DL: 0.0002			DL: 0.001	DL: 0.001
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.0005	DL: 0.001	DL: 0.001	DL: 0.00005	DL: 0.00005	DL: 0.05	DL: 0.05	DL: 0.0005	DL: 0.0005
Groundwater Seepa	W22	6/17/1998	0.00324	0.0005	0.0005	0.0005	0.0005	0.02	0.019	0.00005	0.00005	34.2	34	0.0012	0.0009
Groundwater Seepa	W22	7/14/1998	0.00332	0.0005	0.0005	0.0005	0.0005	0.019	0.018	0.00005	0.00005	33.2	33.1	0.0011	0.0011
Groundwater Seepa	W22	8/11/1998	0.00328	0.0005	0.0005	0.0005	0.0005	0.019	0.019	0.00005	0.00005	33.5	33	0.0007	0.0005
Groundwater Seepa	W22	9/8/1998	0.00335	0.0005	0.0005	0.0005	0.0005	0.019	0.02	0.00005	0.00005	34.7	34.3	0.0006	0.0008
Highlights indicates metal concentrations in															
Values in bold indicate outliers before the P															

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Cobalt	T. Cobalt	D. Copper	T. Copper	D. Iron	T. Iron	D. Lead	T. Lead	D. Lithium	T. Lithium	D. Magnesium	T. Magnesium	D. Manganese	T. Manganese
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001		DL: 0.001	DL: 0.03	DL: 0.03	DL: 0.001	DL: 0.001					DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00005	DL: 0.00005	DL: 0.001	DL: 0.001	DL: 0.05	DL: 0.05	DL: 0.00005	DL: 0.00005
Groundwater Seepa	W22	6/17/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	16.1	15.7	0.00007	0.00062
Groundwater Seepa	W22	7/14/1998	0.0001	0.0001	0.0005	0.0005			0.00005	0.00005	0.001	0.001	15.2	15.2	0.00005	0.00035
Groundwater Seepa	W22	8/11/1998	0.0001	0.0001	0.0006	0.0005			0.00005	0.00011	0.001	0.001	15.7	15.4	0.00005	0.00056
Groundwater Seepa	W22	9/8/1998	0.0001	0.0001	0.0005	0.0007			0.00005	0.00005	0.001	0.001	16	15.7	0.00005	0.00079
Highlights indicates metal concentrations in																
Values in bold indicate outliers before the P																

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Molybdenum	T. Molybdenum	D. Nickel	T. Nickel	D. Phosphorus	T. Phosphorus	D. Potassium	T. Potassium	D. Selenium	T. Selenium	D. Silicon	T. Silicon
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00005	DL: 0.00005	DL: 0.0001	DL: 0.0001				DL: 2	DL: 0.0005	DL: 0.0005		DL: .05
Groundwater Seepa	W22	6/17/1998	0.00031	0.00029	0.0001	0.0001			2	2	0.0005	0.0005	13.5	13.2
Groundwater Seepa	W22	7/14/1998	0.00031	0.0003	0.0001	0.0001			2	2	0.0005	0.0008	13.8	13.8
Groundwater Seepa	W22	8/11/1998	0.00029	0.0003							0.0005	0.0005	13.9	13.7
Groundwater Seepa	W22	9/8/1998	0.0003	0.00029	0.0001	0.0001			3	2	0.0005	0.0005	14.4	14.1
Highlights indicates metal concentrations in														
Values in bold indicate outliers before the P														

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Silver	T. Silver	D. Sodium	T. Sodium	D. Strontium	T. Strontium	D. Thallium	T. Thallium	D. Tin	T. Tin	D. Titanium	T. Titanium	D. Uranium	T. Uranium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.0001	DL: 0.0001			DL: 0.001	DL: 0.001								
DL 1997-1998 / 2006			DL: 0.00001	DL: 0.00001	DL: 2	DL: 2	DL: 0.0001	DL: 0.0001			DL: 0.0001	DL: 0.0001	DL: 0.01	DL: 0.01	DL: 0.00001	DL: 0.00001
Groundwater Seepa	W22	6/17/1998	0.00001	0.00003	13	13	0.235	0.229			0.0001	0.0001	0.01	0.01	0.00081	0.00078
Groundwater Seepa	W22	7/14/1998	0.00001	0.00001	13	13	0.223	0.225			0.0001	0.0001	0.01	0.01	0.00083	0.00082
Groundwater Seepa	W22	8/11/1998	0.00001	0.00001	13	13	0.229	0.225			0.0001	0.0001	0.01	0.01	0.00082	0.00082
Groundwater Seepa	W22	9/8/1998	0.00001	0.00001	13	13	0.235	0.238			0.0001	0.0001	0.01	0.01	0.00081	0.00078
Highlights indicates metal concentrations in																
Values in bold indicate outliers before the P																

Appendix Table B8: Raw Data Streams 1992 to 2006

Location	Site	Date	D. Vanadium	T. Vanadium	D. Zinc	T. Zinc
			mg/L	mg/L	mg/L	mg/L
DL before May 1997			DL: 0.03	DL: 0.03	DL: 0.005	DL: 0.005
DL 1997-1998 / 2006			DL: 0.001	DL: 0.001	DL: 0.001	DL: 0.001
Groundwater Seepa	W22	6/17/1998	0.014	0.014	0.001	0.001
Groundwater Seepa	W22	7/14/1998	0.013	0.013	0.001	0.001
Groundwater Seepa	W22	8/11/1998	0.011	0.011	0.003	0.005
Groundwater Seepa	W22	9/8/1998	0.012	0.012	0.001	0.002
Highlights indicates metal concentrations in						
Values in bold indicate outliers before the P						

Appendix B9 Appendix Tables Summary for Streams:

Appendix Table B9-1 Summary for Fish Creek, All Sites and All Dates, 1992 to 2007

Appendix Table B9-2 Summary for Taseko River, All Sites and All Dates, 1992 to 2007

Appendix Table B9-3 Summary for Beece Creek, All Sites and All Dates, 1992 to 2007

Appendix Table B9-4 Summary for Tete Angela Creek, All Sites and All Dates, 1992 to 2007

Appendix Table B9-5 Summary for Big Onion System, All Sites and All Dates, 1992 to 2007

Appendix Table B9-6 Summary for Groundhog Creek, All Sites and All Dates, 1992 to 2007

Appendix Table B9-7 Summary for Vick Creek, All Sites and All Dates, 1992 to 2007

Appendix Table B9-1: Summary for Fish Creek, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	109	0	20.5	8.9	8.4	5.2	62.0	–	0	0	–	–
Dissolved Oxygen	mg/L	40	0	12.8	9.0	8.7	2.1	23.9	–	0	0	–	–
Field conductivity	µS/cm	41	0	519.0	175.3	223.6	101.0	45.2	–	0	0	–	–
Lab conductivity	umhos/cm	365	116.0	596.0	184.0	216.0	82.3	38.1	–	0	0	–	–
Total Hardness	mg/L	365	58.2	268.0	90.6	105.4	37.2	35.3	–	0	0	–	–
Field pH		59	0	9.3	7.8	7.8	0.5	5.8	–	0	0	–	–
Lab pH		364	6.2	9.6	7.8	7.8	0.4	5.2	–	0	0	–	–
Total Alkalinity	mg/L	365	62.3	349.0	97.2	108.9	36.9	33.9	–	0	0	–	–
Turbidity	NTU	365	0.1	65.1	1.7	3.1	5.3	168.3	–	1	0	–	–
DOC	mg/L	38	0.0	19.8	14.4	13.3	3.5	26.1	–	0	0	–	–
TOC	mg/L	209	0.8	138.0	12.8	13.4	9.8	73.6	–	0	0	–	–
Dissolved Solids	mg/L	365	78.0	479.0	134.0	152.1	61.7	40.6	–	0	0	–	–
TSS	mg/L	365	1.0	87.0	3.0	4.6	7.1	154.7	–	105	80	–	–
Dissolved Chloride	mg/L	364	0.5	7.5	0.7	0.9	0.7	83.3	–	128	30	–	–
Dissolved Fluoride	mg/L	364	0.02	0.82	0.06	0.07	0.05	76.3	–	1	0	2	1
Dissolved Sulphate	mg/L	365	0.5	126.0	3.5	10.9	17.1	157.0	–	29	50	–	–
Ammonia-N	mg/L	359	0.005	1.080	0.018	0.037	0.084	229.5	–	48	67	–	–
Nitrate-N	mg/L	365	0.005	0.483	0.016	0.061	0.091	149.0	–	47	152	–	–
Nitrite-N	mg/L	365	0.001	0.030	0.002	0.002	0.002	103.0	–	138	85	1	0
Ortho-Phosphate	mg/L	365	0.001	0.081	0.008	0.012	0.012	103.1	–	13	11	–	–
Dissolved Phosphate	mg/L	365	0.001	0.202	0.015	0.019	0.019	98.2	–	3	4	–	–
Total Phosphate	mg/L	365	0.002	0.565	0.023	0.036	0.047	128.8	64	0	2	–	–
Total Aluminium	mg/L	366	0.001	1.050	0.035	0.055	0.079	143.6	38	2	4	37	10
Total Antimony	mg/L	366	0.00005	0.0015	0.0001	0.000313	0.00036	114.9	97	45	191	–	–
Total Arsenic	mg/L	366	0.0001	0.005	0.0006	0.001	0.001	99.5	87	27	19	–	–
Total Cadmium	mg/L	367	0	0.0003	0.00005	0.000041	0.00003	73.3	–	85	255	2	1
Total Calcium	mg/L	366	10.3	55.8	17.9	21.4	9.0	41.9	99	0	0	–	–
Total Cobalt	mg/L	364	0.0001	0.0064	0.0001	0.0005	0.001	203.3	94	60	242	11	3
Total Copper	mg/L	356	0.0004	0.0176	0.001	0.0013	0.0014	100.5	89	66	133	17	5
Total Iron	mg/L	359	0.03	15.20	0.24	0.59	1.38	235.3	58	5	14	138	38
Total Lead	mg/L	365	0.00005	0.003	0.00005	0.0002	0.00048	245.5	–	110	242	2	1
Total Magnesium	mg/L	366	7.3	39.2	11.4	12.9	4.2	32.2	99	0	0	–	–
Total Manganese	mg/L	365	0	10.5	0.03	0.2	0.9	446.9	65	3	34	–	–
Total Molybdenum	mg/L	366	0.000189	0.00235	0.00061	0.000781	0.000551	70.6	99	30	211	4	1
Total Nickel	mg/L	366	0.0001	0.01	0.002	0.0022	0.0012	56.9	94	58	27	–	–
Total Potassium	mg/L	47	0.0	4.0	2.0	2.0	0.3	14.4	–	43	44	–	–
Total Selenium	mg/L	314	0.0005	0.0015	0.0005	0.0007	0.0002	35.1	–	79	195	1	0
Total Silver	mg/L	367	0.00001	0.002	0.00001	0.00005	0.00025	478.1	52	104	252	5	1
Total Sodium	mg/L	112	0.0	40.0	6.9	9.5	6.1	63.8	99	0	0	–	–
Total Strontium	mg/L	366	0.031	0.379	0.06	0.086	0.057	65.9	99	0	0	–	–
Total Titanium	mg/L	215	0	0.01	0.01	0.01	0	0	–	111	147	–	–
Total zinc	mg/L	363	0.001	0.035	0.0013	0.0047	0.007	149.3	61	77	217	3	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-2: Summary for Taseko River, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	%Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	140	0.1	15	8.5	7.9	4.3	55.2	–	0	0	–	–
Dis. Oxygen	mg/L	36	0	12.7	9.9	10.0	1.2	11.8	–	–	–	–	–
Field conductivity	µS/cm	34	0	77.6	59.7	59.6	8.5	14.3	–	–	–	–	–
Lab conductivity	umhos/cm	311	35	285.0	59.8	63.1	18.0	28.4	–	0	0	–	–
Tot. Hardness	mg/L	312	13.8	133	25	27.0	8.7	32.1	–	0	0	–	–
Field pH		134	5.9	9.5	7.6	7.6	0.6	7.5	–	0	0	–	–
Lab pH		311	6.2	8.64	7.4	7.4	0.3	4.5	–	0	0	–	–
Tot. Alkalinity	mg/L	311	12	157	19.2	21.7	10.1	46.6	–	0	0	–	–
Turbidity	NTU	311	2.7	74.1	21.4	24.6	12.4	50.4	–	0	0	–	–
DOC	mg/L	33	0	2.6	0.9	1.3	0.7	58.9	–	–	–	–	–
TOC	mg/L	211	0	10.7	1.1	1.3	1.1	84.7	–	1	0	–	–
Dis. Solids	mg/L	311	19	183	37	40.2	13.3	33.1	–	0	0	–	–
TSS	mg/L	312	1	43	5	6.7	5.5	82.5	–	3	0	–	–
Dis. Chloride	mg/L	310	0.5	2.5	0.5	0.7	0.3	47.2	–	39	0	–	–
Dis. Fluoride	mg/L	312	0.02	0.32	0.04	0.04	0.02	60.8	–	3	0	2	1
Dis. Sulphate	mg/L	312	1	10.4	6.7	6.6	1.1	17.0	–	0	0	–	–
Ammonia-N	mg/L	312	0.005	0.074	0.009	0.011	0.009	74.9	–	19	3	–	–
Nitrate-N	mg/L	312	0.005	0.730	0.015	0.019	0.041	217.6	–	5	3	–	–
Nitrite-N	mg/L	309	0.001	0.017	0.001	0.003	0.003	113.0	–	31	0	2	1
Ortho-Phosphate	mg/L	319	0.001	0.064	0.002	0.005	0.009	188.0	–	17	1	–	–
Dis. Phosphate	mg/L	316	0.001	0.093	0.004	0.009	0.016	171.7	–	10	1	–	–
Tot. Phosphate	mg/L	310	0.004	0.133	0.026	0.034	0.023	66.6	46.24	0	0	–	–
Tot. Aluminium	mg/L	312	0.012	3.980	0.727	0.911	0.573	62.9	19.49	0	0	310	99
Tot. Antimony	mg/L	311	0.00005	0.00030	0.00008	0.00010	0.00005	52.6	100	3	14	–	–
Tot. Arsenic	mg/L	312	0.0002	0.0018	0.0005	0.0006	0.0002	38.2	83.28	0	0	–	–
Tot. Cadmium	mg/L	310	0.000017	0.0005	0.000050	0.000047	0.000043	90.2	–	23	16	14	5
Tot. Calcium	mg/L	312	4.5	34.1	8.8	9.0	2.1	23.3	97	0	0	–	–
Tot. Cobalt	mg/L	312	0.0001	0.0016	0.0003	0.0005	0.0003	65.1	91.67	3	15	5	2
Tot. Copper	mg/L	311	0.001	0.016	0.0024	0.0029	0.0016	54.3	32.7	3	1	172	55
Tot. Iron	mg/L	312	0.06	1.97	0.53	0.69	0.44	63.5	19.82	0	0	270	87
Tot. Lead	mg/L	262	0.00008	0.001	0.00015	0.00021	0.00017	82.2	–	0	16	–	–
Tot. Magnesium	mg/L	310	0.7	13.7	1.2	1.5	1.0	66.7	81.35	0	0	–	–
Tot. Manganese	mg/L	310	0.01	0.08	0.02	0.02	0.01	52.5	17.76	0	1	–	–
Tot. Molybdenum	mg/L	312	0.00093	0.00300	0.00116	0.00117	0.00023	19.5	102.1	9	7	1	0
Tot. Nickel	mg/L	294	0	0.02	0.0005	0.0008	0.0015	180.4	53.33	5	15	–	–
Tot. Potassium	mg/L	36	0	2	2	2	0	0	–	–	–	–	–
Tot. Selenium	mg/L	309	0.0005	0.0011	0.0005	0.0006	0.0002	33.4	–	29	13	1	0
Tot. Silver	mg/L	309	0.00001	0.00005	0.00001	0.00001	0.00001	47.7	–	25	16	1	0
Tot. Sodium	mg/L	37	0	3	2	2.0	0.2	8.1	–	–	–	–	–
Tot. Strontium	mg/L	292	0	0.163	0.047	0.048	0.009	19.8	94.63	0	0	–	–
Tot. Titanium	mg/L	225	0.01	0.13	0.02	0.03	0.03	80.6	–	8	6	15	7
Tot. zinc	mg/L	308	0.001	0.039	0.003	0.0054	0.0058	106.9	57.69	2	16	3	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-3: Summary for Beece Creek, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	34	0	13	3.7	3.8	3.6	94.2	–	1	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	126	20.6	73.1	34.9	38.2	13.4	35.1	–	0	0	–	–
Tot. Hardness	mg/L	126	7.2	32.7	13.2	15.0	5.8	38.9	–	0	0	–	–
Field pH		32	6.6	8.2	7.505	7.445625	0.3922	5.3	–	0	0	–	–
Lab pH		126	6.0	7.9	7.3	7.3	0.4	4.8	–	0	0	–	–
Tot. Alkalinity	mg/L	126	7.7	36.1	13.6	15.4	6.1	39.6	–	0	0	–	–
Turbidity	NTU	126	0.1	15.7	2.3	3.2	3.1	95.1	–	1	0	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	92	0.5	8.9	1.2	1.8	1.6	90.4	–	8	0	–	–
Dis. Solids	mg/L	126	10	55	20	22.9	9.7	42.3	–	0	0	–	–
TSS	mg/L	125	1	19	2	3.256	3.2051	98.4	–	50	0	–	–
Dis. Chloride	mg/L	126	0.5	1.1	0.5	0.5	0.1	18.5	–	109	0	–	–
Dis. Fluoride	mg/L	126	0.04	0.11	0.06	0.06	0.01	19.2	–	0	0	–	–
Dis. Sulphate	mg/L	125	1	4.8	2	2.3	0.9	37.6	–	6	4	–	–
Ammonia-N	mg/L	125	0.005	0.016	0.005	0.006	0.002	37.4	–	38	74	–	–
Nitrate-N	mg/L	126	0.005	0.08	0.019	0.029	0.025	85.0	–	9	45	–	–
Nitrite-N	mg/L	126	0.001	0.005	0.001	0.002	0.001	57.0	–	60	22	–	–
Ortho-Phosphate	mg/L	126	0.001	0.024	0.002	0.003	0.004	119.2	–	44	20	–	–
Dis. Phosphate	mg/L	123	0.001	0.024	0.002	0.004	0.004	103.8	–	32	10	–	–
Tot. Phosphate	mg/L	126	0.001	0.039	0.008	0.009	0.007	78.5	65	9	1	–	–
Tot. Aluminium	mg/L	126	0.007	0.825	0.133	0.182	0.155	85.1	40	0	0	80	63
Tot. Antimony	mg/L	126	0.00009	0.0003	0.00011	0.00013	0	35.9	–	38	41	–	–
Tot. Arsenic	mg/L	126	0.0004	0.0017	0.0007	0.0007	0.0002	30.9	87	0	0	–	–
Tot. Cadmium	mg/L	126	0.00005	0.00005	0.00005	0.00005	0	0	–	34	92	–	–
Tot. Calcium	mg/L	126	2.5	9.0	4.3	4.7	1.6	33.2	98	0	0	118	94
Tot. Cobalt	mg/L	126	0.0001	0.0010	0.0001	0.0002	0.0002	111.2	–	30	91	–	–
Tot. Copper	mg/L	70	0.0003	0.0040	0.0010	0.0010	0.0006	57.7	88	0	0	4	6
Tot. Iron	mg/L	115	0.03	0.92	0.11	0.13	0.12	88.9	37	0	11	3	3
Tot. Lead	mg/L	80	0.00005	0.001	0.00005	0.00009	0.0002	170.1	–	21	45	1	1
Tot. Magnesium	mg/L	126	0.3	2.7	0.7	0.9	0.5	53.7	95	0	0	–	–
Tot. Manganese	mg/L	126	0	0.02	0	0	0	109.8	34	2	78	–	–
Tot. Molybdenum	mg/L	126	0.00066	0.002	0.001	0.00107	0	24.7	101	31	57	–	–
Tot. Nickel	mg/L	126	0.0001	0.002	0.0001	0.0002	0.0003	167.8	–	24	91	–	–
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	126	0.0005	0.0007	0.0005	0.0005	0.0001	11.2	–	32	86	–	–
Tot. Silver	mg/L	126	0.00001	0.0001	0.00001	0.00001	0	121.0	–	35	91	–	–
Tot. Sodium	mg/L	8	2	3	2	2.4	0.5	21.8	–	0	0	–	–
Tot. Strontium	mg/L	126	0.013	0.056	0.025	0.029	0.010	34.3	97	0	0	–	–
Tot. Titanium	mg/L	76	0.01	0.01	0.01	0.01	0	0	–	34	42	–	–
Tot. zinc	mg/L	126	0.001	0.006	0.001	0.0018	0.0014	78.1	–	21	90	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-4: Summary for Tete Angela Creek, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	38	0	16.7	5.5	6.1	5.3	86.7	–	0	0	–	–
Dis. Oxygen	mg/L	7	0	12.8	9.2	9.5	1.5	16.0	–	0	0	–	–
Field conductivity	µS/cm	8	0	290	230.7	233.5	45.0	19.3	–	0	0	–	–
Lab conductivity	umhos/cm	54	60.8	366	159	160.5	58.1	36.2	–	0	0	–	–
Tot. Hardness	mg/L	54	30.7	191	73.3	78.9	30.7	38.8	–	0	0	–	–
Field pH		35	6.4	8.6	7.7	7.6	0.6	7.5	–	0	0	–	–
Lab pH		54	6.9	8.3	7.5	7.6	0.4	5.4	–	0	0	–	–
Tot. Alkalinity	mg/L	54	29.9	202	79.5	85.0	32.1	37.8	–	0	0	–	–
Turbidity	NTU	54	0.3	12.2	1.2	1.7	2.0	117.5	–	0	0	–	–
DOC	mg/L	9	0	14.9	10.4	9.7	4.5	45.8	–	0	0	–	–
TOC	mg/L	45	0	19.2	10.5	9.8	5.4	54.6	–	0	0	–	–
Dis. Solids	mg/L	54	44	257	99	103.7	37.5	36.2	–	0	0	–	–
TSS	mg/L	54	1	31	2	3.9	5.7	149.0	–	15	0	–	–
Dis. Chloride	mg/L	54	0.5	0.9	0.5	0.5	0.1	14.1	–	48	0	–	–
Dis. Fluoride	mg/L	54	0.02	0.09	0.06	0.06	0.02	28.1	–	1	0	–	–
Dis. Sulphate	mg/L	58	0.9	9	1.3	2.3	2.1	92.2	–	10	9	–	–
Ammonia-N	mg/L	54	0.005	0.069	0.005	0.009	0.011	123.6	–	29	11	–	–
Nitrate-N	mg/L	54	0.005	0.097	0.005	0.013	0.022	166.5	–	29	13	–	–
Nitrite-N	mg/L	54	0.001	0.004	0.001	0.001	0	42.5	–	47	3	–	–
Ortho-Phosphate	mg/L	54	0.001	0.014	0.004	0.005	0.003	62.0	–	3	0	–	–
Dis. Phosphate	mg/L	54	0.002	0.021	0.007	0.008	0.004	53.7	–	0	0	–	–
Tot. Phosphate	mg/L	54	0.002	0.055	0.012	0.015	0.011	75.3	70	0	0	–	–
Tot. Aluminium	mg/L	54	0.003	0.265	0.029	0.044	0.058	131.9	44	0	0	5	9
Tot. Antimony	mg/L	54	0.00005	0.0005	0.00006	0.00009	0.0001	105.5	100	15	15	–	–
Tot. Arsenic	mg/L	54	0.0002	0.0016	0.0006	0.0007	0.0004	51.3	94	0	0	–	–
Tot. Cadmium	mg/L	54	0.000017	0.00005	0.00005	0.000042	0.000014	33.2	–	39	15	–	–
Tot. Calcium	mg/L	54	6.0	41.6	15.8	16.3	6.4	39.4	100	0	0	2	4
Tot. Cobalt	mg/L	54	0.0001	0.0014	0.0001	0.0002	0.0003	111.4	–	24	15	–	–
Tot. Copper	mg/L	44	0.0002	0.002	0.0009	0.0009	0.0004	43.7	97	0	0	1	2
Tot. Iron	mg/L	54	0.03	0.92	0.22	0.28	0.21	73.9	67	4	0	9	17
Tot. Lead	mg/L	54	0.00005	0.00009	0.00005	0.00005	0.00001	14.8	–	36	15	–	–
Tot. Magnesium	mg/L	54	3.8	20.8	8.4	9.3	3.8	40.8	100	0	0	–	–
Tot. Manganese	mg/L	54	0.01	1.32	0.01	0.05	0.18	367.7	61	0	0	–	–
Tot. Molybdenum	mg/L	54	0.00009	0.00065	0.00029	0.00031	0.00012	39.8	98	0	15	–	–
Tot. Nickel	mg/L	54	0.0003	0.0030	0.0014	0.0015	0.0007	46.3	92	4	5	–	–
Tot. Potassium	mg/L	9	0	2	2	2	0	0	–	9	0	–	–
Tot. Selenium	mg/L	54	0.0005	0.0011	0.0005	0.0006	0.0002	33.8	–	37	10	1	2
Tot. Silver	mg/L	54	0.00001	0.00008	0.00001	0.00001	0.00001	99.6	–	38	15	–	–
Tot. Sodium	mg/L	37	2	10	6	5.5	1.7	30.6	–	0	0	–	–
Tot. Strontium	mg/L	54	0.024	0.126	0.059	0.063	0.025	40.0	99	0	0	–	–
Tot. Titanium	mg/L	54	0.01	0.01	0.01	0.01	0	0	–	39	15	1	2
Tot. zinc	mg/L	54	0.001	0.01	0.001	0.0017	0.0016	93.5	–	25	14	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-5: Summary for Big Onion System, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	33	0.1	22.2	10.6	10.8	6.2	57.4	–	0	0	–	–
Dis. Oxygen	mg/L	15	7.8	11.5	8.7	9.1	1.1	12.3	–	0	0	–	–
Field conductivity	µS/cm	16	253	350	306.9	301.6	29.5	9.8	–	0	0	–	–
Lab conductivity	umhos/cm	79	0	346	276.5	279.4	35.8	12.8	–	0	0	–	–
Tot. Hardness	mg/L	74	26.5	180	141	140.9	20.9	14.8	–	0	0	–	–
Field pH		19	6.3	9.5	8.3	8.1	0.8	10.2	–	0	0	–	–
Lab pH		79	7.4	9.0	8.3	8.3	0.4	4.4	–	0	0	–	–
Tot. Alkalinity	mg/L	79	21.5	187	149	148.8	20.6	13.8	–	0	0	–	–
Turbidity	NTU	79	0.1	27.3	2.9	4.4	4.5	101.2	–	0	0	–	–
DOC	mg/L	9	8.4	16.6	12.2	12.4	2.5	20.4	–	0	0	–	–
TOC	mg/L	51	0	16.8	12.65	12.3	3.0	24.5	–	0	0	–	–
Dis. Solids	mg/L	79	40	295	187	189.8	33.1	17.4	–	0	0	–	–
TSS	mg/L	79	1	79	6	7.7	9.6	124.9	–	9	0	–	–
Dis. Chloride	mg/L	79	0.5	2.5	1	1.1	0.4	38.9	–	4	0	–	–
Dis. Fluoride	mg/L	79	0.05	0.16	0.1	0.11	0.02	20.9	–	0	0	–	–
Dis. Sulphate	mg/L	79	3.8	10.9	7.1	7.4	1.7	23.1	–	5	5	–	–
Ammonia-N	mg/L	78	0.005	0.314	0.018	0.033	0.051	153.5	–	14	14	–	–
Nitrate-N	mg/L	79	0.005	0.224	0.005	0.012	0.031	256.8	–	32	45	–	–
Nitrite-N	mg/L	78	0.001	0.006	0.001	0.002	0.001	64.1	–	39	24	1	1
Ortho-Phosphate	mg/L	79	0.001	0.03	0.002	0.005	0.007	139.7	–	23	17	–	–
Dis. Phosphate	mg/L	79	0.001	0.039	0.009	0.011	0.009	80.9	–	3	5	–	–
Tot. Phosphate	mg/L	79	0.002	0.054	0.02	0.022	0.012	53.8	57	0	0	–	–
Tot. Aluminium	mg/L	79	0.002	0.579	0.025	0.069	0.111	161.1	55	1	0	13	16
Tot. Antimony	mg/L	79	0.00006	0.0005	0.00014	0.00018	0.0001	57.5	101	18	20	–	–
Tot. Arsenic	mg/L	79	0.0001	0.0017	0.0004	0.0004	0.0003	66.3	100	14	30	–	–
Tot. Cadmium	mg/L	79	0.000017	0.00005	0.00005	0.000034	0.000016	47.7	–	26	55	–	–
Tot. Calcium	mg/L	79	9.0	45.2	32.2	32.5	5.1	15.8	98	5	0	–	–
Tot. Cobalt	mg/L	79	0.0001	0.0450	0.0001	0.0014	0.0077	534.2	–	23	45	1	1
Tot. Copper	mg/L	78	0.0004	0.003	0.0006	0.0009	0.0006	62.0	92	5	5	1	1
Tot. Iron	mg/L	71	0.02	0.51	0.04	0.08	0.11	139.7	–	11	20	4	6
Tot. Lead	mg/L	79	0.00005	0.001	0.00005	0.0001	0.00017	174.4	–	21	45	–	–
Tot. Magnesium	mg/L	79	1.2	19.5	14.5	15.0	2.4	16.4	99	0	0	–	–
Tot. Manganese	mg/L	79	0	0.02	0.01	0.01	0.00	53.7	40	1	9	–	–
Tot. Molybdenum	mg/L	79	0.00024	0.002	0.00052	0.00065	0.00035	53.7	100	3	42	–	–
Tot. Nickel	mg/L	79	0.0001	0.004	0.0005	0.0006	0.0007	111.9	93	20	54	–	–
Tot. Potassium	mg/L	19	2	2	2	2	0	0	–	19	11	–	–
Tot. Selenium	mg/L	79	0.0005	0.001	0.0007	0.0007	0.0002	32.7	–	31	48	–	–
Tot. Silver	mg/L	79	0.00001	0.00067	0.00001	0.00003	0.00011	380.2	16	27	56	1	1
Tot. Sodium	mg/L	33	5	11.8	9	9.1	1.7	18.2	99	0	0	–	–
Tot. Strontium	mg/L	79	0.052	0.201	0.159	0.158	0.022	13.6	99	5	5	–	–
Tot. Titanium	mg/L	54	0.01	0.02	0.01	0.01	0	18.7	–	30	29	–	–
Tot. zinc	mg/L	80	0.001	0.008	0.001	0.0023	0.002	86.2	–	17	43	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-6: Summary for Groundhog Creek, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	27	0	18	7.7	7.4	4.5	60.5	–	0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	36	68	325	180.5	171.6	73.8	43.0	–	0	0	–	–
Tot. Hardness	mg/L	36	33.1	161	88.8	84.1	36.9	43.9	–	0	0	–	–
Field pH		26	6.4	9	7.6	7.6	0.6	8.0	–	0	0	–	–
Lab pH		36	6.8	8.4	7.6	7.6	0.4	4.8	–	0	0	–	–
Tot. Alkalinity	mg/L	36	35	169	95.5	92.1	41.0	44.5	–	0	0	–	–
Turbidity	NTU	36	0.8	5.4	1.7	1.9	1.2	62.2	–	1	0	–	–
DOC	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
TOC	mg/L	36	1.2	43.4	13	13.6	7.1	52.1	–	0	0	–	–
Dis. Solids	mg/L	36	45	214	115.5	113.6	48.7	42.8	–	0	0	–	–
TSS	mg/L	36	1	8	2	2.9	2.2	73.9	–	14	0	–	–
Dis. Chloride	mg/L	36	0.5	1.7	0.5	0.6	0.2	36.6	–	27	0	–	–
Dis. Fluoride	mg/L	36	0.03	0.14	0.07	0.07	0.03	42.4	–	0	0	–	–
Dis. Sulphate	mg/L	36	1	3	1	1.3	0.5	40.9	–	22	7	–	–
Ammonia-N	mg/L	36	0.005	0.038	0.007	0.01	0.008	78.7	–	13	1	–	–
Nitrate-N	mg/L	36	0.005	0.072	0.007	0.013	0.014	110.3	–	13	4	–	–
Nitrite-N	mg/L	36	0.001	0.003	0.001	0.001	0.001	44.0	–	25	1	–	–
Ortho-Phosphate	mg/L	36	0.001	0.019	0.003	0.006	0.006	97.7	–	9	1	–	–
Dis. Phosphate	mg/L	36	0.001	0.04	0.006	0.010	0.010	100.4	–	1	1	–	–
Tot. Phosphate	mg/L	36	0.003	0.071	0.018	0.020	0.013	66.8	64.3	0	0	–	–
Tot. Aluminium	mg/L	36	0.002	0.077	0.015	0.021	0.018	87.7	70.55	0	0	–	–
Tot. Antimony	mg/L	36	0.00005	0.0005	0.00005	0.00007	0.00009	128.4	100	25	9	–	–
Tot. Arsenic	mg/L	36	0.0001	0.0028	0.0004	0.0007	0.0008	107.4	98.15	5	0	–	–
Tot. Cadmium	mg/L	36	0.00005	0.00014	0.00005	0.000053	0.000017	32.5	–	27	9	1	3
Tot. Calcium	mg/L	36	5.4	27.5	14.6	14.3	5.9	41.4	100.2	0	0	7	19
Tot. Cobalt	mg/L	36	0.0001	0.001	0.0001	0.0002	0.0002	103.9	81.94	16	9	1	3
Tot. Copper	mg/L	36	0.0002	0.002	0.0004	0.0005	0.0003	62.9	95.95	0	0	–	–
Tot. Iron	mg/L	36	0.16	3.48	0.36	0.61	0.77	124.7	74.34	0	0	19	53
Tot. Lead	mg/L	36	0.00005	0.00005	0.00005	0.00005	0	0	–	17	9	–	–
Tot. Magnesium	mg/L	36	4.1	22.9	12.3	11.6	5.2	45.1	101.4	0	0	–	–
Tot. Manganese	mg/L	36	0.01	0.55	0.04	0.07	0.09	138.0	62.11	0	0	–	–
Tot. Molybdenum	mg/L	36	0.00008	0.00071	0.00028	0.00031	0.00018	58.9	99.44	0	9	–	–
Tot. Nickel	mg/L	36	0.0005	0.0026	0.0012	0.0015	0.0006	42.1	98.02	5	2	–	–
Tot. Potassium	mg/L	3	0	7	3	4	2.6	66.1	–	1	0	–	–
Tot. Selenium	mg/L	36	0.0005	0.0006	0.0005	0.0005	0	6.1	–	26	7	–	–
Tot. Silver	mg/L	36	0.00001	0.00003	0.00001	0.00001	0	35.8	–	27	9	–	–
Tot. Sodium	mg/L	26	2	17	7	7.3	4.1	56.2	101.2	0	0	–	–
Tot. Strontium	mg/L	36	0.017	0.077	0.036	0.038	0.013	35.3	99.34	0	0	–	–
Tot. Titanium	mg/L	35	0.01	0.01	0.01	0.01	0	0	–	27	8	–	–
Tot. zinc	mg/L	37	0.001	0.005	0.001	0.0016	0.001	63.5	–	19	9	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B9-7: Summary for Vick Creek, All Sites and All Dates, 1992 to 2007

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	31	0.8	13	4.9	5.6	3.3	59.3	–	0	0	–	–
Dis. Oxygen	mg/L	6	0	12.6	10.7	10.8	1.0	9.0	–	0	0	–	–
Field conductivity	µS/cm	6	0	454.3	410.9	411.6	25.5	6.2	–	0	0	–	–
Lab conductivity	umhos/cm	52	197	519	446	410.9	94.8	23.1	–	0	0	–	–
Tot. Hardness	mg/L	52	104	261	228.5	208.7	47.7	22.8	–	0	0	–	–
Field pH		30	6.6	8.7	8.1	7.9	0.5	5.9	–	0	0	–	–
Lab pH		52	7.6	8.4	8.0	8.0	0.2	2.6	–	0	0	–	–
Tot. Alkalinity	mg/L	52	97	309	253.5	231.5	57.6	24.9	–	0	0	–	–
Turbidity	NTU	52	0.1	1.2	0.3	0.4	0.3	75.7	–	0	0	–	–
DOC	mg/L	6	0	9.0	6.1	6.6	1.6	23.8	–	0	0	–	–
TOC	mg/L	46	0.5	28	4.8	8.7	8.8	100.9	–	2	0	–	–
Dis. Solids	mg/L	52	133	364	308.5	278.7	67.8	24.3	–	0	0	–	–
TSS	mg/L	51	1	7	1	1.6	1.1	69.0	–	35	0	–	–
Dis. Chloride	mg/L	52	0.5	2.1	0.9	1.0	0.4	35.4	–	4	0	–	–
Dis. Fluoride	mg/L	52	0.08	0.44	0.16	0.16	0.05	31.7	–	0	0	1	2
Dis. Sulphate	mg/L	52	1	16	9	8.7	4.3	49.0	–	6	0	–	–
Ammonia-N	mg/L	52	0.005	0.023	0.005	0.006	0.003	52.6	–	25	15	–	–
Nitrate-N	mg/L	52	0.005	0.086	0.019	0.025	0.021	83.6	–	13	2	–	–
Nitrite-N	mg/L	52	0.001	0.002	0.001	0.001	0.000	19.4	–	46	4	–	–
Ortho-Phosphate	mg/L	52	0.001	0.015	0.007	0.007	0.004	55.4	–	5	0	–	–
Dis. Phosphate	mg/L	52	0.001	0.017	0.008	0.008	0.004	50.3	–	5	0	–	–
Tot. Phosphate	mg/L	52	0.001	0.017	0.008	0.008	0.004	49.7	99	4	0	–	–
Tot. Aluminium	mg/L	51	0.002	0.054	0.007	0.012	0.011	93.1	109	0	4	–	–
Tot. Antimony	mg/L	51	0.00005	0.00050	0.00006	0.00008	0.00008	94.8	100	13	18	–	–
Tot. Arsenic	mg/L	52	0.0003	0.0009	0.0006	0.0006	0.0001	17.0	102	0	0	–	–
Tot. Cadmium	mg/L	51	0.000017	0.00005	0.00005	0.000044	0.000013	29.4	–	31	19	1	2
Tot. Calcium	mg/L	52	24.7	51.5	44.4	42.0	6.8	16.2	100	0	0	–	–
Tot. Cobalt	mg/L	51	0.0001	0.0005	0.0001	0.0001	0.0001	64.3	–	28	19	–	–
Tot. Copper	mg/L	39	0.0003	0.0021	0.0007	0.0008	0.0004	50.8	94	0	0	1	3
Tot. Iron	mg/L	33	0.01	0.04	0.03	0.03	0.01	41.3	–	11	16	–	–
Tot. Lead	mg/L	51	0.00005	0.00007	0.00005	0.00005	0	7.0	–	31	19	–	–
Tot. Magnesium	mg/L	52	9.1	33.6	28.8	25.8	7.7	29.9	100	0	0	–	–
Tot. Manganese	mg/L	51	0.00	0.04	0.01	0.01	0.01	106.8	60	3	12	–	–
Tot. Molybdenum	mg/L	52	0.00040	0.002	0.00128	0.00119	0.00042	35.8	100	15	1	–	–
Tot. Nickel	mg/L	51	0.0001	0.0011	0.0004	0.0004	0.0003	70.5	93	14	18	–	–
Tot. Potassium	mg/L	20	0	3	2	2.2	0.4	18.7	–	16	0	–	–
Tot. Selenium	mg/L	52	0.0005	0.001	0.0005	0.000625	0.000193	30.9	–	29	16	–	–
Tot. Silver	mg/L	51	0.00001	0.00001	0.00001	0.00001	0	0.0	–	32	19	–	–
Tot. Sodium	mg/L	32	6	17	14.05	12.59688	3.817826	30.3	100	0	0	–	–
Tot. Strontium	mg/L	52	0.0954	0.346	0.293	0.265535	0.07587	28.6	100	0	0	–	–
Tot. Titanium	mg/L	52	0.01	0.01	0.01	0.01	0	0	–	33	19	–	–
Tot. zinc	mg/L	51	0.001	0.009	0.001	0.001394	0.001435	102.9	–	28	18	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix B10 Appendix Tables Summary for Sites:

Appendix Table B10-1 Water Quality Summary for Fish Creek W1, 1992 to 2006

Appendix Table B10-2 Water Quality Summary for Fish Creek W2, 1992 to 2006

Appendix Table B10-3 Water Quality Summary for Fish Creek W3, 1992 to 2006

Appendix Table B10-4 Water Quality Summary for Fish Creek W7, 1992 to 1997

Appendix Table B10-5 Water Quality Summary for Fish Creek W8, 1992 to 2006

Appendix Table B10-6 Water Quality Summary for Taseko River W4, 1992 to 1998

Appendix Table B10-7 Water Quality Summary for Taseko River W5, 1992 to 2006

Appendix Table B10-8 Water Quality Summary for Taseko River W6, 1992 to 2006

Appendix Table B10-9 Water Quality Summary for Taseko River W9, 1992 to 1998

Appendix Table B10-10 Water Quality Summary for Taseko River W14, 1992 to 2006

Appendix Table B10-11 Water Quality Summary for Taseko River W19, 1997 to 1998

Appendix Table B10-12 Water Quality Summary for Taseko River W20, 1997 to 1998

Appendix Table B10-13 Water Quality Summary for Beece Creek W12, 1992 to 1998

Appendix Table B10-14 Water Quality Summary for Beece Creek W12, 1992 to 1998

Appendix Table B10-15 Water Quality Summary for Tete Angela Creek W17, 1992 to 1998

Appendix Table B10-16 Water Quality Summary for Tete Angela Creek W18, 1992 to 1998

Appendix Table B10-17 Water Quality Summary for Tete Angela Creek WA, 2006

Appendix Table B10-18 Water Quality Summary for Big Onion Lake outlet W10 and W10A, 1992-2006

Appendix Table B10-19 Water Quality Summary for Big Onion Lake inlet WB, 2006

Appendix Table B10-20 Water Quality Summary for Groundhog Creek W16, 1992-1998

Appendix Table B10-21 Water Quality Summary for Groundhog Creek W24, 1997-1998

Appendix Table B10-22 Water Quality Summary for Vick Creek W13, 1992 – 2006

Appendix Table B10-23 Water Quality Summary for Vick Creek W23, 1997 – 1998

Appendix Table B10-1: Water Quality Summary for Fish Creek W1, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	22	0.3	19.3	8.5	8.2	5.7	69.7	–	0	0	–	–
Dissolved Oxygen	mg/L	7	3.0	12.8	9.5	9.2	3.1	33.5	–	0	0	–	–
Field conductivity	µS/cm	6	103.6	236.9	154.8	159.0	43.6	27.4	–	0	0	–	–
Lab conductivity	umhos/cm	75	122.0	596.0	212.0	234.3	104.5	44.6	–	0	0	–	–
Total Hardness	mg/L	75	60.3	268.0	108.0	113.3	44.2	39.1	–	0	0	–	–
Field pH		13	7.0	8.5	7.7	7.7	0.4	5.3	–	0	0	–	–
Lab pH		75	6.2	9.6	7.7	7.8	0.6	8.0	–	0	0	6	5
Total Alkalinity	mg/L	75	68.4	349.0	119.0	130.5	60.6	46.5	–	0	0	–	–
Turbidity	NTU	75	0.7	65.1	3.3	6.4	9.7	151.8	–	0	0	12	16
DOC	mg/L	6	11.8	19.8	17.0	16.4	3.0	18.4	–	0	0	–	–
TOC	mg/L	46	11.2	138.0	17.8	21.0	18.2	86.9	–	0	0	–	–
Dissolved Solids	mg/L	75	82.0	479.0	152.0	169.5	82.7	48.8	–	0	0	–	–
TSS	mg/L	75	1.0	87.0	5.0	9.9	13.3	133.8	–	7	8	–	–
Dissolved Chloride	mg/L	74	0.5	7.5	0.9	1.3	1.4	110.2	–	22	6	–	–
Dissolved Fluoride	mg/L	74	0.02	0.15	0.07	0.07	0.03	34.4	–	1	0	–	–
Dissolved Sulphate	mg/L	75	0.5	4.1	2.0	2.0	1.1	55.2	–	12	23	–	–
Ammonia-N	mg/L	72	0.005	1.080	0.024	0.074	0.149	199.9	–	8	5	–	–
Nitrate-N	mg/L	75	0.005	0.139	0.005	0.016	0.029	175.2	–	22	41	–	–
Nitrite-N	mg/L	75	0.001	0.030	0.002	0.003	0.004	145.0	–	28	16	1	1
Ortho-Phosphate	mg/L	75	0.001	0.081	0.011	0.019	0.019	102.2	–	2	3	–	–
Dissolved Phosphate	mg/L	75	0.002	0.202	0.023	0.031	0.030	98.2	–	0	0	–	–
Total Phosphate	mg/L	75	0.002	0.565	0.042	0.07	0.087	123.7	57	0	0	–	–
Total Aluminium	mg/L	75	0.003	1.050	0.048	0.083	0.138	165.8	30	0	0	11	15
Total Antimony	mg/L	75	0.00005	0.0005	0.0001	0.0001	0.00008	79.4	100	12	44	–	–
Total Arsenic	mg/L	75	0.0001	0.0050	0.0004	0.0006	0.0008	131.3	86	10	6	–	–
Total Cadmium	mg/L	75	0.000017	0.000105	0.00005	0.000045	0.000019	42.0	–	22	52	1	1
Total Calcium	mg/L	75	10.3	50.8	19.3	20.2	8.3	41.0	99	0	0	–	–
Total Cobalt	mg/L	74	0.0001	0.0064	0.0005	0.0014	0.0018	128.6	100	5	44	9	12
Total Copper	mg/L	71	0.0004	0.0050	0.0010	0.0013	0.0009	66.6	87	13	26	7	10
Total Iron	mg/L	75	0.12	15.20	0.41	1.32	2.75	209.0	54	0	0	54	72
Total Lead	mg/L	75	0.00005	0.001	0.00005	0.00013	0.00026	199.6	–	22	50	–	–
Total Magnesium	mg/L	75	8.2	39.2	14.8	15.6	6.0	38.5	99	0	0	–	–
Total Manganese	mg/L	75	0.01	10.50	0.09	0.63	1.82	288.9	61	0	0	–	–
Total Molybdenum	mg/L	75	0.00019	0.00235	0.001	0.00095	0.00067	71.0	95	8	42	4	5
Total Nickel	mg/L	75	0.001	0.0077	0.0031	0.0036	0.0012	34.4	94	1	0	–	–
Total Potassium	mg/L	7	2.0	4.0	2.0	2.3	0.8	33.1	–	4	6	–	–
Total Selenium	mg/L	75	0.0005	0.001	0.0005	0.0006	0.0002	34.2	–	22	51	–	–
Total Silver	mg/L	75	0.00001	0.00072	0.00001	0.00005	0.00015	312.4	38	22	51	2	3
Total Sodium	mg/L	23	4.0	40.0	11.0	14.0	10.7	76.4	99	0	0	–	–
Total Strontium	mg/L	75	0.031	0.160	0.064	0.065	0.029	44.4	98	0	0	–	–
Total Titanium	mg/L	44	0.01	0.01	0.01	0.01	0	0	–	23	27	–	–
Total zinc	mg/L	75	0.001	0.029	0.0023	0.006	0.0067	112.8	64	13	42	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-2: Water Quality Summary for Fish Creek W2, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	29	0.3	20.5	9.2	9.7	6.0	61.9	—	0	0	—	—
Dissolved Oxygen	mg/L	11	4.3	10.2	8.6	7.6	2.2	29.3	—	0	0	—	—
Field conductivity	µS/cm	12	140.0	180.0	160.5	161.0	13.1	8.1	—	0	0	—	—
Lab conductivity	umhos/cm	82	120.0	239.0	163.0	166.4	19.7	11.9	—	0	0	—	—
Total Hardness	mg/L	82	59.6	111.0	81.6	81.9	9.0	11.1	—	0	0	—	—
Field pH		15	6.5	9.3	7.8	7.9	0.6	7.6	—	0	0	—	—
Lab pH		82	6.5	8.6	7.8	7.8	0.4	5.0	—	0	0	—	—
Total Alkalinity	mg/L	82	64.0	123.0	88.5	89.2	9.4	10.5	—	0	0	—	—
Turbidity	NTU	82	0.4	16.2	1.3	2.5	3.0	122.9	—	0	0	5	6
DOC	mg/L	11	13.9	17.0	14.9	15.2	0.9	6.2	—	0	0	—	—
TOC	mg/L	46	9.9	19.2	13.5	13.7	1.9	14.0	—	0	0	—	—
Dissolved Solids	mg/L	82	79.0	158.0	113.0	115.1	16.9	14.7	—	0	0	—	—
TSS	mg/L	82	1.0	18.0	3.0	3.7	3.3	90.3	—	25	17	—	—
Dissolved Chloride	mg/L	82	0.5	1.8	0.5	0.7	0.3	37.2	—	41	12	—	—
Dissolved Fluoride	mg/L	82	0.04	0.82	0.06	0.07	0.09	126.7	—	0	0	1	1
Dissolved Sulphate	mg/L	82	0.5	4.3	1.6	1.9	1.1	60.1	—	17	14	—	—
Ammonia-N	mg/L	81	0.005	0.460	0.026	0.045	0.077	171.6	—	3	5	—	—
Nitrate-N	mg/L	82	0.005	0.228	0.012	0.043	0.064	146.9	—	15	41	—	—
Nitrite-N	mg/L	82	0.001	0.015	0.002	0.002	0.002	80.9	—	23	19	—	—
Ortho-Phosphate	mg/L	82	0.001	0.019	0.006	0.006	0.004	71.7	—	8	6	—	—
Dissolved Phosphate	mg/L	82	0.001	0.041	0.010	0.011	0.007	68.4	—	2	2	—	—
Total Phosphate	mg/L	82	0.002	0.169	0.019	0.025	0.022	90.2	58	0	2	—	—
Total Aluminium	mg/L	82	0.002	0.225	0.029	0.045	0.046	102.2	31	0	2	8	10
Total Antimony	mg/L	82	0.00005	0.0005	0.00009	0.0001	0.00008	85.1	100	13	49	—	—
Total Arsenic	mg/L	82	0.0001	0.0014	0.0004	0.0004	0.0002	57.0	99	8	9	—	—
Total Cadmium	mg/L	82	0.000017	0.00005	0.00005	0.000036	0.000016	44.9	—	11	52	—	—
Total Calcium	mg/L	82	10.6	21.7	15.3	15.6	2.0	12.9	99	0	0	—	—
Total Cobalt	mg/L	82	0.0001	0.0009	0.0001	0.0002	0.0002	100.8	98	19	52	—	—
Total Copper	mg/L	80	0.0004	0.002	0.001	0.0009	0.0004	45.5	87	11	35	1	1
Total Iron	mg/L	82	0.04	0.71	0.15	0.17	0.11	62.9	64	0	0	4	4
Total Lead	mg/L	81	0.00005	0.003	0.00005	0.00018	0.00055	304.1	—	26	50	1	1
Total Magnesium	mg/L	82	7.6	14.8	10.6	10.6	1.1	10.3	99	0	0	—	—
Total Manganese	mg/L	81	0.01	0.47	0.01	0.02	0.05	233.5	57	1	3	—	—
Total Molybdenum	mg/L	82	0.00022	0.001	0.0003	0.00036	0.00021	59.6	99	3	49	—	—
Total Nickel	mg/L	82	0.001	0.0100	0.002	0.0021	0.0011	52.7	93	8	3	—	—
Total Potassium	mg/L	15	2.0	2.0	2.0	2.0	0	0	—	14	13	—	—
Total Selenium	mg/L	82	0.0005	0.001	0.0005	0.0007	0.0002	34.4	—	28	51	—	—
Total Silver	mg/L	82	0.00001	0.00170	0.00001	0.00007	0.00031	438.0	65	27	51	2	2
Total Sodium	mg/L	30	4.0	8.0	6.0	6.0	0.9	14.2	—	0	0	—	—
Total Strontium	mg/L	82	0.034	0.074	0.049	0.049	0.007	15.1	99	0	0	—	—
Total Titanium	mg/L	51	0.01	0.01	0.01	0.01	0	0	—	29	34	—	—
Total zinc	mg/L	81	0.001	0.015	0.0012	0.0033	0.0035	104.4	83	18	46	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-3: Water Quality Summary for Fish Creek W3, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	29	0.3	14.0	8.2	7.2	4.2	59.2	–	0	0	–	–
Dis. Oxygen	mg/L	10	5.9	12.5	9.4	9.5	1.7	18.2	–	0	0	–	–
Field cond	µS/cm	12	151.3	426.0	232.9	267.6	106.0	39.6	–	0	0	–	–
Lab cond	umhos/cm	78	117.0	433.0	234.0	239.8	76.3	31.8	–	0	0	–	–
T. Hardness	mg/L	78	58.6	207.0	112.0	116.0	35.0	30.2	–	0	0	–	–
field pH		16	6.5	8.9	8.1	8.0	0.4	5.0	–	0	0	–	–
lab pH		77	7.1	8.3	8.0	7.9	0.2	3.0	–	0	0	–	–
T. Alkalinity	mg/L	78	62.3	169.0	112.0	112.5	27.0	24.0	–	0	0	–	–
Turbidity	NTU	78	0.1	7.3	0.8	1.0	1.1	108.8	–	1	0	–	–
DOC	mg/L	11	4.9	15.7	12.2	10.6	4.0	37.3	–		0	–	–
TOC	mg/L	45	1.9	14.3	7.8	8.4	3.2	38.9	–	0	0	–	–
DIS. Solids	mg/L	78	80.0	314.0	162.0	167.4	54.3	32.5	–	0	0	–	–
TSS	mg/L	78	1.0	20.0	1.0	2.3	2.5	110.4	–	41	34	–	–
Dis. Chloride	mg/L	78	0.5	1.5	0.7	0.8	0.2	32.0	–	24	6	–	–
Dis. Fluoride	mg/L	78	0.03	0.18	0.06	0.07	0.02	29.8	–	0	0	–	–
Dis. Sulphate	mg/L	78	2.0	86.0	13.1	17.9	16.9	94.7	–	0	0	–	–
Ammonia-N	mg/L	77	0.005	0.019	0.005	0.007	0.004	52.0	–	24	44	–	–
Nitrate-N	mg/L	78	0.005	0.483	0.078	0.129	0.126	97.4	–	2	8	–	–
Nitrite-N	mg/L	78	0.001	0.006	0.001	0.002	0.001	64.0	–	41	19	–	–
Ortho-Phosphate	mg/L	78	0.001	0.048	0.009	0.009	0.007	71.0	–	2	0	–	–
Dis. Phosphate	mg/L	78	0.001	0.110	0.012	0.014	0.015	106.2	–	1	1	–	–
T. Phosphate	mg/L	78	0.003	0.172	0.017	0.021	0.023	107.7	75		0	–	–
T. Aluminium	mg/L	78	0.001	0.208	0.023	0.038	0.045	118.6	31	2	0	6	8
T. Antimony	mg/L	78	0.00006	0.0015	0.0005	0.00063	0.00039	61.2	98	2	9	–	–
T. Arsenic	mg/L	78	0.0003	0.0043	0.0025	0.0023	0.001	43.5	92	0	0	–	–
T. Cadmium	mg/L	79	0.000017	0.0003	0.00005	0.000046	0.000051	110.5	–	25	49	1	1
T. Calcium	mg/L	78	11.5	45.5	25.2	25.7	8.6	33.5	99	0	0	–	–
T. Cobalt	mg/L	77	0.0001	0.001	0.0001	0.0002	0.0002	117.2	–	27	47	1	1
T. Copper	mg/L	77	0.0008	0.0176	0.0015	0.0018	0.002	112.8	93	16	6	4	5
T. Iron	mg/L	71	0.03	0.55	0.17	0.18	0.12	65.7	73	5	14	7	10
T. Lead	mg/L	77	0.00005	0.003	0.00005	0.00025	0.00065	263.8	–	27	46	1	1
T. Magnesium	mg/L	78	7.3	22.2	12.5	12.9	3.5	27.0	99	0	0	–	–
T. Manganese	mg/L	78	0	0.08	0.01	0.01	0.01	112.7	29	2	28	–	–
T. Molybdenum	mg/L	78	0.00029	0.002	0.001	0.00099	0.00049	49.3	100	11	32	–	–
T. Nickel	mg/L	78	0.0001	0.0040	0.0012	0.0014	0.0007	49.3	96	15	18	–	–
T. Potassium	mg/L	13	2.0	2.0	2.0	2.0	0	0	–	12	13	–	–
T. Selenium	mg/L	78	0.0005	0.001	0.0005	0.0007	0.0002	34.2	–	29	46	–	–
T. Silver	mg/L	78	0.00001	0.00005	0.00001	0.00001	0.00001	70.0	–	27	49	–	–
T. Sodium	mg/L	30	5.0	14.1	10.0	9.4	3.5	36.9	97	0	0	–	–
T. Strontium	mg/L	78	0.043	0.266	0.119	0.123	0.056	45.8	99	0	0	–	–
T. Titanium	mg/L	51	0.01	0.01	0.01	0.01	0	0	–	29	34	–	–
T. zinc	mg/L	77	0.001	0.032	0.001	0.0038	0.0074	195.4	121	20	43	1	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-4: Water Quality Summary for Fish Creek W7, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	0	0	0	–	–	–	–	–	0	0	–	–
Dis. Oxygen	mg/L	0	0	0	–	–	–	–	–	0	0	–	–
Field cond	µS/cm	0	0	0	–	–	–	–	–	0	0	–	–
Lab cond	umhos/cm	49	116.0	206.0	162.0	165.5	16.3	9.8	–	0	0	–	–
T. Hardness	mg/L	49	58.2	102.0	82.7	83.1	8.3	10.0	–	0	0	–	–
field pH		0	0	0	–	–	–	–	–	0	0	–	–
lab pH		49	7.2	8.8	7.8	7.8	0.3	4.1	–	0	0	–	–
T. Alkalinity	mg/L	49	64.9	121.0	88.7	89.1	9.6	10.8	–	0	0	–	–
Turbidity	NTU	49	0.6	26.5	1.4	2.0	3.6	184.2	–	0	0	1	2
DOC	mg/L	0	0	0	–	–	–	–	–	0	0	–	–
TOC	mg/L	26	10.8	16.2	13.1	13.2	1.5	11.1	–	0	0	–	–
DIS. Solids	mg/L	49	78.0	158.0	112.0	116.1	18.6	16.0	–	0	0	–	–
TSS	mg/L	49	1.0	31.0	2.0	3.2	4.7	145.0	–	19	12	–	–
Dis. Chloride	mg/L	49	0.5	1.4	0.8	0.8	0.3	33.5	–	15	0	–	–
Dis. Fluoride	mg/L	49	0.03	0.09	0.05	0.06	0.01	23.0	–	0	0	–	–
Dis. Sulphate	mg/L	49	1.1	4.3	2.6	2.6	0.9	33.9	–	0	12	–	–
Ammonia-N	mg/L	49	0.005	0.051	0.017	0.02	0.011	55.0	–	4	3	–	–
Nitrate-N	mg/L	49	0.005	0.153	0.03	0.043	0.043	99.9	–	1	19	–	–
Nitrite-N	mg/L	40	0.001	0.012	0.003	0.003	0.002	75.5	–	12	9	–	–
Ortho-Phosphate	mg/L	49	0.002	0.016	0.007	0.008	0.003	45.8	–	0	0	–	–
Dis. Phosphate	mg/L	49	0.003	0.042	0.015	0.016	0.008	53.0	–	0	0	–	–
T. Phosphate	mg/L	49	0.007	0.071	0.022	0.026	0.013	51.3	69	0	0	–	–
T. Aluminium	mg/L	49	0.014	0.41	0.044	0.061	0.068	111.3	52	0	1	4	8
T. Antimony	mg/L	49	0.0001	0.0003	0.0001	0.00016	0.00009	55.9	–	3	44	–	–
T. Arsenic	mg/L	49	0.0001	0.0018	0.0003	0.0003	0.0003	86.2	93	8	3	–	–
T. Cadmium	mg/L	49	0	0	–	–	–	–	–	0	0	–	–
T. Calcium	mg/L	49	10.5	20.7	15.9	16.0	2.0	12.3	99	0	0	–	–
T. Cobalt	mg/L	49	0.001	0.001	0.001	0.001	–	–	–	1	49	–	–
T. Copper	mg/L	48	0.001	0.005	0.001	0.0015	0.0011	73.4	–	11	32	2	4
T. Iron	mg/L	49	0.05	0.76	0.16	0.20	0.14	71.9	64	0	0	3	6
T. Lead	mg/L	49	0.001	0.001	0.001	0.001	0	0.0	–	3	46	–	–
T. Magnesium	mg/L	49	7.9	12.9	10.8	10.7	1.0	9.3	99	0	0	–	–
T. Manganese	mg/L	46	0.01	0.10	0.02	0.02	0.02	85.4	67	0	2	–	–
T. Molybdenum	mg/L	49	0.001	0.001	0.001	0.001	0	0	–	3	46	–	–
T. Nickel	mg/L	43	0.001	0.003	0.002	0.0017	0.0005	30.9	–	13	5	–	–
T. Potassium	mg/L	0	0	0	–	–	–	–	–		0	–	–
T. Selenium	mg/L	49	0.0006	0.0006	0.0006	0.0006	0	0	–	0	47	–	–
T. Silver	mg/L	49	0.002	0.002	0.002	0.002	–	–	–	0	46	1	2
T. Sodium	mg/L	0	0	0	–	–	–	–	–	0	0	–	–
T. Strontium	mg/L	49	0.033	0.067	0.051	0.05	0.007	14.1	98	0	-1	–	–
T. Titanium	mg/L	18	0	0	–	–	–	–	–	0	18	–	–
T. zinc	mg/L	49	0.005	0.035	0.0205	0.0181	0.0112	61.8	33	1	41	1	2

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-5: Water Quality Summary for Fish Creek W8, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	29	0.3	17.5	9.0	8.6	4.9	56.8	–	0	0	–	–
Dis. Oxygen	mg/L	12	6.5	10.7	9.1	8.8	1.3	14.7	–	0	0	–	–
Field conductivity	µS/cm	11	160.9	519.0	217.0	274.3	119.4	43.5	–	0	0	–	–
Lab conductivity	umhos/cm	81	122.0	542.0	238.0	256.0	88.9	34.7	–	0	1	–	–
Tot. Hardness	mg/L	81	59.7	248.0	116.5	124.9	41.7	33.4	–	0	1	–	–
Field pH		15	7.1	8.4	7.7	7.7	0.3	3.5	–	0	0	–	–
Lab pH		81	7.1	8.4	7.7	7.7	0.3	3.7	–	0	1	–	–
Tot. Alkalinity	mg/L	81	67.6	187.0	113.0	117.1	28.2	24.1	–	0	1	–	–
Turbidity	NTU	81	0.8	12.4	2.9	3.6	2.7	74.1	–	0	1	7	9
DOC	mg/L	10	8.3	15.7	13.9	12.6	2.7	21.3	–	0	0	–	–
TOC	mg/L	46	0.8	14.2	11.1	10.5	2.8	26.8	–	0	0	–	–
Dis. Solids	mg/L	81	85.0	395.0	169.0	179.7	64.2	35.7	–	0	1	–	–
TSS	mg/L	81	1.0	10.0	3.0	3.7	2.1	57.0	–	13	9	–	–
Dis. Chloride	mg/L	81	0.5	1.6	0.8	0.8	0.3	38.0	–	26	7	–	–
Dis. Fluoride	mg/L	81	0.04	0.58	0.07	0.08	0.06	76.4	–	0	1	1	1
Dis. Sulphate	mg/L	81	2.0	126.0	12.7	21.8	23.7	109.0	–	0	1	–	–
Ammonia-N	mg/L	80	0.005	0.059	0.017	0.019	0.01	54.8	–	9	10	–	–
Nitrate-N	mg/L	81	0.005	0.128	0.007	0.024	0.034	144.5	–	7	43	–	–
Nitrite-N	mg/L	81	0.001	0.005	0.002	0.002	0.001	55.9	–	34	22	–	–
Ortho-Phosphate	mg/L	81	0.001	0.044	0.013	0.015	0.011	73.0	–	1	3	–	–
Dis. Phosphate	mg/L	81	0.002	0.057	0.021	0.022	0.013	57.4	–	0	2	–	–
Tot. Phosphate	mg/L	81	0.003	0.096	0.035	0.036	0.015	42.7	61	0	1	–	–
Tot. Aluminium	mg/L	82	0.008	0.315	0.036	0.051	0.049	95.8	55	0	1	8	10
Tot. Antimony	mg/L	82	0.00005	0.0005	0.0001	0.0001	0.00008	80.5	94	15	45	–	–
Tot. Arsenic	mg/L	82	0.0001	0.0031	0.0010	0.0011	0.0007	60.5	78	1	1	–	–
Tot. Cadmium	mg/L	82	0.000017	0.00005	0.00005	0.000037	0.000016	44.2	–	27	53	–	–
Tot. Calcium	mg/L	82	11.5	55.8	24.9	27.5	10.7	38.8	99	0	1	–	–
Tot. Cobalt	mg/L	82	0.0001	0.001	0.0002	0.0003	0.0003	94.3	85	8	51	1	1
Tot. Copper	mg/L	80	0.0004	0.005	0.0008	0.001	0.0008	75.7	90	15	34	3	4
Tot. Iron	mg/L	82	0.18	2.20	0.85	0.86	0.50	58.3	55	0	1	70	84
Tot. Lead	mg/L	82	0.00005	0.001	0.00005	0.00014	0.00028	201.6	–	32	50	–	–
Tot. Magnesium	mg/L	82	7.8	26.7	13.5	14.0	3.9	28.1	100	0	1	–	–
Tot. Manganese	mg/L	82	0.01	1.35	0.15	0.2	0.21	107.8	82	0	1	–	–
Tot. Molybdenum	mg/L	82	0.00028	0.002	0.00051	0.00073	0.00054	74.2	100	5	43	–	–
Tot. Nickel	mg/L	82	0.0006	0.007	0.002	0.0017	0.0008	46.6	93	21	1	–	–
Tot. Potassium	mg/L	12	2.0	2.0	2.0	2.0	0.0	0.0	–	13	12	–	–
Tot. Selenium	mg/L	82	0.0005	0.0015	0.0005	0.0007	0.0003	37.6	–	0	63	1	1
Tot. Silver	mg/L	82	0.00001	0.0001	0.00001	0.00001	0.00002	122.7	–	28	53	–	–
Tot. Sodium	mg/L	29	5.0	17.0	10.0	9.6	3.6	37.1	101	0	0	–	–
Tot. Strontium	mg/L	82	0.039	0.379	0.116	0.128	0.07	54.5	100	0	1	–	–
Tot. Titanium	mg/L	51	0.01	0.01	0.01	0.01	0	0	–	30	34	–	–
Tot. zinc	mg/L	82	0.001	0.03	0.001	0.0028	0.005	182.4	–	25	45	1	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-6: Water Quality Summary for Taseko River W4, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	17	0.7	13	8	7.6	4.3	57.3	–	0	0	–	–
Dis. Oxygen	mg/L	–	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	–	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	70	49.2	66	57.4	57.6	3.8	6.7	–	0	0	–	–
Tot. Hardness	mg/L	70	20.6	26.9	24.1	24.1	1.7	6.9	–	0	0	–	–
Field pH		17	6.7	8.7	7.5	7.5	0.5	6.7	–	0	0	–	–
Lab pH		70	6.2	8.1	7.4	7.4	0.4	5.1	–	0	0	–	–
Tot. Alkalinity	mg/L	70	15	22.7	18.4	18.4	1.8	9.7	–	0	0	–	–
Turbidity	NTU	70	10.6	65	26.8	28.6	12.7	44.4	–	0	0	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	47	0.5	2.2	1.1	1.1	0.3	31.2	–	1	0	–	–
Dis. Solids	mg/L	70	28	47	35	35.5	4.3	12.1	–	0	0	–	–
TSS	mg/L	70	1	43	5	7.8	8.0	101.4	–	11	0	–	–
Dis. Chloride	mg/L	70	0.5	1.8	0.5	0.7	0.3	42.1	–	39	0	–	–
Dis. Fluoride	mg/L	70	0.02	0.09	0.04	0.04	0.01	32.4	–	6	0	–	–
Dis. Sulphate	mg/L	70	4.1	10.0	6.8	6.6	0.9	13.9	–	0	0	–	–
Ammonia-N	mg/L	51	0.005	0.053	0.011	0.013	0.009	71.2	–	25	6	–	–
Nitrate-N	mg/L	70	0.005	0.257	0.017	0.020	0.030	147.3	–	2	4	–	–
Nitrite-N	mg/L	70	0.001	0.015	0.002	0.004	0.004	102.4	–	24	19	–	–
Ortho-Phosphate	mg/L	70	0.001	0.057	0.003	0.006	0.010	171.1	–	14	9	–	–
Dis. Phosphate	mg/L	70	0.001	0.093	0.004	0.013	0.020	154.1	–	8	4	–	–
Tot. Phosphate	mg/L	70	0.009	0.133	0.036	0.042	0.026	62.2	49	0	0	–	–
Tot. Aluminium	mg/L	70	0.376	2.780	0.872	0.999	0.536	53.6	17	0	0	70	100
Tot. Antimony	mg/L	70	0.00005	0.00020	0.00007	0.00009	0.00005	55.9	–	12	43	–	–
Tot. Arsenic	mg/L	70	0.0003	0.0018	0.0005	0.0005	0.0002	39.1	81	0	0	–	–
Tot. Cadmium	mg/L	70	0.00005	0.0003	0.00005	0.000063	0.000057	90.8	–	18	51	1	1
Tot. Calcium	mg/L	70	7.2	9.5	8.6	8.5	0.6	7.2	97	0	0	–	–
Tot. Cobalt	mg/L	69	0.0002	0.0010	0.0004	0.0005	0.0003	61.7	–	7	44	–	–
Tot. Copper	mg/L	69	0.0010	0.0080	0.0030	0.0030	0.0013	43.0	30	1	0	42	61
Tot. Iron	mg/L	70	0.29	1.85	0.62	0.77	0.44	57.0	17	0	0	69	99
Tot. Lead	mg/L	70	0.00011	0.00100	0.00015	0.00028	0.00030	107.1	–	3	49	–	–
Tot. Magnesium	mg/L	70	0.8	1.8	1.1	1.2	0.2	17.8	77	0	0	–	–
Tot. Manganese	mg/L	70	0.01	0.05	0.02	0.02	0.01	46.2	17	0	1	–	–
Tot. Molybdenum	mg/L	70	0.001	0.002	0.001	0.00112	0.00022	19.2	102	32	18	–	–
Tot. Nickel	mg/L	70	0.0002	0.0020	0.0009	0.0008	0.0005	65.0	–	12	36	–	–
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	71	0.0005	0.0007	0.0005	0.0005	0.0000	9.5	–	18	51	–	–
Tot. Silver	mg/L	70	0.00001	0.00003	0.00001	0.00001	0.00000	42.4	–	17	52	–	–
Tot. Sodium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Strontium	mg/L	70	0.034	0.056	0.045	0.045	0.005	10.5	95	0	0	–	–
Tot. Titanium	mg/L	39	0.01	0.07	0.02	0.03	0.01	37.2	–	0	0	–	–
Tot. zinc	mg/L	70	0.001	0.026	0.005	0.0071	0.0066	92.8	–	4	35	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-7: Water Quality Summary for Taseko River W5, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	30	0.3	15.0	9.2	8.6	4.4	50.9	—	0	0	—	—
Dis. Oxygen	mg/L	12	8.7	12.1	9.8	10.0	1.1	10.7	—	0	0	—	—
Field conductivity	µS/cm	11	34.0	68.9	58.9	56.9	9.5	16.7	—	0	0	—	—
Lab conductivity	umhos/cm	82	49.8	165.0	65.7	73.9	21.7	29.3	—	0	0	—	—
Tot. Hardness	mg/L	82	22.0	71.1	29.5	32.8	10.2	31.1	—	0	0	—	—
Field pH		28	6.5	8.6	7.5	7.5	0.5	6.4	—	0	0	—	—
Lab pH		82	6.8	8.1	7.4	7.4	0.3	3.8	—	0	0	—	—
Tot. Alkalinity	mg/L	82	14.5	81.1	24.3	27.6	11.8	42.7	—	0	0	—	—
Turbidity	NTU	82	3.1	54.0	21.4	24.1	11.4	47.2	—	0	0	—	—
DOC	mg/L	11	0.5	2.4	1.0	1.3	0.7	55.7	—	0	0	—	—
TOC	mg/L	47	0.5	3.7	1.2	1.3	0.6	44.4	—	3	0	—	—
Dis. Solids	mg/L	82	30.0	102.0	45.0	49.2	15.6	31.7	—	0	0	—	—
TSS	mg/L	82	1.0	20.0	5.0	5.9	4.3	73.7	—	12	0	—	—
Dis. Chloride	mg/L	82	0.5	2.5	0.5	0.7	0.4	50.8	—	48	0	—	—
Dis. Fluoride	mg/L	82	0.02	0.32	0.04	0.04	0.04	83.5	—	8	0	—	—
Dis. Sulphate	mg/L	82	4.7	10.4	6.8	6.9	1.0	14.5	—	0	0	—	—
Ammonia-N	mg/L	83	0.005	0.074	0.009	0.012	0.01	89.3	—	7	29	—	—
Nitrate-N	mg/L	82	0.005	0.057	0.015	0.018	0.01	55.4	—	2	5	—	—
Nitrite-N	mg/L	82	0.001	0.015	0.001	0.004	0.004	105.6	—	35	16	—	—
Ortho-Phosphate	mg/L	95	0.001	0.057	0.003	0.005	0.01	177.9	—	6	19	—	—
Dis. Phosphate	mg/L	89	0.001	0.09	0.004	0.011	0.017	162.6	—	2	9	—	—
Tot. Phosphate	mg/L	82	0.004	0.114	0.025	0.034	0.024	69.9	44	0	0	—	—
Tot. Aluminium	mg/L	82	0.226	2.4	0.737	0.92	0.555	60.4	21	0	0	82	100
Tot. Antimony	mg/L	82	0.00005	0.0003	0.0001	0.00012	0.00007	54.3	100	6	36	—	—
Tot. Arsenic	mg/L	82	0.0003	0.0018	0.0006	0.0007	0.0003	41.8	82	0	0	—	—
Tot. Cadmium	mg/L	82	0.000017	0.0005	0.00005	0.000053	0.000084	159.1	—	26	51	5	6
Tot. Calcium	mg/L	82	7.6	17.1	9.7	10.3	2.3	22.5	97	0	0	7	9
Tot. Cobalt	mg/L	82	0.0002	0.0010	0.0004	0.0005	0.0003	59.9	—	6	46	—	—
Tot. Copper	mg/L	82	0.0010	0.0080	0.0030	0.0031	0.0014	46.2	37	1	0	52	63
Tot. Iron	mg/L	82	0.16	1.70	0.56	0.69	0.44	63.0	19	0	0	71	87
Tot. Lead	mg/L	82	0.00009	0.00042	0.00015	0.00020	0.00011	54.6	—	0	52	—	—
Tot. Magnesium	mg/L	82	1.0	6.9	1.8	2.2	1.3	58.8	85	0	0	—	—
Tot. Manganese	mg/L	82	0.01	0.04	0.02	0.02	0.01	50.7	18	1	2	—	—
Tot. Molybdenum	mg/L	82	0.00100	0.00200	0.00111	0.00116	0.00021	18.2	102	30	20	—	—
Tot. Nickel	mg/L	82	0.0002	0.0030	0.0006	0.0008	0.0006	78.0	—	12	41	—	—
Tot. Potassium	mg/L	12	2	2	2	2	0	0.0	—	12	0	—	—
Tot. Selenium	mg/L	82	0.0005	0.0010	0.0005	0.0007	0.0002	34.0	—	30	48	—	—
Tot. Silver	mg/L	81	0.00001	0.00005	0.00001	0.00001	0.00001	72.2	—	27	51	1	1
Tot. Sodium	mg/L	13	2	2	2	2	0	0	—	0	0	—	—
Tot. Strontium	mg/L	82	0.034	0.079	0.050	0.052	0.009	17.8	95	0	0	—	—
Tot. Titanium	mg/L	51	0.01	0.11	0.02	0.03	0.03	87.7	—	3	0	5	10
Tot. zinc	mg/L	81	0.0010	0.0230	0.0050	0.0054	0.0048	89.7	—	3	42	1	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-8: Water Quality Summary for Taseko River W6, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	30	0.3	15.0	8.8	8.1	4.4	54.1	—	0	0	—	—
Dis. Oxygen	mg/L	13	8.8	12.7	10.1	10.3	1.3	12.3	—	0	0	—	—
Field conductivity	µS/cm	11	50.0	77.6	63.6	63.2	10.0	15.8	—	0	0	—	—
Lab conductivity	umhos/cm	84	50.6	102.0	61.6	64.6	9.9	15.3	—	0	0	—	—
Tot. Hardness	mg/L	84	22.7	47.4	26.5	28.2	5.0	17.7	—	0	0	—	—
Field pH		29	6.5	8.4	7.6	7.6	0.4	5.9	—	0	0	—	—
Lab pH		84	6.7	8.6	7.5	7.5	0.3	3.9	—	0	0	—	—
Tot. Alkalinity	mg/L	84	15.8	44.6	20.9	22.5	5.7	25.1	—	0	0	—	—
Turbidity	NTU	83	9.4	54.6	23.0	25.6	11.7	45.6	—	0	0	—	—
DOC	mg/L	12	0.5	2.6	1.1	1.4	0.8	59.3	—			—	—
TOC	mg/L	47	0.5	7.9	1.0	1.3	1.1	87.8	—	3	0	—	—
Dis. Solids	mg/L	84	29.0	64.0	40.0	42.9	8.2	19.2	—	0	0	—	—
TSS	mg/L	84	1.0	21.0	5.0	6.3	4.4	70.3	—	6	0	—	—
Dis. Chloride	mg/L	83	0.5	2.5	0.5	0.7	0.3	49.6	—	49	0	—	—
Dis. Fluoride	mg/L	84	0.02	0.21	0.03	0.04	0.02	58.7	—	7	0	1	1
Dis. Sulphate	mg/L	84	4.4	10.4	6.9	6.8	0.9	13.2	—	0	0	—	—
Ammonia-N	mg/L	84	0.005	0.057	0.010	0.012	0.009	74.3	—	13	32	—	—
Nitrate-N	mg/L	84	0.005	0.730	0.013	0.024	0.082	350.1	—	3	8	—	—
Nitrite-N	mg/L	82	0.001	0.017	0.001	0.003	0.004	109.8	—	35	16	1	1
Ortho-Phosphate	mg/L	83	0.001	0.064	0.003	0.006	0.012	191.6	—	19	6	—	—
Dis. Phosphate	mg/L	83	0.001	0.090	0.004	0.011	0.017	157.7	—	7	2	—	—
Tot. Phosphate	mg/L	83	0.004	0.108	0.028	0.035	0.022	64.9	49	0	0	—	—
Tot. Aluminium	mg/L	84	0.271	2.500	0.715	0.923	0.549	59.5	21	0	0	84	100
Tot. Antimony	mg/L	83	0.00005	0.00030	0.00010	0.00009	0.00004	47.5	—	8	45	—	—
Tot. Arsenic	mg/L	84	0.0003	0.0013	0.0005	0.0006	0.0002	26.7	84	0	0	—	—
Tot. Cadmium	mg/L	83	0.000017	0.000050	0.000050	0.000037	0.000016	43.0	—	27	52	4	5
Tot. Calcium	mg/L	84	7.2	13.1	9.1	9.4	1.1	12.2	97	0	0	7	8
Tot. Cobalt	mg/L	84	0.0001	0.0010	0.0003	0.0005	0.0003	64.3	—	6	47	1	1
Tot. Copper	mg/L	84	0.0013	0.0160	0.0027	0.0031	0.0021	69.2	35	0	0	50	60
Tot. Iron	mg/L	84	0.20	1.76	0.58	0.73	0.44	60.1	21	0	0	79	94
Tot. Lead	mg/L	34	0.00009	0.00100	0.00016	0.00024	0.00022	89.6	—			—	—
Tot. Magnesium	mg/L	83	0.9	4.1	1.5	1.6	0.6	36.2	82	0	0	—	—
Tot. Manganese	mg/L	83	0.01	0.04	0.02	0.02	0.01	48.2	19	0	0	—	—
Tot. Molybdenum	mg/L	84	0.00100	0.00200	0.00100	0.00116	0.00023	19.6	103	37	12	—	—
Tot. Nickel	mg/L	84	0.0002	0.0020	0.0006	0.0007	0.0004	56.5	53	15	40	—	—
Tot. Potassium	mg/L	13	2	2	2	2	0	0	—	13	0	—	—
Tot. Selenium	mg/L	83	0.0005	0.0010	0.0005	0.0007	0.0002	34.8	—	31	51	—	—
Tot. Silver	mg/L	83	0.00001	0.00002	0.00001	0.00001	0.00000	18.3	—	29	52	—	—
Tot. Sodium	mg/L	13	2.0	3.0	2.0	2.1	0.3	13.4	—			—	—
Tot. Strontium	mg/L	83	0.034	0.064	0.048	0.049	0.006	11.4	94	0	0	—	—
Tot. Titanium	mg/L	53	0.01	0.12	0.02	0.03	0.03	83.6	—	2	1	3	6
Tot. zinc	mg/L	82	0.0010	0.0390	0.0050	0.0065	0.0072	111.4	58	3	36	1	1

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-9: Water Quality Summary for Taseko River W9, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	17	0.8	14.0	8.4	7.9	4.4	55.6	—	0	0	—	—
Dis. Oxygen	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Field conductivity	µS/cm	0	—	—	—	—	—	—	—	—	—	—	—
Lab conductivity	umhos/cm	63	51.6	285.0	57.1	61.2	28.9	47.2	—	0	0	—	—
Tot. Hardness	mg/L	64	20.9	133.0	23.9	25.7	13.7	53.3	—	0	0	—	—
Field pH		16	5.9	9.1	7.7	7.7	0.7	9.0	—	0	0	—	—
Lab pH		63	6.3	8.1	7.5	7.4	0.3	4.6	—	0	0	—	—
Tot. Alkalinity	mg/L	63	15.0	157.0	18.2	20.9	17.5	84.0	—	0	0	—	—
Turbidity	NTU	64	2.9	51.6	23.8	26.2	12.0	46.0	—	0	0	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
TOC	mg/L	47	0.5	10	1	1.4	1.6	113.8	—	1	0	—	—
Dis. Solids	mg/L	63	28	183	35	37.7	19.1	50.7	—	0	0	—	—
TSS	mg/L	64	1	19	6	7.4	4.7	63.6	—	3	0	—	—
Dis. Chloride	mg/L	64	0.5	1.4	0.5	0.7	0.3	40.8	—	34	0	—	—
Dis. Fluoride	mg/L	64	0.02	0.1	0.04	0.04	0.01	38.6	—	9	0	—	—
Dis. Sulphate	mg/L	64	4	10	6.55	6.54	0.87	13.2	—	0	0	—	—
Ammonia-N	mg/L	64	0.005	0.025	0.009	0.010	0.005	47.2	—	7	27	—	—
Nitrate-N	mg/L	64	0.006	0.125	0.018	0.019	0.015	78.9	—	0	5	—	—
Nitrite-N	mg/L	64	0.001	0.016	0.002	0.004	0.004	107.6	—	25	14	—	—
Ortho-Phosphate	mg/L	60	0.001	0.043	0.003	0.005	0.007	156.6	—	0	0	—	—
Dis. Phosphate	mg/L	62	0.001	0.076	0.004	0.010	0.015	149.3	—	0	0	—	—
Tot. Phosphate	mg/L	63	0.006	0.088	0.032	0.036	0.020	56.0	48	0	0	—	—
Tot. Aluminium	mg/L	64	0.012	2.740	0.758	0.921	0.553	60.0	18	0	0	63	98
Tot. Antimony	mg/L	64	0.00005	0.0002	0.00008	0.00009	0.00005	53.7	—	11	38	—	—
Tot. Arsenic	mg/L	64	0.0002	0.0013	0.0005	0.0005	0.0002	34.1	70	0	0	—	—
Tot. Cadmium	mg/L	64	0.00005	0.00005	0.00005	0.00005	0	0.0	—	18	46	—	—
Tot. Calcium	mg/L	64	7.2	34.1	8.5	8.9	3.3	36.8	96	0	0	17	27
Tot. Cobalt	mg/L	64	0.0002	0.0010	0.0004	0.0005	0.0003	62.5	—	4	42	1	2
Tot. Copper	mg/L	63	0.0010	0.0080	0.0029	0.0029	0.0014	47.9	29	2	1	37	59
Tot. Iron	mg/L	64	0.25	1.96	0.58	0.72	0.42	58.2	14	0	1	60	94
Tot. Lead	mg/L	64	0.00011	0.00023	0.00014	0.000154	0.00004	25.3	—	0	46	—	—
Tot. Magnesium	mg/L	64	0.9	13.7	1.1	1.4	1.6	116.2	78	0	0	—	—
Tot. Manganese	mg/L	64	0.01	0.05	0.02	0.02	0.01	43.9	16	0	1	—	—
Tot. Molybdenum	mg/L	64	0.001	0.003	0.001	0.00117	0.00034	29.2	103	29	14	1	2
Tot. Nickel	mg/L	64	0.0003	0.02	0.0005	0.0016	0.0037	239.0	—	6	35	—	—
Tot. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Selenium	mg/L	64	0.0005	0.0011	0.0005	0.0005	0.0001	25.3	—	18	43	1	2
Tot. Silver	mg/L	64	0.00001	0.00001	0.00001	0.00001	0	0.0	—	18	46	—	—
Tot. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Strontium	mg/L	64	0.033	0.163	0.046	0.047	0.015	32.8	95	0	0	—	—
Tot. Titanium	mg/L	39	0.01	0.06	0.02	0.03	0.01	34.0	—	0	1	—	—
Tot. zinc	mg/L	64	0.002	0.037	0.003	0.0066	0.0079	118.8	—	1	38	1	2

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-10: Water Quality Summary for Taseko River W14, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	29	0.4	12.5	7.8	8.0	4.1	51.6	—	0	0	—	—
Dis. Oxygen	mg/L	11	8.35	12.13	9.5	9.8	1.2	12.7	—	—	—	—	—
Field cond	µS/cm	12	50	66.1	59.5	58.8	5.0	8.4	—	—	—	—	—
Lab cond	umhos/cm	46	35	68	53.0	52.9	8.7	16.4	—	0	0	—	—
T. Hardness	mg/L	46	13.8	29.7	22.4	22.1	4.1	18.7	—	0	0	—	—
field pH		29	5.9	9.5	7.6	7.7	0.8	9.9	—	0	0	—	—
lab pH		46	6.4	8.2	7.5	7.4	0.4	5.1	—	0	0	—	—
T. Alkalinity	mg/L	46	12	27.1	16.6	17.1	2.7	15.6	—	0	0	—	—
Turbidity	NTU	46	2.72	49.7	17.7	18.9	10.9	57.5	—	0	0	—	—
DOC	mg/L	10	0.5	2.14	0.7	1.0	0.6	61.9	—	—	—	—	—
TOC	mg/L	34	0	4.5	1.2	1.6	0.9	61.0	—	1	0	—	—
DIS. Solids	mg/L	46	19	58	33.0	35.4	10.9	30.8	—	0	0	—	—
TSS	mg/L	46	1	18	5.0	6.0	3.5	58.0	—	3	0	—	—
Dis. Chloride	mg/L	45	0.5	2.5	0.5	0.5	0.1	25.0	—	39	0	—	—
Dis. Fluoride	mg/L	46	0.02	0.1	0.04	0.04	0.01	37.7	—	3	0	—	—
Dis. Sulphate	mg/L	46	3	8.68	6.0	5.8	1.5	—	—	0	0	—	—
Ammonia-N	mg/L	45	0.005	0.021	0.008	0.010	0.005	—	—	19	3	—	—
Nitrate-N	mg/L	46	0.005	0.139	0.014	0.013	0.006	—	—	5	3	—	—
Nitrite-N	mg/L	45	0.001	0.011	0.001	0.002	0.002	—	—	31	0	—	—
Ortho-Phosphate	mg/L	45	0.001	0.010	0.002	0.002	0.002	—	—	17	1	—	—
T. Phosphate	mg/L	46	0.008	0.067	0.020	0.024	0.014	56.2	11	0	0	—	—
T. Aluminium	mg/L	46	0.217	2.660	0.600	0.825	0.648	78.6	18	0	0	45	98
T. Antimony	mg/L	46	0.00005	0.0002	0.00008	0.00009	0.00004	38.3	—	3	14	—	—
T. Arsenic	mg/L	46	0.0002	0.0009	0.0005	0.0005	0.0001	26.8	90	0	0	—	—
T. Cadmium	mg/L	45	0.000017	0.00005	0.00005	0.00005	0.00002	33.9	—	23	16	—	—
T. Calcium	mg/L	46	4.5	10.1	7.8	7.6	1.6	20.7	98	0	0	—	—
T. Cobalt	mg/L	46	0.0001	0.0010	0.0003	0.0004	0.0003	64.6	83	3	15	—	—
T. Copper	mg/L	46	0.001	0.005	0.002	0.002	0.001	44.0	32	3	1	18	39
T. Iron	mg/L	46	0.06	1.97	0.38	0.56	0.47	84.7	29	0	0	31	67
T. Lead	mg/L	46	0.00009	0.00047	0.00015	0.00020	0.00011	54.3	—	0	16	—	—
T. Magnesium	mg/L	45	0.7	1.8	1.1	1.1	0.3	24.6	81	0	0	—	—
T. Manganese	mg/L	45	0.01	0.05	0.01	0.02	0.01	64.0	22	0	1	—	—
T. Molybdenum	mg/L	46	0.00093	0.00152	0.00120	0.00119	0.00017	14.6	100	9	7	—	—
T. Nickel	mg/L	46	0.0002	0.002	0.0004	0.0007	0.0005	76.5	—	5	15	—	—
T. Potassium	mg/L	11	2	2	0.4	0.4	0.1	22.1	—	—	—	—	—
T. Selenium	mg/L	45	0.0005	0.0010	0.0005	0.0005	0.0001	17.1	—	29	13	—	—
T. Silver	mg/L	45	0.00001	0.00002	0.00001	0.00001	0.000003	27.8	—	25	16	—	—
T. Sodium	mg/L	11	2	2	1.2	1.2	0.2	18.2	—	—	—	—	—
T. Strontium	mg/L	45	0.027	0.054	0.043	0.043	0.007	17.3	94	0	0	—	—
T. Titanium	mg/L	46	0.01	0.13	0.02	0.04	0.04	99.9	—	8	6	—	—
T. zinc	mg/L	45	0.001	0.008	0.002	0.003	0.002	58.2	—	2	16	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-11: Water Quality Summary for Taseko River W19, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	16	0.1	15	9.3	7.79375	4.86751	62.5	—	0	0	—	—
Dis. Oxygen	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Field conductivity	µS/cm	0	—	—	—	—	—	—	—	—	—	—	—
Lab conductivity	umhos/cm	18	54	75	60	62.2	6.4	10.3	—	0	0	—	—
Tot. Hardness	mg/L	18	21.3	32.5	23.8	25.2	3.6	14.3	—	0	0	—	—
Field pH		15	7.0	8.4	7.6	7.7	0.4	5.1	—	0	0	—	—
Lab pH		18	6.6	7.5	7.2	7.2	0.2	3.3	—	0	0	—	—
Tot. Alkalinity	mg/L	18	16	25	19	19.6	2.8	14.3	—	0	0	—	—
Turbidity	NTU	18	9.6	24.8	14.5	15.8	4.5	28.5	—	0	0	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
TOC	mg/L	18	0.5	1.7	1.1	1.1	0.3	28.3	—	1	0	—	—
Dis. Solids	mg/L	18	25	41	32.5	33.3	4.5	13.6	—	0	0	—	—
TSS	mg/L	18	1	8	4.5	4.6	2.4	51.1	—	1	0	—	—
Dis. Chloride	mg/L	18	0.5	1.2	0.5	0.5	0.2	30.6	—	17	0	—	—
Dis. Fluoride	mg/L	18	0.02	0.19	0.04	0.05	0.04	88.0	—	5	0	—	—
Dis. Sulphate	mg/L	18	1	8	7	6.5	1.5	22.5	—	1	0	—	—
Ammonia-N	mg/L	18	0.005	0.04	0.009	0.011	0.008	73.5	—	2	0	—	—
Nitrate-N	mg/L	18	0.005	0.021	0.017	0.015	0.005	34.6	—	2	0	—	—
Nitrite-N	mg/L	18	0.001	0.005	0.001	0.001	0.001	72.8	—	15	0	—	—
Ortho-Phosphate	mg/L	18	0.001	0.003	0.001	0.001	0.001	45.0	—	14	0	—	—
Dis. Phosphate	mg/L	18	0.001	0.008	0.002	0.002	0.002	75.0	—	7	0	—	—
Tot. Phosphate	mg/L	18	0.004	0.039	0.017	0.018	0.009	50.8	38	0	0	—	—
Tot. Aluminium	mg/L	18	0.341	1.19	0.589	0.652	0.253	38.8	18	0	0	18	100
Tot. Antimony	mg/L	18	0.00005	0.00014	0.00006	0.00007	0.00003	36.6	—	5	0	—	—
Tot. Arsenic	mg/L	18	0.0004	0.0005	0.0004	0.0004	0.0001	11.4	—	0	0	—	—
Tot. Cadmium	mg/L	18	0.00005	0.00005	0.00005	0.00005	0	0	—	18	0	—	—
Tot. Calcium	mg/L	18	7.4	10.5	8.2	8.4	1.0	11.5	100	0	0	8	44
Tot. Cobalt	mg/L	18	0.0002	0.0005	0.0003	0.0003	0.0001	34.3	—	0	0	—	—
Tot. Copper	mg/L	18	0.0013	0.0031	0.0018	0.0019	0.0005	25.2	34	0	0	5	28
Tot. Iron	mg/L	18	0.27	0.64	0.42	0.44	0.11	25.6	17	0	0	15	83
Tot. Lead	mg/L	18	0.00009	0.00030	0.00015	0.00015	0.00005	32.0	—	0	0	—	—
Tot. Magnesium	mg/L	18	0.9	1.6	1.1	1.15	0.2	16.1	87	0	0	—	—
Tot. Manganese	mg/L	18	0.007	0.022	0.012	0.014	0.005	34.2	16	0	0	—	—
Tot. Molybdenum	mg/L	18	0.00118	0.00134	0.00126	0.00126	0.00005	3.6	102	0	0	—	—
Tot. Nickel	mg/L	18	0.0002	0.0007	0.0004	0.0004	0.0001	35.5	—	0	0	—	—
Tot. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Selenium	mg/L	18	0.0005	0.0005	0.0005	0.0005	0	0	—	17	0	—	—
Tot. Silver	mg/L	18	0.00001	0.00001	0.00001	0.00001	0	0	—	18	0	—	—
Tot. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Strontium	mg/L	18	0.042	0.057	0.044	0.046	0.005	10.0	96	0	0	—	—
Tot. Titanium	mg/L	18	0.01	0.04	0.02	0.02	0.01	32.9	—	2	0	—	—
Tot. zinc	mg/L	18	0.001	0.006	0.002	0.0026	0.0012	46.9	—	2	0	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-12: Water Quality Summary for Taseko River W20, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	18	0.2	14	8.2	6.4	4.4	69.7	–	0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	18	45	84	60	62.7	12.4	19.8	–	0	0	–	–
Tot. Hardness	mg/L	18	19.6	37.3	23.9	26.0	5.2	20.0	–	0	0	–	–
Field pH		17	6.1	9	7.5	7.6	0.7	9.7	–	0	0	–	–
Lab pH		18	6.6	7.8	7.2	7.2	0.3	3.8	–	0	0	–	–
Tot. Alkalinity	mg/L	18	15	33	18	20.7	5.3	25.7	–	0	0	–	–
Turbidity	NTU	18	7.8	74.1	17.9	24.0	19.1	79.5	–	0	0	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	18	0.7	10.7	1.1	1.7	2.3	136.8	–	0	0	–	–
Dis. Solids	mg/L	18	26	48	31.5	34.8	6.8	19.5	–	0	0	–	–
TSS	mg/L	18	1	38	5	8.8	9.5	107.8	–	1	0	–	–
Dis. Chloride	mg/L	18	0.5	0.5	0.5	0.5	0	0	–	18	0	–	–
Dis. Fluoride	mg/L	18	0.02	0.05	0.03	0.03	0.01	34.3	–	7	0	–	–
Dis. Sulphate	mg/L	18	1	7	6	6.1	1.4	23.7	–	1	0	–	–
Ammonia-N	mg/L	18	0.005	0.053	0.011	0.015	0.012	81.8	–	2	0	–	–
Nitrate-N	mg/L	18	0.005	0.023	0.012	0.013	0.006	45.7	–	4	0	–	–
Nitrite-N	mg/L	18	0.001	0.001	0.001	0.001	0	0	–	18	0	–	–
Ortho-Phosphate	mg/L	18	0.001	0.003	0.001	0.001	0.001	43.8	–	12	0	–	–
Dis. Phosphate	mg/L	18	0.001	0.004	0.003	0.002	0.001	48.8	–	6	0	–	–
Tot. Phosphate	mg/L	18	0.005	0.091	0.023	0.028	0.022	79.3	–	0	0	–	–
Tot. Aluminium	mg/L	18	0.333	3.980	0.764	0.989	0.928	93.9	16	0	0	18	100
Tot. Antimony	mg/L	18	0.00005	0.00009	0.00006	0.00007	0.00001	18.3	–	2	0	–	–
Tot. Arsenic	mg/L	18	0.0004	0.0013	0.0004	0.0005	0.0003	47.7	–	0	0	–	–
Tot. Cadmium	mg/L	18	0.00005	0.00005	0.00005	0.00005	0	0	–	18	0	–	–
Tot. Calcium	mg/L	18	7.4	13.2	8.2	8.9	1.6	17.8	96	0	0	6	33
Tot. Cobalt	mg/L	18	0.0001	0.0016	0.0004	0.0005	0.0004	81.0	100	1	0	2	11
Tot. Copper	mg/L	18	0.0012	0.0070	0.0023	0.0027	0.0016	60.3	28	0	0	10	56
Tot. Iron	mg/L	18	0.28	1.95	0.51	0.65	0.49	75.0	16	0	0	14	78
Tot. Lead	mg/L	18	0.00008	0.00076	0.00017	0.00023	0.00019	83.0	–	0	0	–	–
Tot. Magnesium	mg/L	18	1.1	2.4	1.3	1.4	0.4	25.4	82	0	0	–	–
Tot. Manganese	mg/L	18	0.01	0.08	0.02	0.02	0.02	84.1	12	0	0	–	–
Tot. Molybdenum	mg/L	18	0.00115	0.00132	0.00120	0.00121	0.00005	3.9	102	0	0	–	–
Tot. Nickel	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
Tot. Potassium	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	17	0.0005	0.0005	0.0005	0.0005	0	0	–	17	0	–	–
Tot. Silver	mg/L	18	0.00001	0.00004	0.00001	0.00001	0.00001	64.7	–	16	0	–	–
Tot. Sodium	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
Tot. Strontium	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
Tot. Titanium	mg/L	18	0.01	0.11	0.03	0.04	0.03	77.9	–	2	0	1	6
Tot. zinc	mg/L	18	0.002	0.01	0.003	0.0036	0.0021	58.7	–	0	0	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-13: Water Quality Summary for Beece Creek W12, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	17	0	13	4.5	4.0	3.8	94.0	–	1	0	0	0
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	63	23.6	73.1	38	41.8	14.7	35.3	–	0	0	0	0
Tot. Hardness	mg/L	63	8.6	32.7	14.2	16.7	6.6	39.6	–	0	0	0	0
Field pH		16	6.6	8.1	7.5	7.5	0.4	5.2	–	0	0	0	0
Lab pH		63	6.2	7.9	7.4	7.4	0.3	4.4	–	0	0	2	3
Tot. Alkalinity	mg/L	63	9.3	36.1	15	17.2	6.9	40.0	–	0	0	45	71
Turbidity	NTU	63	0.1	15.7	2.4	3.3	3.1	95.8	–	1	0	5	8
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	46	0.5	8.9	1.3	1.9	1.8	94.2	–	3	0	0	0
Dis. Solids	mg/L	63	12	55	21	25.4	10.9	43.1	–	0	0	0	0
TSS	mg/L	62	1	19	3	3.6	3.5	96.8	–	23	9	0	0
Dis. Chloride	mg/L	63	0.5	1.1	0.5	0.5	0.1	18.8	–	55	0	0	0
Dis. Fluoride	mg/L	63	0.04	0.1	0.06	0.063	0.012	18.6	–	0	0	0	0
Dis. Sulphate	mg/L	63	1	4.8	2	2.5	1.0	40.7	–	3	2	0	0
Ammonia-N	mg/L	63	0.005	0.016	0.005	0.006	0.003	46.6	–	21	36	0	0
Nitrate-N	mg/L	63	0.005	0.077	0.014	0.028	0.026	92.5	–	5	25	0	0
Nitrite-N	mg/L	63	0.001	0.004	0.001	0.002	0.001	53.0	–	30	10	0	0
Ortho-Phosphate	mg/L	63	0.001	0.024	0.002	0.003	0.004	124.0	–	21	12	0	0
Dis. Phosphate	mg/L	63	0.001	0.024	0.003	0.004	0.004	98.7	–	15	5	0	0
Tot. Phosphate	mg/L	63	0.001	0.039	0.008	0.009	0.008	82.9	63	6	0	0	0
Tot. Aluminium	mg/L	63	0.007	0.825	0.120	0.181	0.166	91.8	40	0	0	38	60
Tot. Antimony	mg/L	63	0.0001	0.0003	0.00011	0.00012	0	33.5	–	19	22	0	0
Tot. Arsenic	mg/L	63	0.0004	0.0013	0.0007	0.0007	0.0002	31.5	86	0	0	0	0
Tot. Cadmium	mg/L	63	0.00005	0.00005	0.00005	0.00005	0	0	–	17	46	0	0
Tot. Calcium	mg/L	63	2.7	9.0	4.5	5.1	1.7	34.4	98	0	0	55	87
Tot. Cobalt	mg/L	63	0.0001	0.0006	0.0001	0.0002	0.0001	89.9	–	14	46	0	0
Tot. Copper	mg/L	62	0.0003	0.0040	0.001	0.0011	0.0007	63.0	92	0	26	2	3
Tot. Iron	mg/L	57	0.03	0.919	0.1155	0.14104	0.1304	92.5	–	0	7	1	2
Tot. Lead	mg/L	63	0.00005	0.001	0.00005	0.000117	0.0002	190.6	–	12	45	0	0
Tot. Magnesium	mg/L	63	0.5	2.7	0.8	1.1	0.5	50.8	96	0	0	0	0
Tot. Manganese	mg/L	63	0.00024	0.022	0.00199	0.004032	0.0046	113.9	32	2	38	0	0
Tot. Molybdenum	mg/L	63	0.00066	0.002	0.001	0.00106	0.0003	26.9	100	11	33	0	0
Tot. Nickel	mg/L	63	0.0001	0.0003	0.0001	0.0001	0.0001	43.8	–	11	46	0	0
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	63	0.0005	0.0007	0.0005	0.0005	0.0001	13.9	–	16	43	0	0
Tot. Silver	mg/L	63	0.00001	0.0001	0.00001	0.00002	0.0000	141.4	–	18	33	0	0
Tot. Sodium	mg/L	5	2	3	3	2.6	0.5	21.1	–	0	0	0	0
Tot. Strontium	mg/L	63	0.017	0.056	0.026	0.031	0.011	33.8	97	0	0	0	0
Tot. Titanium	mg/L	38	0.01	0.01	0.01	0.01	0.00	0	–	17	21	0	0
Tot. Zinc	mg/L	63	0.0010	0.006	0.001	0.0021	0.0018	86.6	–	11	44	0	0

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-14: Water Quality Summary for Beece Creek W12, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	17	0	12	2.8	3.6	3.5	96.9	–	0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	63	20.6	58	32	34.7	10.9	31.5	–	0	0	–	–
Tot. Hardness	mg/L	63	7.2	23.3	12.1	13.2	4.3	32.2	–	0	0	–	–
Field pH		16	6.7	8.2	7.5	7.4	0.4	5.5	–	0	0	–	–
Lab pH		63	6.0	7.8	7.3	7.2	0.4	5.0	–	0	0	2	3
Tot. Alkalinity	mg/L	63	7.7	26.8	12.6	13.6	4.6	33.7	–	0	0	54	86
Turbidity	NTU	63	0.3	15	2.2	3.2	3.0	95.0	–	0	0	5	8
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	46	0.5	6.3	1.2	1.6	1.4	84.4	–	5	0	–	–
Dis. Solids	mg/L	63	10	43	19	20.5	7.6	37.2	–	0	0	–	–
TSS	mg/L	63	1	17	2	2.9	2.9	99.2	–	27	0	–	–
Dis. Chloride	mg/L	63	0.5	1.1	0.5	0.5	0.1	18.4	–	54	0	–	–
Dis. Fluoride	mg/L	63	0.04	0.11	0.07	0.07	0.01	19.7	–	0	0	–	–
Dis. Sulphate	mg/L	63	1	3.7	2.1	2.2	0.7	32.8	–	3	3	–	5
Ammonia-N	mg/L	62	0.005	0.009	0.005	0.006	0.001	17.8	–	17	38	–	–
Nitrate-N	mg/L	63	0.005	0.080	0.021	0.030	0.024	79.4	–	4	20	–	–
Nitrite-N	mg/L	63	0.001	0.005	0.001	0.002	0.001	61.0	–	30	12	–	–
Ortho-Phosphate	mg/L	63	0.001	0.021	0.002	0.003	0.004	116.0	–	23	8	–	–
Dis. Phosphate	mg/L	60	0.001	0.021	0.002	0.003	0.004	109.1	–	17	8	–	–
Tot. Phosphate	mg/L	63	0.001	0.029	0.008	0.009	0.006	73.8	72	3	1	–	–
Tot. Aluminium	mg/L	63	0.019	0.761	0.143	0.182	0.143	78.7	40	0	0	42	67
Tot. Antimony	mg/L	63	0.00009	0.0003	0.00012	0.00013	0	37.8	–	19	19	–	–
Tot. Arsenic	mg/L	63	0.0005	0.0017	0.0008	0.0008	0.0002	28.7	87	0	0	–	–
Tot. Cadmium	mg/L	63	0.00005	0.00005	0.00005	0.00005	0	0	–	17	46	–	–
Tot. Calcium	mg/L	63	2.5	7.1	4.0	4.3	1.2	28.6	98	0	0	63	100
Tot. Cobalt	mg/L	63	0.0001	0.001	0.0001	0.0002	0.0002	124.5	–	16	45	–	–
Tot. Copper	mg/L	63	0.0003	0.002	0.001	0.0009	0.0004	46.8	84	0	29	2	3
Tot. Iron	mg/L	58	0.03	0.73	0.10	0.13	0.11	84.9	37	0	4	2	3
Tot. Lead	mg/L	17	0.00005	0.00015	0.00005	0.00007	0.00	43.2	–	9	0	1	6
Tot. Magnesium	mg/L	63	0.3	1.5	0.6	0.7	0.3	40.6	95	0	0	–	–
Tot. Manganese	mg/L	63	0.00	0.02	0	0	0	106.7	37	0	40	–	–
Tot. Molybdenum	mg/L	63	0.00066	0.002	0.001	0.00109	0	23.2	102	20	24	–	–
Tot. Nickel	mg/L	63	0.0001	0.002	0.0001	0.0002	0.0004	186.2	–	13	45	–	–
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	63	0.0005	0.0006	0.0005	0.0005	0	7.1	–	16	43	–	–
Tot. Silver	mg/L	63	0.00001	0.00001	0.00001	0.00001	0	0	–	17	46	–	–
Tot. Sodium	mg/L	3	2	2	2	2	0	0	–	0	0	–	–
Tot. Strontium	mg/L	63	0.013	0.047	0.023	0.026	0.009	32.4	98	0	0	–	–
Tot. Titanium	mg/L	38	0.01	0.01	0.01	0.01	0	0	–	17	21	–	–
Tot. Zinc	mg/L	63	0.001	0.003	0.001	0.0015	0.0006	42.4	–	10	46	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-15: Water Quality Summary for Tete Angela Creek W17, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	17	0	16	2.9	4.1	4.5	109.3	—	0	0	—	—
Dis. Oxygen	mg/L	0	0	0	—	—	—	—	—	0	0	—	—
Field conductivity	µS/cm	0	0	0	—	—	—	—	—	0	0	—	—
Lab conductivity	umhos/cm	24	62	177	141.5	138.1	29.9	21.7	—	0	0	—	—
Tot. Hardness	mg/L	24	30.7	83.5	67.1	65.2	13.7	21.0	—	0	0	—	—
Field pH		15	6.4	8.3	7.6	7.6	0.5	6.3	—	0	0	—	—
Lab pH		24	7.1	8.1	7.5	7.6	0.3	3.8	—	0	0	—	—
Tot. Alkalinity	mg/L	24	35	116	73	72.8	17.1	23.6	—	0	0	—	—
Turbidity	NTU	24	0.3	5.2	0.7	1.1	1.0	93.1	—	0	0	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
TOC	mg/L	24	1.3	18.9	4.7	7.3	5.8	78.8	—	0	0	—	—
Dis. Solids	mg/L	24	44	116	90.5	87.8	17.7	20.2	—	0	0	—	—
TSS	mg/L	24	1	31	1.5	3.2	6.1	190.4	—	8	0	—	—
Dis. Chloride	mg/L	24	0.5	0.9	0.5	0.5	0.1	17.2	—	21	0	—	—
Dis. Fluoride	mg/L	24	0.03	0.09	0.06	0.05	0.01	23.2	—	0	0	—	—
Dis. Sulphate	mg/L	24	1	7	1.1	1.7	1.3	80.6	—	9	4	—	—
Ammonia-N	mg/L	24	0.005	0.014	0.005	0.006	0.002	38.2	—	16	6	—	—
Nitrate-N	mg/L	24	0.005	0.097	0.005	0.024	0.031	132.2	—	10	7	—	—
Nitrite-N	mg/L	24	0.001	0.002	0.001	0.001	0.000	26.5	—	21	1	—	—
Ortho-Phosphate	mg/L	24	0.001	0.010	0.003	0.004	0.002	58.5	—	2	0	—	—
Dis. Phosphate	mg/L	24	0.002	0.016	0.007	0.007	0.003	42.7	—	0	0	—	—
Tot. Phosphate	mg/L	24	0.002	0.043	0.009	0.012	0.008	69.1	73	0	0	—	—
Tot. Aluminium	mg/L	24	0.005	0.265	0.024	0.047	0.070	148.0	68	0	0	3	13
Tot. Antimony	mg/L	24	0.00005	0.00050	0.00005	0.00008	0.00011	133.0	100	12	7	—	—
Tot. Arsenic	mg/L	24	0.0002	0.0009	0.0005	0.0006	0.0002	31.2	100	0	0	—	—
Tot. Cadmium	mg/L	24	0.00005	0.00005	0.00005	0.00005	0	0	—	17	7	—	—
Tot. Calcium	mg/L	24	6.0	16.6	13.7	13.2	2.8	21.2	100	0	0	2	8
Tot. Cobalt	mg/L	24	0.0001	0.0006	0.0001	0.0002	0.0002	93.7	—	13	7	—	—
Tot. Copper	mg/L	17	0.0002	0.0013	0.0007	0.0007	0.0004	55.1	114	0	0	—	—
Tot. Iron	mg/L	24	0.12	0.89	0.17	0.22	0.16	71.3	65	0	0	4	17
Tot. Lead	mg/L	24	0.00005	0.00007	0.00005	0.00005	0.00001	10.2	—	16	7	—	—
Tot. Magnesium	mg/L	24	3.9	10.3	8.0	7.8	1.6	20.6	101	0	0	—	—
Tot. Manganese	mg/L	24	0.01	0.07	0.01	0.02	0.01	84.3	65	0	0	—	—
Tot. Molybdenum	mg/L	24	0.00014	0.00033	0.00028	0.00027	0.00005	19.8	99	0	7	—	—
Tot. Nickel	mg/L	24	0.0003	0.0021	0.0009	0.0010	0.0006	60.4	86	2	5	—	—
Tot. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Selenium	mg/L	24	0.0005	0.0011	0.0005	0.0006	0.0002	28.3	—	16	4	1	4
Tot. Silver	mg/L	24	0.00001	0.00001	0.00001	0.00001	0.00000	0.0	—	17	7	—	—
Tot. Sodium	mg/L	16	3	6	5	4.9	0.9	18.8	—	0	0	—	—
Tot. Strontium	mg/L	24	0.025	0.068	0.051	0.050	0.010	20.7	99	0	0	—	—
Tot. Titanium	mg/L	24	0.01	0.01	0.01	0.01	0.00	0	—	17	7	—	—
Tot. Zinc	mg/L	24	0.0010	0.0030	0.0010	0.0014	0.0006	44.8	—	12	7	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-16: Water Quality Summary for Tete Angela Creek W18, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	13	0	16	5	4.9	4.8	96.5	—	0	0	—	—
Dis. Oxygen	mg/L	1	12.8	12.8	12.8	12.8	—	—	—	0	0	—	—
Field conductivity	µS/cm	0	—	—	—	—	—	—	—	—	—	—	—
Lab conductivity	umhos/cm	21	60.8	366	164	161.8	74.4	46.0	—	0	0	—	—
Tot. Hardness	mg/L	21	31.3	191	80.3	78.9	37.1	47.1	—	0	0	—	—
Field pH		12	6.5	8.2	7.5	7.5	0.6	7.4	—	0	0	—	—
Lab pH		21	6.9	8.1	7.4	7.4	0.3	4.6	—	0	0	—	—
Tot. Alkalinity	mg/L	21	29.9	202	86	83.6	39.1	46.8	—	0	0	—	—
Turbidity	NTU	21	0.7	12.2	1.7	2.5	2.8	110.5	—	0	0	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
TOC	mg/L	21	6.8	19.2	13.4	12.8	3.0	23.5	—	0	0	—	—
Dis. Solids	mg/L	21	49	257	105	105.4	48.4	46.0	—	0	0	—	—
TSS	mg/L	21	1	27	3	4.7	6.2	132.0	—	5	0	—	—
Dis. Chloride	mg/L	21	0.5	0.8	0.5	0.5	0.1	13.1	—	19	0	—	—
Dis. Fluoride	mg/L	21	0.02	0.08	0.05	0.05	0.02	29.5	—	1	0	—	—
Dis. Sulphate	mg/L	25	1	9	1.9	3.3	2.8	84.7	—	1	5	—	—
Ammonia-N	mg/L	21	0.005	0.069	0.006	0.014	0.017	120.4	—	8	5	—	—
Nitrate-N	mg/L	21	0.005	0.011	0.005	0.006	0.002	32.1	—	10	6	—	—
Nitrite-N	mg/L	21	0.001	0.004	0.001	0.001	0.001	58.9	—	17	2	—	—
Ortho-Phosphate	mg/L	21	0.001	0.014	0.004	0.005	0.004	71.0	—	1	0	—	—
Dis. Phosphate	mg/L	21	0.002	0.021	0.007	0.008	0.005	68.7	—	0	0	—	—
Tot. Phosphate	mg/L	21	0.002	0.055	0.014	0.019	0.014	73.2	57	0	0	—	—
Tot. Aluminium	mg/L	21	0.011	0.099	0.033	0.042	0.023	54.6	42	0	0	—	—
Tot. Antimony	mg/L	21	0.00005	0.00005	0.00008	0.0001	0.00012	116.6	100	3	8	—	—
Tot. Arsenic	mg/L	21	0.0002	0.0016	0.0009	0.0009	0.0005	55.6	87	0	0	—	—
Tot. Cadmium	mg/L	21	0.00005	0.00005	0.00005	0.00005	0	0	—	13	8	—	—
Tot. Calcium	mg/L	21	6.5	41.6	18.2	17.3	8.3	47.7	100	0	0	—	—
Tot. Cobalt	mg/L	21	0.0001	0.0014	0.0003	0.0004	0.0004	100.6	—	5	8	—	—
Tot. Copper	mg/L	18	0.0007	0.002	0.001	0.0011	0.0004	33.0	87	0	0	—	—
Tot. Iron	mg/L	21	0.16	0.92	0.29	0.38	0.22	58.6	67	0	0	—	—
Tot. Lead	mg/L	21	0.00005	0.00009	0.00005	0.00005	0.00001	20.9	—	12	8	—	—
Tot. Magnesium	mg/L	21	3.8	20.8	8.5	8.6	4.0	46.2	101	0	0	—	—
Tot. Manganese	mg/L	21	0.01	1.32	0.02	0.10	0.28	291.1	67	0	0	—	—
Tot. Molybdenum	mg/L	21	0.00009	0.00042	0.00026	0.00025	0.00012	47.3	99	0	8	—	—
Tot. Nickel	mg/L	21	0.001	0.0027	0.0018	0.0018	0.0005	26.4	95	2	0	—	—
Tot. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Selenium	mg/L	21	0.0005	0.0006	0.0005	0.0005	0	8.0	—	12	6	—	—
Tot. Silver	mg/L	21	0.00001	0.00001	0.00001	0.00001	0	0	—	13	8	—	—
Tot. Sodium	mg/L	12	2	10	6	5.4	2.6	47.5	—	0	0	—	—
Tot. Strontium	mg/L	21	0.024	0.126	0.066	0.065	0.028	43.7	100	0	0	—	—
Tot. Titanium	mg/L	21	0.01	0.01	0.01	0.01	0	0	—	13	8	—	—
Tot. Zinc	mg/L	21	0.001	0.01	0.002	0.0023	0.0024	103.6	—	6	7	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-17: Water Quality Summary for Tete Angela Creek WA, 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	8	9.2	16.7	12.4	12.4	2.6	21.2	–	0	0	–	–
Dis. Oxygen	mg/L	6	8	9.4	9.2	9.0	0.5	5.9	–	0	0	–	–
Field conductivity	µS/cm	8	148.5	290.0	230.7	233.5	45.0	19.3	–	0	0	–	–
Lab conductivity	umhos/cm	9	148.0	242.0	219.0	217.3	28.7	13.2	–	0	0	–	–
Tot. Hardness	mg/L	9	82.4	125.0	120.0	115.6	12.9	11.1	–	0	0	–	–
Field pH		8	6.6	8.6	8.1	7.9	0.7	9.1	–	0	0	–	–
Lab pH		9	8.2	8.3	8.3	8.3	0.1	0.7	–	0	0	–	–
Tot. Alkalinity	mg/L	9	81.0	139.0	127.0	120.6	17.0	14.1	–	0	0	–	–
Turbidity	NTU	9	0.4	5.4	1.3	1.6	1.5	98.0	–	0	0	–	–
DOC	mg/L	9	4.6	14.9	10.4	9.7	4.5	45.8	–	0	0	–	–
TOC	mg/L	0	0	0	–	–	–	–	–	0	0	–	–
Dis. Solids	mg/L	9	120	152	144	142.3	10.6	7.5	–	0	0	–	–
TSS	mg/L	9	1	12	3	3.6	3.3	92.3	–	2	0	–	–
Dis. Chloride	mg/L	9	0.5	0.5	0.5	0.5	0.0	1.3	–	8	0	–	–
Dis. Fluoride	mg/L	9	0.07	0.09	0.08	0.08	0.01	9.2	–	0	0	–	–
Dis. Sulphate	mg/L	9	0.9	2.3	1.4	1.6	0.6	37.6	–	0	0	–	–
Ammonia-N	mg/L	9	0.005	0.01	0.005	0.007	0.002	34.8	–	5	0	–	–
Nitrate-N	mg/L	9	0.005	0.005	0.005	0.005	0.000	0	–	9	0	–	–
Nitrite-N	mg/L	9	0.001	0.001	0.001	0.001	0	0	–	9	0	–	–
Ortho-Phosphate	mg/L	9	0.003	0.008	0.006	0.005	0.002	33.3	–	0	0	–	–
Dis. Phosphate	mg/L	9	0.005	0.013	0.011	0.010	0.003	35.1	–	0	0	–	–
Tot. Phosphate	mg/L	9	0.004	0.034	0.011	0.014	0.009	66.0	88	0	0	–	–
Tot. Aluminium	mg/L	9	0.003	0.261	0.012	0.041	0.083	203.9	31	0	0	2	22
Tot. Antimony	mg/L	9	0.0001	0.0001	0.0001	0.0001	0	0	–	0	0	–	–
Tot. Arsenic	mg/L	9	0.0005	0.0009	0.0007	0.0007	0.0002	24.0	94	0	0	–	–
Tot. Cadmium	mg/L	9	0.000017	0.000017	0.000017	0.000017	0	0	–	9	0	–	–
Tot. Calcium	mg/L	9	15.9	24.8	22.6	22.4	2.6	11.8	97	0	0	–	–
Tot. Cobalt	mg/L	9	0.0001	0.0004	0.0001	0.0001	0.0001	68.7	–	6	0	–	–
Tot. Copper	mg/L	9	0.0008	0.0018	0.0009	0.0010	0.0003	31.2	94	0	0	1	11
Tot. Iron	mg/L	9	0.03	0.71	0.21	0.22	0.23	103.5	84	4	0	5	56
Tot. Lead	mg/L	9	0.00005	0.00007	0.00005	0.00005	0.000006	12.8	–	8	0	–	–
Tot. Magnesium	mg/L	9	10.7	16.6	15.6	15.1	1.7	11.2	98	0	0	–	–
Tot. Manganese	mg/L	9	0.01	0.09	0.01	0.02	0.03	113.6	36	0	0	–	–
Tot. Molybdenum	mg/L	9	0.00039	0.000647	0.000458	0.000474	8.22E-05	17.3	94	0	0	–	–
Tot. Nickel	mg/L	9	0.0007	0.003	0.0019	0.0017	0.0008	48.1	96	0	0	–	–
Tot. Potassium	mg/L	9	2	2	2	2	0	0	–	9	0	–	–
Tot. Selenium	mg/L	9	0.001	0.001	0.001	0.001	0	0	–	9	0	–	–
Tot. Silver	mg/L	9	0.00001	0.000084	0.00001	1.82E-05	2.47E-05	135.4	–	8	0	–	–
Tot. Sodium	mg/L	9	5.4	7.1	6.4	6.4	0.5	7.2	–	0	0	–	–
Tot. Strontium	mg/L	9	0.069	0.11	0.100	0.096	0.013	13.5	99	0	0	–	–
Tot. Titanium	mg/L	9	0.01	0.01	0.01	0.01	0	0	–	9	0	1	11
Tot. Zinc	mg/L	9	0.001	0.005	0.001	0.0015	0.0013	88.2	–	7	0	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-18: Water Quality Summary for Big Onion Lake Outlet W10 and W10A, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	28	0.1	22.2	12.9	11.3	6.5	57.4	—	0	0	—	—
Dis. Oxygen	mg/L	10	7.8	11.5	8.5	8.7	1.1	12.2	—	0	0	—	—
Field conductivity	µS/cm	11	304.1	350	310	318.2	16.6	5.2	—	0	0	—	—
Lab conductivity	umhos/cm	74	62.3	346	276.5	279.4	35.8	12.8	—	0	0	—	—
Tot. Hardness	mg/L	74	26.5	180	141	140.7	21.5	15.3	—	0	0	—	—
Field pH		14	6.8	9.5	8.5	8.2	0.8	9.7	—	0	0	—	—
Lab pH		74	7.4	9.0	8.3	8.3	0.4	4.6	—	0	0	—	—
Tot. Alkalinity	mg/L	74	21.5	187	149	149.2	21.0	14.1	—	0	0	—	—
Turbidity	NTU	74	0.8	27.3	3	4.7	4.5	95.5	—	0	0	12	16
DOC	mg/L	9	11.4	16.6	13.7	13.8	1.7	12.6	—	0	0	—	—
TOC	mg/L	46	1.2	16.8	12.7	12.3	3.0	24.5	—	0	0	—	—
Dis. Solids	mg/L	74	40	295	187.5	191.4	33.6	17.5	—	0	0	—	—
TSS	mg/L	74	1	79	6	8.0	9.8	123.0	—	8	5	—	—
Dis. Chloride	mg/L	74	0.5	2.5	1.1	1.1	0.4	37.3	—	4	0	—	—
Dis. Fluoride	mg/L	74	0.05	0.16	0.11	0.11	0.02	19.8	—	0	0	—	—
Dis. Sulphate	mg/L	74	5	10.9	7.5	7.6	1.7	21.8	—	0	0	—	—
Ammonia-N	mg/L	73	0.005	0.314	0.020	0.035	0.052	147.8	—	9	9	—	—
Nitrate-N	mg/L	74	0.005	0.224	0.005	0.013	0.033	253.4	—	27	40	—	—
Nitrite-N	mg/L	73	0.001	0.006	0.001	0.002	0.001	63.3	—	34	20	1	1
Ortho-Phosphate	mg/L	74	0.001	0.030	0.002	0.005	0.007	135.2	—	23	14	—	—
Dis. Phosphate	mg/L	74	0.001	0.039	0.010	0.012	0.009	77.0	—	3	2	—	—
Tot. Phosphate	mg/L	74	0.003	0.054	0.021	0.023	0.011	47.5	57	0	0	—	—
Tot. Aluminium	mg/L	74	0.004	0.579	0.029	0.073	0.114	155.6	55	1	0	13	18
Tot. Antimony	mg/L	74	0.00006	0.0005	0.00014	0.00018	0.00011	59.5	101	18	20	—	—
Tot. Arsenic	mg/L	74	0.0001	0.0017	0.0004	0.0005	0.0003	65.0	100	9	25	—	—
Tot. Cadmium	mg/L	74	0.000017	0.00005	0.00005	0.000038	0.000016	42.4	—	26	55	—	—
Tot. Calcium	mg/L	74	9.0	45.2	32.1	32.4	5.3	16.3	98	0	0	—	—
Tot. Cobalt	mg/L	74	0.0001	0.045	0.0001	0.0017	0.0083	498.4	—	23	45	1	1
Tot. Copper	mg/L	73	0.0004	0.003	0.0006	0.0009	0.0006	64.7	91	0	0	1	1
Tot. Iron	mg/L	66	0.02	0.51	0.04	0.08	0.11	136.8	—	6	20	4	6
Tot. Lead	mg/L	74	0.00005	0.001	0.00005	0.0001	0.00018	173.8	—	21	45	—	—
Tot. Magnesium	mg/L	74	1.2	19.5	14.5	15.0	2.5	16.9	99	0	0	—	—
Tot. Manganese	mg/L	74	0.00	0.02	0.01	0.01	0.00	47.9	40	1	9	—	—
Tot. Molybdenum	mg/L	74	0.0002	0.002	0.0005	0.0007	0.0003	49.5	101	3	42	—	—
Tot. Nickel	mg/L	74	0.0001	0.004	0.0004	0.0006	0.0007	127.9	—	15	49	—	—
Tot. Potassium	mg/L	14	2	2	2	2	0	0	—	14	11	—	—
Tot. Selenium	mg/L	74	0.0005	0.001	0.0005	0.0007	0.0002	33.9	—	27	44	—	—
Tot. Silver	mg/L	74	0.00001	0.00002	0.00001	0.00001	0	9.3	—	27	56	—	—
Tot. Sodium	mg/L	28	5	11.8	9.5	9.5	1.6	16.6	99	0	0	—	—
Tot. Strontium	mg/L	74	0.052	0.201	0.159	0.158	0.022	13.8	99	0	0	—	—
Tot. Titanium	mg/L	49	0.01	0.02	0.01	0.01	0	20.0	—	26	29	—	—
Tot. Zinc	mg/L	75	0.001	0.008	0.001	0.0024	0.002	85.2	—	17	43	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-19: Water Quality Summary for Big Onion Lake Inlet WB, 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	5	4.7	10	7.6	7.6	2.0	26.3	—	0	0	—	—
Dis. Oxygen	mg/L	5	8.7	10.7	10.1	9.9	0.8	8.4	—	0	0	—	—
Field conductivity	µS/cm	5	253	282	258	265.2	12.9	4.9	—	0	0	—	—
Lab conductivity	umhos/cm	5	—	—	—	—	—	—	—	—	—	—	—
Tot. Hardness	mg/L	5	135	153	140	143.8	7.8	5.4	—	0	0	—	—
Field pH		0	6.3	8.06	7.745	7.5	0.8	11.0	—	0	0	—	—
Lab pH		5	8.1	8.2	8.2	8.2	0.0	0.4	—	0	0	—	—
Tot. Alkalinity	mg/L	5	124	153	151	143	12.9	9.1	—	0	0	—	—
Turbidity	NTU	5	0.1	0.5	0.2	0.3	0.2	58.4	—	0	0	—	—
DOC	mg/L	5	8.4	10.8	9.8	9.6	1.0	10.7	—	0	0	—	—
TOC	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Dis. Solids	mg/L	5	156	172	170	166	7.1	4.3	—	0	0	—	—
TSS	mg/L	5	3	3	3	3	0	0	—	0	5	—	—
Dis. Chloride	mg/L	5	0.5	0.7	0.6	0.6	0.1	13.7	—	1	1	—	—
Dis. Fluoride	mg/L	5	0.07	0.09	0.08	0.08	0.01	7.8	—	0	0	—	—
Dis. Sulphate	mg/L	5	3.8	6.0	5.7	5.2	0.9	18.1	—	0	0	—	—
Ammonia-N	mg/L	5	0.005	0.005	0.005	0.005	0	0.0	—	5	5	—	—
Nitrate-N	mg/L	5	0.005	0.005	0.005	0.005	0	0.0	—	5	5	—	—
Nitrite-N	mg/L	5	0.001	0.001	0.001	0.001	0	0.0	—	5	5	—	—
Ortho-Phosphate	mg/L	5	0.001	0.001	0.001	0.001	0	0.0	—	5	4	—	—
Dis. Phosphate	mg/L	5	0.002	0.005	0.002	0.003	0.001	40.6	—	0	3	—	—
Tot. Phosphate	mg/L	5	0.002	0.006	0.002	0.003	0.002	53.4	—	0	3	—	—
Tot. Aluminium	mg/L	5	0.002	0.024	0.002	0.008	0.01	117.6	—	0	0	—	—
Tot. Antimony	mg/L	5	0.00014	0.0002	0.00016	0.00016	0.00002	14.1	—	0	0	—	—
Tot. Arsenic	mg/L	5	0.0002	0.0003	0.0003	0.0002	0	11.8	—	0	0	—	—
Tot. Cadmium	mg/L	5	0.000017	0.000017	0.000017	0.000017	0	0	—	5	5	—	—
Tot. Calcium	mg/L	5	31.4	35	33.8	33.4	1.4	4.3	100	0	0	—	—
Tot. Cobalt	mg/L	5	0.0001	0.0001	0.0001	0.0001	0	0	—	5	0	—	—
Tot. Copper	mg/L	5	0.0006	0.0012	0.0008	0.0008	0.0003	29.7	94	0	0	—	—
Tot. Iron	mg/L	5	0.03	0.03	0.03	0.03	0	0	—	5	5	—	—
Tot. Lead	mg/L	5	0.00005	0.00005	0.00005	0.00005	0	0	—	5	0	—	—
Tot. Magnesium	mg/L	5	14.2	15.4	14.5	14.6	0.5	3.3	100	0	0	—	—
Tot. Manganese	mg/L	5	0.00	0.01	0.00	0.00	0.00	126.1	—	0	0	—	—
Tot. Molybdenum	mg/L	5	0.00029	0.00035	0.00031	0.00031	0.00002	7.1	99	0	0	—	—
Tot. Nickel	mg/L	5	0.0007	0.0012	0.0009	0.001	0.0002	22.1	93	0	0	—	—
Tot. Potassium	mg/L	5	2	2	2	2	0	0	—	5	5	—	—
Tot. Selenium	mg/L	5	0.001	0.001	0.001	0.001	0	0	—	5	0	—	—
Tot. Silver	mg/L	5	0.00001	0.00067	0.00001	0.00014	0.00029	207.8	16	4	4	1	20
Tot. Sodium	mg/L	5	6.7	7.7	7.2	7.2	0.4	5.3	—	0	0	—	—
Tot. Strontium	mg/L	5	0.137	0.187	0.155	0.157	0.019	12.3	100	0	0	—	—
Tot. Titanium	mg/L	5	0.01	0.01	0.01	0.01	0	0	—	5	5	—	—
Tot. Zinc	mg/L	5	0.001	0.005	0.001	0.0018	0.0018	99.4	—	4	0	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-20: Water Quality Summary for Groundhog Creek W16, 1992 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	15	0	18	6	6.6	5.1	76.6	–	0	0	–	–
Dis. Oxygen	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	0	0	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	24	68	325	104.5	153.9	82.1	53.3	–	0	0	–	–
Tot. Hardness	mg/L	24	33.1	161	54.0	77.1	42.6	55.2	–	0	0	–	–
Field pH		14	6.4	8.1	7.3	7.4	0.4	5.8	–	0	0	–	–
Lab pH		24	6.8	8.4	7.5	7.4	0.3	4.4	–	0	0	–	–
Tot. Alkalinity	mg/L	24	35	169	56.8	82.5	45.1	54.7	–	0	0	–	–
Turbidity	NTU	24	0.8	5.4	2.0	2.2	1.4	60.4	–	1	0	–	–
DOC	mg/L	0	0	0	–	–	–	–	–	–	–	–	–
TOC	mg/L	24	6.4	43.4	16.45	15.6	7.7	49.1	–	0	0	–	–
Dis. Solids	mg/L	24	45	214	72	102.4	53.1	51.9	–	0	0	–	–
TSS	mg/L	24	1	8	2	3.0	2.5	83.1	–	11	0	–	–
Dis. Chloride	mg/L	24	0.5	1.7	0.5	0.6	0.3	42.7	–	18	0	–	–
Dis. Fluoride	mg/L	24	0.03	0.14	0.06	0.07	0.03	45.1	–	0	0	–	–
Dis. Sulphate	mg/L	24	1	2	1	1.2	0.4	31.7	–	14	7	–	–
Ammonia-N	mg/L	24	0.005	0.038	0.007	0.011	0.009	83.2	–	8	1	–	–
Nitrate-N	mg/L	24	0.005	0.029	0.007	0.011	0.008	75.9	–	7	4	–	–
Nitrite-N	mg/L	24	0.001	0.003	0.001	0.001	0.001	45.0	–	14	1	–	–
Ortho-Phosphate	mg/L	24	0.001	0.018	0.003	0.005	0.005	104.7	–	7	1	–	–
Dis. Phosphate	mg/L	24	0.002	0.040	0.005	0.007	0.009	114.1	–	0	1	–	–
Tot. Phosphate	mg/L	24	0.003	0.071	0.015	0.019	0.014	71.4	55	0	0	–	–
Tot. Aluminium	mg/L	24	0.005	0.077	0.013	0.023	0.022	94.1	71	0	0	–	–
Tot. Antimony	mg/L	24	0.00005	0.0005	0.00005	0.00008	0.00012	145.2	100	14	9	–	–
Tot. Arsenic	mg/L	24	0.0001	0.0021	0.0002	0.0003	0.0004	122.0	94	5	0	–	–
Tot. Cadmium	mg/L	24	0.00005	0.00014	0.00005	0.000056	0.000023	41.5	–	15	9	1	4
Tot. Calcium	mg/L	24	5.4	27.5	10.3	13.1	6.8	51.7	100	0	0	7	29
Tot. Cobalt	mg/L	24	0.0001	0.001	0.0002	0.0003	0.0003	85.4	82	4	9	1	4
Tot. Copper	mg/L	24	0.0002	0.002	0.0004	0.0005	0.0004	87.3	86	0	0	–	–
Tot. Iron	mg/L	24	0.16	3.48	0.54	0.81	0.88	109.2	76	0	0	19	79
Tot. Lead	mg/L	24	0.00005	0.00005	0.00005	0.00005	0	0	–	15	9	–	–
Tot. Magnesium	mg/L	24	4.1	22.9	7.6	10.6	6.0	56.9	102	0	0	–	–
Tot. Manganese	mg/L	24	0.01	0.55	0.05	0.08	0.11	139.0	68	0	0	–	–
Tot. Molybdenum	mg/L	24	0.00008	0.00071	0.00028	0.00027	0.00019	68.7	98	0	9	–	–
Tot. Nickel	mg/L	24	0.0005	0.0023	0.001	0.0012	0.0005	40.2	99	5	2	–	–
Tot. Potassium	mg/L	3	2	7	3	4	2.6	66.1	–	1	0	–	–
Tot. Selenium	mg/L	24	0.0005	0.0006	0.0005	0.0005	0	6.5	–	15	7	–	–
Tot. Silver	mg/L	24	0.00001	0.00001	0.00001	0.00001	0	0	–	15	8	–	–
Tot. Sodium	mg/L	14	2	9	5	5	2.3	46.4	–	0	0	–	–
Tot. Strontium	mg/L	24	0.017	0.077	0.036	0.039	0.015	38.9	99	0	0	–	–
Tot. Titanium	mg/L	23	0.01	0.01	0.01	0.01	0	0.0	–	15	8	–	–
Tot. Zinc	mg/L	25	0.001	0.005	0.0015	0.0019	0.0012	61.0	–	8	9	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-21: Water Quality Summary for Groundhog Creek W24, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	12	0.6	14.2	8	8.3	3.6	42.7	—	0	0	—	—
Dis. Oxygen	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Field conductivity	µS/cm	0	—	—	—	—	—	—	—	—	—	—	—
Lab conductivity	umhos/cm	12	158	247	213	207	34.8	16.8	—	0	—	—	—
Tot. Hardness	mg/L	12	75.9	119	98.3	98.0	15.4	15.7	—	0	—	—	—
Field pH		12	6.4	9	7.9	7.9	0.7	8.7	—	0	—	—	—
Lab pH		12	7.8	8.2	7.9	7.9	0.1	1.7	—	0	0	—	—
Tot. Alkalinity	mg/L	12	82	136	111.5	111.3	22.1	19.9	—	0	0	—	—
Turbidity	NTU	12	0.8	1.9	1.2	1.3	0.3	24.8	—	0	0	—	—
DOC	mg/L	0	0	0	—	—	—	—	—	—	—	—	—
TOC	mg/L	12	1.2	13.6	11	9.8	3.7	37.7	—	0	0	—	—
Dis. Solids	mg/L	12	101	170	131	136.1	28.4	20.9	—	0	0	—	—
TSS	mg/L	12	1	5	3	2.8	1.5	51.8	—	3	0	—	—
Dis. Chloride	mg/L	12	0.5	0.7	0.5	0.5	0.1	12.2	—	9	0	—	—
Dis. Fluoride	mg/L	12	0.04	0.14	0.07	0.07	0.03	38.3	—	0	0	—	—
Dis. Sulphate	mg/L	12	1	3	1	1.4	0.7	47.2	—	8	0	—	—
Ammonia-N	mg/L	12	0.005	0.022	0.008	0.008	0.005	58.2	—	5	0	—	—
Nitrate-N	mg/L	12	0.005	0.072	0.006	0.016	0.021	126.2	—	6	0	—	—
Nitrite-N	mg/L	12	0.001	0.002	0.001	0.001	0	26.6	—	11	0	—	—
Ortho-Phosphate	mg/L	12	0.001	0.019	0.006	0.008	0.007	82.2	—	2	0	—	—
Dis. Phosphate	mg/L	12	0.001	0.028	0.011	0.015	0.011	76.5	—	1	0	—	—
Tot. Phosphate	mg/L	12	0.004	0.040	0.018	0.021	0.012	60.2	77	0	0	—	—
Tot. Aluminium	mg/L	12	0.002	0.023	0.020	0.016	0.007	40.5	—	0	0	—	—
Tot. Antimony	mg/L	12	0.00005	0.00007	0.00005	0.00005	0.00001	11.2	—	11	0	—	—
Tot. Arsenic	mg/L	12	0.0006	0.0028	0.0014	0.0015	0.0008	49.1	99	0	0	—	—
Tot. Cadmium	mg/L	12	0.00005	0.00005	0.00005	0.00005	0	0.0	—	12	0	—	—
Tot. Calcium	mg/L	12	12.5	20.1	16.6	16.5	2.5	15.3	101	0	0	—	—
Tot. Cobalt	mg/L	12	0.0001	0.0001	0.0001	0.0001	0	0	—	12	0	—	—
Tot. Copper	mg/L	12	0.0004	0.0007	0.0006	0.0006	0.0001	18.4	97	0	0	—	—
Tot. Iron	mg/L	12	0.18	0.28	0.24	0.23	0.03	12.4	64	0	0	—	—
Tot. Lead	mg/L	12	0.00005	0.00005	0.00005	0.00005	0	0	—	2	0	—	—
Tot. Magnesium	mg/L	12	10.5	16.7	13.5	13.6	2.1	15.8	101	0	0	—	—
Tot. Manganese	mg/L	12	0.02	0.06	0.04	0.04	0.01	29.3	54	0	0	—	—
Tot. Molybdenum	mg/L	12	0.00018	0.00064	0.00028	0.00036	0.00017	48.5	101	0	0	—	—
Tot. Nickel	mg/L	12	0.0008	0.0026	0.0021	0.001933	0.00054	27.9	97	0	0	—	—
Tot. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—	—	—
Tot. Selenium	mg/L	12	0.0005	0.0006	0.0005	0.0005	0	5.7	—	11	0	—	—
Tot. Silver	mg/L	12	0.00001	0.00003	0.00001	0.00001	0.00001	49.5	—	12	0	—	—
Tot. Sodium	mg/L	12	6	17	8	10.1	4.1	41.1	101	0	0	—	—
Tot. Strontium	mg/L	12	0.022	0.050	0.035	0.035	0.008	23.9	101	0	0	—	—
Tot. Titanium	mg/L	12	0.01	0.01	0.01	0.01	0	0	—	12	0	—	—
Tot. Zinc	mg/L	12	0.001	0.002	0.001	0.0011	0.0003	26.6	—	11	0	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-22: Water Quality Summary for Vick Creek W13, 1992 to 2006

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	22	0.8	11.5	4.4	4.5	3.0	66.4	—	0	0	—	—
Dis. Oxygen	mg/L	6	9.6	12.6	10.7	10.8	1.0	9.0	—	0	0	—	—
Field conductivity	µS/cm	6	384.4	454.3	410.9	411.6	25.5	6.2	—	0	0	—	—
Lab conductivity	umhos/cm	43	350.0	519.0	466.0	449.5	45.0	10.0	—	0	0	—	—
Tot. Hardness	mg/L	43	138.0	261.0	237.0	227.1	26.9	11.9	—	0	0	—	—
Field pH		21	6.6	8.7	8.2	8.0	0.5	6.1	—	0	0	—	—
Lab pH		43	7.6	8.4	8.1	8.0	0.2	2.5	—	0	0	—	—
Tot. Alkalinity	mg/L	43	200	309	259	255	26.8	10.5	—	0	0	—	—
Turbidity	NTU	43	0.1	1.2	0.3	0.4	0.3	79.4	—	0	0	—	—
DOC	mg/L	6	5	9	6.1	6.6	1.6	23.8	—	0	0	—	—
TOC	mg/L	37	0.5	17.9	4.2	4.7	3.1	66.8	—	2	0	—	—
Dis. Solids	mg/L	43	223	364	316	305.3	36.5	12.0	—	0	0	—	—
TSS	mg/L	42	1.0	3.0	1.0	1.5	0.8	53.6	—	29	0	—	—
Dis. Chloride	mg/L	43	0.5	1.4	0.8	0.9	0.3	29.5	—	4	0	—	—
Dis. Fluoride	mg/L	43	0.12	0.44	0.16	0.17	0.05	27.7	—	0	0	1	2
Dis. Sulphate	mg/L	43	3.5	16	9.8	10.2	2.9	28.8	—	0	0	—	—
Ammonia-N	mg/L	43	0.005	0.023	0.005	0.006	0.003	58.7	—	18	15	—	—
Nitrate-N	mg/L	43	0.005	0.086	0.026	0.03	0.021	70.1	—	4	2	—	—
Nitrite-N	mg/L	43	0.001	0.002	0.001	0.001	0	21.3	—	37	4	—	—
Ortho-Phosphate	mg/L	43	0.002	0.015	0.007	0.008	0.003	40.4	—	0	0	—	—
Dis. Phosphate	mg/L	43	0.002	0.017	0.009	0.01	0.003	32.1	—	0	0	—	—
Tot. Phosphate	mg/L	43	0.002	0.017	0.01	0.01	0.003	32.4	99	0	0	—	—
Tot. Aluminium	mg/L	42	0.002	0.054	0.007	0.012	0.012	95.1	161	0	4	—	—
Tot. Antimony	mg/L	42	0.00005	0.0005	0.00007	0.00009	0.00009	99.6	100	10	18	—	—
Tot. Arsenic	mg/L	43	0.0003	0.0009	0.0006	0.0006	0.0001	18.0	102	0	0	—	—
Tot. Cadmium	mg/L	42	0.000017	0.00005	0.00005	0.000042	0.000015	35.2	—	22	19	1	2
Tot. Calcium	mg/L	43	35.2	51.5	45.6	44.4	4.0	9.1	99	0	0	—	—
Tot. Cobalt	mg/L	42	0.0001	0.0005	0.0001	0.0001	0.0001	69.3	—	19	19	—	—
Tot. Copper	mg/L	30	0.0005	0.0020	0.0007	0.0008	0.0004	42.3	95	0	0	—	—
Tot. Iron	mg/L	31	0.01	0.03	0.03	0.02	0.01	42.8	—	11	16	—	—
Tot. Lead	mg/L	42	0.00005	0.00005	0.00005	0.00005	0	0	—	23	19	—	—
Tot. Magnesium	mg/L	43	22	33.6	30.4	29	3.4	11.8	99	0	0	—	—
Tot. Manganese	mg/L	42	0.00	0.01	0	0	0	49.3	65	3	12	—	—
Tot. Molybdenum	mg/L	43	0.001	0.002	0.00133	0.00133	0.00031	23.6	101	15	1	—	—
Tot. Nickel	mg/L	42	0.0001	0.0010	0.0002	0.0003	0.0002	74.2	—	14	18	—	—
Tot. Potassium	mg/L	20	2	3	2	2.2	0.4	18.7	—	16	0	—	—
Tot. Selenium	mg/L	43	0.0005	0.0010	0.0005	0.0007	0.0002	31.1	—	20	16	—	—
Tot. Silver	mg/L	42	0.00001	0.00001	0.00001	0.00001	0	0.0	—	23	19	—	—
Tot. Sodium	mg/L	23	1.0	17.0	15.0	14.9	1.1	7.3	100	0	0	—	—
Tot. Strontium	mg/L	43	0.220	0.346	0.307	0.297	0.032	10.9	100	0	0	—	—
Tot. Titanium	mg/L	43	0.01	0.01	0.01	0.01	0	0	—	24	19	—	—
Tot. Zinc	mg/L	42	0.001	0.009	0.001	0.0015	0.0017	114.3	—	21	18	—	—

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-23: Water Quality Summary for Vick Creek W23, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	9	4	13	8	8.1	2.6	32.1	–	0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	9	197	270	230	226.7	22.2	9.8	–	0	0	–	–
Tot. Hardness	mg/L	9	104	149	122	121	14.4	11.9	–	0	0	–	–
Field pH		9	7.3	8.2	7.8	7.7	0.3	4.4	–	0	0	–	–
Lab pH		9	7.6	8.1	7.8	7.8	0.2	2.3	–	0	0	–	–
Tot. Alkalinity	mg/L	9	97	148	121	119.2	15.2	12.8	–	0	0	–	–
Turbidity	NTU	9	0.2	1.1	0.4	0.5	0.3	62.2	–	0	0	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	9	22.8	28	26	25.4	1.7	6.7	–	0	0	–	–
Dis. Solids	mg/L	9	133	193	150	151.7	19.1	12.6	–	0	0	–	–
TSS	mg/L	9	1	7	1	1.9	2.0	104.0	–	6	0	–	–
Dis. Chloride	mg/L	9	1.2	2.1	1.6	1.5	0.3	18.2	–	0	0	–	–
Dis. Fluoride	mg/L	9	0.08	0.2	0.1	0.11	0.04	36.4	–	0	0	–	–
Dis. Sulphate	mg/L	9	1	4	1	1.6	1.0	65.2	–	6	0	–	–
Ammonia-N	mg/L	9	0.005	0.006	0.005	0.005	0	8.4	–	7	0	–	–
Nitrate-N	mg/L	9	0.005	0.005	0.005	0.005	0	0	–	9	0	–	–
Nitrite-N	mg/L	9	0.001	0.001	0.001	0.001	0	0	–	9	0	–	–
Ortho-Phosphate	mg/L	9	0.001	0.003	0.001	0.002	0.001	46.7	–	5	0	–	–
Dis. Phosphate	mg/L	9	0.001	0.003	0.001	0.002	0.001	52.0	–	5	0	–	–
Tot. Phosphate	mg/L	9	0.001	0.004	0.002	0.002	0.001	55.8	–	4	0	–	–
Tot. Aluminium	mg/L	9	0.003	0.015	0.006	0.009	0.005	57.4	40	0	0	–	–
Tot. Antimony	mg/L	9	0.00005	0.00009	0.00006	0.00006	0.00001	20.4	–	3	0	–	–
Tot. Arsenic	mg/L	9	0.0005	0.0007	0.0006	0.0006	0.0001	11.8	100	0	0	–	–
Tot. Cadmium	mg/L	9	0.00005	0.00005	0.00005	0.00005	0	0	–	9	0	–	–
Tot. Calcium	mg/L	9	24.7	38	30.7	30.1	4.0	13.4	102	0	0	–	–
Tot. Cobalt	mg/L	9	0.0001	0.0001	0.0001	0.0001	0	0	–	9	0	–	–
Tot. Copper	mg/L	9	0.0003	0.0021	0.0005	0.0007	0.0005	82.2	87	0	0	1	11
Tot. Iron	mg/L	2	0.03	0.04	0.04	0.04	0.01	20.2	–	0	0	–	–
Tot. Lead	mg/L	9	0.00005	0.00007	0.00005	0.00005	0.00001	12.8	–	8	0	–	–
Tot. Magnesium	mg/L	9	9.1	13.3	10.8	10.6	1.2	11.6	102	0	0	–	–
Tot. Manganese	mg/L	9	0.00	0.04	0.01	0.01	0.01	106.4	45	0	0	–	–
Tot. Molybdenum	mg/L	9	0.0004	0.00079	0.00048	0.00052	0.00012	23.8	96	0	0	–	–
Tot. Nickel	mg/L	9	0.0006	0.0011	0.0008	0.0008	0.0001	17.0	93	0	0	–	–
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	9	0.0005	0.0005	0.0005	0.0005	0	0	–	9	0	–	–
Tot. Silver	mg/L	9	0.00001	0.00001	0.00001	0.00001	0	0.0	–	9	0	–	–
Tot. Sodium	mg/L	9	6	7	7	6.8	0.4	6.5	–	0	0	–	–
Tot. Strontium	mg/L	9	0.095	0.143	0.119	0.115	0.016	13.7	101	0	0	–	–
Tot. Titanium	mg/L	9	0.01	0.01	0.01	0.01	0	0.0	–	9	0	–	–
Tot. Zinc	mg/L	9	0.001	0.002	0.001	0.0012	0.0004	36.1	–	7	0	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-24: Water Quality Summary for Big Lake Creek, 1997

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	0	–	–	–	–	–	–	–	–	–	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	6	208	518	506.5	459.2	123.2	26.8	–	0	0	–	–
Tot. Hardness	mg/L	7	90.5	243	237	216.9	56.0	25.8	–	0	0	–	–
Field pH		0	–	–	–	–	–	–	–	–	–	–	–
Lab pH		7	2.0	8.4	8.2	7.3	2.3	31.9	–	0	0	–	–
Tot. Alkalinity	mg/L	7	1	306	297	224.9	128.3	57.0	–	1	0	–	–
Turbidity	NTU	7	0.1	1.1	0.3	0.4	0.3	82.9	–	1	0	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	0	0	–	–
TOC	mg/L	7	2	20.6	13	11.9	5.9	49.1	–	0	0	–	–
Dis. Solids	mg/L	6	133	378	367	328.3	96.2	29.3	–	0	0	–	–
TSS	mg/L	7	1	1	1	1	0	0.0	–	7	2	–	–
Dis. Chloride	mg/L	7	0.5	6	1.2	1.7	1.9	111.9	–	1	0	–	–
Dis. Fluoride	mg/L	7	0.08	0.16	0.15	0.14	0.03	19.7	–	0	0	–	–
Dis. Sulphate	mg/L	7	4.6	17	7.8	8.4	4.1	49.1	–	0	0	–	–
Ammonia-N	mg/L	7	0.005	0.009	0.008	0.007	0.002	28.4	–	1	4	–	–
Nitrate-N	mg/L	7	0.007	343	0.168	85.836	171.443	199.7	–	0	3	1	14
Nitrite-N	mg/L	7	0.001	0.013	0.002	0.004	0.006	137.7	–	2	3	–	–
Ortho-Phosphate	mg/L	7	0.011	0.016	0.014	0.014	0.002	15.4	–	0	1	–	–
Dis. Phosphate	mg/L	7	0.014	0.024	0.018	0.018	0.004	23.3	–	0	1	–	–
Tot. Phosphate	mg/L	7	0.014	0.026	0.021	0.02	0.005	23.0	90	0	1	–	–
Tot. Aluminium	mg/L	7	0.005	0.093	0.011	0.024	0.031	130.7	–	1	0	–	–
Tot. Antimony	mg/L	6	0.0135	0.0135	0.0135	0.0135	–	–	–	0	5	1	17
Tot. Arsenic	mg/L	7	0.0012	0.0159	0.0019	0.0038	0.0053	140.6	91	0	0	–	–
Tot. Cadmium	mg/L	6	0.032	0.032	0.032	0.032	–	–	–	0	5	1	17
Tot. Calcium	mg/L	7	5.0	42.2	38.4	34.0	12.9	38.0	100	0	0	1	14
Tot. Cobalt	mg/L	6	–	–	–	–	–	–	–	0	6	–	–
Tot. Copper	mg/L	7	0.001	0.068	0.001	0.0178	0.0335	188.7	–	0	3	1	14
Tot. Iron	mg/L	1	0.15	0.15	0.15	0.15	–	–	100	0	0	–	–
Tot. Lead	mg/L	6	0.062	0.062	0.062	0.062	–	–	–	0	5	1	17
Tot. Magnesium	mg/L	7	1.1	36.4	34.2	29.8	12.7	42.7	99	0	0	–	–
Tot. Manganese	mg/L	6	0.04	0.04	0.04	0.04	–	–	–	0	5	–	–
Tot. Molybdenum	mg/L	6	0.095	0.095	0.095	0.095	–	–	–	0	5	1	17
Tot. Nickel	mg/L	6	0.001	0.075	0.001	0.0257	0.0427	166.5	–	2	3	1	17
Tot. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Selenium	mg/L	7	0.0005	0.0094	0.005	0.005	0.0063	127.1	–	1	5	1	14
Tot. Silver	mg/L	6	–	–	–	–	–	–	–	0	6	–	–
Tot. Sodium	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Tot. Strontium	mg/L	7	0.127	0.262	0.249	0.232	0.048	20.5	99	0	0	–	–
Tot. Titanium	mg/L	7	0.01	0.01	0.01	0.01	0.00	23.6	–	1	5	–	–
Tot. Zinc	mg/L	6	0.013	0.098	0.0555	0.0555	0.0601	108.3	–	0	4	1	17

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-25: Water Quality Summary for Groundwater Seepage W21, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	10	2	9	6.8	6.6	2.0	30.1		0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	11	295	323	314	311.5	9.0	2.9	–	0	0	–	–
Tot. Hardness	mg/L	11	135	147	142	142.4	3.3	2.3	–	0	0	–	–
Field pH		9	6.2	9.3	8.3	8.1	0.9	10.6	–	0	0	–	–
Lab pH		11	7.6	8.2	8	7.9	0.2	2.8	–	0	0	–	–
Tot. Alkalinity	mg/L	11	164	175	169	168.5	3.5	2.1	–	0	0	–	–
Turbidity	NTU	11	0.1	26.5	0.7	5.3	10.3	193.5	–	1	0	–	–
DOC	mg/L	0	0	0	–	–	–	–	–	0	0	–	–
TOC	mg/L	11	1.7	4.2	2.6	2.7	0.8	29.3	–	0	0	–	–
Dis. Solids	mg/L	11	198	210	203	202.7	3.3	1.7	–	0	0	–	–
TSS	mg/L	11	1	79	3	15.7	29.4	186.9	–	3	0	–	–
Dis. Chloride	mg/L	11	0.5	0.5	0.5	0.5	0	0	–	11	0	–	–
Dis. Fluoride	mg/L	11	0.1	0.14	0.12	0.12	0.01	11.7	–	0	0	–	–
Dis. Sulphate	mg/L	11	3	4	4	3.7	0.5	12.5	–	0	0	–	–
Ammonia-N	mg/L	11	0.005	0.016	0.005	0.006	0.003	55.3	–	10	0	–	–
Nitrate-N	mg/L	11	0.024	0.195	0.088	0.095	0.056	59.1	–	0	0	–	–
Nitrite-N	mg/L	11	0.001	0.003	0.001	0.001	0.001	50.8	–	9	0	–	–
Ortho-Phosphate	mg/L	11	0.001	0.011	0.003	0.004	0.003	74.1	–	1	0	–	–
Dis. Phosphate	mg/L	11	0.002	0.015	0.006	0.008	0.005	62.6	–	0	0	–	–
Tot. Phosphate	mg/L	11	0.005	0.091	0.012	0.021	0.027	127.1	64	0	0	–	–
Tot. Aluminium	mg/L	11	0.005	0.462	0.036	0.083	0.142	171.3	–	0	0	2	18
Tot. Antimony	mg/L	11	0.00005	0.00006	0.00005	0.00005	0	8.9	–	8	0	–	–
Tot. Arsenic	mg/L	11	0.0002	0.0004	0.0003	0.0003	0	14.9	–	0	0	–	–
Tot. Cadmium	mg/L	11	0.00005	0.00005	0.00005	0.00005	0	0	–	11	0	–	–
Tot. Calcium	mg/L	11	25.3	29	25.8	26.1	1.1	4.1	100	0	0	–	–
Tot. Cobalt	mg/L	11	0.0001	0.0009	0.0001	0.0003	0.0003	98.9	–	6	0	–	–
Tot. Copper	mg/L	11	0.0002	0.0019	0.0004	0.0007	0.0006	85.5	–			–	–
Tot. Iron	mg/L	6	0.06	0.75	0.09	0.23	0.27	121.2	–	0	0	1	17
Tot. Lead	mg/L	11	0.00005	0.00017	0.00005	0.00006	0.00004	58.2	–	9	0	–	–
Tot. Magnesium	mg/L	11	18	19.1	18.4	18.5	0.3	1.8	101	0	0	–	–
Tot. Manganese	mg/L	11	0.00	0.06	0.00	0.01	0.02	185.3	14	0	0	–	–
Tot. Molybdenum	mg/L	11	0.00045	0.00077	0.00071	0.00068	0.0001	14.8	112	0	0	–	–
Tot. Nickel	mg/L	10	0.0001	0.0021	0.0001	0.0004	0.0007	156.3	–	7	0	–	–
Tot. Potassium	mg/L	11	3	4	4	3.5	0.5	14.7	–	0	0	–	–
Tot. Selenium	mg/L	11	0.0005	0.0005	0.0005	0.0005	0	0	–	10	0	–	–
Tot. Silver	mg/L	11	0.00001	0.00001	0.00001	0.00001	0	0	–	11	0	–	–
Tot. Sodium	mg/L	11	12	13	12	12.5	0.5	4.2	102	0	0	–	–
Tot. Strontium	mg/L	11	0.13	0.175	0.158	0.156	0.013	8.1	100	0	0	–	–
Tot. Titanium	mg/L	11	0.01	0.02	0.01	0.01	0	27.6	–	10	0	–	–
Tot. Zinc	mg/L	11	0.001	0.006	0.001	0.002182	0.001888	86.5	–	7	0	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix Table B10-26: Water Quality Summary for Groundwater Seepage W22, 1997 to 1998

Parameter	Unit	N	Min	Max	Median	Average	SD	CV	% Dis	N=DL	N<DL	N>G	%N>G
Temperature	°C	12	1	10.8	6.1	6.2	2.4	39.3	–	0	0	–	–
Dis. Oxygen	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
Field conductivity	µS/cm	0	–	–	–	–	–	–	–	–	–	–	–
Lab conductivity	umhos/cm	13	302	327	313	313.5	7.2	2.3	–	0	0	–	–
Tot. Hardness	mg/L	13	144	155	150	149.9	3.1	2.0	–	0	0	–	–
Field pH		10	6.6	8.1	7.7	7.6	0.5	6.3	–	0	0	–	–
Lab pH		13	7.6	8.2	7.8	7.8	0.2	2.7	–	0	0	–	–
Tot. Alkalinity	mg/L	13	170	182	177	176.9	3.4	1.9	–	0	0	–	–
Turbidity	NTU	12	0.1	55.1	0.3	5.0	15.1	301.5	–	2	0	1	8
DOC	mg/L	0	–	–	–	–	–	–	–	–	–	–	–
TOC	mg/L	13	0.8	3.9	2.8	2.7	0.8	29.9	–	0	0	–	–
Dis. Solids	mg/L	13	197	216	210	209.2	5.2	2.5	–	0	0	–	–
TSS	mg/L	12	1	192	1	17.8	52.6	296.2	–	7	0	–	–
Dis. Chloride	mg/L	13	0.5	0.5	0.5	0.5	0	0	–	13	0	–	–
Dis. Fluoride	mg/L	13	0.02	0.14	0.08	0.08	0.03	32.7	–	1	0	–	–
Dis. Sulphate	mg/L	13	1	2	2	1.8	0.4	24.8	–	3	0	–	–
Ammonia-N	mg/L	13	0.005	0.005	0.005	0.005	0	0	–	13	0	–	–
Nitrate-N	mg/L	13	0.017	0.059	0.038	0.037	0.015	40.7	–	0	0	–	–
Nitrite-N	mg/L	13	0.001	0.002	0.001	0.001	0	25.8	–	12	0	–	–
Ortho-Phosphate	mg/L	13	0.001	0.069	0.053	0.048	0.016	32.6	–	1	0	–	–
Dis. Phosphate	mg/L	13	0.001	0.077	0.06	0.057	0.018	31.3	–	1	0	–	–
Tot. Phosphate	mg/L	12	0.001	0.206	0.06	0.07	0.045	64.8	95	1	0	–	–
Tot. Aluminium	mg/L	12	0.004	3.98	0.014	0.341	1.095	321.4	–	0	0	3	25
Tot. Antimony	mg/L	13	0.00005	0.00013	0.00006	0.00007	0.00002	32.2	–	3	0	–	–
Tot. Arsenic	mg/L	13	0.0028	0.0035	0.003	0.003	0.0002	6.9	103	0	0	–	–
Tot. Cadmium	mg/L	13	0.00005	0.00005	0.00005	0.00005	0	0	–	13	0	–	–
Tot. Calcium	mg/L	13	32.9	35.5	34	34.0	0.9	2.6	100	0	0	–	–
Tot. Cobalt	mg/L	12	0.0001	0.0052	0.0001	0.0005	0.0014	260.9	–	9	0	1	8
Tot. Copper	mg/L	13	0.0005	0.0083	0.0005	0.0012	0.0021	177.3	97	0	0	1	8
Tot. Iron	mg/L	2	0.2	3.95	0.29	1.48	2.14	144.6	–	0	0	1	50
Tot. Lead	mg/L	13	0.00005	0.00056	0.00005	0.00009	0.00014	150.3	–	11	0	–	–
Tot. Magnesium	mg/L	13	14.8	17.3	15.7	15.8	0.6	4.0	100	0	0	–	–
Tot. Manganese	mg/L	13	0	0.13	0	0.01	0.04	309.4	–	0	0	–	–
Tot. Molybdenum	mg/L	13	0.00024	0.00032	0.0003	0.000298	2.03E-05	6.8	102	0	0	–	–
Tot. Nickel	mg/L	12	0.0001	0.0132	0.0001	0.0012	0.0038	303.4	–	8	0	–	–
Tot. Potassium	mg/L	10	2	3	2	2.3	0.5	21.0	–	7	0	–	–
Tot. Selenium	mg/L	13	0.0005	0.0005	0.0005	0.0005	0	0	–	12	0	–	–
Tot. Silver	mg/L	13	0.00001	0.00003	0.00001	0.00001	0.00001	48.1	–	12	0	–	–
Tot. Sodium	mg/L	13	12	13	13	12.8	0.4	2.9	102	0	0	–	–
Tot. Strontium	mg/L	13	0.195	0.258	0.227	0.229538	0.017458	7.6	100	0	0	–	–
Tot. Titanium	mg/L	13	0.01	0.12	0.01	0.02	0.03	165.3	–	12	0	1	8
Tot. Zinc	mg/L	12	0.001	0.015	0.001	0.0025	0.0039	159.6	–	10	0	–	–

Abbreviations:

Dissolved: Dis

Guideline: G

Appendix B11 Appendix Tables Summary for High and Low Flows:

Appendix Table B11-1 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Appendix Table B11-2 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

Appendix Table B11-3 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Beece Creek sites

Table B11-4 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Tete Angela Creek sites

Appendix Table B11-5 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Groundhog Creek and tributary sites

Appendix Table B11-6 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Appendix Table B11-7 Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Vick Creek sites

Appendix Table B11-1: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Parameter	Unit	Year	Site																						
			W1				W2				W3				W7				W8						
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow				
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD			
Temperature	°C	1997									9.14	1.82	6.28	2.15					10.66	2.813894	099	8.2	3.324906	014	
		2006	10.9	2.1			11.0	2.9			7.8	2.6	10.6	0.8					9.6	2.4	12.2		2.8		
Dis. Oxygen	mg/L	2006	9.7	0.9			9.3	0.8			10.7	1.3	7.7	1.6					9.5	0.7	7.9		1.3		
Field cond.	µS/cm	2006	143.5	23.6			155.1	8.5			167.3	12.4	344.4	63.6					173.0	9.8	328.0		70.1		
Lab cond.	umhos/cm	1993	177.2	32.0	223.0	17.9	169.8	3.6	189.0	29.6	204.0	25.5	216.8	21.1	168.6	5.9	177.0	8.0	219.6	36.8	218.0		19.2		
		1994	149.4	19.7	225.0	5.0	142.6	14.2	165.8	3.3	143.0	18.5			141.6	15.5	171.4	17.1	152.4	17.7	339.6		23.0		
		1995	200.8	20.2	222.6	26.1	156.6	3.0	167.2	4.5	239.2	34.9	275.4	57.1	158.8	2.4	181.4	18.2	256.4		12.8	313.2		88.1	
		1996	143.6	11.8	242.0	3.9	150.8	10.3	157.4	1.9	151.4	10.9	252.0	25.5			155.0	3.5	155.6		10.7	264.4		27.6	
		1997	145.2	17.0	302.0	3.7	144.2	10.8	187.0	12.0	154.4	6.7	314.2	15.7					160.6		9.1	362.6		45.8	
		2006	147.4	12.3			150.3	9.2			167.3	12.4	351.0	17.1					167.5		10.2	346.7		30.2	
T. Hardness	mg/L	1993	83.1	15.3	109.4	4.0	81.4	4.2	85.6	1.8	96.3	10.4	105.2	3.2	80.0	4.2	86.4	3.0	103.4	16.9	106.2		2.4		
		1994	76.0	9.9	113.0	3.0	68.7	6.3	80.8	7.1	68.2	6.7	148.5	12.5	69.1	7.4	87.3	7.9	73.7	8.3	169.0		12.5		
		1995	105.7	11.6	106.2	7.5	79.4	1.6	82.3	2.4	114.2	13.9	133.9	26.6	80.4	2.0	90.5	7.8	126.6	7.7	156.3		45.3		
		1996	70.6	6.3	118.6	3.7	73.3	4.5	77.7	2.0	72.7	5.7	121.5	15.3			81.1	3.0	77.0	3.0	127.8		13.8		
		1997	72.8	8.7	138.4	4.9	70.0	5.7	90.3	10.1	75.3	2.1	145.2	6.4					77.4	3.5	166.8		17.8		
		2006	78.3	8.8			78.4	5.8			83.3	5.8	161.0	12.7					86.9	5.7	163.6		15.2		
Field pH		1997	7.5	0.2	8.2	0.2	7.8	0.2	7.7	0.3	8.3	0.4	8.0	0.3					7.9	0.3	7.7		0.2		
		2006	7.6	0.5			7.9	0.4			7.7	0.8	8.0	0.1					7.6	0.3	7.8		0.2		
Lab pH		1993	7.7	0.1	7.5	0.1	7.8	0.1	7.9	0.3	7.9	0.1	8.0	0.1	7.9	0.2	7.7	0.2	7.8	0.1	7.6		0.1		
		1994	7.6	0.2	9.3	0.4	7.6	0.2	8.0	0.2	7.9	0.2	8.2	0.1	7.6	0.2	7.9	0.4	7.6	0.2	7.8		0.2		
		1995	8.8	0.6	8.0	0.4	8.2	0.1	7.8	0.3	8.0	0.1	8.1	0.1	8.2	0.4	8.0	0.3	7.8	0.1	8.0		0.4		
		1996	7.3	0.1	7.8	0.4	7.4	0.1	8.2	0.2	7.7	0.1	8.2	0.1			8.2	0.3	7.5	0.1	7.7		0.1		
		1997	7.5	0.1	7.8	0.2	7.6	0.1	7.4	0.2			7.7	0.1					7.6	0.1	7.4		0.2		
		2006	8.1	0.2			8.1	0.1			8.1	0.0	8.2	0.1					8.0	0.1	8.1		0.1		
T. Alkalinity	mg/L	1993	95.5	19.1	118.6	5.5	91.0	4.5	93.0	1.4	98.9	10.3	108.0	7.4	89.2	3.8	92.3	1.8	102.2	11.9	106.6		3.8		
		1994	79.6	11.5	129.2	3.3	74.9	6.9	88.6	1.1	73.6	9.6	142.8	13.5	74.5	5.8	92.0	9.1	76.9	6.5	147.6		4.6		
		1995	115.6	9.0	125.2	17.8	85.8	4.6	91.2	6.3	118.2	18.0	128.9	25.7	85.5	2.1	100.3	14.4	124.2	4.1	146.5		41.1		
		1996	75.3	5.6	134.4	4.5	77.6	5.5	86.3	1.9	76.4	6.2	122.2	10.7			87.4	3.0	80.6	5.7	126.2		9.8		
		1997	82.4	8.1	164.0	1.6	81.2	5.4	93.6	6.2	83.0	5.0	128.2	5.1					89.4	4.6	136.0		5.3		
		2006	81.4	10.3			83.0	6.5			82.4	7.5	157.6	9.8					91.6	8.1	154.6		12.9		
Turbidity	NTU	1993	2.0	0.7	4.0	1.1	1.4	0.7	1.3	0.3	2.0	2.2	0.8	0.2	1.7	0.8	1.4	0.3	2.4	1.2	2.6		0.2		
		1994	1.6	0.8	8.6	4.8	0.9	0.2	2.4	0.5	1.5	0.4	0.4	0.1	1.1	0.4	1.3	0.2	1.6	0.5	3.6		1.5		
		1995	6.5	6.4	3.7	1.3	1.1	0.4	6.3	5.6	0.6	0.3	0.4	0.2	6.5	11.2	2.0	1.1	2.9	0.8	4.4		2.7		
		1996	1.5	0.6	8.1	3.1	1.1	0.1	4.2	5.1	3.0	2.6	0.8	0.4			1.9	0.5	1.5	0.5	3.4		0.8		
		1997	1.3	0.3	3.6	1.9	1.1	0.4	4.9	1.8	1.6	0.6	0.3	0.1					1.3	0.5	3.4		0.4		
		2006	1.9	0.9			1.7	0.9			1.5	0.6	0.3	0.1					2.2	0.6	9.7		1.9		
DOC	mg/L	2006	16.0	3.2			15.0	1.2			13.4	1.0							14.6	0.7	10.1		1.3		
TOC	mg/L	1993																							
		1994	77.0	86.3	25.6	4.7			15.4	1.2							13.5	1.7	13.2	0.8	11.2		0.5		
		1995	17.4	1.9	14.8	0.8	13.0	1.9	12.9	0.7	8.1	1.1	6.7	2.2	13.2	1.7	12.5	1.1	11.8	2.0	7.2		4.0		
		1996	16.2	1.8	21.2	1.8	12.9	0.3	15.4	1.0	12.6	1.0	6.8	3.9			14.1	1.9	12.4	0.3	10.4		3.2		
		1997	17.3	8.3	18.8	1.6	11.9	1.3	15.3	1.3	12.0	0.6	6.1	0.6					12.1	0.6	9.8		1.7		
Dis. Solids	mg/L	1993	122.0	14.8	146.2	13.7	118.2	15.2	115.8	6.3	144.0	13.0	141.8	12.4	116.4	17.2	115.2	7.0	150.8	10.9	142.8		11.8		
		1994	121.2	60.1	162.0	14.4	91.2	9.5	109.2	6.6	91.6	8.4	200.8	23.6	92.2	9.2	112.2	17.3	96.4	7.1	229.6		22.3		
		1995	139.0	14.3	152.6	18.4	102.2	3.7	113.2	5.6	167.6	27.2	195.6	46.6	102.2	3.3	121.2	11.2	174.0	11.6	219.2		71.8		
		1996	95.2	9.3	162.4	4.6	99.4	8.8	100.2	3.8	100.4	8.9	170.2	23.3			107.0	6.3	106.0	4.5	176.6		23.4		
		1997	101.0	13.9	194.0	3.6	96.8	6.9	118.0	10.6	104.4	4.3	210.8	11.4					109.2	4.7	243.4		45.8		
		2006	116.2	12.8			115.4	7.7			119.6	4.3	219.0	9.2					130.6	6.2	227.9		15.9		
TSS	mg/L	1993	4.2	1.1	6.4	3.3	2.4	1.1	3.2	1.8	2.6	2.6	1.6	0.9	2.4	2.1	2.6	1.7	3.0	2.4	2.4		0.9		
		1994	4.4	4.4	18.8	10.9	1.8	1.3	3.2	2.3	3.2	1.1	1.3	0.5	2.2	1.1	2.0	1.4	3.0	2.3	4.6		2.5		
		1995	31.0	37.0	6.6	4.0	2.8	1.5	7.6	6.5	1.2	0.4	1.4	0.9	8.4	12.7	2.6	1.5	4.2	1.6	2.2		0.8		

Appendix Table B11-1: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Parameter	Unit	Year	Site																			
			W1				W2				W3				W7				W8			
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1996	1.4	0.9	13.8	5.4	3.2	1.5	3.2	2.7	7.2	7.7	1.4	0.9			5.4	6.0	3.2	2.2	4.2	2.3
		1997	4.6	3.9	2.8	0.8	2.4	1.5	6.2	3.5	4.0	1.0	1.4	0.9					3.4	1.1	4.6	3.4
		2006	4.3	2.9			3.8	1.8			3.5	0.7	1.8	1.1					4.6	1.8	3.9	1.2
Dis. Chloride	mg/L	1993	1.1	0.2	0.9	0.2	1.0	0.5	0.6	0.2	1.0	0.3	0.6	0.1	1.0	0.3	0.7	0.1	1.2	0.3	0.7	0.2
		1994	0.9	0.1	1.4	0.1	0.7	0.1	0.7	0.2	0.8	0.1			0.8	0.1	0.9	0.4	0.8	0.1	1.1	0.2
		1995	1.0	0.3	1.5	0.3	0.8	0.2	0.9	0.2	0.8	0.2	1.0	0.2	0.8	0.2	0.9	0.2	1.0	0.3	1.1	0.2
		1996	0.9	0.3	0.5	0.0	0.9	0.5	0.6	0.2	0.9	0.3	0.6	0.1					0.8	0.5	0.5	0.0
		1997	0.6	0.2	1.1	0.7	0.6	0.1	0.5	0.1	0.6	0.2	0.7	0.1					0.6	0.3	0.7	0.1
		2006	0.5	0.0									0.8	0.2							0.9	0.3
Dis. Fluoride	mg/L	1993	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0
		1994	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
		1995	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
		1996	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0					0.1	0.0	0.1	0.0
		1997	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0					0.1	0.0	0.1	0.0
		2006	0.0	0.0			0.1	0.0			0.1	0.0	0.1	0.0					0.1	0.0	0.1	0.0
Dis. Sulphate	mg/L	1993	2.6	0.9	2.2	0.6	2.6	0.7	2.4	0.7	12.0	4.2	7.9	1.1	3.0	0.9	2.0	0.4	13.5	8.4	7.9	2.3
		1994	3.8	0.3	3.4	0.4	2.9	0.8	3.7	0.4	5.5	1.1	21.6	4.1	3.3	0.4	3.1	0.5	5.1	0.7	35.5	7.8
		1995	2.8	0.4	1.9	1.3	2.9	0.9	2.3	1.4	14.3	3.1	24.1	10.7	2.5	0.4	1.8	1.3	16.0	4.3	28.3	15.1
		1996	1.7	0.7			1.7	0.8			3.4	0.7	15.6	4.8					3.1	0.6	15.9	5.9
		1997	1.0	0.0	1.0	0.0			1.2	0.4	2.8	0.4	32.4	8.3					2.8	0.4	46.6	27.1
		2006	0.5	0.0			0.7	0.1			4.8	1.0	31.9	3.7					4.2	1.0	36.6	9.0
Ammonia-N	mg/L	1993	0.031	0.012	0.054	0.030	0.020	0.010	0.025	0.007					0.020	0.006	0.017	0.007	0.013	0.005	0.007	0.006
		1994	0.018	0.011	0.123	0.116			0.036	0.009	0.003	0.002			0.020	0.011	0.019	0.010	0.018	0.015	0.012	0.002
		1995	0.099	0.174	0.035	0.018	0.021	0.015	0.043	0.026	0.004	0.002			0.031	0.012	0.022	0.014	0.021	0.007		
		1996	0.006	0.002	0.116	0.047	0.005	0.003	0.023	0.009	0.004	0.003					0.017	0.006			0.017	0.004
		1997	0.006	0.001	0.011	0.005	0.014	0.018	0.126	0.187	0.008	0.005							0.012	0.009	0.019	0.010
		2006	0.007	0.002			0.020	0.010			0.007	0.003	0.008	0.004					0.020	0.009	0.021	0.006
Nitrate-N	mg/L	1993	0.004	0.004	0.010	0.016	0.006	0.001	0.009	0.005	0.059	0.034	0.035	0.014	0.004	0.003	0.004	0.002	0.008	0.008	0.003	0.002
		1994			0.004	0.002					0.008	0.006	0.162	0.068	0.003	0.001	0.052	0.056	0.005	0.003		
		1995					0.011	0.019			0.141	0.093	0.050	0.050	0.033	0.017	0.027	0.018	0.003	0.002		
		1996									0.002	0.000	0.179	0.130			0.015	0.009			0.004	0.002
		1997									0.013	0.007	0.190	0.097					0.006	0.002	0.010	0.007
		2006	0.006	0.001							0.013	0.012	0.432	0.040					0.008	0.005	0.007	0.005
Nitrite-N	mg/L	1993			0.004	0.003											0.002	0.002	0.001	0.002	0.002	0.002
		1994	0.003	0.001	0.003	0.001	0.003	0.001	0.002	0.000	0.003	0.001	0.002	0.001			0.007	0.004	0.003	0.001	0.002	0.001
		1995	0.002	0.001	0.003	0.001	0.002	0.001	0.002	0.001					0.003	0.002	0.003	0.001	0.002	0.000	0.002	0.000
		1996	0.002	0.001	0.002	0.001	0.002	0.002	0.002	0.001			0.001	0.001					0.002	0.001	0.002	0.001
		1997					0.001	0.000	0.002	0.001	0.002	0.001										
		2006											0.002	0.001					0.001	0.000	0.001	0.000
Ortho-Phosphate	mg/L	1993	0.017	0.005	0.026	0.007	0.006	0.001	0.006	0.001	0.014	0.003	0.014	0.002	0.009	0.002	0.007	0.001	0.022	0.008	0.027	0.003
		1994	0.009	0.003	0.024	0.030	0.003	0.003			0.005	0.002	0.013	0.001	0.004	0.002	0.010	0.003	0.007	0.003	0.024	0.007
		1995	0.013	0.010	0.008	0.003	0.006	0.005	0.007	0.005	0.010	0.001	0.006	0.003	0.009	0.004	0.008	0.004	0.026	0.006	0.011	0.002
		1996	0.004	0.004	0.030	0.010	0.004	0.003	0.006	0.002	0.005	0.003	0.014	0.002			0.007	0.002	0.003	0.001	0.024	0.005
		1997	0.004	0.001	0.004	0.003	0.002	0.001	0.007	0.006	0.003	0.000	0.005	0.004					0.003	0.000	0.008	0.003
		2006	0.005	0.004			0.002	0.001			0.013	0.020	0.010	0.002					0.005	0.002	0.018	0.014
Dis. Phosphate	mg/L	1993	0.031	0.006	0.039	0.016	0.017	0.003	0.014	0.002	0.018	0.003	0.018	0.002	0.020	0.002	0.015	0.002	0.030	0.010	0.034	0.002
		1994	0.016	0.003	0.039	0.031	0.007	0.005	0.013	0.007	0.012	0.002	0.015	0.002	0.010	0.003	0.018	0.006	0.013	0.001	0.034	0.005
		1995	0.025	0.021	0.019	0.005	0.011	0.006	0.010	0.003	0.027	0.037	0.007	0.003	0.029	0.016	0.014	0.009	0.038	0.012	0.015	0.003
		1996	0.008	0.004	0.054	0.015	0.005	0.004	0.013	0.003	0.009	0.005	0.015	0.002			0.014	0.003	0.006	0.004	0.028	0.004
		1997	0.007	0.005	0.009	0.009	0.004	0.003	0.011	0.012	0.008	0.004	0.006	0.003					0.011	0.008	0.014	0.008
		2006	0.011	0.005			0.003	0.002			0.031	0.044	0.014	0.003					0.011	0.006	0.026	0.010

Appendix Table B11-1: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Parameter	Unit	Year	Site																			
			W1				W2				W3				W7				W8			
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD
T. Phosphate	mg/L	1993	0.040	0.010	0.057	0.022	0.020	0.002	0.017	0.001	0.021	0.004	0.019	0.001	0.024	0.004	0.018	0.002	0.035	0.008	0.038	0.003
		1994	0.026	0.011	0.122	0.020	0.013	0.005	0.027	0.013	0.020	0.005	0.016	0.002	0.018	0.001	0.020	0.006	0.021	0.002	0.041	0.005
		1995	0.071	0.052	0.037	0.019	0.023	0.013	0.064	0.061	0.039	0.047	0.009	0.004	0.053	0.016	0.027	0.006	0.060	0.022	0.030	0.005
		1996	0.017	0.007	0.125	0.044	0.021	0.005	0.028	0.013	0.025	0.007	0.022	0.013			0.027	0.014	0.022	0.002	0.046	0.003
		1997	0.018	0.009	0.012	0.010	0.017	0.003	0.025	0.021	0.019	0.004	0.009	0.003					0.021	0.002	0.032	0.006
		2006	0.023	0.003			0.008	0.007			0.050	0.069	0.018	0.007					0.020	0.012	0.061	0.006
T. Aluminium	mg/L	1993	0.059	0.031	0.067	0.039	0.090	0.079			0.093	0.054	0.019	0.007	0.071	0.024	0.030	0.019	0.066	0.038	0.036	0.023
		1994	0.147	0.174	0.052	0.012	0.022	0.009	0.070	0.029	0.106	0.051	0.015	0.006	0.085	0.112	0.036	0.020	0.080	0.057	0.066	0.055
		1995	0.273	0.435	0.069	0.034	0.054	0.045	0.078	0.053	0.034	0.030	0.031	0.029	0.129	0.157	0.058	0.032	0.067	0.026	0.042	0.020
		1996	0.034	0.013			0.021	0.013	0.033	0.018	0.093	0.069	0.012	0.010			0.038	0.021	0.047	0.010	0.035	0.019
		1997	0.034	0.006	0.064	0.064	0.006	0.001	0.084	0.030	0.043	0.018	0.005	0.003					0.024	0.007	0.021	0.012
		2006	0.043	0.020			0.017	0.013			0.033	0.023	0.008	0.005					0.061	0.055	0.018	0.003
T. Antimony	mg/L	1993									0.00062	0.00051	0.00044	0.00005	0.00011	0.00011	0.00008	0.00007	0.00009	0.00007	0.00008	0.00007
		1994									0.00014	0.00011	0.00071	0.00062								
		1995									0.00072	0.00015	0.00070	0.00029								
		1996											0.00092	0.00024								
		1997	0.00014	0.00020	0.00007	0.00002	0.00014	0.00020	0.00006	0.00001	0.00019	0.00017	0.00100	0.00003					0.00014	0.00020	0.00006	0.00002
		2006									0.00016	0.00005	0.00124	0.00011					0.00010	0.00000	0.00010	0.00000
T. Arsenic	mg/L	1993	0.0001	0.0001	0.0003	0.0001			0.0002	0.0001	0.0026	0.0007	0.0023	0.0003	0.0002	0.0001	0.0002	0.0001	0.0010	0.0005	0.0010	0.0001
		1994			0.0006	0.0001			0.0004	0.0000	0.0011	0.0004	0.0039	0.0004	0.0001	0.0001	0.0003	0.0001	0.0003	0.0001	0.0013	0.0002
		1995	0.0003	0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0001	0.0028	0.0006	0.0007	0.0003	0.0003	0.0001	0.0002	0.0001	0.0017	0.0003	0.0008	0.0002
		1996	0.0002	0.0002	0.0006	0.0003	0.0002	0.0001	0.0004	0.0002	0.0008	0.0005	0.0030	0.0005			0.0006	0.0002	0.0003	0.0002	0.0014	0.0002
		1997	0.0003	0.0000	0.0007	0.0001	0.0003	0.0000			0.0009	0.0001	0.0028	0.0001					0.0005	0.0001	0.0010	0.0002
		2006	0.0003	0.0000			0.0004	0.0000			0.0011	0.0002	0.0037	0.0002					0.0006	0.0001	0.0029	0.0001
T. Cadmium	mg/L	2006	0.000035	0.000039							0.000019	0.000002	0.000019	0.000003			14.700000	0.777817			0.000022	0.000010
T. Calcium	mg/L	1993	15.0	3.0	20.7	0.7	15.6	0.8	16.9	0.6	21.1	2.3	24.0	0.6	15.3	0.9	17.0	0.7	22.2	4.5	23.2	0.9
		1994	13.1	1.9	20.4	2.8	12.8	1.4	16.6	0.6	13.7	1.4	34.9	2.8	12.9	1.6	17.5	1.9	14.8	1.9	42.3	3.6
		1995	18.9	2.1	18.6	1.7	15.0	0.3	15.5	0.4	26.6	3.1	30.1	6.3	15.6	0.4	17.2	1.6	29.3	2.3	35.7	12.3
		1996	12.3	1.0	20.7	0.6	13.7	0.8	14.3	0.6	14.7	1.0	27.0	3.5					14.6	1.1	28.0	3.6
		1997	12.4	1.6	23.4	0.8	12.6	1.4	17.8	2.7	14.7	0.5	32.0	1.0					14.5	0.6	35.7	4.1
		2006	13.3	1.4			14.7	0.9			17.6	1.3	37.7	2.0					17.4	1.3	36.5	3.2
T. Cobalt	mg/L	1994			0.0008	0.0007																
		1997	0.0002	0.0001	0.0006	0.0004	0.0001	0.0001	0.0003	0.0004	0.0002	0.0002							0.0001	0.0001	0.0003	0.0003
		2006	0.0002	0.0000							0.0001	0.0000							0.0002	0.0000	0.0001	0.0000
T. Copper	mg/L	1993	0.0014	0.0011	0.0015	0.0020					0.0017	0.0007	0.0018	0.0008					0.0009	0.0003	0.0008	0.0007
		1994			0.0018	0.0014			0.0010	0.0006	0.0013	0.0005	0.0018	0.0005					0.0016	0.0023		
		1995									0.0014	0.0005	0.0010	0.0006			0.0008	0.0007				
		1996					0.0009	0.0007			0.0015	0.0007	0.0018	0.0004								
		1997	0.0009	0.0001	0.0011	0.0003	0.0005	0.0001	0.0010	0.0002	0.0011	0.0000	0.0015	0.0001					0.0007	0.0001	0.0006	0.0001
		2006	0.0011	0.0001			0.0007	0.0002			0.0013	0.0002	0.0020	0.0004					0.0010	0.0005	0.0007	0.0001
T. Iron	mg/L	1993	0.32	0.05	0.66	0.15	0.13	0.06	0.07	0.02	0.10	0.06	0.19	0.04	0.14	0.01	0.10	0.03	0.71	0.26	0.71	0.17
		1994	0.36	0.23	0.77	0.67	0.14	0.02	0.15	0.02	0.21	0.06			0.14	0.02	0.20	0.05	0.25	0.05	0.93	0.21
		1995	0.44	0.08	0.31	0.12	0.12	0.10	0.18	0.08			0.07	0.08	0.30	0.27	0.32	0.21	1.11	0.13	0.91	0.29
		1996	0.22	0.05	0.57	0.11	0.19	0.05	0.12	0.03	0.31	0.14	0.08	0.08			0.15	0.04	0.25	0.01	0.93	0.16
		1997	0.33	0.11	0.35	0.08	0.18	0.04	0.33	0.18	0.23	0.04							0.27	0.03	0.83	0.13
		2006	0.26	0.05			0.14	0.04			0.17	0.05	0.03	0.00					0.38	0.10	2.09	0.07
T. Lead	mg/L	1993			0.00006	0.00001	0.00006	0.00001					0.00080	0.00067								
		2006									0.00005	0.00000	0.00029	0.00054					0.00006	0.00002		
T. Magnesium	mg/L	1993	11.2	1.9	14.5	0.8	10.5	0.7	10.7	0.3	10.9	1.0	11.6	0.6	10.3	0.6	10.9	0.2	11.8	1.4	12.3	0.3
		1994	10.6	1.3	16.3	0.7	9.1	0.8	11.0	0.3	8.3	1.0	15.7	1.5	9.0	0.8	11.2	0.7	9.2	0.8	16.4	1.0
		1995	14.4	1.6	14.9	1.1	10.5	0.2	10.7	0.2	12.6	1.5	14.4	2.4	10.6	0.1	11.5	0.9	13.7	0.3	16.5	3.7

Appendix Table B11-1: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Fish Creek sites

Parameter	Unit	Year	Site																			
			W1				W2				W3				W7				W8			
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1996	10.3	0.6	16.3	0.5	9.6	0.6	10.2	0.3	8.9	0.7	13.1	1.4			10.6	0.5	9.6	0.6	13.6	1.2
		1997	9.9	1.1	19.0	0.4	9.0	1.1	11.1	0.5	8.9	0.4	15.8	0.6					9.5	0.5	18.6	1.8
		2006	10.7	0.7			10.1	0.6			9.7	0.3	18.3	1.3					10.5	0.5	18.5	2.0
T. Manganese	mg/L	1993	0.06	0.02	0.13	0.05	0.01	0.01					0.01	0.00	0.02	0.00	0.01	0.00	0.13	0.06	0.09	0.05
		1994	0.05	0.04	0.16	0.06	0.01	0.01	0.01	0.00	0.02	0.01			0.01	0.00	0.03	0.03	0.03	0.01	0.13	0.01
		1995	0.09	0.03	0.04	0.03	0.01	0.00	0.01	0.01					0.03	0.01	0.03	0.04	0.22	0.07	0.14	0.06
		1996	0.02	0.00	0.14	0.08	0.02	0.01	0.02	0.00	0.03	0.03	0.00	0.00					0.03	0.00	0.13	0.03
		1997	0.03	0.01	0.14	0.02	0.01	0.01	0.11	0.20	0.02	0.00	0.00	0.00					0.04	0.01	0.37	0.09
		2006	0.03	0.01			0.01	0.00			0.01	0.01	0.00	0.00					0.06	0.02	0.27	0.04
T. Molybdenum	mg/L	1993	0.00100	0.00061	0.00080	0.00067							0.00120	0.00076							0.00080	0.00067
		1994			0.00100	0.00061															0.00150	0.00071
		1995											0.00140	0.00082								
		1996	0.00025	0.00004	0.00108	0.00009	0.00024	0.00002	0.00028	0.00002	0.00033	0.00002	0.00116	0.00005								
		1997	0.00022	0.00002			0.00025	0.00002			0.00039	0.00004	0.00120	0.00005					0.00030	0.00002	0.00042	0.00004
		2006																	0.00031	0.00003	0.00078	0.00004
T. Nickel	mg/L	1993	0.0020	0.0007	0.0038	0.0013	0.0018	0.0004	0.0018	0.0004			0.0009	0.0007	0.0009	0.0007	0.0012	0.0004	0.0012	0.0004	0.0014	0.0005
		1994	0.0032	0.0011	0.0040	0.0012					0.0020	0.0012			0.0016	0.0009	0.0016	0.0005	0.0018	0.0008	0.0016	0.0005
		1995	0.0030	0.0007	0.0028	0.0004	0.0016	0.0005	0.0048	0.0033					0.0012	0.0010	0.0012	0.0004	0.0016	0.0005		
		1996	0.0026	0.0005	0.0038	0.0004	0.0020	0.0000	0.0020	0.0000	0.0020	0.0000					0.0020	0.0000	0.0020	0.0000	0.0016	0.0005
		1997	0.0031	0.0004	0.0043	0.0005	0.0019	0.0002	0.0020	0.0005	0.0019	0.0001	0.0006	0.0001					0.0020	0.0001	0.0014	0.0002
		2006	0.0036	0.0004			0.0020	0.0001			0.0018	0.0001	0.0007	0.0001					0.0021	0.0002	0.0013	0.0001
T. Selenium	mg/L	1996							0.0003	0.0002			0.0005	0.0002							0.0003	0.0002
		1997	0.0006	0.0001			0.0005	0.0001			0.0005	0.0000							0.0007	0.0004		
T. Silver	mg/L	1993													0.00044	0.00087						
		2006	0.00015	0.00032			0.00003	0.00005			0.00002	0.00002							0.00002	0.00002		
T. Sodium	mg/L	1997	4.8	0.8	14.6	0.5	4.6	0.5	6.0	0.0	5.0	0.0							5.2	0.4	11.4	0.9
		2006	6.7	0.7			6.2	0.6			6.2	0.4	13.3	1.1					6.5	0.5	12.8	1.3
T. Strontium	mg/L	1993	0.048	0.013	0.002	0.003	0.046	0.010	0.052	0.002	0.100	0.015	0.102	0.006	0.050	0.008	0.052	0.001	0.096	0.029	0.083	0.006
		1994	0.038	0.006	0.065	0.007	0.040	0.004	0.053	0.002	0.049	0.007	0.170	0.019	0.041	0.005	0.055	0.007	0.051	0.007	0.174	0.014
		1995	0.064	0.004	0.063	0.009	0.049	0.004	0.051	0.002					0.049	0.004	0.057	0.006	0.136	0.005	0.175	0.072
		1996	0.039	0.002	0.071	0.003	0.047	0.004	0.050	0.002	0.055	0.006	0.134	0.022			0.052	0.001	0.051	0.004		
		1997	0.034	0.005	0.073	0.002	0.039	0.003	0.053	0.010	0.059	0.005							0.052	0.005	0.164	0.027
		2006	0.038	0.004			0.044	0.002			0.066	0.006	0.209	0.030					0.062	0.006	0.205	0.028
T. Zinc	mg/L	1993	0.0063	0.0072	0.0052	0.0060									0.0087	0.0115			0.0036	0.0023		
		1994			0.0040	0.0034													0.0038	0.0029		
		1995													0.0032	0.0016						
		1997	0.0038	0.0052	0.0044	0.0039			0.0044	0.0017									0.0014	0.0009	0.0014	0.0005
		2006	0.0013	0.0006			0.0010	0.0000			0.0011	0.0002	0.0013	0.0005					0.0012	0.0004	0.0011	0.0001

Appendix Table B11-2: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

Parameter	Unit	Year	Site W4				W5				W6				W9				W14				W19				W20			
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD
Temperature	°C	1997			9.8	2.0			9.7	1.8																	8.5	1.2		
		1998																								10.4	2.1			
		2006					6.1	1.2	12.2	2.1	5.1	2.1	11.1	2.5					5.6	1.2	12.7	1.7								
Dis. Oxygen	mg/L	2006					11.0	0.8	9.4	0.6	11.0	1.1	9.4	0.4					10.7	1.3	8.9	0.5								
Field cond.	µS/cm	2006					63.8	4.2	49.5	10.4	70.0	5.5	59.1	11.5					63.4	2.3	55.9	2.4								
Lab cond.	umhos/cm	1993	58.8	1.0	56.4	4.6	78.8	19.9	80.8	16.5	65.8	7.2	62.8	5.1	58.0	2.5	54.9	2.7												
		1994	61.0	0.7	53.3	2.1	112.8	38.5	67.4	1.5	86.0	10.0	57.0	1.4	61.8	2.0	53.5	1.2												
		1995	59.7	2.0	30.8	40.8	68.4	3.5	76.4	22.3	60.4	1.7	59.9	1.8	57.5	1.2	53.2	1.0			52.2	1.0								
		1996			55.6	1.4			57.8	4.5			57.9	2.4			55.6	1.3			45.3	10.3								
		1997	57.8	2.3	56.6	1.7	61.0	2.1	61.0	1.2	61.0	4.4	61.8	3.8	56.8	2.6	57.8	1.9	39.2	4.4	55.6	1.8	57.6	3.0	60.0	1.9		61.4		
		1998																								48.6	3.6			
		2006					61.3	1.5	51.9	1.6	67.9	2.8	52.3	1.2					61.3	0.6	52.0	1.3								
T. Hardness	mg/L	1993	24.5	0.4	23.5	1.6	33.7	9.1	33.7	4.0	28.2	4.2	27.3	2.3	24.4	0.9	23.4	1.5												
		1994	25.5	0.5	23.2	1.2	51.6	16.7	33.7	1.5	39.0	4.8	25.1	0.8	25.6	0.8	23.5	0.6												
		1995	25.4	0.8	22.2	0.6	31.3	3.2	30.4	3.4	26.2	1.5	25.6	1.5	24.6	1.4	22.5	0.6			22.9	3.4								
		1996			22.7	0.6			24.5	1.0			24.2	0.9			22.8	0.5			17.8	3.6								
		1997	23.7	1.4	21.2	0.4	25.4	1.2	23.5	1.1	25.7	2.7	23.9	1.7	23.7	1.2	21.4	0.4	15.4	1.0	20.5	0.6	24.0	1.3	21.9	0.5		23.3		
		1998																								21.5	1.3			
		2006					28.2	1.6	23.3	1.3	31.8	2.0	23.6	0.8					27.7	1.2	23.2	1.3								
Field pH		1997	7.7	0.7	7.6	0.3	7.9	0.6	7.6	0.3	7.8	0.5	7.6	0.3			8.0	0.3			7.8	0.3			7.6	0.3		7.7		
		1998																								6.9	0.4			
		2006					7.3	0.7	7.4	0.3	7.1	0.6	7.7	0.4					7.1	0.8	7.6	0.5								
Lab pH		1993	7.6	0.1	7.4	0.3	7.4	0.1	7.4	0.2	7.4	0.1	7.5	0.3	7.4	0.2	7.7	0.3												
		1994	7.5	0.1	7.4	0.1	7.2	0.2	7.3	0.1	7.5	0.1	7.6	0.6	7.5	0.1	7.4	0.1												
		1995	7.6	0.1	7.8	0.3	7.5	0.1	7.7	0.3	7.5	0.1	7.8	0.3	7.5	0.1	7.8	0.2			7.7	0.2								
		1996			7.7	0.2			7.6	0.1			7.6	0.1			7.7	0.1			7.6	0.1								
		1997	6.6	0.3	7.0	0.2	6.9	0.1	7.2	0.1	6.9	0.2	7.3	0.2	6.9	0.2	6.9	0.3	6.8	0.3	7.1	0.2	6.9	0.2	7.4	0.1		7.2		
		1998																								7.2	0.4			
		2006					7.8	0.2	7.7	0.1	7.8	0.1	7.7	0.1					7.9	0.2	7.8	0.1								
T. Alkalinity	mg/L	1993	18.7	1.2	18.2	0.9	30.4	9.9	31.5	7.3	23.3	3.9	21.5	1.8	19.4	1.4	17.6	0.6												
		1994	21.1	1.0	16.5	0.6	51.7	22.9	25.2	1.0	36.8	6.2	18.8	0.5	21.7	1.8	17.2	0.4												
		1995	18.7	0.2	16.9	0.8	24.7	1.8	26.6	2.2	19.7	0.4	20.6	1.1	18.4	0.4	17.3	1.1			17.0	1.1								
		1996			18.5	0.2			20.7	0.8			19.7	1.0			18.2	0.4			16.6	3.6								
		1997	19.6	1.5	15.6	0.5	22.2	1.3	17.6	0.5	22.0	3.5	17.6	0.9	19.6	1.5	16.2	0.8	14.8	1.6	15.6	0.5	20.0	1.2	16.6	0.5		17.8		
		1998																								16.6	1.1			
		2006					17.6	3.2	17.2	0.8	21.4	2.5	17.6	1.5					15.8	2.5	16.8	0.4								
Turbidity	NTU	1993	35.0	2.0	46.5	3.8	31.2	7.6	38.0	5.2	34.0	5.7	35.1	19.2	35.9	3.0	46.4	2.7												
		1994	19.7	3.1	49.3	9.1	11.2	5.5	41.1	4.8	15.3	3.1	44.0	5.0	18.6	1.8	44.9	7.0												
		1995	27.8	6.0	32.0	6.7	23.7	5.1	23.1	3.5	24.9	4.7	25.0	3.0	21.4	10.9	29.7	6.3			26.2	7.8								
		1996			25.4	6.7			22.2	6.9			23.7	5.7			24.5	6.1			14.5	8.0								
		1997	14.0	2.2	24.9	4.7	14.1	2.2	21.5	2.6	14.0	2.3	22.5	2.6	14.4	2.6	23.8	2.8	8.5	1.7	21.4	2.3	13.5	1.3	21.8	3.4		19.9		
		1998																								47.4	22.7			
		2006					18.5	1.1	41.6	4.0	17.2	1.3	43.4	4.2					19.0	1.2	36.2	19.1								
DOC	mg/L	1998					1.5	0.6	1.1	0.9	1.8	0.7	0.9	0.8																
		2006																	1.1	0.7	1.0	0.8								
TOC	mg/L	1993	0.9	0.3	1><																									

Appendix Table B11-2: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

[illegible]

Appendix Table B11-2: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

Parameter	Unit	Year	Site W4				W5				W6				W9				W14				W19				W20					
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow			
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD		
		1997	0.0004	0.0001	0.0005	0.0001	0.0005	0.0000	0.0005	0.0000	0.0005	0.0000	0.0005	0.0000	0.0004	0.0000	0.0005	0.0000	0.0006	0.0001	0.0005	0.0000	0.0004	0.0000					0.0008	0.0003	0.0004	0.0001
		1998																														
T. Cadmium	mg/L	2006					0.0005	0.0000	0.0008	0.0000	0.0005	0.0000	0.0007	0.0001					0.0004	0.0000	0.0008	0.0001										
		1995					0.000180	0.000179																								
		2006					0.000018	0.000001	0.000023	0.000011			0.000021	0.000004					0.000018	0.000001	0.000019	0.000002										
T. Calcium	mg/L	1993	8.7	0.2	8.5	0.6	11.1	3.0	10.9	1.0	9.5	0.9	9.5	0.7	8.6	0.1	8.6	0.7														
		1994	8.8	0.1	8.1	0.8	15.1	2.7	10.2	0.6	11.1	0.7	9.1	0.3	8.8	0.2	8.4	0.4														
		1995	8.8	0.3	7.8	0.2	9.9	0.5	9.4	0.5	9.0	0.4	8.7	0.5	8.7	0.3	7.9	0.4			7.5	0.3										
		1996			7.9	0.4			8.1	0.5			8.2	0.6			8.0	0.3			5.5	0.6										
		1997	8.2	0.4	7.5	0.2	8.4	0.2	7.9	0.1	8.3	0.6	8.0	0.4	8.0	0.2	7.5	0.2	5.1	0.4	7.0	0.3	8.0	0.4	7.6	0.2			7.9	0.3		
		1998																										7.8	0.3			
T. Cobalt	mg/L	2006					9.8	0.3	8.6	0.5	10.2	0.4	8.7	0.5					9.7	0.3	8.7	0.6										
		1997	0.0003	0.0001	0.0006	0.0002	0.0003	0.0001	0.0005	0.0002	0.0003	0.0001	0.0006	0.0003	0.0002	0.0001	0.0006	0.0001	0.0002	0.0001	0.0004	0.0000	0.0002	0.0001	0.0004	0.0001			0.0005	0.0001		
		1998																											0.0009	0.0005		
T. Copper	mg/L	2006					0.0003	0.0001	0.0008	0.0000	0.0003	0.0001	0.0008	0.0001					0.0003	0.0000	0.0009	0.0001										
		1993	0.0034	0.0011	0.0042	0.0008	0.0036	0.0013	0.0040	0.0014	0.0030	0.0012	0.0036	0.0011	0.0038	0.0008	0.0040	0.0014	0.0012	0.0001												
		1994	0.0023	0.0005	0.0044	0.0005	0.0042	0.0023	0.0042	0.0004	0.0042	0.0049	0.0040	0.0007	0.0020	0.0008	0.0050	0.0025														
		1995	0.0028	0.0008	0.0024	0.0009	0.0024	0.0005	0.0024	0.0005	0.0026	0.0005	0.0026	0.0005	0.0030	0.0007	0.0028	0.0004			0.0024	0.0005										
		1996			0.0026	0.0005			0.0026	0.0005			0.0028	0.0004			0.0026	0.0005			0.0018	0.0008										
		1997	0.0019	0.0003	0.0030	0.0006	0.0018	0.0001	0.0024	0.0001	0.0018	0.0001	0.0023	0.0002	0.0018	0.0002	0.0025	0.0001			0.0023	0.0002	0.0018	0.0002	0.0026	0.0003			0.0023	0.0001		
		1998																									0.0048	0.0017				
T. Iron	mg/L	2006					0.0020	0.0003	0.0042	0.0002	0.0020	0.0003	0.0042	0.0003					0.0021	0.0001	0.0044	0.0004										
		1993	1.23	0.31	1.05	0.32	1.09	0.46	0.92	0.46	0.95	0.34	0.99	0.39	1.32	0.39	1.19	0.49														
		1994	0.64	0.16	0.91	0.04	0.34	0.21	0.89	0.15	0.50	0.04	1.01	0.25	0.57	0.07	1.01	0.20														
		1995	0.56	0.23	0.51	0.14	0.53	0.16	0.38	0.06	0.56	0.16	0.40	0.04	0.53	0.18	0.45	0.08			0.36	0.06										
		1996			0.56	0.21			0.56	0.18			0.55	0.21			0.67	0.17			0.32	0.10										
		1997	0.43	0.07	0.67	0.19	0.37	0.07	0.57	0.08	0.38	0.04	0.57	0.10	0.39	0.07	0.62	0.08	0.24	0.06	0.54	0.08	0.39	0.03	0.56	0.06			0.54	0.06		
		1998																									1.27	0.56				
T. Lead	mg/L	2006					0.49	0.20	1.56	0.08	0.44	0.12	1.58	0.22					0.46	0.09	1.72	0.16										
		1997	0.00014	0.00004	0.00024	0.00006	0.00013	0.00001	0.00019	0.00003	0.00013	0.00001	0.00019	0.00001	0.00013	0.00002	0.00021	0.00002	0.00012	0.00003	0.00021	0.00006	0.00014	0.00002	0.00020	0.00006				0.00019	0.00002	
		1998																											0.00047	0.00024		
T. Magnesium	mg/L	2006					0.00016	0.00005	0.00039	0.00002	0.00015	0.00004	0.00039	0.00002					0.00015	0.00002	0.00041	0.00003										
		1993	1.4	0.2	1.2	0.2	2.7	1.3	2.5	0.7	1.7	0.4	1.6	0.2	1.5	0.2	1.3	0.2														
		1994	1.2	0.1	1.2	0.0	5.4	1.9	2.3	0.3	3.0	0.7	1.5	0.1	1.2	0.1	1.2	0.1														
		1995	1.1	0.1	1.0	0.1	1.8	0.3	1.8	0.2	1.3	0.0	1.2	0.1	1.1	0.1	1.0	0.0			1.0	0.1										
		1996			1.0	0.1			1.2	0.2			1.2	0.2			1.1	0.1			0.8	0.1										
		1997	1.0	0.0	1.0	0.1	1.2	0.0	1.2	0.0	1.2	0.3	1.1	0.1	1.0	0.0	1.0	0.0	0.7	0.1	1.0	0.1	1.0	0.1	1.0	0.0				1.1	0.1	
		1998																									1.3	0.2				
T. Manganese	mg/L	2006					1.3	0.2	1.5	0.1	1.7	0.3	1.5	0.1					1.1	0.1	1.6	0.1										
		1993	0.02	0.01	0.03	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.03	0.01	0.03	0.01	0.03															

Appendix Table B11-2: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Taseko River sites

Parameter	Unit	Year	Site																											
			W4				W5				W6				W9				W14				W19				W20			
			High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1998																												
		2006					0.050	0.002	0.047	0.002	0.050	0.001	0.047	0.002					0.049	0.002	0.048	0.001								
T. Titanium	mg/L	1995	0.03	0.02	0.03	0.01	0.03	0.01	0.02	0.01	0.03	0.01	0.02	0.01	0.03	0.02	0.02	0.01			0.02	0.01								
		1996			0.03	0.01			0.03	0.01			0.03	0.01			0.03	0.01			0.01	0.01								
		1997	0.02	0.01	0.03	0.01	0.02	0.00	0.03	0.01	0.02	0.00	0.03	0.00	0.02	0.00	0.03	0.01							0.03	0.01				
		1998																								0.07	0.04			
		2006					0.03	0.02	0.11	0.01	0.02	0.01	0.11	0.02					0.03	0.00	0.12	0.01								
T. Zinc	mg/L	1993	0.0088	0.0098			0.0071	0.0080			0.0032	0.0016	0.0087	0.0120	0.0078	0.0056	0.0099	0.0152												
		1994									0.0059	0.0054	0.0039	0.0020																
		1996															0.0034	0.0020												
		1997	0.0022	0.0004	0.0050	0.0016	0.0028	0.0013	0.0044	0.0015	0.0032	0.0018	0.0040	0.0012	0.0024	0.0005	0.0040	0.0010	0.0016	0.0005	0.0046	0.0021			0.0040	0.0012			0.0036	0.0009
		1998																								0.0058	0.0028			
		2006					0.0025	0.0014	0.0064	0.0005	0.0025	0.0015	0.0064	0.0007					0.0021	0.0001	0.0063	0.0006								

Appendix Table B11-3: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Beece Creek sites

Parameter	Units	Year	Site							
			W11				W12			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Lab cond.	umhos/cm	1993	36.3	18.1			30.0	14.1	31.0	4.1
		1994	50.5	15.6	30.8	2.7	38.5	10.7	27.7	2.5
		1995	25.6	1.3	43.6	4.3	22.1	1.0	36.3	2.8
		1996			28.0	4.2			25.1	4.1
		1997	38.4	8.3	39.0	3.2	31.4	4.3	34.8	4.8
T. Hardness	mg/L	1993	14.2	7.3			11.2	5.0	12.1	1.1
		1994	21.5	7.9	12.8	1.3	15.6	5.0	11.1	1.1
		1995	10.2	0.7	17.9	2.3	8.5	0.5	14.6	1.5
		1996			10.8	2.0			9.8	2.0
		1997	13.9	3.7	13.4	1.1	11.0	2.6	11.4	1.0
Field pH		1997	7.3	0.2	7.5	0.3	7.3	0.3	7.4	0.3
Lab pH		1993	7.4	0.2			7.2	0.3	7.1	0.6
		1994	7.5	0.1	7.3	0.1	7.3	0.1	7.1	0.2
		1995	7.4	0.1	7.7	0.2	7.2	0.3	7.6	0.2
		1996			7.5	0.1			7.4	0.1
		1997	7.1	0.3	7.0	0.4	6.9	0.2	6.8	0.5
T. Alkalinity	mg/L	1993	14.4	8.2			11.4	5.4	12.5	1.2
		1994	23.1	8.9	12.6	1.1	17.1	6.2	10.8	1.2
		1995	10.3	0.6	18.2	1.4	8.5	0.6	14.7	1.4
		1996			11.4	2.0			10.6	2.1
		1997	15.6	3.8	13.4	1.5	12.0	2.5	11.4	1.1
Turbidity	NTU	1993	6.3	5.6			6.4	5.2	7.1	3.3
		1994	2.8	1.6	6.8	1.5	2.1	0.9	7.0	2.2
		1995	4.6	3.1	1.2	0.6	4.3	2.7	1.4	1.0
		1996			2.0	0.7			2.3	1.1
		1997	3.5	1.3	1.3	0.5	3.2	1.1	1.6	0.5
TOC	mg/L	1994			0.7	0.1			0.6	0.1
		1995	1.1	0.4	1.3	0.5	1.0	0.4	1.2	0.4
		1996			1.3	0.3			1.0	0.3
		1997	4.4	2.8	1.2	0.2	3.6	1.9	1.0	0.1
Dis. Solids	mg/L	1993	24.8	15.8			19.6	12.0	19.4	2.1
		1994	31.2	10.3	18.6	1.9	24.2	6.2	16.0	1.9
		1995	15.0	1.4	26.8	4.0	13.0	0.7	22.2	2.4
		1996			16.4	2.7			15.2	3.1
		1997	20.6	6.3	18.0	1.4	16.6	4.4	15.8	1.6
TSS	mg/L	1993	5.8	7.6			6.4	6.1	2.8	1.5
		1994	4.6	2.3	5.4	1.7	1.6	0.9	5.0	2.1
		1995	5.4	4.8	1.2	0.4	3.8	3.5		
		1996			2.2	1.6			2.6	1.1
		1997	5.8	3.4			5.2	3.3	1.4	0.5
Dis. Chloride	mg/L	1993	0.7	0.3			0.6	0.2	0.5	0.0
		1994			0.5	0.0	0.5	0.0		
		1995			0.5	0.1			0.5	0.1
Dis. Fluoride	mg/L	1993	0.06	0.01			0.06	0.01	0.05	0.00
		1994	0.06	0.01	0.07	0.01	0.07	0.01	0.07	0.01
		1995	0.06	0.01	0.08	0.01	0.06	0.01	0.08	0.01
		1996			0.06	0.01			0.06	0.01
		1997	0.06	0.02	0.05	0.01	0.08	0.01	0.06	0.01
Dis. Sulphate	mg/L	1993	2.0	1.7			2.1	0.7	1.8	0.7
		1994	3.1	0.9	2.1	0.8	2.9	0.6	1.8	0.5
		1995	1.4	0.4	2.6	1.4	1.2	0.5	2.9	0.7

Appendix Table B11-3: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Beece Creek sites

Parameter	Units	Year	Site							
			W11				W12			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1996			1.5	0.3			1.5	0.2
		1997	1.8	0.4	2.0	0.0	1.8	0.4		
Ammonia-N	mg/L	1993	0.005	0.006					0.004	0.003
		1994	0.004	0.002			0.003	0.002	0.004	0.002
		1995	0.003	0.002			0.003	0.002		
		1996							0.003	0.002
		1997					0.006	0.001		
Nitrate-N	mg/L	1993	0.022	0.023			0.031	0.028	0.006	0.008
		1994	0.006	0.005	0.003	0.002	0.010	0.008	0.008	0.011
		1995	0.006	0.009	0.012	0.011	0.008	0.012	0.017	0.010
		1996								
		1997	0.010	0.007	0.008	0.003	0.019	0.011	0.016	0.007
Nitrite-N	mg/L	1993	0.001	0.001			0.001	0.001	0.002	0.002
		1994	0.002	0.000	0.003	0.001	0.002	0.001		
		1995	0.002	0.001			0.001	0.001	0.002	0.000
		1996			0.001	0.001			0.001	0.001
		1997					0.001	0.000	0.001	0.000
Ortho-Phosphate	mg/L	1993	0.010	0.008			0.011	0.007	0.006	0.004
		1994	0.002	0.002	0.004	0.004	0.003	0.001	0.003	0.004
		1995	0.002	0.001	0.001	0.001	0.002	0.001		
		1996			0.002	0.001			0.003	0.003
		1997	0.001	0.000			0.001	0.000	0.001	0.000
Dis. Phosphate	mg/L	1993	0.010	0.008			0.011	0.007	0.006	0.004
		1994	0.005	0.001	0.011	0.005	0.003	0.001	0.003	0.004
		1995	0.003	0.002	0.002	0.001	0.002	0.001		
		1996			0.002	0.001			0.003	0.003
		1997	0.003	0.002	0.001	0.001	0.002	0.001	0.002	0.001
T. Phosphate	mg/L	1993	0.016	0.013			0.017	0.008	0.011	0.007
		1994	0.016	0.008	0.014	0.004	0.011	0.006	0.015	0.005
		1995	0.014	0.009	0.004	0.001	0.012	0.008	0.006	0.003
		1996			0.007	0.004			0.010	0.004
		1997	0.010	0.003	0.005	0.003	0.008	0.003	0.003	0.002
T. Aluminium	mg/L	1993	0.291	0.310			0.298	0.269	0.364	0.150
		1994	0.251	0.120	0.339	0.149	0.219	0.083	0.333	0.128
		1995	0.241	0.126	0.116	0.047	0.254	0.096	0.119	0.037
		1996			0.121	0.049			0.135	0.056
		1997	0.169	0.057	0.082	0.020	0.166	0.051	0.106	0.024
T. Antimony	mg/L	1996			0.00010	0.00000				
		1997	0.00012	0.00002	0.00013	0.00001	0.00012	0.00002	0.00013	0.00001
T. Arsenic	mg/L	1993	0.0007	0.0003			0.0009	0.0005	0.0008	0.0001
		1994	0.0007	0.0001	0.0009	0.0001	0.0008	0.0002	0.0010	0.0001
		1995	0.0009	0.0002	0.0005	0.0001	0.0008	0.0001	0.0006	0.0001
		1996			0.0007	0.0001			0.0008	0.0001
		1997	0.0007	0.0001	0.0006	0.0000	0.0009	0.0001	0.0007	0.0001

Appendix Table B11-3: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Beece Creek sites

Parameter	Units	Year	Site							
			W11				W12			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
T. Calcium	mg/L	1993	4.3	1.8			3.7	1.4	4.1	0.3
		1994	6.1	2.0	4.2	0.4	4.9	1.4	3.8	0.3
		1995	3.4	0.2	5.4	0.5	3.0	0.2	4.7	0.4
		1996			3.5	0.6			3.2	0.5
		1997	4.1	1.0	4.1	0.3	3.6	0.8	3.8	0.2
T. Cobalt	mg/L	1997	0.0002	0.0001	0.0002	0.0002			0.0002	0.0002
T. Copper	mg/L	1993	0.0014	0.0015			0.0008	0.0003	0.0009	0.0007
		1994	0.0011	0.0006	0.0014	0.0005			0.0013	0.0007
		1995	0.0008	0.0007						
		1997	0.0012	0.0003	0.0007	0.0002	0.0011	0.0003	0.0008	0.0001
T. Iron	mg/L	1993	0.29	0.35			0.25	0.27	0.18	0.08
		1994	0.16	0.07	0.20	0.02	0.13	0.05	0.23	0.07
		1995	0.14	0.07	0.04	0.02	0.13	0.05	0.05	0.03
		1996			0.09	0.03			0.09	0.04
		1997	0.11	0.05	0.05	0.01	0.10	0.04	0.07	0.02
T. Lead	mg/L	1997	0.00010	0.00004	0.00005	0.00000	0.00010	0.00004	0.00006	0.00002
T. Magnesium	mg/L	1993	1.0	0.6			0.6	0.3	0.6	0.0
		1994	1.6	0.8	0.7	0.1	0.9	0.4	0.5	0.0
		1995	0.6	0.1	1.1	0.2	0.4	0.0	0.7	0.1
		1996			0.6	0.1			0.4	0.1
		1997	0.9	0.3	0.7	0.1	0.6	0.2	0.6	0.1
T. Manganese	mg/L	1993	0.01	0.01			0.01	0.01	0.00	0.00
		1994	0.00	0.00					0.00	0.00
		1995	0.00	0.00			0.00	0.00		
		1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T. Molybdenum	mg/L	1995			0.00110	0.00055			0.00120	0.00045
		1997	0.00077	0.00009	0.00105	0.00006	0.00088	0.00014	0.00107	0.00006
T. Nickel	mg/L	1997	0.0002	0.0000	0.0001	0.0000	0.0002	0.0001		
T. Selenium	mg/L	1996			0.0004	0.0002			0.0004	0.0002
		1997	0.0006	0.0001						
T. Strontium	mg/L	1993	0.024	0.007			0.022	0.008	0.018	0.005
		1994	0.036	0.014	0.024	0.002	0.030	0.011	0.021	0.002
		1995	0.023	0.001	0.034	0.003	0.021	0.002	0.029	0.003
		1996			0.025	0.002			0.022	0.002
		1997	0.025	0.005	0.025	0.002	0.021	0.004	0.022	0.002
T. Zinc	mg/L	1993	0.0039	0.0019						
		1997	0.0012	0.0004	0.0024	0.0021	0.0016	0.0005	0.0018	0.0008

Table B11-4: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Tete Angela Creek sites

Parameter	Units	Year	Site							
			W17				W18			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Temperature	°C	1997	4.1	2.6	6.3	3.0	4.1	2.7		
Lab cond.	umhos/cm	1996			132.8	7.6			170.0	9.1
		1997	115.2	31.4	152.6	4.4	82.0	17.9		
T. Hardness	mg/L	1996			63.6	4.3			85.9	4.5
		1997	58.1	16.2	68.0	2.1	40.4	9.8		
Field pH		1997	7.5	0.3			7.6	0.3		
Lab pH		1996			8.0	0.1			7.9	0.2
		1997	7.4	0.2	7.6	0.1	7.3	0.1		
T. Alkalinity	mg/L	1996			70.5	4.4			92.9	4.2
		1997	64.6	17.0	74.6	2.7	44.8	10.5		
Turbidity	NTU	1996			1.1	0.6			4.2	4.5
		1997	1.9	1.9	0.5	0.1	1.0	0.2		
TOC	mg/L	1996			5.1	1.9			12.2	2.2
		1997	14.5	1.4	4.2	0.6	13.9	1.9		
Dis. Solids	mg/L	1996			84.4	7.6			110.0	7.5
		1997	76.8	18.8	94.6	3.9	57.2	9.8		
TSS	mg/L	1996			2.4	2.6			5.2	6.6
		1997	8.8	12.5	1.8	0.8	2.6	1.1		
Dis. Chloride	mg/L	1997	0.5	0.1	0.5	0.0				
Dis. Fluoride	mg/L	1996			0.05	0.01			0.06	0.01
		1997	0.04	0.01	0.07	0.01	0.04	0.01		
Dis. Sulphate	mg/L	1996			0.9	0.3			1.3	0.3
		1997			2.6	2.5				
Ammonia-N	mg/L	1996							0.016	0.015
		1997	0.007	0.004			0.008	0.007		
Nitrate-N	mg/L	1996							0.004	0.002
		1997	0.007	0.003			0.006	0.003		
Nitrite-N	mg/L	1996							0.002	0.001
Ortho-Phosphate	mg/L	1996			0.005	0.002			0.009	0.003
		1997	0.002	0.001	0.003	0.001	0.003	0.001		
Dis. Phosphate	mg/L	1996			0.006	0.002			0.015	0.004
		1997	0.007	0.005	0.005	0.002	0.004	0.002		
T. Phosphate	mg/L	1993								
		1996			0.010	0.004			0.030	0.016
		1997	0.018	0.016	0.007	0.002	0.016	0.007		
T. Aluminium	mg/L	1996			0.025	0.008			0.030	0.020
		1997	0.069	0.110	0.056	0.063	0.056	0.027		
T. Antimony	mg/L	1993								
		1997	0.00015	0.00020	0.00005	0.00001	0.00015	0.00020		
T. Arsenic	mg/L	1996			0.0005	0.0001			0.0015	0.0001
		1997	0.0007	0.0002			0.0004	0.0003		
T. Cadmium	mg/L	1996							19.400000	1.146734
T. Calcium	mg/L	1996			13.0	0.7				
		1997	12.5	3.9	13.5	0.4	8.4	2.2		
T. Cobalt	mg/L	1997	0.0003	0.0002	0.0003	0.0002	0.0002	0.0001		
T. Copper	mg/L	1997	0.0012	0.0001	0.0007	0.0001	0.0011	0.0005		
T. Iron	mg/L	1996			0.17	0.05			0.50	0.11
		1997	0.36	0.30	0.21	0.08	0.22	0.07		
T. Lead	mg/L	1997	0.00005	0.00001						
T. Magnesium	mg/L	1996			7.5	0.7			9.0	0.7
		1997	6.5	1.6	8.2	0.2	4.6	0.9		

Table B11-4: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Tete Angela Creek sites

Parameter	Units	Year	Site							
			W17				W18			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
T. Manganese	mg/L	1996			0.01	0.00			0.04	0.03
		1997	0.02	0.02	0.01	0.01	0.01	0.01		
T. Molybdenum	mg/L	1997	0.00026	0.00006	0.00027	0.00001	0.00014	0.00010		
T. Nickel	mg/L	1996							0.0018	0.0004
		1997	0.0020	0.0001	0.0009	0.0001	0.0015	0.0002		
T. Selenium	mg/L	1996			0.0003	0.0002			0.0003	0.0002
		1997	0.0005	0.0000			0.0005	0.0000		
T. Sodium	mg/L	1997			5.0	0.0				
T. Strontium	mg/L	1996			0.053	0.003			0.078	0.007
		1997	0.046	0.013	0.052	0.002	0.031	0.009		
T. Zinc	mg/L	1996							0.0040	0.0034
		1997	0.0016	0.0009	0.0016	0.0005	0.0014	0.0005		

Appendix Table B11-5: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Groundhog Creek and tributary sites

Parameter	Units	Year	Site							
			W16				W24			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Temperature	°C	1997	8.3	2.6	7.5	2.8				
		1998	8.1	2.5	10.0	3.1	8.1	2.5	10.0	3.1
Lab cond.		1996			107.8	10.3				
		1997	86.2	11.8	195.8	4.3				
		1998	171.0	11.0	240.2	6.8	171.0	11.0	240.2	6.8
T. Hardness	mg/L	1996			55.1	6.1				
		1997	43.5	6.0	91.3	2.8				
		1998	83.1	7.0	112.6	6.8	83.1	7.0	112.6	6.8
Field pH		1997	7.3	0.2	7.7	0.4				
		1998	8.2	0.3	7.4	0.7	8.2	0.3	7.4	0.7
Lab pH		1996			7.7	0.1				
		1997	7.1	0.2	7.5	0.1				
		1998	7.9	0.1	8.0	0.1	7.9	0.1	8.0	0.1
T. Alkalinity	mg/L	1996			57.5	5.1				
		1997	47.0	7.0	100.0	2.3				
		1998	89.2	7.5	132.6	5.4	89.2	7.5	132.6	5.4
Turbidity	NTU	1996			3.1	1.4				
		1997	1.3	0.5	2.7	1.2				
		1998	1.4	0.3	1.3	0.4	1.4	0.3	1.3	0.4
TOC	mg/L	1996			17.4	0.6				
		1997	14.7	1.8	7.7	0.4				
		1998	11.8	0.8	9.3	3.5	11.8	0.8	9.3	3.5
Dis. Solids	mg/L	1996			72.8	5.4				
		1997	58.6	7.8	123.0	3.5				
		1998	108.4	7.2	165.8	4.6	108.4	7.2	165.8	4.6
TSS	mg/L	1996			3.8	2.9				
		1997	1.4	0.5	3.4	2.9				
		1998	2.6	1.1	3.6	1.7	2.6	1.1	3.6	1.7
Dis. Chloride	mg/L	1997	0.5	0.1						
		1998			0.5	0.1			0.5	0.1
Dis. Fluoride	mg/L	1996			0.06	0.01				
		1997	0.04	0.01	0.08	0.02				
		1998	0.05	0.01	0.09	0.03	0.05	0.01	0.09	0.03
Dis. Sulphate	mg/L	1997			1.2	0.4				
		1998			1.6	0.5			1.6	0.5
Ammonia-N	mg/L	1996			0.011	0.004				
		1997	0.010	0.011	0.012	0.015				
		1998	0.007	0.003	0.010	0.007	0.007	0.003	0.010	0.007
Nitrate-N	mg/L	1996			0.008	0.006				
		1997	0.005	0.000	0.007	0.002				
		1998	0.005	0.001	0.018	0.014	0.005	0.001	0.018	0.014
Nitrite-N	mg/L	1997	0.001	0.000						
		1998			0.001	0.000			0.001	0.000
Ortho-Phosphate	mg/L	1996			0.005	0.002				
		1997	0.001	0.001	0.002	0.001				
		1998	0.004	0.003	0.013	0.006	0.004	0.003	0.013	0.006
Dis. Phosphate	mg/L	1996			0.005	0.002				
		1997	0.004	0.002	0.005	0.003				
		1998	0.006	0.004	0.023	0.010	0.006	0.004	0.023	0.010
T. Phosphate	mg/L	1996			0.025	0.005				
		1997	0.012	0.007	0.013	0.007				

Appendix Table B11-5: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Groundhog Creek and tributary sites

Parameter	Units	Year	Site							
			W16				W24			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1998	0.014	0.005	0.029	0.013	0.014	0.005	0.029	0.013
T. Aluminium	mg/L	1996			0.033	0.026				
		1997	0.016	0.007	0.014	0.014				
		1998	0.021	0.001	0.012	0.007	0.021	0.001	0.012	0.007
T. Antimony	mg/L	1997	0.00014	0.00020						
		1998	0.00005	0.00001			0.00005	0.00001		
T. Arsenic	mg/L	1996			0.0003	0.0001				
		1997	0.0001	0.0001	0.0002	0.0000				
		1998	0.0009	0.0003	0.0021	0.0007	0.0009	0.0003	0.0021	0.0007
T. Cadmium	mg/L	1997	0.000068	0.000040						
T. Calcium	mg/L	1996			10.2	1.6				
		1997	7.2	1.1	15.2	0.7				
		1998	14.2	1.7	18.9	1.0	14.2	1.7	18.9	1.0
T. Cobalt	mg/L	1997	0.0001	0.0001	0.0003	0.0004				
T. Copper	mg/L	1997	0.0005	0.0001	0.0003	0.0001				
		1998	0.0006	0.0001	0.0005	0.0001	0.0006	0.0001	0.0005	0.0001
T. Iron	mg/L	1996			0.64	0.30				
		1997	0.44	0.13	0.65	0.26				
		1998	0.22	0.02	0.24	0.03	0.22	0.02	0.24	0.03
T. Magnesium	mg/L	1996			7.6	0.8				
		1997	5.8	0.8	12.8	0.3				
		1998	11.5	0.8	15.7	0.8	11.5	0.8	15.7	0.8
T. Manganese	mg/L	1996			0.06	0.03				
		1997	0.03	0.01	0.10	0.05				
		1998	0.04	0.00	0.04	0.02	0.04	0.00	0.04	0.02
T. Molybdenum	mg/L	1997	0.00011	0.00002	0.00029	0.00002				
		1998	0.00022	0.00004	0.00048	0.00017	0.00022	0.00004	0.00048	0.00017
T. Nickel	mg/L	1996			0.0011	0.0005				
		1997	0.0011	0.0001	0.0007	0.0003				
		1998	0.0022	0.0002	0.0018	0.0005	0.0022	0.0002	0.0018	0.0005
T. Selenium	mg/L	1996			0.0003	0.0002				
		1998	0.0005	0.0000			0.0005	0.0000		
T. Silver	mg/L	1998	0.00001	0.00001			0.00001	0.00001		
T. Sodium	mg/L	1998	7.0	1.0	12.2	4.0	7.0	1.0	12.2	4.0
T. Strontium	mg/L	1996			0.038	0.007				
		1997	0.022	0.004						
		1998	0.031	0.005	0.042	0.006	0.031	0.005	0.042	0.006
T. Zinc	mg/L	1997	0.0014	0.0009						
		1998			0.0012	0.0004			0.0012	0.0004

Appendix Table B11-6: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Parameter	Units	Year	Site							
			W10				WB			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Temperature	°C	1997	13.0	1.9	11.2	4.1				
		2006			17.9	0.8	7.6	2.0		
Dis. Oxygen	mg/L	2006			9.4	1.5	9.9	0.8		
Field cond.	µS/cm	2006			319.9	17.3	265.2	12.9		
Lab cond.	umhos/cm	1993	302.4	3.8	249.0	14.4				
		1994	271.6	6.2	256.6	3.1				
		1995	269.6	1.8	262.6	1.5				
		1996			271.6	7.1				
		1997	288.4	11.6	257.4	3.0				
		2006			304.4	7.2				
T. Hardness	mg/L	1993	152.6	6.3	127.4	5.8				
		1994	133.0	4.7	131.2	5.8				
		1995	138.6	6.6	133.6	1.3				
		1996			136.4	3.7				
		1997	145.2	2.7	126.2	2.0				
		2006			149.4	7.8	143.8	7.8		
Field pH		1997	8.1	0.2						
		2006			8.6	0.1	7.5	0.8		
Lab pH		1993	8.3	0.1	8.7	0.2				
		1994	8.0	0.2	8.9	0.1				
		1995	8.5	0.1	8.6	0.2				
		1996			8.7	0.3				
		1997	8.0	0.1	8.3	0.1				
		2006			8.4	0.1	8.2	0.0		
T. Alkalinity	mg/L	1993	160.8	2.3	129.8	4.4				
		1994	141.2	5.5	138.0	2.9				
		1995	145.4	2.8	141.8	5.5				
		1996			146.6	3.6				
		1997	165.2	2.7	132.4	1.9				
		2006			158.1	6.6	143.0	12.9		
Turbidity	NTU	1993	6.7	1.9	7.5	2.9				
		1994	1.6	0.7	6.1	2.4				
		1995	8.5	10.6	5.3	2.0				
		1996			6.1	5.7				
		1997	1.7	0.7	6.0	3.6				
		2006			7.7	6.5	0.3	0.2		
DOC	mg/L	2006			14.9	1.6	9.6	1.0		
TOC	mg/L	1994			14.2	1.6				
		1995	12.5	1.7	13.4	0.9				
		1996			8.4	1.5				
		1997	10.6	0.8	15.7	0.7				
Dis. Solids	mg/L	1993	216.0	31.1	168.4	9.7				
		1994	183.8	18.6	176.8	6.1				
		1995	186.6	8.9	178.6	2.9				
		1996			189.6	3.1				
		1997	193.8	9.2	166.2	0.8				
		2006			195.3	4.9	166.0	7.1		
TSS	mg/L	1993	10.4	3.4	11.0	3.5				
		1994	2.8	2.0	11.6	3.9				
		1995	8.4	6.6	10.2	4.4				
		1996			11.2	8.4				

Appendix Table B11-6: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Parameter	Units	Year	Site							
			W10				WB			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1997	3.2	1.5	9.2	6.1				
		2006			21.1	32.6	3.0	0.0		
Dis. Chloride	mg/L	1993	1.7	0.5	1.0	0.1				
		1994	1.1	0.0	0.9	0.3				
		1995	1.1	0.2	1.5	0.6				
		1996			0.7	0.0				
		1997	0.9	0.2	0.7	0.0				
		2006			1.4	0.1	0.6	0.1		
Dis. Fluoride	mg/L	1993	0.10	0.01	0.09	0.00				
		1994	0.09	0.01	0.11	0.01				
		1995	0.10	0.01	0.11	0.01				
		1996			0.12	0.01				
		1997	0.11	0.01	0.13	0.02				
		2006			0.15	0.01	0.08	0.01		
Dis. Sulphate	mg/L	1993	8.1	0.8	7.6	0.9				
		1994	9.0	0.6	7.7	0.3				
		1995	7.0	0.4	8.1	0.7				
		1996			6.1	0.2				
		1997	5.2	0.4	6.0	0.0				
		2006			10.0	0.1	5.2	0.9		
Ammonia-N	mg/L	1993	0.010	0.009	0.019	0.010				
		1994	0.039	0.012	0.018	0.012				
		1995	0.009	0.008	0.005	0.003				
		1997	0.027	0.024						
		2006			0.024	0.015				
Nitrate-N	mg/L	1993	0.047	0.099						
		1994	0.008	0.001						
		1997	0.006	0.003	0.005	0.000				
		2006			0.006	0.001				
Nitrite-N	mg/L	1993			0.002	0.002				
		1994	0.003	0.001	0.002	0.000				
		1995	0.002	0.001	0.003	0.000				
		1996			0.002	0.002				
		1997	0.001	0.000						
		2006			0.001	0.000				
Ortho-Phosphate	mg/L	1993	0.021	0.011	0.007	0.004				
		1994	0.004	0.002	0.011	0.006				
		1995	0.003	0.001	0.001	0.001				
		1997	0.001	0.000	0.001	0.001				
		2006			0.001	0.000				
Dis. Phosphate	mg/L	1993	0.028	0.012	0.013	0.008				
		1994	0.013	0.003	0.025	0.007				
		1995	0.008	0.005	0.006	0.004				
		1996			0.009	0.003				
		1997	0.005	0.003	0.004	0.002				
		2006			0.008	0.002	0.003	0.001		
T. Phosphate	mg/L	1993	0.041	0.004	0.024	0.007				
		1994	0.020	0.003	0.035	0.010				
		1995	0.019	0.009	0.025	0.009				
		1996			0.039	0.011				
		1997	0.018	0.001	0.017	0.008				

Appendix Table B11-6: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Parameter	Units	Year	Site							
			W10				WB			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
		2006			0.020	0.010	0.003	0.002		
T. Aluminium	mg/L	1993	0.077	0.053	0.139	0.247				
		1994	0.027	0.010	0.081	0.068				
		1995	0.093	0.029	0.109	0.077				
		1996			0.152	0.198				
		1997	0.017	0.011	0.028	0.013				
		2006			0.193	0.189	0.008	0.010		
T. Antimony	mg/L	1993	0.00010	0.00006	0.00020	0.00007				
		1995								
		1996			0.00010	0.00000				
		1997	0.00018	0.00018	0.00014	0.00001				
		2006			0.00039	0.00006	0.00016	0.00002		
T. Arsenic	mg/L	1993	0.0001	0.0001						
		1994								
		1995								
		1996			0.0004	0.0002				
		1997	0.0004	0.0001	0.0004	0.0000				
		2006			0.0009	0.0001	0.0002	0.0000		
T. Cadmium	mg/L	2006			0.000020	0.000005				
T. Calcium	mg/L	1993	38.1	2.3	28.6	1.2				
		1994	31.7	1.2	30.6	2.5				
		1995	32.4	1.2	30.3	0.6				
		1996			31.8	1.2				
		1997	34.9	1.4	26.8	0.6				
		2006			30.7	0.7	33.4	1.4		
T. Cobalt	mg/L	1993			0.0094	0.0199				
		1997	0.0001	0.0000						
		2006			0.0002	0.0001				
T. Copper	mg/L	1993			0.0011	0.0011				
		1996			0.0009	0.0007				
		1997	0.0005	0.0001	0.0006	0.0000				
		2006			0.0011	0.0006	0.0008	0.0003		
T. Iron	mg/L	1993	0.06	0.03						
		1994	0.04	0.01	0.06	0.04				
		1995	0.04	0.02	0.03	0.02				
		1996			0.20	0.23				
		1997	0.03	0.01						
		1997								
T. Lead	mg/L	2006			0.00012	0.00007				
T. Magnesium	mg/L	1993	14.8	0.3	14.4	0.6				
		1994	13.3	0.6	14.1	0.4				
		1995	14.5	0.1	14.5	0.1				
		1996			14.2	0.5				
		1997	14.2	0.6	14.5	0.3				
		2006			18.5	0.6	14.6	0.5		
T. Manganese	mg/L	1993	0.01	0.00	0.01	0.00				
		1994	0.01	0.00	0.01	0.00				
		1995	0.01	0.00						
		1996			0.01	0.00				
		1997	0.01	0.00	0.00	0.00				
		2006			0.01	0.00	0.00	0.00		

Appendix Table B11-6: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Big Onion system sites

Parameter	Units	Year	Site							
			W10				WB			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
T. Molybdenum	mg/L	1993			0.00080	0.00067				
		1997	0.00040	0.00004	0.00045	0.00002				
		2006			0.00096	0.00006	0.00031	0.00002		
T. Nickel	mg/L	1995	0.0013	0.0015						
		1997	0.0002	0.0001	0.0003	0.0001				
T. Selenium	mg/L	1996			0.0004	0.0002				
		1997	0.0003	0.0002						
T. Silver	mg/L	2006					0.00014	0.00029		
T. Sodium	mg/L	1997	8.2	0.4	8.2	0.4				
		2006			11.2	0.4	7.2	0.4		
T. Strontium	mg/L	1993	0.171	0.005						
		1994	0.149	0.006	0.150	0.007				
		1996			0.162	0.006				
		1997	0.171	0.004	0.136	0.009				
		2006			0.163	0.011	0.157	0.019		
T. Titanium	mg/L	2006			0.01	0.00				
T. Zinc	mg/L	1993	0.0036	0.0025						
		1997	0.0014	0.0005	0.0016	0.0009				
		2006			0.0039	0.0021	0.0018	0.0018		

Appendix Table B11-7: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Vick Creek sites

Parameter	Units	Year	Site							
			W13				W23			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Temperature	°C	1997	3.3	1.0	6.8	2.9				
		1998					7.8	3.3		
		2006	4.9	1.6						
Dis. Oxygen	mg/L	2006	11.1	0.9						
Field cond.	µS/cm	2006	403.1	16.3						
Lab cond.	umhos/cm	1995			480.2	12.6				
		1996			470.6	16.2				
		1997	419.0	37.0	489.8	6.8				
		1998					214.2	16.8		
		2006	389.8	16.4						
T. Hardness	mg/L	1995			249.4	7.0				
		1996			242.2	8.1				
		1997	211.4	13.4	243.0	5.1				
		1998					111.8	9.0		
		2006	192.2	30.6						
Field pH		1997	8.3	0.2	8.0	0.3				
		1998					7.8	0.3		
		2006	7.7	0.9						
Lab pH		1995			8.1	0.2				
		1996			8.2	0.1				
		1997	8.0	0.1	7.8	0.1				
		1998					7.7	0.1		
		2006	8.3	0.1						
		1995			277.2	28.0				
T. Alkalinity	mg/L	1996			265.0	9.4				
		1997	250.0	15.0	267.8	6.5				
		1998					110.6	11.7		
		2006	218.4	11.2						
Turbidity	NTU	1995			0.2	0.1				
		1996			0.2	0.1				
		1997	0.4	0.2	0.3	0.2				
		1998					0.4	0.2		
		2006	0.5	0.4						
DOC	mg/L	2006	6.9	1.5						
TOC	mg/L	1995			3.9	0.5				
		1996			3.4	3.2				
		1997	4.7	0.6	4.6	0.9				
		1998					25.2	1.5		
Dis. Solids	mg/L	1995			338.6	21.9				
		1996			319.6	11.1				
		1997	297.0	18.3	328.8	6.4				
		1998					140.0	8.2		
		2006	244.6	16.5						
TSS	mg/L	1997	1.2	0.4						
		1998					1.2	0.4		
		2006	3.0	0.0						
Dis. Chloride	mg/L	1995			1.2	0.2				
		1996			0.7	0.2				
		1997	0.9	0.2	0.7	0.1				
		1998					1.7	0.3		
		2006	1.1	0.1						

Appendix Table B11-7: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Vick Creek sites

Parameter	Units	Year	Site							
			W13				W23			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
Dis. Fluoride	mg/L	1995			0.18	0.02				
		1996			0.17	0.02				
		1997	0.21	0.13	0.17	0.01				
		1998					0.09	0.01		
		1994								
Dis. Sulphate	mg/L	1995			12.6	0.4				
		1996			8.5	0.8				
		1997	8.4	0.9	12.8	1.1				
		1998					2.0	1.2		
		2006	9.2	1.3						
Ammonia-N	mg/L	1996			0.008	0.009				
		1997	0.005	0.000						
		1998					0.005	0.001		
Nitrate-N	mg/L	1995			0.021	0.004				
		1996			0.020	0.011				
		1997	0.045	0.014	0.011	0.010				
		2006	0.012	0.013						
Nitrite-N	mg/L	1995			0.001	0.000				
		1996			0.001	0.001				
Ortho-Phosphate	mg/L	1995			0.007	0.001				
		1996			0.010	0.002				
		1997	0.007	0.002	0.004	0.001				
		1998					0.002	0.001		
		2006	0.008	0.001						
Dis. Phosphate	mg/L	1995			0.007	0.001				
		1996			0.011	0.001				
		1997	0.011	0.002	0.006	0.002				
		1998					0.002	0.001		
		2006	0.011	0.002						
T. Phosphate	mg/L	1995			0.007	0.001				
		1996			0.011	0.001				
		1997	0.011	0.002	0.006	0.002				
		1998					0.002	0.001		
		2006	0.012	0.002						
T. Aluminium	mg/L	1995			0.026	0.019				
		1996			0.006	0.003				
		1997	0.006	0.001	0.011	0.009				
		1998					0.012	0.005		
		2006	0.003	0.001						
T. Antimony	mg/L	1997	0.00016	0.00019	0.00005	0.00001				
		1998					0.00006	0.00000		
		2006	0.00010	0.00000						
T. Arsenic	mg/L	1995			0.0005	0.0000				
		1996			0.0007	0.0001				
		1997	0.0006	0.0001	0.0005	0.0001				
		1998					0.0006	0.0001		
		2006	0.0006	0.0001						
T. Cadmium	mg/L	2006	0.0000	0.0000						
T. Calcium	mg/L	1995			47.2	1.7				
		1996			46.7	1.4				
		1997	41.1	2.7	46.2	0.8				

Appendix Table B11-7: Average and standard deviation (SD) values for water quality parameters monitored during high and low flows, from 1993 to 2006, in Vick Creek sites

Parameter	Units	Year	Site							
			W13				W23			
			High Flow		Low Flow		High Flow		Low Flow	
			Avg	SD	Avg	SD	Avg	SD	Avg	SD
		1998					27.7	3.0		
		2006	40.7	1.5						
T. Cobalt	mg/L	1997	0.0001	0.0001	0.0002	0.0002				
T. Copper	mg/L	1995			0.0004	0.0009				
		1996								
		1997	0.0008	0.0000	0.0007	0.0000				
		1998					0.0009	0.0007		
		2006	0.0007	0.0001						
T. Lead	mg/L	1998					0.00005	0.00001		
T. Magnesium	mg/L	1995			32.3	1.3				
		1996			30.9	1.7				
		1997	26.2	2.3	31.2	0.4				
		1998					9.9	0.8		
		2006	24.9	0.8						
T. Manganese	mg/L	1996			0.00	0.00				
		1997	0.00	0.00	0.01	0.00				
		1998					0.01	0.00		
		2006	0.00	0.00						
T. Molybdenum	mg/L	1995			0.00120	0.00045				
		1996								
		1997	0.00133	0.00008	0.00133	0.00004				
		1998					0.00051	0.00016		
		2006	0.00147	0.00006						
T. Nickel	mg/L	1997	0.0003	0.0001	0.0002	0.0001				
		1998					0.0008	0.0001		
		2006	0.0005	0.0000						
T. Selenium	mg/L	1997			2.4000	0.5477				
T. Silver	mg/L	1997	0.00058	0.00013						
T. Sodium	mg/L	1997	13.8	0.8	15.2	0.4				
		1998					7.0	0.0		
		2006	14.2	0.7						
T. Strontium	mg/L	1995			0.327	0.015				
		1996								
		1997	0.295	0.015	0.292	0.016				
		1998					0.105	0.011		
		2006	0.260	0.020						
T. Zinc	mg/L	1997			0.0016	0.0009				
		1998					0.0014	0.0005		

Appendix C Lake Water Data

Contents

Appendix C1	Comparison of Dissolved Oxygen Between Impact and Compensation Lakes
Appendix C2	Appendix Table C2 QA/QC results - Duplicates 2006
Appendix C3	1993 to 2006 Lake Water Quality Raw Data
Appendix C4	Water Quality Summary Statistics for Lakes:
Appendix Table C4-1	Water Quality Summary Statistics for the Epilimnion of Fish Lake, All Sampling Dates
Appendix Table C4-2	Water Quality Summary Statistics for the Metalimnion of Fish Lake, All Sampling Dates
Appendix Table C4-3	Water Quality Summary Statistics for the Hypolimnion of Fish Lake, All Sampling Dates
Appendix Table C4-4	Water Quality Summary Statistics for the Epilimnion of Big Lake, All Sampling Dates
Appendix Table C4-5	Water Quality Summary Statistics for the Epilimnion of Big Onion Lake, All Sampling Dates
Appendix Table C4-6	Water Quality Summary Statistics for the Metalimnion of Big Onion Lake, All Sampling Dates
Appendix Table C4-7	Water Quality Summary Statistics for the Hypolimnion of Big Onion Lake, All Sampling Dates
Appendix Table C4-8	Water Quality Summary Statistics for Little Fish Lake, All Sampling Dates
Appendix Table C4-9	Water Quality Summary Statistics for Little Onion Lake, All Sampling Dates
Appendix Table C4-10	Water Quality Summary Statistics for North Rat Cabin Lake, All Sampling Dates
Appendix Table C4-11	Water Quality Summary Statistics for South Rat Cabin Lake, All

Sampling Dates

Appendix Table C4-12 Water Quality Summary Statistics for Slim Lake, All Sampling Dates

**Appendix Table C4-13 Water Quality Summary Statistics Tête Angela Lake, All Sampling
Dates**

Appendix Table C4-14 Water Quality Summary Statistics for Vick Lake, All Sampling Dates

**Appendix Table C4-15 Water Quality Summary Statistics for Wasp Lake, All Sampling
Dates**

**Appendix Table C4-16 Water Quality Summary Statistics for Wolf Trap Lake, All Sampling
Dates**

Appendix C1 Comparison of Dissolved Oxygen Between Impact and Compensation Lakes

MEMORANDUM

TO: Adam Lewis; Bruce Ford

FROM: Kristine Mason (Jimmy Pegg)

DATE: January 13, 1999; revised April 26, 1999, August 16, 1999

FILE: 2753.01-4445

RE: Comparison of DO between impact and compensation lakes

EXECUTIVE SUMMARY

Dissolved oxygen (DO) and the potential for winter kill have been identified as significant issues in the Fish Habitat Compensation Plan for the Prosperity Project. Previous memos analyzed the DO data that were available at the time and characterized Fish Lake as having a low risk of winter kill and the compensation lakes as having a moderate risk of winter kill. At that point, it was determined that DO enhancement would be necessary in the compensation lakes to reduce the risk of winter kill to the level of Fish Lake. However, additional DO data have since been collected and more detailed analyses have been completed and are presented in this memo. Although data from the spring, summer and winter were analyzed, the month of March was chosen as the focus for comparison as it is a critical period in terms of winter kill. Based upon the general physical characteristics of the lakes and the preliminary comparison of the data, Fish Lake (impact lake) appears similar to Big Onion Lake (compensation lake) and Little Fish Lake (impact lake) appears similar to Little Onion and Wasp Lakes (compensation lakes). A linear factorial model indicated that there were significant differences in DO measured in March between lakes ($p=0.017$) and years ($p=0.033$); however, there was not a significant difference between Fish Lake and Big Onion Lake ($p=0.932$) or between Little Fish Lake, Little Onion Lake and Wasp Lake ($p=0.542$).

A significant interaction between lake and year was also observed ($p<0.001$) indicating that the differences between lakes are not constant across years. Furthermore, the five lakes graphically separate into two groups: (1) Fish Lake and Big Onion Lake which are deeper and whose mean late winter (March) unweighted DO concentrations place them in the upper end of the moderate risk of winter kill category, and (2) Little Fish Lake, Little Onion Lake, and Wasp Lake which are shallower and whose mean later winter (March) DO concentrations place them in the lower end of the moderate risk of winter kill category. Consequently, DO enhancement efforts are likely not necessary for Big Onion Lake which is not significantly different in terms of DO from Fish Lake. However, it

may be beneficial to aerate one or both of the other compensation lakes in order to lower the risk of winter kill in these lakes.

1.0 INTRODUCTION

Dissolved oxygen (DO) and the potential for winter kill have been identified as significant issues in the Fish Habitat Compensation Plan for the Prosperity Project. Preliminary findings indicated that late winter DO in Fish Lake was higher than in the compensation lakes and that some kind of enhancement would likely be necessary to increase late winter DO in the compensation lakes. The collection of additional data was recommended, including lake bathymetry and DO/temperature profiles for August, September, October and November (2431.20/memo6.doc). A subset of these recommended data was collected, allowing a more detailed analysis and comparison of DO between the impact and compensation lakes, as well as the calculation of winter oxygen depletion rate (WODR) for some of the lakes.

1.1 Objectives

The objectives of this study are to:

- Describe the changes in DO with depth and season for each lake;
- Compare DO the probability of winter kill between impact and compensation lakes;
- Calculate WODR for lakes with early winter or fall DO profiles.

2.0 METHODS

2.1 Dissolved Oxygen Data

The original dissolved oxygen data and the methodology are included in the Water Quality Data Report (Triton 1999a). A total of 115 DO profiles were collected by Triton and Hallam Knight Piesold (HKP) (Table 1). There were 1347 data points collected: 1007 from Fish Lake, 53 from Little Fish Lake, 139 from Big Onion Lake, 64 from Little Onion Lake and 84 from Wasp Lake. As well, thirteen unweighted average winter DO values were collected by the Ministry of Environment, Lands and Parks (MELP) between 1988 and 1999. These MELP data are reported in Table 2, shown for comparison in several figures and discussed, but are not included in the data analyses, as these data may have been collected using different methods. Figure 1 shows the sampling effort conducted at all five lakes by Triton/HKP and MELP.

A total of 79 profiles were collected from Fish Lake, with the majority being from the spring and summer of 1996 and 1997. Between seven and twelve profiles were collected at each of the other lakes between 1994 and 1999. Data for all five lakes were collected during three time periods: March, May and August (Table 1). Except for Fish Lake which has abundant spring and summer data, between one and four profiles were collected per lake for each of these time periods.

In order to examine the seasonal changes in DO, percent saturation vs. depth was plotted for each sampling date per lake. For the Fish Lake data, (1) monthly average DO profiles were plotted and (2) individual DO profiles were selected with similar sampling dates to the other lakes. Summary tables were prepared for each lake containing summary statistics for each sampling date and by season. Seasonal summaries encompass all available profiles within spring, summer, fall and winter. However, in order to have a valid comparison between lakes, data were selected from the three months (March, May, and August) during which all five lakes were sampled. For each month, an average DO profile (% saturation) for each lake was created. A summary table was created with unweighted mean DO and volume weighted mean DO (in mg/L only) by month.

2.2 Volume Weighted Mean DO

Unweighted mean DO is useful for preliminary comparisons and for comparison to the winter kill risk categories for lakes proposed by Lirette and Chapman (1993). However, volume weighted mean DO can be a more useful measure for lakes as it takes into account the volume of water present. Volume weighted mean DO was calculated by multiplying the volume of each one metre layer by its average DO in mg/L, and then the sum of all these layers was divided by the total volume of the lake. Volume weighted mean DO (mg/L) was included in all summary tables. The raw data and methods for the lake bathymetry and volume at depth calculations are contained in the Lake Physical Habitat Report (Triton 1999b). In cases where DO was not measured for the entire depth of the lake, the DO measurement for the deepest point was used for the layers below.

2.3 Winter Oxygen Depletion Rates

Winter oxygen depletion rates (WODR) are the rates at which oxygen is depleted while the lake is covered by ice. WODR can be calculated by two methods: (1) an areal basis or (2) a volumetric basis. Expression of WODR on a volumetric basis is easier to understand, but it assumes that the distribution of oxygen is uniform throughout the lake and that the oxygen consumption is uniform and constant over time. Since these assumptions may not be valid, WODR can also be expressed on an areal basis, which may also avoid the effects of heterogeneous distribution of DO. On the other hand, expression of WODR on an areal basis may create artificial differences based on differences in volume to surface area ratios between lakes.

Areal WODR ($\text{g O}_2 \cdot \text{m}^{-2} \cdot \text{d}^{-1}$) can be estimated from the difference in DO mass between two sampling events under ice cover using equation (1):

$$(1) \quad \text{WODR} = [(\text{DO mass})_{t1} - (\text{DO mass})_{t2}] / \text{surface area} / (t1-t2)$$

where $(\text{DO mass})_{t1}$ = DO mass in grams at time 1 after ice cover, $(\text{DO mass})_{t2}$ = DO mass in grams at time 2 after ice cover, surface area = the surface area of the lake in square metres, and $(t1-t2)$ = the length of time between time 1 and time 2 in days.

WODR can be estimated on a volumetric basis ($\text{mg O}_2 \cdot \text{L}^{-1} \cdot \text{d}^{-1}$) using equation (2):

$$(2) \quad \text{WODR} = [(\text{DO mass})_{t1} - (\text{DO mass})_{t2}] / \text{volume} / (t1-t2)$$

where $(\text{DO mass})_{t1}$ = DO mass in milligrams at time 1 after ice cover, $(\text{DO mass})_{t2}$ = DO mass in milligrams at time 2 after ice cover, volume = the volume of the lake in litres, and $(t1-t2)$ = the length of time between time 1 and time 2 in days.

DO profiles from the winters of 1997/1998 and/or 1998/1999 were collected from Fish Lake, Big Onion Lake, Little Onion Lake and Wasp Lake allowing the calculation of WODR. In some cases, fall DO profiles were collected as well allowing estimation of WODR for the whole winter. Fall DO profiles measured in October were assumed to be the same at freeze-up and the fall DO profile for Fish Lake was from December while the lake was under ice cover. Unfortunately there were not adequate data to calculate WODR for Little Fish Lake.

2.4 Comparisons and Statistics

For each period of interest (March, May and August), a linear factorial model was used to test for significant differences between lakes and years using depth as a covariate. A Kolmogorov-Smirnov test indicated that DO data were not normally distributed so a logarithmic (*ln*) transformation was applied. The physical characteristics of the lakes and preliminary analysis of the data suggested that DO conditions would not be significantly different between Fish Lake and Big Onion Lake (the deeper primary lakes) and between Little Fish Lake, Little Onion Lake, and Wasp Lake (the more shallow secondary lakes). The linear factorial model was used to test these hypotheses.

The analyses were complicated by certain profiles having different maximum depths and/or measurement intervals. Whenever possible, all data collected were used in calculations and graphs, but in some cases this was not practical. The data from the deeper profiles was utilized, although in some cases there were fewer data measurements with increasing depth, as shown by hatched lines on figures. As the majority of the data was taken at one metre intervals, half metre intervals were excluded from the figures of mean DO profiles.

2.5 Winter Kill Risk Categories

Lirette and Chapman (1993) defined four winter kill risk categories for lakes in the Cariboo-Chilcotin region of central B.C., based on average late-winter DO concentrations (not weighted by lake volume-at-depth):

- “poor” or “high risk”: $<1 \text{ mg}\cdot\text{L}^{-1}$;
- “fair” or “moderate risk”: $1 \text{ to } 3 \text{ mg}\cdot\text{L}^{-1}$;
- “good” or “low risk”: $3 \text{ to } 7 \text{ mg}\cdot\text{L}^{-1}$; and
- “excellent” or “no risk”: $>7 \text{ mg}\cdot\text{L}^{-1}$.

3.0 RESULTS

3.1 Seasonal DO Changes for Impact and Compensation Lakes

3.1.1 Fish Lake

The maximum depth of Fish Lake is 13.0 m (Triton 1999b). A total of 79 DO profiles were measured in Fish Lake between 1994 and 1999 (Table 1). Four unweighted average DO values were also available from MELP data (Table 2). Table 3 shows the seasonal summary of dissolved oxygen data from Fish Lake. From this table, the volume weighted mean DO was 9.2 mg/L in the spring, 8.8 mg/L in the summer, 9.6 mg/L in the fall and just 3.0 mg/L in the winter. The Fish Lake DO data are shown by sample event in terms of mg/L and per cent saturation in Appendix 1. Table 4 summarizes the DO data for March, May and August for all five lakes. The late winter unweighted average DO was 1.9 mg/L (Table 4), which would place Fish Lake in the moderate risk category for winter kill, as developed by Lirette and Chapman (1993).

Due to the large amount of data collected for Fish Lake and the variation in DO measurements, seasonal patterns in DO concentration were difficult to observe. Figure 2 shows twelve selected DO profiles for Fish Lake, with dates similar to sampling events for the other lakes. In 1996, the water column was uniformly saturated in May, with stratification occurring later in the summer with the hypolimnion becoming depleted of oxygen in June and July. In 1997, the lake was stratified by mid-May at the start of sampling and remained stratified for the spring and summer of 1997.

Figure 3 shows monthly average DO profiles for Fish Lake. For May, June, July, August, September and December, the DO profiles show a similar pattern, with the top three to five meters being saturated or supersaturated and decreasing to between 25% and 50% at the bottom. The winter profiles show the DO close to 50% saturated at the surface and gradually decreasing to almost 0% at the bottom.

Figure 4 shows the late winter (March) DO profiles for Fish Lake, 1996 to 1999. These profiles all show a similar pattern, but the 1999 profile dropped rapidly to almost 0% at five metres.

A plot of unweighted mean DO (mg/L) and month of year (Figure 5) shows abundant variation with changes as large as 4 mg/L between biweekly samples and no obvious pattern other than the DO is lower in winter.

3.1.2 Little Fish Lake

The maximum depth of Little Fish Lake is 4.4 m (Triton 1999b). There were seven sampling events for Little Fish Lake (Table 1), three in late winter (March), two in spring (May) and two in summer (August) and three unweighted averages from MELP (Table 2). Table 5 shows the seasonal summary of dissolved oxygen concentrations for Little

Fish Lake. The volume weighted mean DO was 8.0 mg/L in the spring, 6.8 mg/L in the summer and 1.8 mg/L in the winter. The Little Fish Lake DO data are shown by sample event in terms of mg/L and per cent saturation in Appendix 2. The late winter unweighted average DO of 1.5 mg/L (Table 4) is in the category of moderate risk of winter kill; however, the lowest of the three late winter samples is 0.8 mg/L, which is in the high risk category of winter kill.

Figure 6 shows the seven DO profiles for Little Fish Lake. During the spring and summer, surface DO is close to saturated, but average DO saturation at the bottom was 24% in the spring and 54% in the summer. During late winter, DO was 12% to 31% saturation at the surface and decreased with depth to less than 10% saturation at the bottom.

3.1.3 Big Onion Lake

The maximum depth of Big Onion Lake is 12.0 m (Triton 1999b). There were twelve DO profiles taken in Big Onion Lake (Table 1) and four unweighted averages from MELP (Table 2). Table 6 shows the seasonal summary of dissolved oxygen concentrations for Big Onion Lake. Volume weighted mean DO was 10.5 mg/L in the spring, 7.4 mg/L in the summer, 9.6 mg/L in the fall and 3.4 mg/L in the winter. The Big Onion Lake DO data are shown by sample event in terms of mg/L and per cent saturation in Appendix 3. The late winter unweighted average DO of 2.2 mg/L (Table 4) puts Big Onion Lake in the moderate risk category of winter kill.

Figure 7 shows the twelve DO profiles for Big Onion Lake. Two profiles were from the spring. The profile from May 13, 1998 is saturated down to four meters then decreases to about 40% saturation at the bottom (stratified), while the profile from May 29, 1997 is saturated or supersaturated to the bottom (unstratified). In the summer, three profiles show that the lake is saturated or supersaturated down to four to five meters then decreases to about 40% at the bottom. The profile from August 1994 shows 85% saturation at the surface then a decrease to about 30% saturation at two metres and 20% at the bottom. The fall DO profile (October 23, 1998) is also unstratified with the water column being approximately 90% saturated from the surface to the bottom. In the late winter, surface DO is at an average of 39% at the surface and decreases to less than 10% at the bottom.

A graph of seasonal changes in unweighted average dissolved oxygen concentration for Big Onion Lake (Figure 8) shows that DO is generally lower in the winter, and that in the summer large changes in DO can occur.

3.1.4 Little Onion Lake

The maximum depth of Little Onion Lake is 6.2 m (Triton 1999b). There were seven DO profiles taken in Little Onion Lake (Table 1) and one unweighted average (Table 2). Table 7 shows the seasonal summary of dissolved oxygen concentrations for Little Onion

Lake. Volume weighted mean DO was 12.4 mg/L in the spring, 8.2 mg/L in the summer, 9.5 mg/L in the fall and 0.9 mg/L in the winter. The Little Onion Lake DO data are shown by sample event in terms of mg/L and per cent saturation in Appendix 4. The late winter unweighted average DO of 1.1 mg/L (Table 4) is in the moderate risk category of winter kill.

Figure 9 shows the seven DO profiles for Little Onion Lake. For the DO profile taken in the spring (May 1997), the DO was supersaturated from the surface (145%) to four meters, then decreased to approximately 50% at the bottom. In the summer profile (August 1997), the DO was close to saturation from the surface to 5 m, and then showed a sharp decrease to 35% at 6 m in depth. In the fall (October 1998), the DO was about 90% saturated throughout the water column. In the March 1997 profile, the DO was less than 40% at the surface and quickly dropped to less than 10% at greater than two metres in depth. The March 1999 profile, however, has a saturation of close to 0% throughout the water column.

3.1.5 Wasp Lake

The maximum depth of Wasp Lake is 5.3 m (Triton 1999b). There were ten DO profiles from Wasp Lake (Table 1) and two unweighted averages from MELP (Table 2). Table 8 shows the seasonal summary of dissolved oxygen concentrations for Wasp Lake. The volume weighted mean DO was 7.5 mg/L in the spring, 9.0 mg/L in the summer and 1.7 mg/L in the winter. The Wasp Lake DO data are shown by sample event in terms of mg/L and per cent saturation in Appendix 5. The late winter unweighted average DO of 1.4 mg/L (Table 4) is in the moderate risk category of winter kill.

Figure 10 shows the ten DO profiles from Wasp Lake. The two spring DO profiles for Wasp Lake have very different patterns. The profile from May 27, 1997 is supersaturated to the bottom while the DO profile from May 14, 1996 is only about 30% saturated down to 3.5 m in depth and less than 10% to the bottom. The ice cover was only partially melted during the May 1996 sampling event which likely accounts for the difference, as spring turnover may not have occurred. The three summer DO profiles are 110% to 120% saturated at the surface and decrease gradually to 80% to 105% at 5 m. Surface DO ranged from 12% to 35% in late winter and decreased to less than 10% at 2.5 m.

3.2 Comparison of Impact and Compensation Lakes

Summaries of the output from statistical analyses are displayed in Appendices 6, 7 and 8.

3.2.1 Spring (May)

Volume weighted mean DO (mg/L) during the month of May was 9.1 mg/L for Fish Lake, 8.1 mg/L for Little Fish Lake, 10.5 mg/L for Big Onion Lake, 12.4 mg/L for Little Onion Lake and 7.5 mg/L for Wasp Lake (Table 4). The results from the linear factorial model used to test for differences between the impact and compensation lakes, show that

for May, there was a significant effect of depth ($p < 0.001$) and a significant interaction between lake and year ($p < 0.001$), but no effect of lake ($p = 0.781$) or year ($p = 0.361$).

Figure 11 shows the average DO profiles for spring (May) for the impact and compensation lakes. Fish Lake, Big Onion Lake and Wasp Lake all have similar shaped average spring DO profiles (at least for the upper 5m) with highly saturated or supersaturated surface water and a gradual decrease in DO toward the bottom. However, Fish Lake is close to saturation at the surface, with Big Onion about 120% saturation at the surface and Wasp Lake being a little less than 80% saturation at the surface. Large changes in DO between 10 m and 11 m for Fish Lake and between 8 m and 9 m for Big Onion Lake are likely an artefact of having less data for depths below those levels.

Little Fish Lake and Little Onion Lake are very similar to each other, but show a different pattern than the other lakes. Little Fish Lake and Little Onion Lake are both supersaturated at the surface, 105% and 145% respectively, with DO decreasing rapidly with increasing depth to almost zero at the bottom for Little Fish Lake and about 45% for Little Onion Lake (Figure 11).

3.2.2 Summer (August)

Mean volume weighted mean DO (mg/L) during the month of August was 7.9 mg/L for Fish Lake, 6.8 mg/L for Little Fish Lake, 6.3 mg/L for Big Onion Lake, 8.2 mg/L for Little Onion Lake, and 8.9 mg/L for Wasp Lake (Table 4). For this month, the linear factorial model also shows a significant effect of depth ($p < 0.001$) and a significant interaction between lake and year ($p < 0.001$), but no effect of lake ($p = 0.491$) or year ($p = 0.751$).

Figure 12 shows the average DO profiles for August for the impact and compensation lakes. The majority of the lakes show a pattern of decreasing DO with increasing depth. DO is between 95% and 120% saturation at the surface and gradually decreases with increasing depth to about 4 m to 5 m where the deeper lakes show a sudden drop in DO which remains low (20% to 50%) to the bottom. This is a result of summer stratification, with decreased DO in the hypolimnion. The DO decreases with increasing depth more quickly in Little Fish Lake than in the other lakes

3.2.3 Winter (March)

Mean volume weighted mean DO (mg/L) during the month of March was 2.9 mg/L for Fish Lake, 1.8 mg/L for Little Fish Lake, 3.1 mg/L for Big Onion Lake, 1.2 mg/L for Little Onion Lake and 1.6 mg/L for Wasp Lake (Table 4). The linear factorial model for March data showed significant effects of depth ($p < 0.001$), lake ($p = 0.017$), year ($p = 0.033$), as well as a significant interaction between lake and year ($p < 0.001$).

Figure 13 shows the average unweighted late winter DO concentration for the impact and compensation lakes and the associated probability of winter kill. This figure shows that

all five lakes fall in the fair range, or have a moderate possibility of winter kill. Figure 14 compares the late winter data to the data collected by MELP. The value reported by Lirette and Chapman (1993) is higher than the other data for Fish Lake. This may be due in part due to the methodology in that DO was only measured in the upper ten metres of the lake. These data are not included in the other analyses, as data were not collected for the other lakes in 1991 and this may have been an anomalous year. Although the methods used for the collection of other MELP data are not available, the results are similar to those presented here, although both Fish Lake and Big Onion Lake would be in the category of low risk of winter kill rather than the moderate risk. Figure 15 shows the volume weighted average dissolved oxygen concentration for the impact and compensation lakes.

By plotting average late winter DO in per cent saturation (Figure 16), the lakes separate into two groups, (1) Fish Lake and Big Onion Lake which are deeper and have higher DO and (2) Little Fish, Little Onion and Wasp Lakes which are shallower and have lower DO. The graph of average late winter DO in mg/L shows the same pattern (Figure 17). The linear factorial model does not show any difference in DO between Fish Lake and Big Onion Lake in March ($p=0.932$) or between years ($p=0.469$); however, there was a significant effect of depth and a significant interaction between year and lake ($p<0.001$). No significant difference was observed between Little Fish Lake, Little Onion Lake and Wasp Lake in March ($p=0.542$) or between years ($p=0.059$); however, there was a significant effect of depth and a significant interaction between year and lake ($p<0.001$).

3.3 Winter Oxygen Depletion Rates (WODR)

Winter oxygen depletion rates were calculated on both an areal basis ($\text{g O}_2 \cdot \text{m}^{-2} \cdot \text{d}^{-1}$) and volumetric basis ($\text{mg O}_2 \cdot \text{L}^{-1} \cdot \text{d}^{-1}$) (Table 9). On an areal basis, the WODR was highest for Fish Lake for the period between December 1997 and March 1998 at $0.264 \text{ g O}_2 \cdot \text{m}^{-2} \cdot \text{d}^{-1}$, and lowest for Little Onion Lake during the period between January and March 1999 at $0.007 \text{ g O}_2 \cdot \text{m}^{-2} \cdot \text{d}^{-1}$. On a volumetric basis, the WODR was highest for Little Onion Lake for the period between October 1998 and January 1999 at $0.104 \text{ mg O}_2 \cdot \text{L}^{-1} \cdot \text{d}^{-1}$ and lowest for Little Onion Lake for the period between January 1999 and March 1999 at $0.003 \text{ mg O}_2 \cdot \text{L}^{-1} \cdot \text{d}^{-1}$.

4.0 DISCUSSION

4.1 Seasonal Changes in DO

Due to the high variability in the data and the small number of samples from all of the lakes except Fish Lake, only basic seasonal changes in DO were observed. For all lakes, the DO was lowest in March, highly variable in May and highest in the summer. In summer, the lakes were often stratified with a nearly saturated or supersaturated epilimnion and less saturated hypolimnion.

DO profiles are highly variable both between years and between biweekly samples from Fish Lake. Lirette and Chapman (1993) indicated that there is inherent year to year variability in dissolved oxygen concentrations and presented DO data from Forest Lake (near Williams Lake, B.C.) measured in February that showed unweighted mean DO varying from 0.8 mg/L to 4.6 mg/L. Other studies have also shown that there is much within lake variability and that single site DO profiles can result in sampling error of up to 100% when compared to data from multiple sites within the same lake (Babin and Prepas 1985). The variability present in the biweekly samples from Fish Lake may be due to sampling error or short-term changes resulting from storms or algal blooms.

4.2 Comparison Between Lakes

For all seasons (May, August and March), statistical analyses showed a significant effect of depth and a significant interaction between lake and year. The effect of depth is to be expected, as oxygen mainly enters the lake at the surface and a large proportion of oxygen is consumed at the bottom, especially in winter. The interaction between lake and year indicates that the relative differences between lakes are not constant across years.

4.2.1 May

Statistical analysis showed that the DO was not significantly different between lakes in May. May can be a critical period for fish, as this is generally when the ice cover melts (for example, May 6, 1998 for Fish Lake). During the winter, the water present under the ice is gradually depleted of oxygen. In the spring when the ice melts, this water becomes exposed to the air. If the wind mixes the lake too quickly, anoxic water from the hypolimnetic can dilute the DO of the surface water and result in fish kills. When comparing DO data from this period, care should be taken as the difference of a few days can show large changes in DO concentrations. Just before the ice melts, the DO is at the lowest point and once the water is exposed to the air, oxygen begins to be replenished into the lake. This rate of oxygen replenishment is affected by the wind which mixes the oxygenated surface water into the lake and brings oxygen depleted water to the surface. Thus, the most important factors affecting DO during this period are the length of time the water has been exposed to the air (since ice melt) and the weather.

4.2.2 August

In August, the dissolved oxygen was not significantly different between lakes. In Fish Lake, where biweekly samples were taken during the spring and summer of 1996 and 1997, a large amount of variation was observed. This variation most likely would also occur in the other lakes, making comparisons difficult. Although summer stratification occurred, the epilimnion (as well as the mean DO) of all lakes was well oxygenated.

4.2.3 March

The late winter (March) is the best time to compare DO concentration between different lakes. The DO within the lake is less subject to short-term changes while covered by ice and this is also a critical period for fish due to the winter DO depletion. Furthermore, in terms of this report, March has the most even distribution of sampling data with three to four DO profiles for each lake. The sampling dates were also very consistent with all the lakes being sampled within a two day period for each year and within a two week period for all four years.

In the linear factorial model, there were significant differences in March DO between lakes and years. However, when the lakes were grouped separately, there was not a significant difference between Fish Lake and Big Onion Lake or between Little Fish Lake, Little Onion Lake, and Wasp Lake. Fish Lake and Big Onion Lake are somewhat deeper and have higher late winter DO than the other lakes. Little Fish Lake, Little Onion Lake, and Wasp Lake are shallower and have lower late winter DO. Although all five of these lakes are in the moderate risk of winter kill category, Fish Lake has an isolated, self-sustaining population of rainbow trout, rainbow trout have been captured in Little Fish Lake and rainbow trout recently stocked in Big Onion Lake have survived for several years, suggesting winter kill may not be a problem.

The large range in late winter DO concentrations observed in the impact and compensation lakes is consistent with the findings of Lirette and Chapman (1993) who reported that mean late winter DO in Forest Lake (near Williams Lake, BC) ranged from greater than 3 mg/L (good) to less than 1 mg/L (poor) during a eleven year period. A winter kill occurred once during this period when the mean late winter DO dropped below 1 mg/L. This suggests that the low DO concentration measured in March 1999 in Fish Lake may have been very close to that which would result in winter kill.

4.3 Winter Oxygen Depletion Rates (WODR)

In Big Onion Lake and Little Onion Lake, three DO profiles were taken during the fall and winter of 1998/1999 allowing three different calculations of WODR. In both cases, WODR was much higher in early winter than late winter with values for the whole winter being intermediate. This pattern was similar whether the results were calculated on an areal or on a volumetric basis.

WODRs were calculated for the January 1999 to March 1999 (late winter) period for four of the lakes allowing for some comparison. When calculated on an areal basis, Fish Lake has the highest WODR during this period followed by Big Onion Lake, Wasp Lake, and Little Onion Lake. However, when calculated on a volumetric basis, WODR was highest during this period in Big Onion Lake followed by Fish Lake, Wasp Lake and Little Onion Lake. Although Little Onion Lake had the lowest late winter WODR, it had a higher overall WODR during the early winter (October 1998 to January 1999).

These data suggest that oxygen is not depleted at a constant rate throughout the winter in these lakes, but instead oxygen depletion is more rapid at the beginning of winter and slows down in late winter when oxygen concentrations are low. It also appears that oxygen may be depleted more quickly in the deeper lakes (Fish Lake and Big Onion Lake), which seems somewhat contradictory as the smaller lakes tend to have lower winter Dos. It may be likely that late fall/winter mean DO is lower in the shallower lakes and that even with a lower rate of oxygen depletion, the DO still decreases to a lower level than the deeper lake. However, the data are somewhat insufficient for a useful comparison, as there are not data across several years for all five lakes. More early and late winter profiles would be necessary to calculate meaningful WODRs for these lakes.

4.4 Conclusions

Dissolved oxygen concentration for all five of the impact and compensation lakes appear to be highly variable. Fish Lake, for which the most data have been collected, has large fluctuations in DO in the summer, and late winter unweighted average DO concentrations that have ranged from 5.5 mg/L in 1991 (low risk of winter kill, MELP data) to 0.8 mg/L in 1999 (high risk of winter kill).

Late winter DO and winter kill risk in Big Onion Lake are not significantly different from Fish Lake. Late winter DO and winter kill risk in Little Onion Lake and Wasp Lake are not significantly different from Little Fish Lake, although winter kill risk in these shallower lakes may be higher than in Fish Lake and Big Onion Lake.

4.5 Recommendations

Late winter DO in Big Onion Lake is not significantly different from Fish Lake and consequently enhancement of Big Onion Lake may not be necessary. As well, DO concentrations in Little Onion Lake and Wasp Lake are similar to those measured in Little Fish Lake. However, as the compensation habitat of Big Onion Lake in terms of surface area is not as large as Fish Lake, it may be desirable to enhance Little Onion Lake, Wasp Lake, or both in order to compensate for the amount of higher quality habitat of Fish Lake. This plan is desirable not only because it leaves Big Onion Lake in a more “natural” state, but also because the smaller lakes could be aerated at a lower cost and could provide a refuge from which Big Onion Lake could be recolonized or restocked in the event that winter kill does occur.

The conclusions presented here are drawn mainly from data from a four year period and the collection of more data, especially early and late winter is suggested. In addition, any further data collection should include multiple sites within lakes to minimize error due to within lake variation.

REFERENCES

- Babin, J. and E.E. Prepas. 1985. Modelling winter oxygen depletion rates in ice-covered temperate zone lakes in Canada. *Canadian Journal of Fisheries and Aquatic Sciences* 42:239-249.
- Hallam Knight Piesold Ltd. 1995. Aquatic resources of Fish Lake, Fish Creek and related fish habitat compensation sites. Prepared for Taseko Mines Ltd., Vancouver, B.C.
- Lirette, M.G. and Chapman, B.B. 1993. Winter limnological survey of selected lakes in central British Columbia, an assessment of winter kill risk. B.C. Ministry of Environment, Regional Fisheries Report No. CA 935. 21 p.
- Triton Environmental Consultants Ltd. 1999a. Water quality data report for the Prosperity Project. Produced for Taseko Mines Ltd.
- Triton Environmental Consultants Ltd. 1999b. Lakes physical habitat report for the Prosperity Project. Produced for Taseko Mines Ltd.

Table 1. Number of dissolved oxygen profiles collected for the impact and compensation lakes in the Prosperity Copper-Gold Project area by month between 1994 and 1998 (unweighted means from 1988 to 1999 in parentheses, MELP data).

Lake	Jan.	Mar.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Dec.	Total
Fish	1	4(4)	20	19	14	12	8		1	79(4)
Little Fish		3(3)	2			2				7(3)
Big Onion	1	4(4)	2		2	2		1		12(4)
Little Onion	1	3(1)	1			1		1		7(1)
Wasp	1	4(2)	2		1	2				10(2)

Table 2. Unweighted average dissolved oxygen measurements (mg/L) from the Ministry of Environment, Lands and Parks.

Lake	Date	DO mg/L
Fish Lake	11-Mar-91	5.5*
	11-Mar-93	3.6
	5-Mar-96	2.0
	10-Mar-99	2.9
Little Fish Lake	22-Mar-95	2.2
	5-Mar-98	2.1
	10-Mar-99	1.0
Big Onion Lake	11-Mar-93	3.1
	5-Mar-96	0.7
	4-Mar-97	6.4
	10-Mar-99	3.6
Little Onion Lake	10-Mar-99	0.3
Wasp Lake	14-Mar-88	1.2
	10-Mar-99	0.6

*reported in Lirette and Chapman (1993)

Table 3. Seasonal and monthly summary of DO (mg/L) in Fish Lake

	Spring		Spring Total	Summer				Summer Total	Fall		Fall Total	Winter		Winter Total
	May	Jun.		Jun.	Jul.	Aug.	Sept.		Sept.	Dec.		Mar.	Jan.	
Surface	9.71	10.12	9.87	11.82	9.91	8.97	9.05	9.78	10.40	11.80	10.87	5.71	5.30	5.63
Bottom	6.73	5.03	6.06	7.65	3.99	4.62	3.97	4.76	5.15	4.00	4.77	0.46	0.10	0.39
Mean	7.85	8.03	7.92	9.68	7.26	6.42	6.79	7.27	8.28	8.23	8.27	1.99	2.03	1.99
Min.	0.25	3.20	0.25	1.70	0.30	3.00	3.10	0.30	4.60	4.00	4.00	0.04	0.10	0.04
Max.	12.30	13.00	13.00	13.50	12.8 0	12.3 0	11.10	13.50	12.00	11.80	12.00	6.80	5.30	6.80
SD	3.05	2.68	2.91	2.85	2.96	2.49	2.42	2.91	2.31	2.40	2.30	2.02	1.57	1.95
n	245	160	405	72	173	157	78	480	26	12	38	72	12	84

Table 4. Summary of March, May, and August DO (mg/L) of Impact and Compensation Lakes

March

	Fish	Little Fish	Big Onion	Little Onion	Wasp
Unweighted Average	1.9	1.5	March	1.1	1.4
Volume Weighted Average	2.9	1.8	0.0	1.2	1.6
Surface	5.6	2.7	0.0	2.7	2.6
Bottom	0.4	0.5	0.0	0.2	0.5
Min.	0.0	0.2	0.0	0.0	0.1
Max.	6.8	3.8	4.6	5.0	4.2

May

	Fish	Little Fish	Big Onion	Little Onion	Wasp
Unweighted Average	7.8	5.8	9.9	10.4	5.8
Volume Weighted Average	9.1	8.1	10.5	12.4	7.5
Surface	9.7	10.5	10.5	12.8	7.4
Bottom	6.7	2.7	6.9	4.8	5.9
Min.	0.3	0.2	4.2	4.8	0.4
Max.	12.3	11.4	12.8	12.8	12.0

August

	Fish	Little Fish	Big Onion	Little Onion	Wasp
Unweighted Average	6.4	6.4	5.3	7.3	8.1
Volume Weighted Average	7.9	6.8	6.3	8.2	8.9
Surface	9.0	7.9	8.4	8.6	9.7
Bottom	4.6	5.1	2.8	3.0	5.0
Min.	3.0	2.9	1.9	3.0	3.2
Max.	12.3	8.1	10.6	8.6	10.4

Table 5. Seasonal summary of dissolved oxygen concentrations in Little Fish Lake

Little Fish Lake Dissolved Oxygen Seasonal Summary (% saturation)

	Spring	Summer	Winter
Surface	105.5	97.3	21.8
Bottom*	24.4	53.9	4.7
Mean***	56.8	74.2	12.8
Min.	1.8	33.2	1.8
Max.	124.6	98.0	30.9
SD	44.2	22.0	8.4
n	15	11	27

Table 6. Seasonal summary of dissolved oxygen concentrations in Big Onion Lake

Big Onion Lake Dissolved Oxygen Seasonal Summary (% Saturation)

	Spring	Summer	Fall	Winter
Surface	118.0	109.8	88.9	38.8
Bottom*	70.9	33.1	82.5	7.1
Mean***	104.6	76.3	87.5	22.1
Min.	41.7	22.4	82.5	0.9
Max.	139.7	132.0	88.9	49.3
SD	24.4	40.2	1.7	13.3
n	22	38	13	66

Table 7. Seasonal summary of dissolved oxygen concentrations in Little Onion Lake

Little Onion Lake Dissolved Oxygen Seasonal Summary (% saturation)

	Spring	Summer	Fall	Winter
Surface	144.6	105.9	89.5	18.1
Bottom*	45.9	35.4	85.8	1.5
Mean***	109.6	90.1	86.0	7.1
Min.	45.9	35.4	83.1	0.4
Max.	144.6	106.9	89.5	40.7
SD	39.9	25.0	1.6	10.0
n	8	7	12	37

Table 8. Seasonal summary of dissolved oxygen concentrations in Wasp Lake

Wasp Lake Dissolved Oxygen Seasonal Summary (% saturation)

	Spring	Summer	Winter
Surface	76.5	116.2	23.6
Bottom*	59.8	55.0	5.1
Mean***	59.2	100.3	12.7
Min.	3.8	39.1	0.6
Max.	128.1	121.7	34.6
SD	51.0	20.2	9.5
n	19	27	38

Table 9. Winter oxygen depletion rates for Fish Lake, Big Onion Lake, Little Onion Lake and Wasp Lake.

Lake	Time Period	WODR (g O₂·m⁻²·d⁻¹)	WODR (mg O₂·L⁻¹·d⁻¹)
Fish Lake	Dec 97 to Mar 98	0.264	0.066
	Jan 99 to Mar 99	0.107	0.027
Big Onion Lake	Oct 98 to Jan 99	0.123	0.054
	Jan 99 to Mar 99	0.066	0.029
	Oct 98 to Mar 99	0.101	0.044
Little Onion Lake	Oct 98 to Jan 99	0.221	0.104
	Jan 99 to Mar 99	0.007	0.003
	Oct 98 to Mar 99	0.136	0.064
Wasp Lake	Jan 99 to Mar 99	0.041	0.017

Appendix 1. Fish Lake Dissolved Oxygen (mg/L) Summary by Sample Event.

	8/26/94	3/6/96	5/2/96	5/4/96	5/6/96	5/9/96	5/11/96	5/13/96	5/15/96	5/17/96	5/19/96	5/22/96	5/25/96	5/27/96	5/29/96	5/31/96
Surface	8.4	3.8	9.8	11.5	9.7	10.2	10.2	10.0	10.2	10.0	9.6	9.6	9.4	8.8	8.0	7.6
Bottom*	6.5	1.0	9.2	9.4	9.0	10.0	10.1	9.2	9.5	9.2	9.1	9.3	9.2	7.9	6.8	2.4
whole lake**	6.9	2.5	9.8	10.1	9.8	10.1	10.2	10.1	10.1	9.9	9.5	9.7	9.4	8.7	7.7	7.5
Mean***	6.7	2.1	9.7	9.9	9.7	10.1	10.2	10.0	10.1	9.7	9.4	9.7	9.4	8.6	7.5	6.8
Min.	5.7	1.0	9.2	9.4	9.0	10.0	10.1	9.2	9.5	9.2	9.1	9.3	9.2	7.9	6.8	2.4
Max.	8.4	3.8	9.9	11.5	10.1	10.2	10.2	10.2	10.2	10.0	9.6	9.8	9.4	8.9	8.0	7.7
SD	0.8	0.9	0.2	0.6	0.3	0.1	0.0	0.3	0.2	0.3	0.2	0.2	0.1	0.3	0.4	1.5
n	12	10	11	11	11	11	11	12	11	11	11	11	11	11	11	12
	6/2/96	6/4/96	6/7/96	6/11/96	6/15/96	6/16/96	6/21/96	6/24/96	6/26/96	6/29/96	7/2/96	7/5/96	7/15/96	7/21/96	7/27/96	3/15/97
Surface	7.6	8.0	7.8	9.2	11.2	10.6	12.7	12.9	13.0	13.5	9.8	9.1	9.3	8.6	8.5	6.6
Bottom*	3.5	5.9	5.5	4.5	8.1	4.2	8.8	9.5	9.8	9.7	4.3	1.5	1.8	0.6	0.3	0.6
whole lake**	7.3	7.9	7.6	9.5	11.1	10.2	11.3	11.8	12.0	12.5	9.1	8.2	8.0	7.4	6.9	3.4
Mean***	6.8	7.4	7.1	8.9	11.1	9.2	10.8	11.2	11.2	11.7	8.0	7.1	6.3	5.6	4.7	2.3
Min.	3.5	5.9	5.5	4.5	8.1	4.2	8.8	9.5	9.8	9.7	4.3	1.5	1.8	0.6	0.3	0.6
Max.	7.6	8.3	8.0	10.3	13.0	11.0	12.7	12.9	13.0	13.5	10.1	9.2	9.8	9.2	8.5	6.6
SD	1.1	0.9	1.0	1.8	1.4	2.2	1.1	1.2	1.5	1.6	2.2	2.6	3.2	3.6	3.6	1.9
n	12	11	11	11	11	11	11	11	11	11	11	11	11	11	12	21
	5/14/97	5/18/97	5/21/97	5/25/97	5/29/97	6/1/97	6/4/97	6/8/97	6/11/97	6/15/97	6/18/97	6/22/97	6/25/97	6/29/97	7/2/97	7/6/97
Surface	9.2	9.5	9.6	9.9	12.3	11.2	10.3	11.0	10.0	13.0	9.0	9.8	10.3	11.4	10.5	12.6
Bottom*	1.7	2.2	2.8	3.9	3.4	3.6	3.2	3.5	3.7	5.4	5.5	1.7	7.9	7.3	5.5	5.0
whole lake**	6.6	8.0	8.2	9.0	10.6	9.8	9.1	9.5	9.0	11.0	8.6	8.1	10.8	10.3	9.4	10.3
Mean***	4.2	5.1	5.5	6.4	7.6	7.2	6.4	7.1	7.1	9.0	7.7	5.8	10.0	9.0	7.8	8.1
Min.	1.7	2.2	2.8	3.9	3.4	3.6	3.2	3.5	3.7	5.4	5.5	1.7	7.5	6.0	5.1	3.2
Max.	9.5	10.3	10.4	11.2	12.3	11.2	10.4	11.0	10.1	13.0	10.4	9.8	11.7	11.5	10.6	12.6
SD	2.9	3.3	3.4	3.2	4.0	3.5	3.2	3.2	3.0	2.9	1.7	3.4	1.4	2.1	2.4	3.4
n	15	15	15	15	14	14	15	14	13	13	13	13	13	13	13	13
	7/9/97	7/14/97	7/16/97	7/20/97	7/23/97	7/27/97	7/30/97	8/3/97	8/6/97	8/10/97	8/13/97	8/18/97	8/20/97	8/21/97	8/23/97	8/24/97
Surface	11.3	9.0	10.2	10.2	10.4	9.8	9.5	11.7	9.4	9.1	8.0	7.0	8.0	8.3	9.0	8.9
Bottom*	5.3	5.0	3.6	7.4	4.9	5.0	5.6	7.6	4.6	5.4	5.3	3.4	4.9	3.2	3.2	3.3
whole lake**	10.2	9.5	8.5	10.5	8.7	9.1	9.2	10.4	8.4	8.9	7.9	6.6	7.4	6.9	7.4	7.5
Mean***	8.3	7.7	6.5	9.2	7.1	7.2	7.6	8.5	6.6	7.3	6.7	5.2	6.3	5.3	5.7	5.8
Min.	5.1	4.9	3.4	6.2	4.6	3.8	5.0	4.6	3.6	4.5	4.3	3.4	4.3	3.0	3.0	3.2
Max.	11.3	10.8	10.2	12.8	10.4	11.5	10.4	12.3	10.4	10.5	9.6	7.8	8.2	8.3	9.0	8.9
SD	2.9	2.7	3.0	2.5	2.4	2.8	2.4	3.1	2.8	2.5	2.1	1.8	1.7	2.3	2.7	2.6
n	13	13	13	13	13	13	13	13	13	13	13	15	13	13	13	13
	8/27/97	8/31/97	9/3/97	9/7/97	9/11/97	9/14/97	9/17/97	9/21/97	9/24/97	9/28/97	12/20/97	3/12/98	5/11/98	01/18/99	03/19/99	
Surface	8.3	11.5	9.7	8.1	8.5	9.2	8.0	10.8	12.0	8.8	11.8	6.8	9.0	5.3	5.6	
Bottom*	3.6	4.4	4.1	3.7	3.5	4.3	3.1	5.1	5.3	5.0	4.0	0.2	0.3	0.1	0.0	
whole lake**	7.3	9.4	8.3	7.8	7.4	8.7	7.1	10.2	10.9	8.3	9.7	4.2	6.2	3.2	1.6	
Mean***	5.9	7.4	6.7	6.5	5.8	7.1	5.9	8.6	9.1	7.5	8.2	2.3	3.1	2.0	0.8	
Min.	3.3	4.1	3.9	3.7	3.2	4.1	3.1	4.9	4.6	5.0	4.0	0.2	0.3	0.1	0.0	
Max.	8.3	11.5	9.7	8.3	8.6	9.4	8.0	11.1	12.0	8.8	11.8	6.8	9.0	5.3	5.6	
SD	2.2	3.0	2.4	2.1	2.3	2.5	2.0	2.5	2.9	1.2	2.3	2.4	3.7	1.6	1.6	
n	13	13	13	13	13	13	13	13	13	13	24	27	15	12	14	

* depth of deepest reading, different for different sampling trips

Appendix 2. Little Fish Lake Dissolved Oxygen Summary by Sample Event

Little Fish Lake Dissolved Oxygen (% saturation)

	Aug 24/94	Mar 6/96	May 14/96	Mar 14/97	May 27/97	Aug 13/97	Mar 12/98
Surface	96.7	22.2	89.7	12.4	121.2	98.0	30.9
Bottom*	70.9	7.5	1.8	4.6	46.9	36.9	1.8
Mean***	79.7	14.6	40.1	6.7	90.2	67.6	16.2
Min.	70.9	7.5	1.8	4.6	46.9	33.2	1.8
Max.	96.7	22.2	89.7	12.4	124.6	98.0	30.9
SD	10.2	5.9	38.9	2.6	36.5	31.4	11.4
n	6	10	10	8	5	5	9

Appendix 3. Big Onion Lake Dissolved Oxygen Summary by Sample Event

Big Onion Lake Dissolved Oxygen (% Saturation)												
	Aug 28/94	Mar 5/96	Jul 24/96	Mar 15/97	May 29/97	Jul 24/97	Aug 11/97	Mar 11/98	May 13/98	Oct 23/98	Jan 19/99	Mar 19/99
Surface	85.5	33.0	124.2	48.3	131.0	103.1	126.5	29.8	105.0	88.9	47.6	35.5
Bottom*	22.4	0.9	35.0	8.1	100.1	32.0	42.9	5.8	41.7	82.5	17.8	2.9
Mean***	35.2	10.9	101.5	27.3	121.0	74.3	94.2	22.1	88.3	87.5	32.6	17.6
Min.	22.4	0.9	35.0	8.1	99.0	29.7	38.1	5.8	41.7	82.5	17.8	2.6
Max.	85.5	33.0	124.3	49.3	139.7	104.7	132.0	31.4	105.0	88.9	47.6	35.5
SD	19.1	12.4	27.9	14.6	15.5	32.3	45.1	6.8	22.2	1.7	10.2	12.0
n	10	9	10	19	13	10	8	15	9	13	13	10

Big Onion Lake Dissolved Oxygen (mg/L)												
Depth (m)	Aug 28/94	Mar 5/96	Jul 24/96	Mar 15/97	May 29/97	Jul 24/97	Aug 11/97	Mar 11/98	May 13/98	Oct 23/98	Jan 19/99	Mar 19/99
Surface	7.3	4.1	9.6	6.0	12.0	8.3	9.4	3.7	9.0	9.7	5.6	4.4
Bottom*	1.9	0.1	3.0	0.9	9.6	2.8	3.6	0.7	4.2	9.0	2.0	0.3
Whole Lake**	3.7	2.0	9.3	4.3	12.3	7.7	8.9	2.9	8.6	9.6	4.7	3.0
Min.	1.9	0.1	3.0	0.9	9.5	2.6	3.2	0.7	4.2	9.0	2.0	0.3
Max.	7.3	4.1	10.0	6.0	12.8	8.6	10.6	3.9	9.0	9.7	5.6	4.4
SD	1.6	1.5	2.1	1.7	1.2	2.6	3.5	0.9	1.6	0.2	1.2	1.5
n	10	9	10	19	13	10	8	15	9	13	13	10

* depth of deepest reading, different for different sampling trips
** weighted for volume at depth
*** not weighted for volume at depth

Appendix 4. Little Onion Lake Dissolved Oxygen Summary by Sample Event

Little Onion Lake Dissolved Oxygen (% saturation)

	Mar 15/97	May 27/97	Aug 13/97	Mar 11/98	Oct 22/98	Jan 19/99	Mar 19/99
Surface	40.7	144.6	105.9	23.2	89.5	7.7	0.9
Bottom*	3.7	45.9	35.4	1.4	85.8	0.5	0.4
Mean***	11.8	109.6	90.1	10.3	86.0	1.4	0.6
Min.	3.7	45.9	35.4	1.4	83.1	0.5	0.4
Max.	40.7	144.6	106.9	23.2	89.5	7.7	0.9
SD	12.6	39.9	25.0	9.5	1.6	2.2	0.2
n	13	8	7	9	12	10	5

* depth of deepest reading, different for different sampling trips

*** not weighted for volume at depth

Appendix 5. Wasp Lake Dissolved Oxygen Summary by Sample Event

Wasp Lake Dissolved Oxygen (% saturation)

	Aug 28/94	Mar 6/96	May 14/96	Mar 14/97	May 27/97	Jul 26/97	Aug 12/97	Mar 12/98	Jan 19/99	Mar 19/99
Surface	121.7	16.5	30.2	22.2	122.7	109.9	116.9	34.6	32.8	11.9
Bottom*	78.2	9.0	5.7	6.3	113.9	47.8	39.1	2.8	6.9	0.6
Mean***	93.8	12.0	22.0	13.9	122.8	105.1	101.9	14.2	16.0	5.0
Min.	78.2	9.0	3.8	6.3	113.9	47.8	39.1	2.8	6.9	0.6
Max.	121.7	16.5	35.9	22.2	128.1	111.1	120.9	34.6	32.8	11.9
SD	16.8	3.1	12.7	6.3	5.4	17.3	28.2	13.6	10.0	5.9
n	7	8	12	8	7	13	7	12	5	5

Appendix 6. Linear factorial model testing the effects of lake and year on DO using depth as a covariate for the impact and compensation lakes.

Month	Source		Type III Sum of Squares	d.f.	Mean Square	F	Sig. (P)	Noncent. Parameter	Observed Power
March	Intercept	Hypothesis	48.894	1	48.894	5.729	.093	5.729	.391
		Error	26.596	3.116	8.534				
	Depth	Hypothesis	150.691	1	150.691	556.775	.000	556.775	1.000
		Error	52.235	193	.271				
	Lake	Hypothesis	88.777	4	22.194	5.030	.017	20.121	.827
		Error	44.875	10.171	4.412				
	Year	Hypothesis	59.566	3	19.855	4.326	.033	12.977	.701
		Error	46.449	10.119	4.590				
	Lake * Year	Hypothesis	50.712	10	5.071	18.737	.000	187.371	1.000
		Error	52.235	193	.271				
May	Intercept	Hypothesis	226.552	1	226.552	22.865	.070	22.865	.508
		Error	14.879	1.502	9.908				
	Depth	Hypothesis	29.322	1	29.322	126.476	.000	126.476	1.000
		Error	69.088	298	.232				
	Lake	Hypothesis	16.851	4	4.213	.434	.781	1.737	.080
		Error	29.390	3.030	9.701				
	Year	Hypothesis	32.773	2	16.387	1.454	.361	2.908	.148
		Error	33.908	3.009	11.268				
	Lake * Year	Hypothesis	36.431	3	12.144	52.379	.000	157.138	1.000
		Error	69.088	298	.232				
August	Intercept	Hypothesis	224.870	1	224.870	4717.333	.226	4717.333	1.000
		Error	1.293E-02	.271	4.767E-02				
	Depth	Hypothesis	18.258	1	18.258	265.221	.000	265.221	1.000
		Error	13.562	197	6.884E-02				
	Lake	Hypothesis	4.359	4	1.090	1.088	.491	4.353	.128
		Error	3.029	3.025	1.001				
	Year	Hypothesis	.112	1	.112	.121	.751	.121	.057
		Error	2.846	3.059	.930				
	Lake * Year	Hypothesis	3.182	3	1.061	15.407	.000	46.222	1.000
		Error	13.562	197	6.884E-02				

Appendix 7. Linear factorial model testing of the effects of lake and year on DO using depth as a covariate for Big Onion Lake vs. Fish Lake

Month	Source		Type III Sum of Squares	d.f.	Mean Square	F	Sig. (P)	Noncent. Parameter	Observed Power
March	Intercept	Hypothesis	87.576	1	87.576	24.944	.012	24.944	.923
		Error	11.664	3.322	3.511				
	Depth	Hypothesis	112.552	1	112.552	446.315	.000	446.315	1.000
		Error	29.253	116	.252				
	Lake	Hypothesis	7.521E-02	1	7.521E-02	.009	.932	.009	.051
		Error	26.607	3.017	8.818				
	Year	Hypothesis	32.593	3	10.864	1.103	.469	3.310	.127
		Error	29.527	2.999	9.846				
May	Intercept	Hypothesis	251.683	1	251.683	26.487	.045	26.487	.667
		Error	16.954	1.784	9.502				
	Depth	Hypothesis	22.795	1	22.795	141.240	.000	141.240	1.000
		Error	42.124	261	.161				
	Lake	Hypothesis	21.929	1	21.929	7.688	.220	7.688	.173
		Error	2.856	1.001	2.853				
	Year	Hypothesis	56.437	2	28.218	3.947	.351	7.894	.113
		Error	6.669	.933	7.149				
August	Intercept	Hypothesis	2.884	1	2.884	17.871	.000	17.871	.988
		Error	42.124	261	.161				
	Intercept	Hypothesis	141.059	1	141.059	122.571	.052	122.571	.658
		Error	1.201	1.043	1.151				
	Depth	Hypothesis	17.000	1	17.000	240.793	.000	240.793	1.000
		Error	12.002	170	7.060E-02				
	Lake	Hypothesis	3.619	1	3.619	1.504	.435	1.504	.083
		Error	2.409	1.001	2.407				
	Year	Hypothesis	1.715	1	1.715	.701	.556	.701	.066
		Error	2.447	1.000	2.447				
	Lake * Year	Hypothesis	2.440	1	2.440	34.557	.000	34.557	1.000
		Error	12.002	170	7.060E-02				

Appendix 8. Linear factorial model testing of the effects of lake and year on DO using depth as a covariate for Little Fish Lake, Little Onion Lake, and Wasp Lake

Month	Source		Type III Sum of Squares	d.f.	Mean Square	F	Sig. (P)	Noncent. Parameter	Observed Power
March	Intercept	Hypothesis	8.773	1	8.773	1.824	.265	1.824	.166
		Error	15.318	3.185	4.810				
	Depth	Hypothesis	44.100	1	44.100	196.903	.000	196.903	1.000
		Error	17.022	76	.224				
	Lake	Hypothesis	3.418	2	1.709	.715	.542	1.431	.108
		Error	9.576	4.008	2.389				
	Year	Hypothesis	41.058	3	13.686	5.874	.059	17.622	.575
		Error	9.388	4.029	2.330				
May	Lake * Year	Hypothesis	9.653	4	2.413	10.775	.000	43.099	1.000
		Error	17.022	76	.224				
	Intercept	Hypothesis	72.060	1	72.060	8.290	.199	8.290	.192
		Error	9.340	1.075	8.693				
	Depth	Hypothesis	14.505	1	14.505	27.502	.000	27.502	.999
		Error	18.986	36	.527				
	Lake	Hypothesis	1.379	2	.690	1.104	.548	2.208	.077
		Error	.678	1.085	.625				
August	Year	Hypothesis	20.701	1	20.701	32.876	.111	32.876	.345
		Error	.627	.996	.630				
	Lake * Year	Hypothesis	.629	1	.629	1.193	.282	1.193	.186
		Error	18.986	36	.527				
	Intercept	Hypothesis	49.896	1	49.896	373.480	.008	373.480	1.000
		Error	.203	1.521	.134				
	Depth	Hypothesis	1.322	1	1.322	22.999	.000	22.999	.996
		Error	1.495	26	5.750E-02				
	Lake	Hypothesis	.831	2	.415	2.282	.427	4.564	.094
		Error	.179	.982	.182				
	Year	Hypothesis	.264	1	.264	1.476	.439	1.476	.083
		Error	.178	.998	.179				
	Lake * Year	Hypothesis	.178	1	.178	3.104	.090	3.104	.396
		Error	1.495	26	5.750E-02				

Figure 1. Sampling Effort for Impact and Compensation Lakes

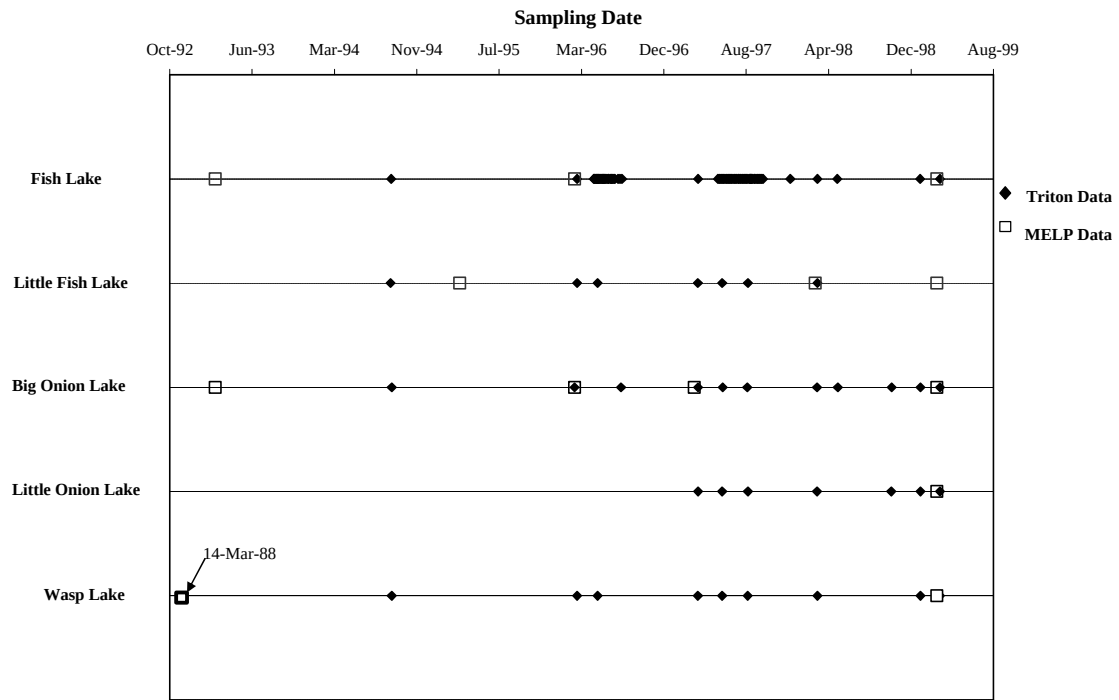


Figure 2. Fish Lake - Selected Dissolved Oxygen Profiles

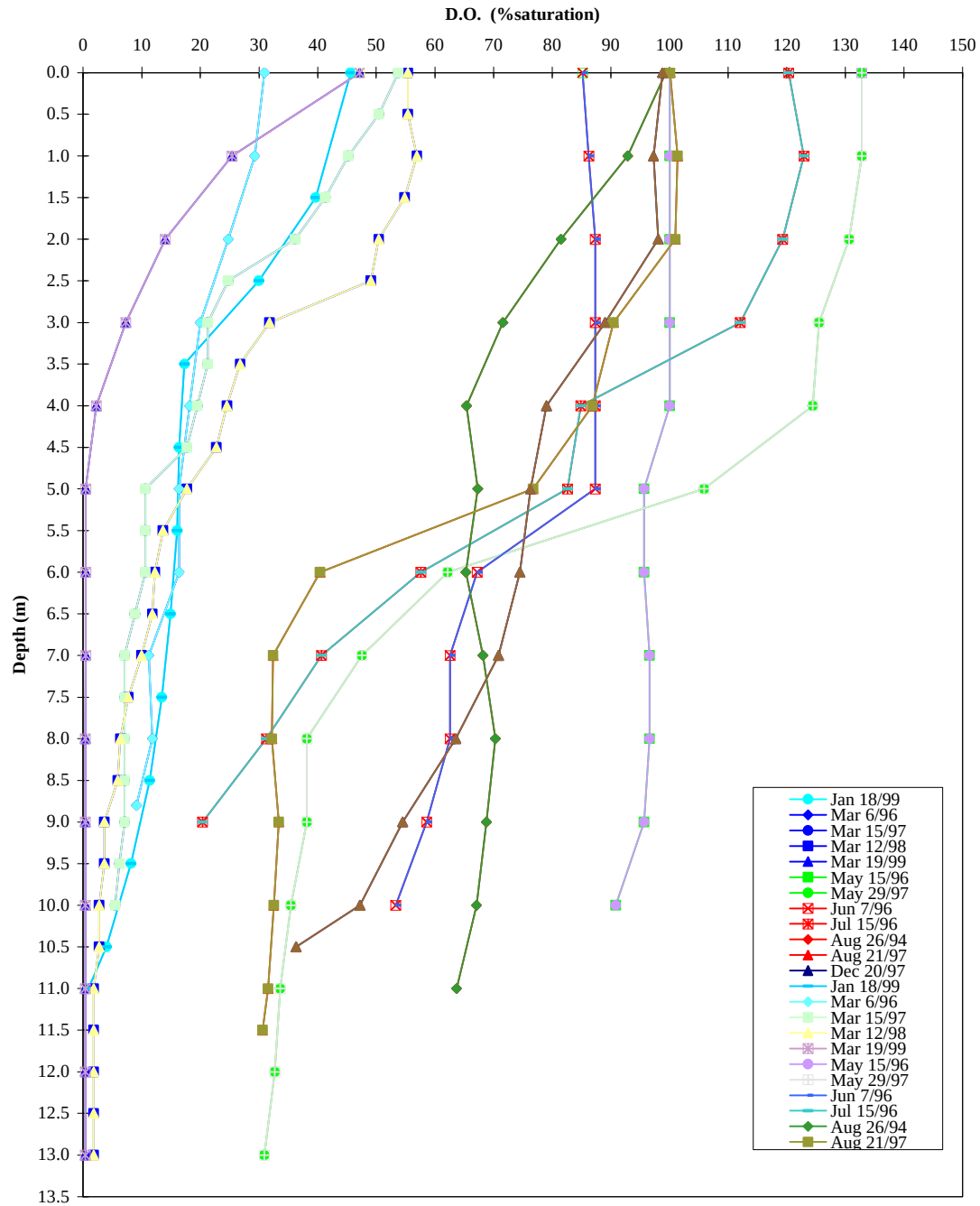


Figure 3. Fish Lake - Monthly Average Dissolved Oxygen Profiles

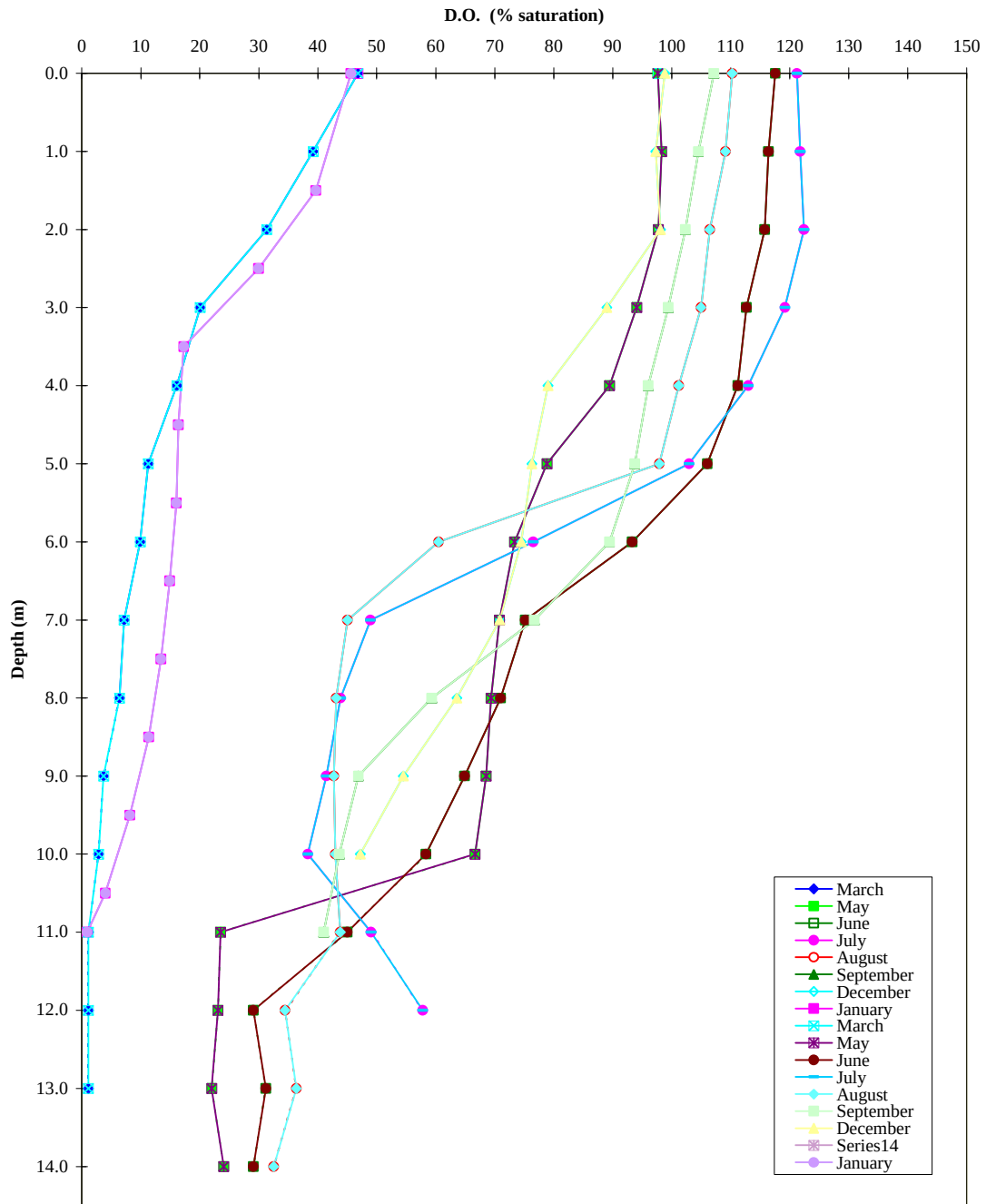


Figure 4. Fish Lake Late Winter Dissolved Oxygen Profiles

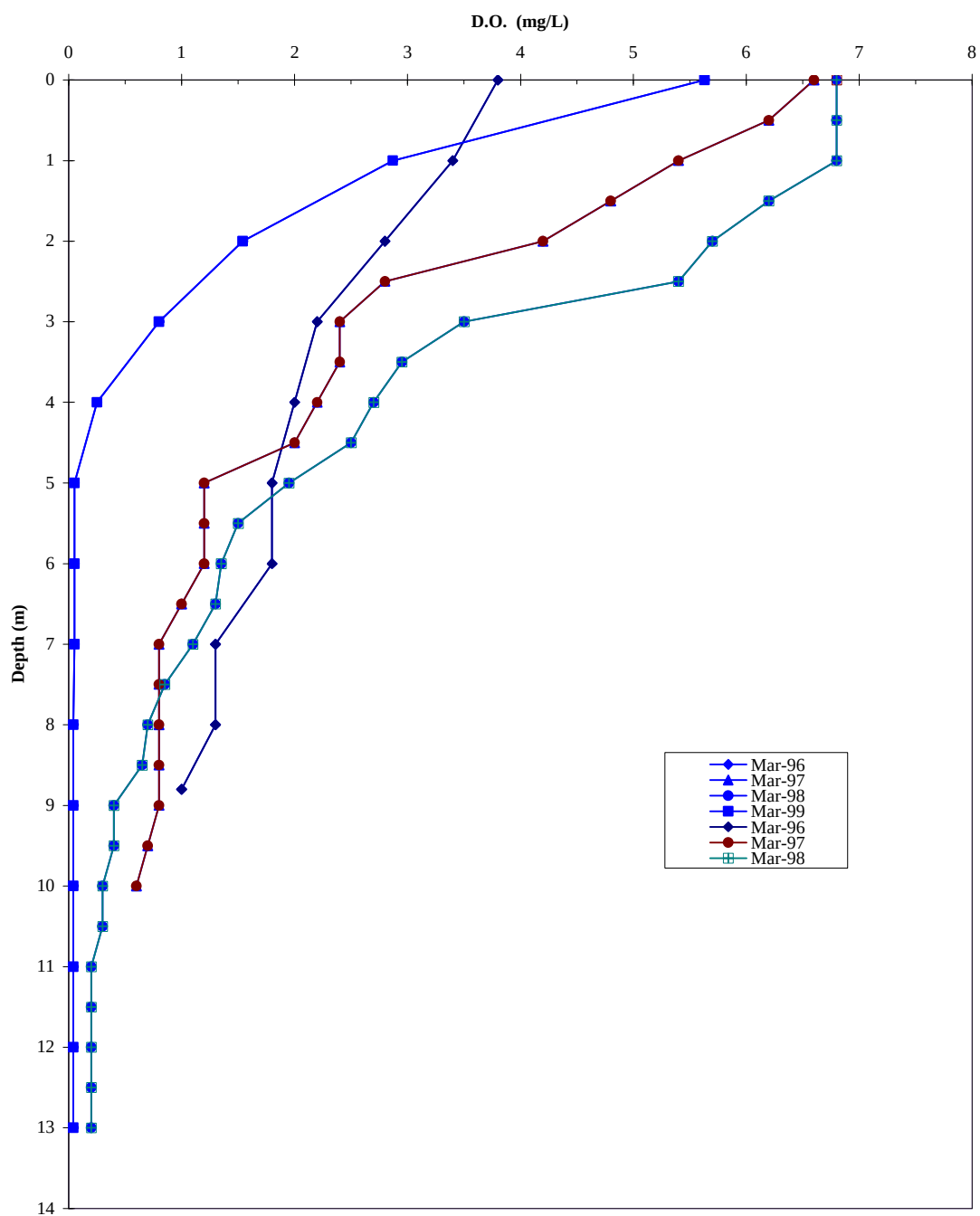


Figure 5. Seasonal Changes in Unweighted Mean Dissolved Oxygen Concentration (mg/L) in Fish Lake

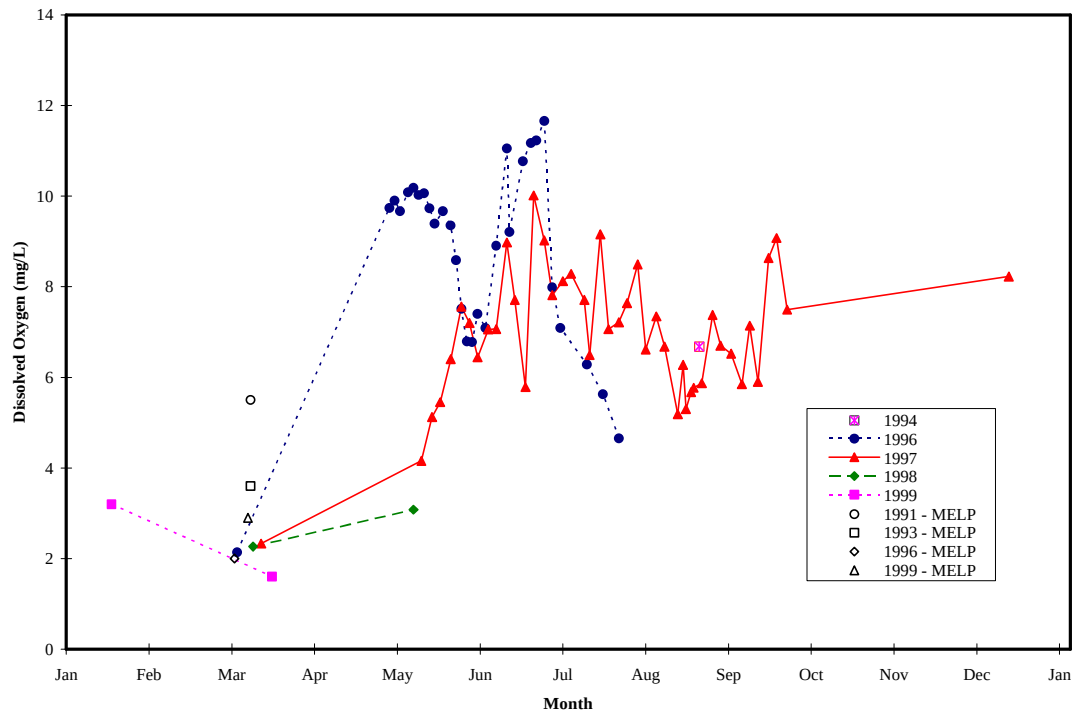


Figure 6. Little Fish Lake - Dissolved Oxygen Profiles

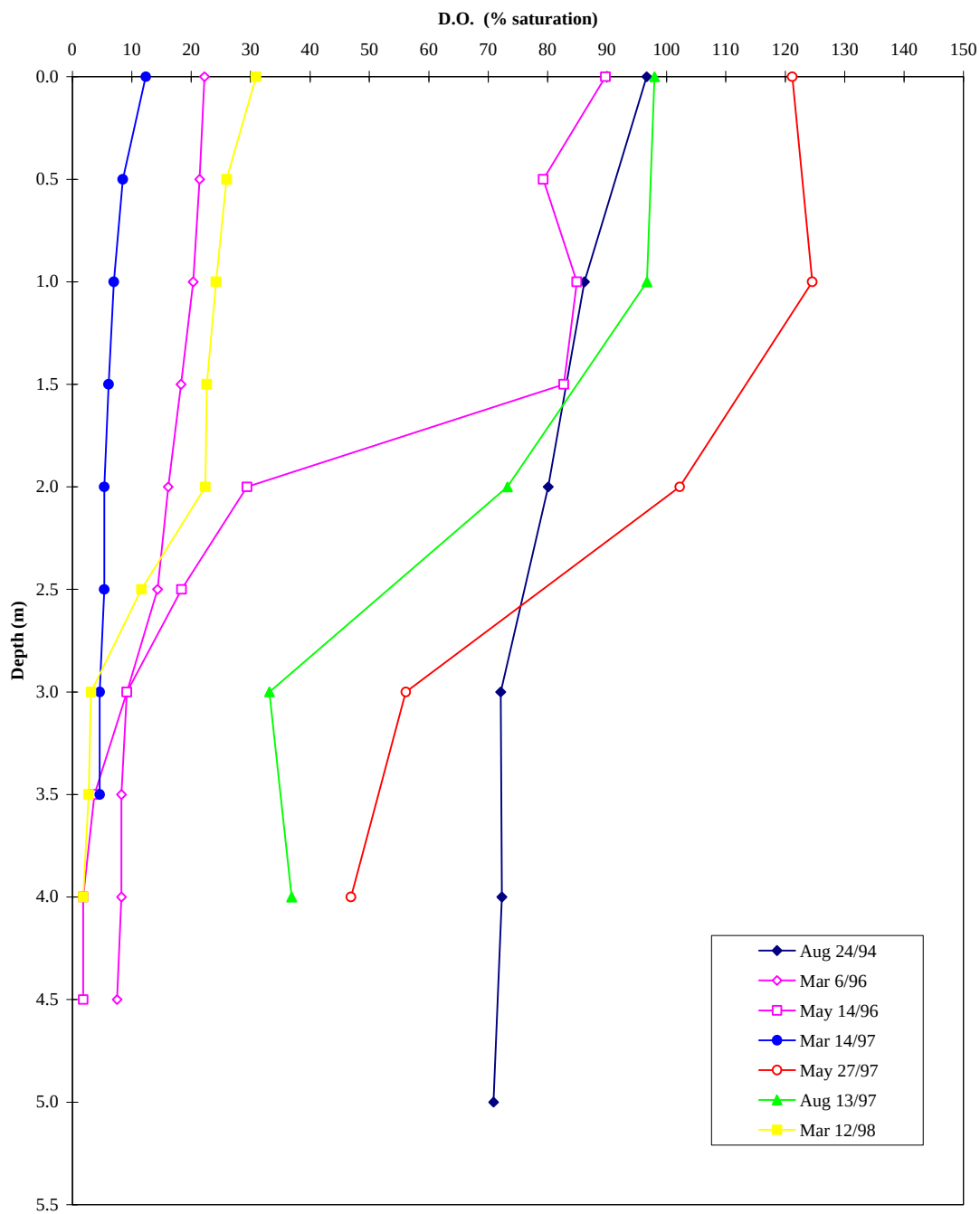


Figure 7. Big Onion Lake - Dissolved Oxygen Profiles

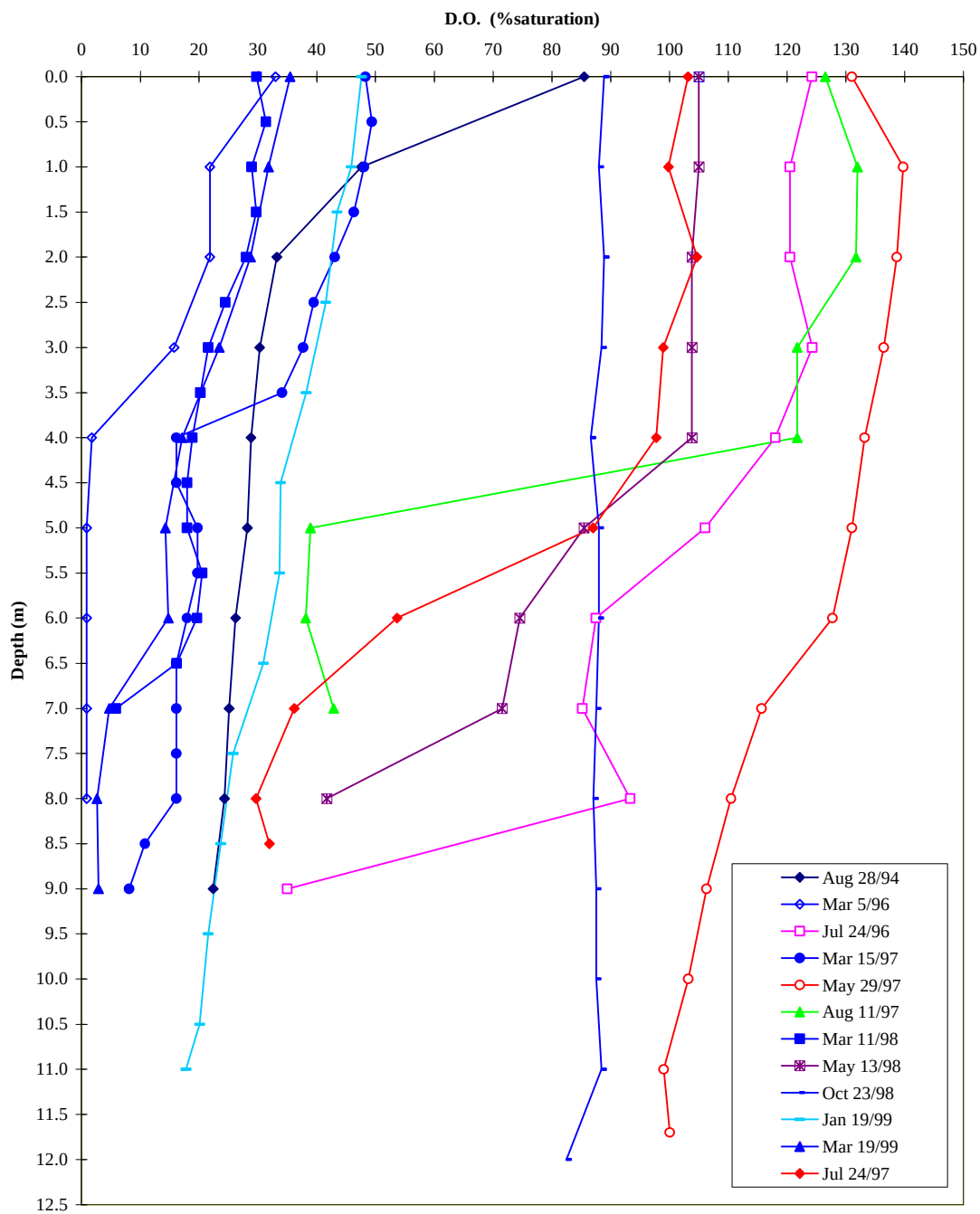


Figure 8. Seasonal changes in unweighted mean dissolved oxygen concentration (mg/L) in Big Onion Lake

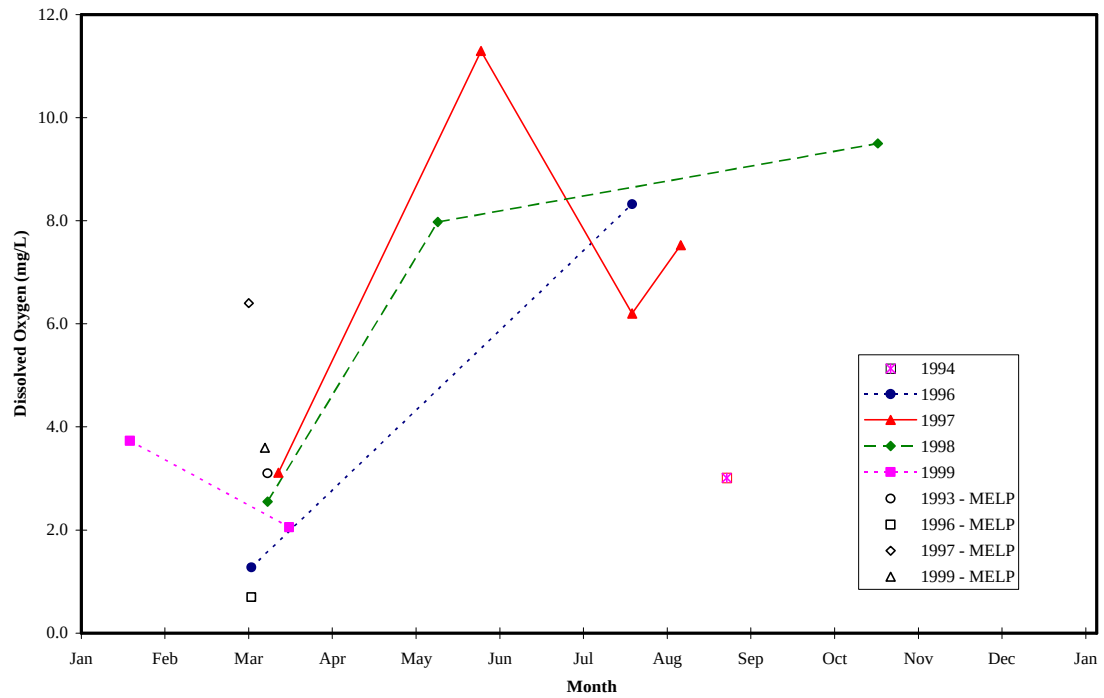


Figure 9. Little Onion Lake - Dissolved Oxygen Profiles

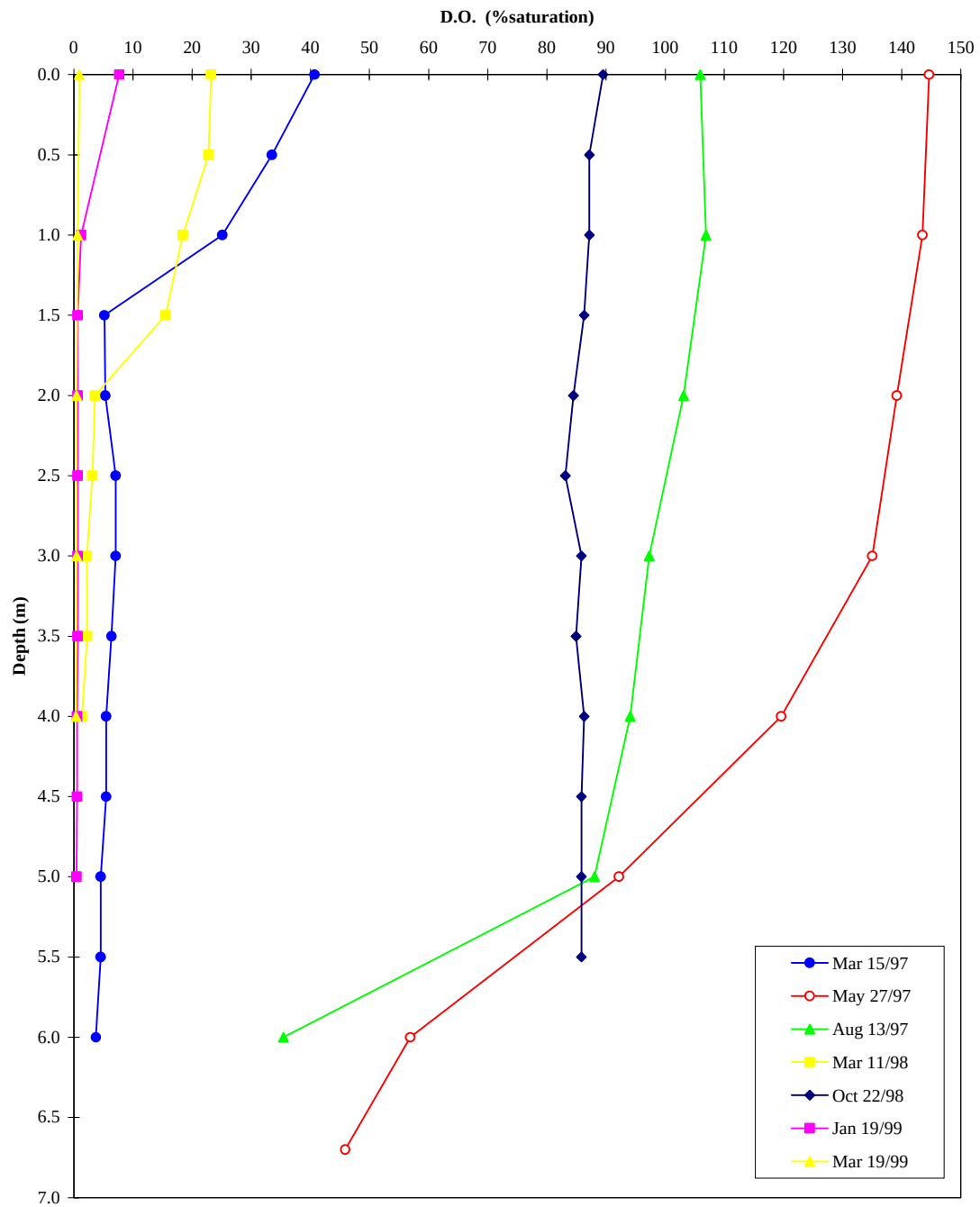


Figure 10. Wasp Lake - Dissolved Oxygen Profiles

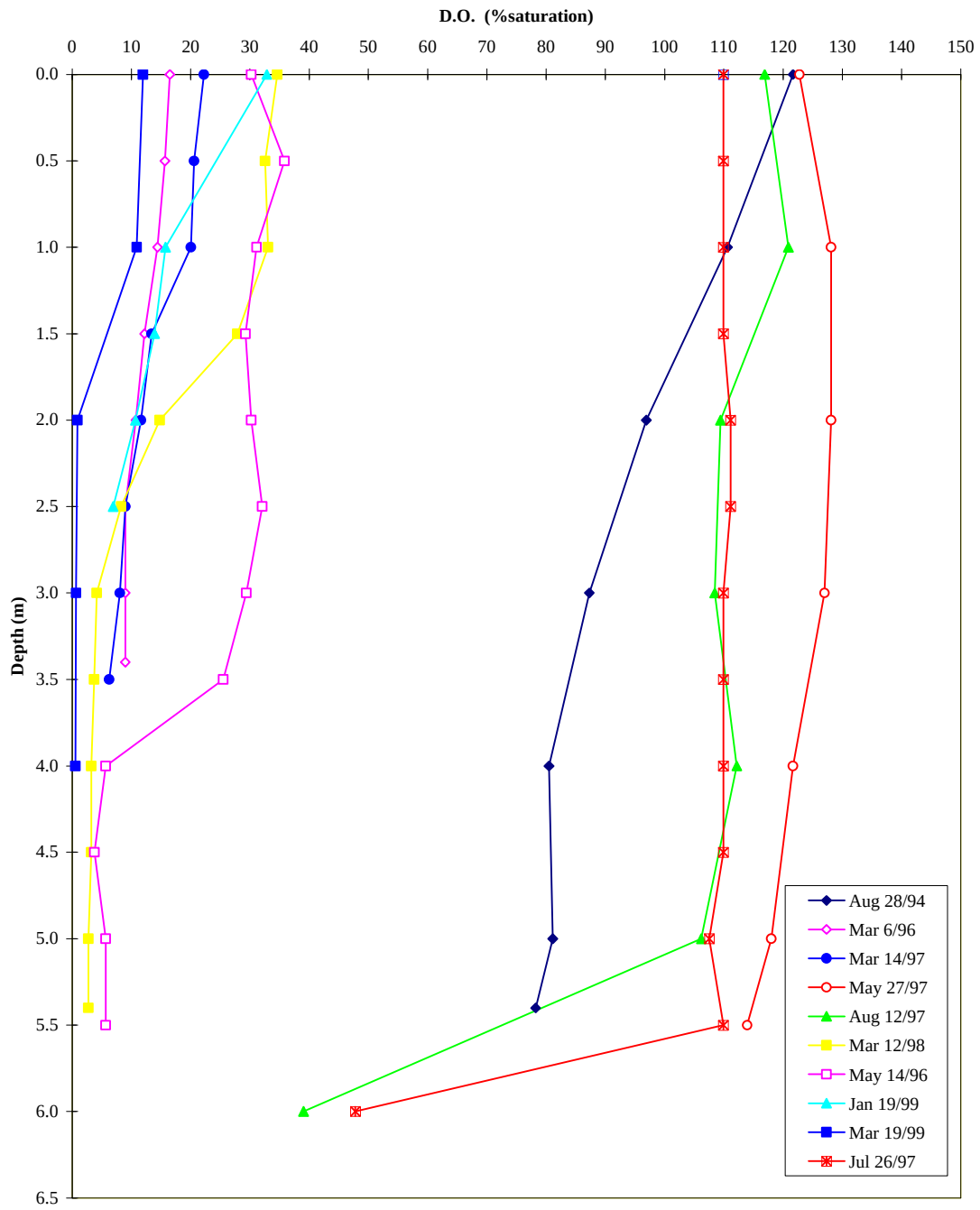


Figure 11. Average Spring (May) Dissolved Oxygen Profiles

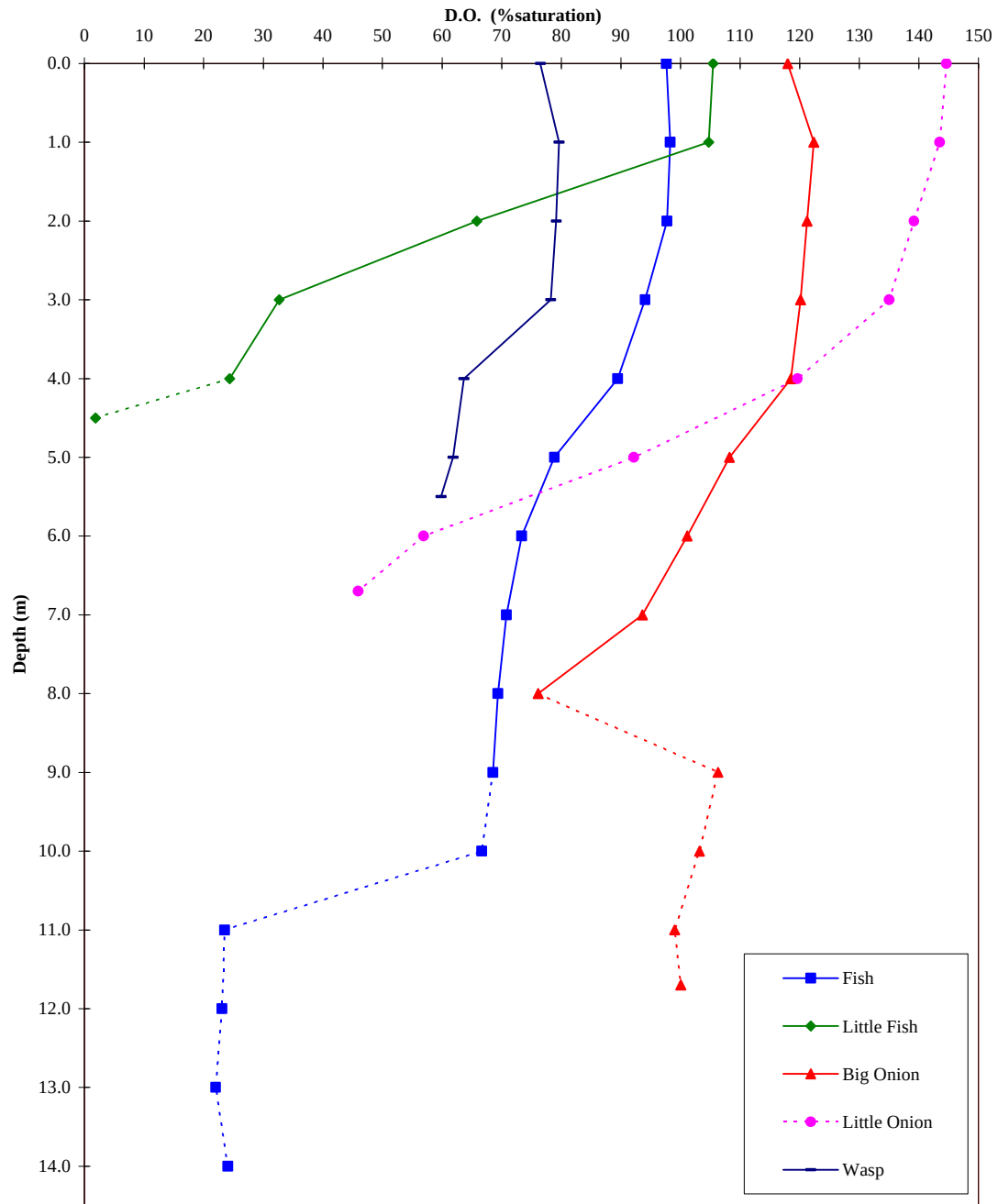


**Figure 12. Average
Summer (August) Dissolved Oxygen Profiles**

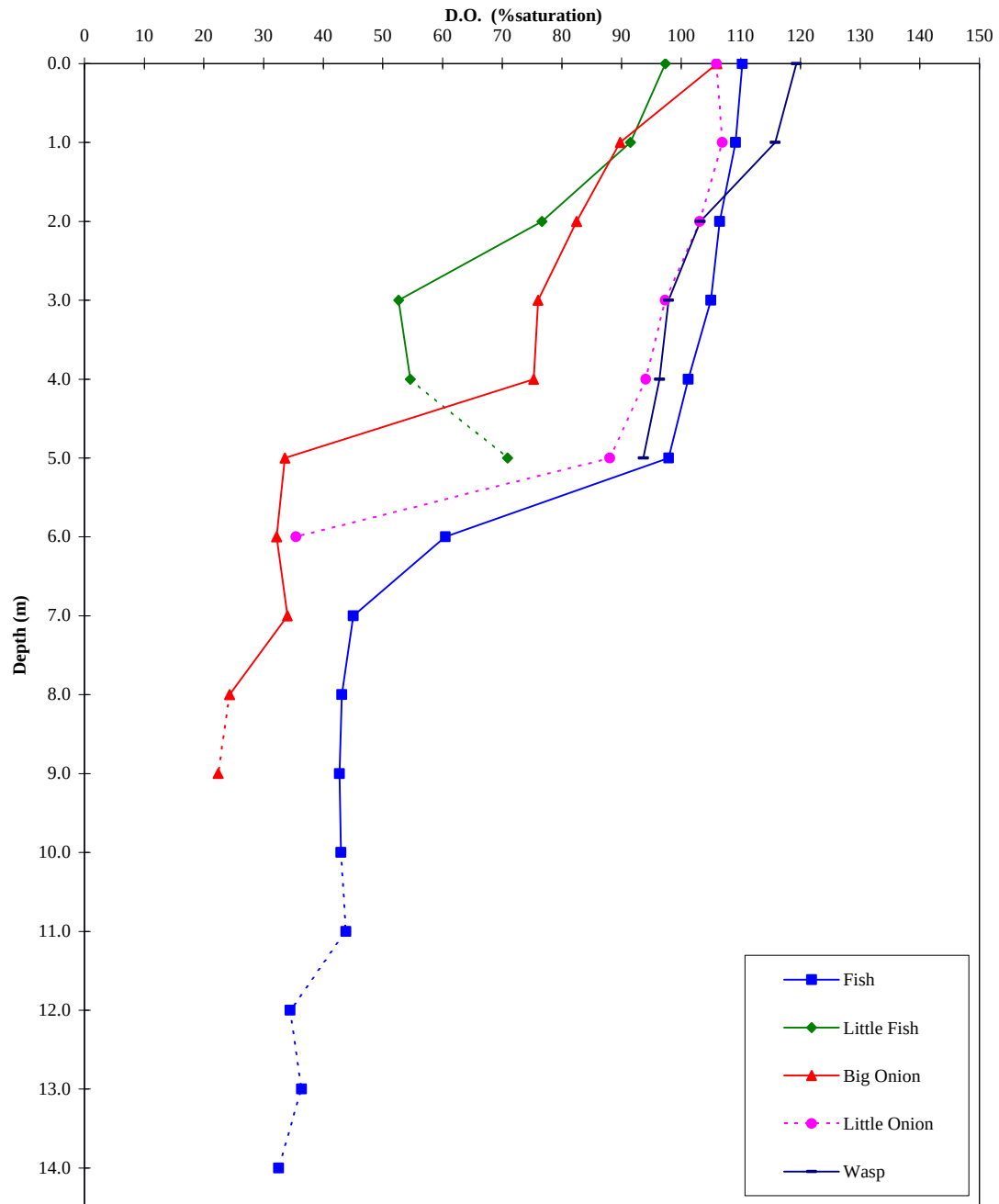


Figure 13. Comparison of Unweighted Average Late Winter Dissolved Oxygen Concentration in the Impact and Compensation Lakes

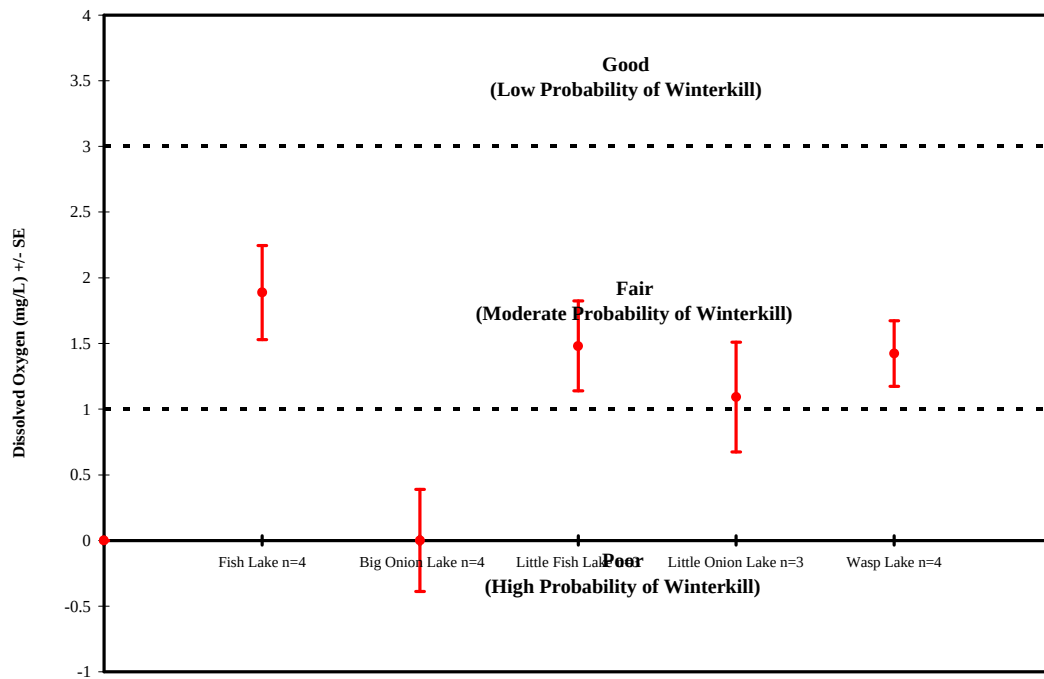


Figure 14. Comparison of Unweighted Average Late Winter Dissolved Oxygen Concentration in the Impact and Compensation Lakes

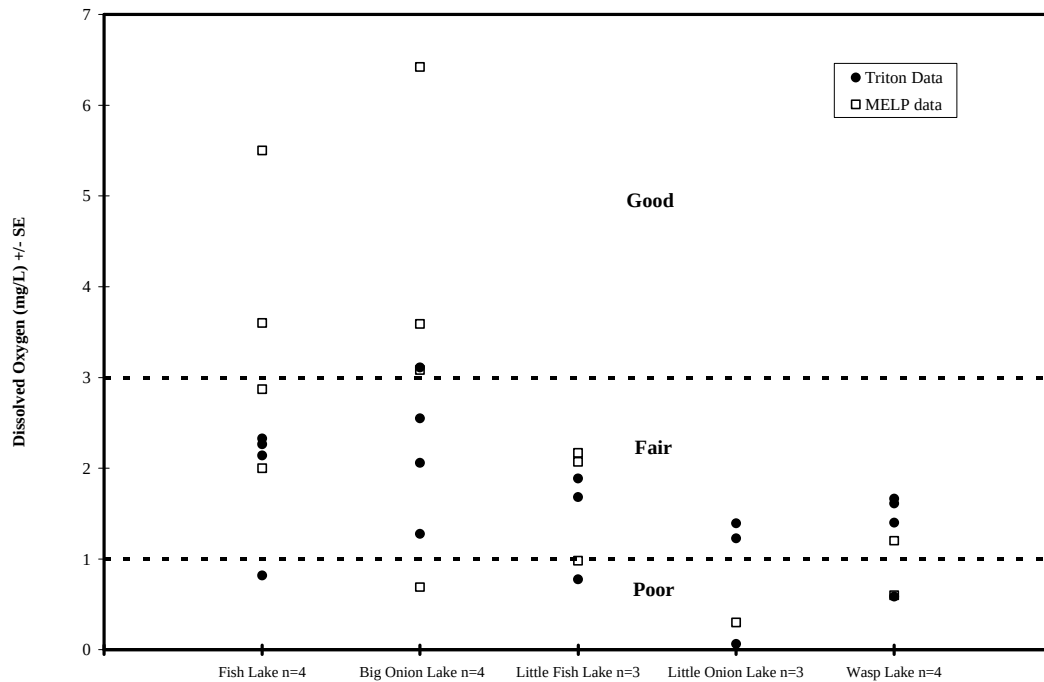


Figure 15. Comparison of Volume Weighted Average Late Winter Dissolved Oxygen Concentration in the Impact and Compensation Lakes

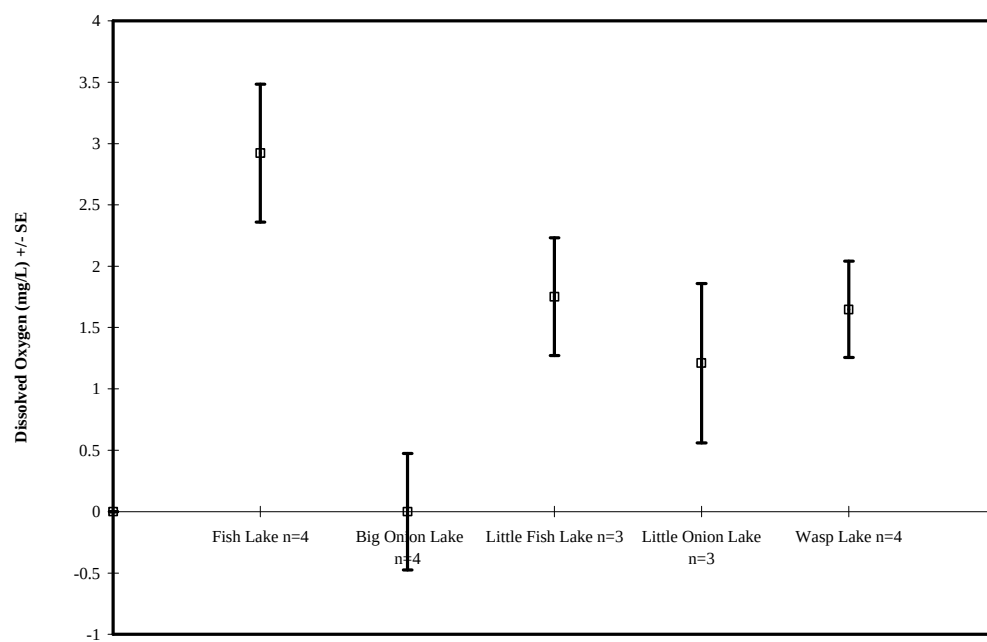


Figure 16. Average Late Winter (March) Dissolved Oxygen Profiles

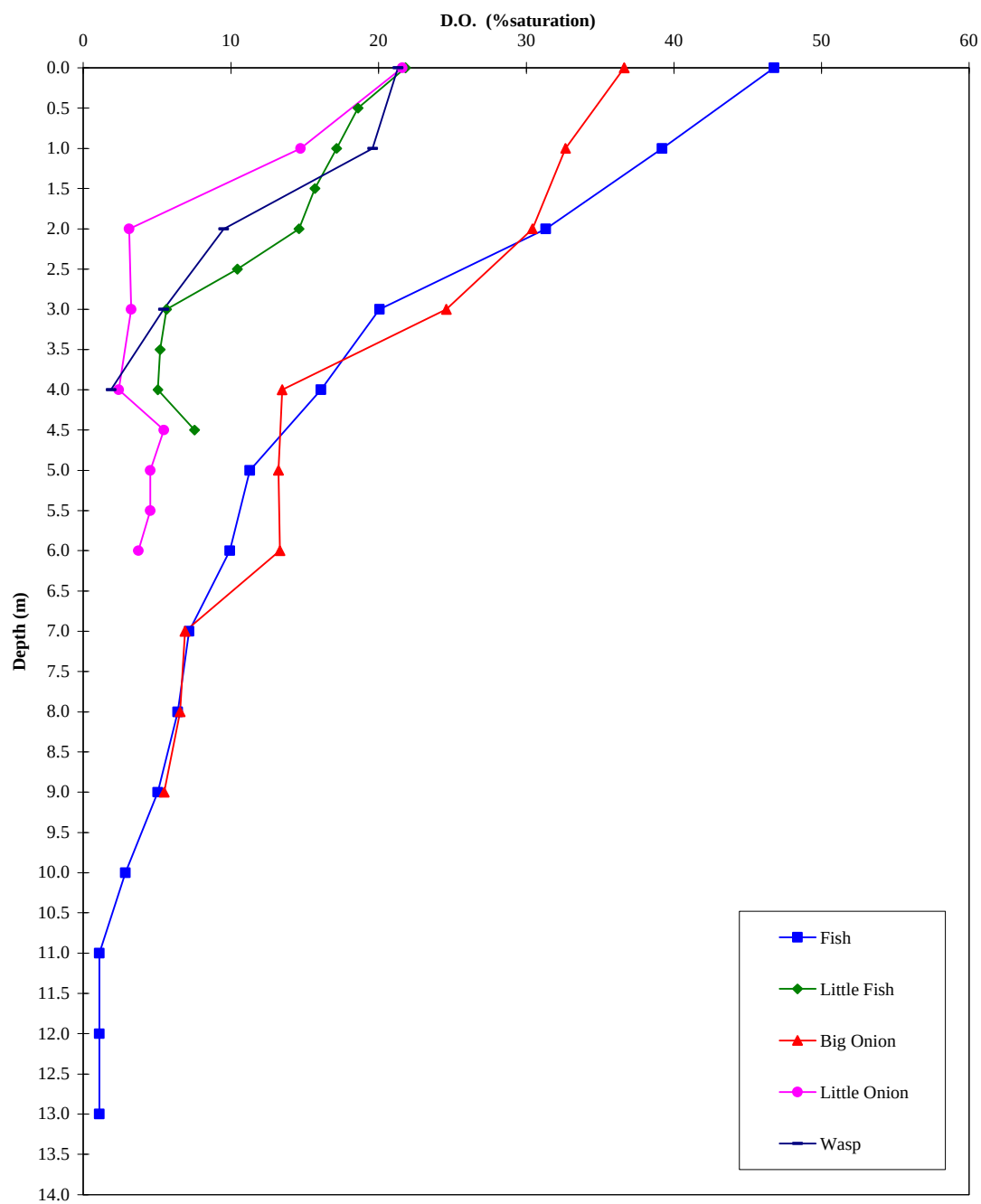
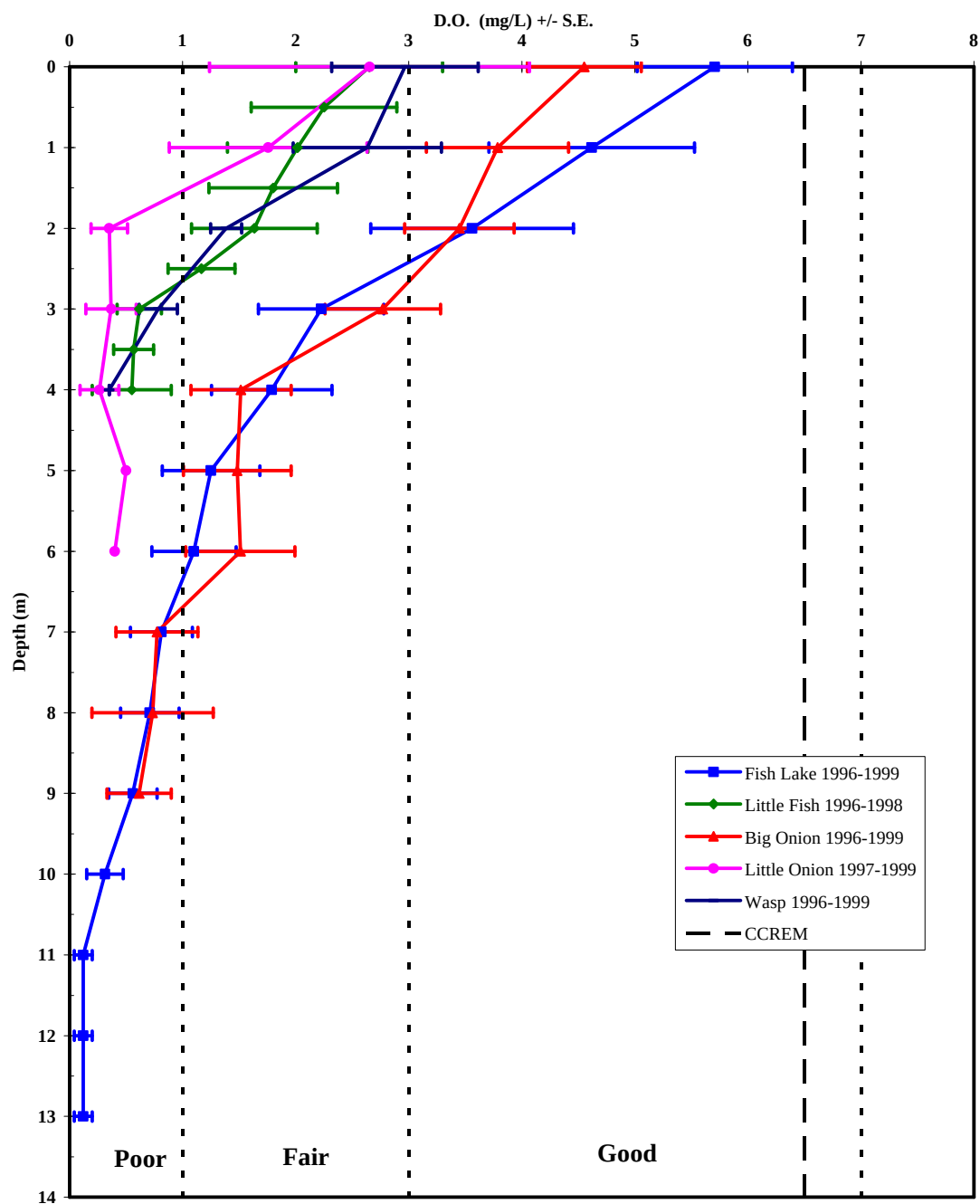


Figure 17. Comparison of Average Late Winter (March) Dissolved Oxygen Profiles in the Impact and Compensation Lakes



Appendix C2 Appendix Table C2 QA/QC results - Duplicates 2006

Appendix Table C2: QA/QC Results - Duplicates 2006

5/23/2006				5/23/2006			5/23/2006			7/4/2006			7/4/2006			7/4/2006			10/1/2006		
Sample	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)
Physical Tests																					
Conductivity (uS/cm)	152	155	2.0	154	155	0.6	180	176	2.2	160	158	1.3	158	158	0.0	179	180	0.6	166	166	0.0
Total Dissolved Solids	115	120	4.3	114	120	5.1	133	138	3.7	128	128	0.0	126	130	3.1	149	146	2.0	120	129	7.2
Hardness CaCO3	77.8	77.6	0.3	77.9	78.6	0.9	91.0	93.7	2.9	80.7	81.5	1.0	79.4	77.8	2.0	89.8	92.2	2.6	86.6	86.3	0.3
pH	7.81	8.02	2.7	7.95	8.04	1.1	7.86	7.67	2.4	8.04	8.17	1.6	8.02	8.07	0.6	7.89	7.93	0.5	8.06	8.13	0.9
Total Suspended Solids	<3.0	<3.0	–	<3.0	<3.0	–	4.6	6.1	28.0	<3.0	<3.0	–	<3.0	<3.0	–	6.0	5.0	18.2	<3.0	<3.0	–
Turbidity (NTU)	1.01	2.20	74.1	1.31	1.58	18.7	4.32	4.59	6.1	1.05	1.12	–	1.28	1.75	31.0	3.95	6.12	43.1	–	–	–
Dissolved Anions																					
Alkalinity-Total CaCO3	84.9	87.4	2.9	85.0	87.0	2.3	105	98.1	6.8	94.9	88.2	7.3	84.2	85.6	1.6	115	97.5	16.5	102	104	1.9
Bromide Br	<0.050	<0.050	–	<0.050	<0.050	–	<0.050	<0.050	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloride Cl	<0.50	<0.50	–	<0.50	<0.50	–	<0.50	<0.50	–	0.52	<0.50	–	<0.50	<0.50	–	<0.50	<0.50		<0.50	<0.50	–
Fluoride F	0.046	0.045	2.2	0.046	0.048	4.3	0.051	0.053	3.8	0.050	0.050	0.0	0.047	0.048	2.1	0.059	0.057	3.4	0.058	0.056	3.5
Sulphate SO4	0.76	0.63	18.7	0.68	0.62	9.2	0.68	0.68	0.0	0.68	0.66	3.0	0.68	0.66	3.0	<0.50	<0.50	–	0.69	0.61	12.3
Nutrients									–												
Ammonia Nitrogen N	0.0180	0.0200	10.5	0.0187	0.0273	37.4	0.0533	0.0927	54.0	0.0120	0.0240	66.7	0.0227	0.0307	30.0	0.195	0.207	6.0	0.109	0.117	7.1
Total Kjeldahl Nitrogen N	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.786	0.900	13.5
Nitrate Nitrogen N	<0.0050	<0.0050	–	<0.0050	<0.0050	–	<0.0050	0.0062	–	<0.0050	<0.0050	–	0.0102	0.0105	2.9	<0.0050	<0.0050	–	0.0082	0.0083	1.2
Nitrite Nitrogen N	<0.0010	<0.0010	–	<0.0010	<0.0010	–	0.0010	0.0014	33.3	<0.0010	<0.0010	–	0.0055	0.0061	10.3	0.0013	0.0015	14.3	0.0012	<0.0010	–
Total Nitrogen N	0.790	0.790	0.0	0.790	0.820	3.7	1.32	0.980	29.6	0.840	0.820	2.4	0.790	0.810	2.5	1.03	1.07	3.8	0.795	0.908	13.3
Dissolved ortho-Phosphate P	0.0016	0.0057	112.3	0.0027	0.0071	89.8	0.0241	0.0326	30.0	0.0114	0.0061	60.6	0.0065	0.0093	35.4	0.173	0.209	18.8	0.0092	0.0118	24.8
Total Dissolved Phosphate P	<0.0020	0.0135	–	0.0033	0.0168	134.3	0.0361	0.0420	15.1	0.0247	0.0173	35.2	0.0160	0.0167	4.3	0.168	0.213	23.6	0.0215	0.0259	18.6
Total Phosphate P	0.0026	0.0212	156.3	0.0049	0.0293	142.7	0.0915	0.105	13.7	0.0256	0.0199	25.1	0.0216	0.0241	10.9	0.288	0.320	10.5	0.0414	0.0844	68.4
Total Metals																					
Aluminum T-Al	0.0035	0.0033	5.9	0.0031	0.0033	6.3	0.0025	0.0024	4.1	0.0229	<0.0070	–	0.0071	0.0034	70.5	0.0028	0.0047	50.7	0.0070	0.0022	104.3
Antimony T-Sb	<0.00010	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00016	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00016	<0.00010	–
Arsenic T-As	0.00035	0.00034	2.9	0.00034	0.00037	8.5	0.00055	0.00060	8.7	0.00041	0.00042	2.4	0.00042	0.00041	2.4	0.00071	0.00075	5.5	0.00050	0.00050	0.0
Barium T-Ba	0.00211	0.00208	1.4	0.00207	0.00211	1.9	0.00437	0.00448	2.5	0.00233	0.00215	8.0	0.00246	0.00223	9.8	0.00556	0.00617	10.4	0.00286	0.00275	3.9
Beryllium T-Be	<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	–
Bismuth T-Bi	<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	–
Boron T-B	<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	–
Cadmium T-Cd	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–
Calcium T-Ca	14.7	14.8	0.7	14.6	15.1	3.4	17.9	18.1	1.1	15.0	14.9	0.7	15.1	15.6	3.3	18.4	18.7	1.6	16.4	16.3	0.6
Chromium T-Cr	<0.00050	<0.00050	–	<0.00050	<0.00050	–	<0.00050	<0.00080	–	<0.00050	<0.00050	–	<0.00050	<0.00050	–	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Cobalt T-Co	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00030	0.00037	20.9	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00036	0.00038	5.4	0.00012	0.00010	18.2
Copper T-Cu	0.00121	0.00112	7.7	0.00140	0.00081	53.4	0.00096	0.00073	27.2	0.00170	0.00101	50.9	0.00111	0.00071	44.0	0.00056	0.00068	19.4	0.00083	0.00057	37.1
Iron T-Fe	0.146	0.146	0.0	0.157	0.148	5.9	0.909	1.02	11.5	0.085	0.072	16.6	0.189	0.209	10.1	2.72	3.10	13.1	0.260	0.261	0.4
Lead T-Pb	0.000135	0.000307	77.8	0.000110	0.000114	3.6	<0.000050	0.000540	–	0.000224	<0.00010	–	0.00102	0.000632	47.0	0.000611	0.000131	129.4	0.00569	0.000350	176.8
Lithium T-Li	<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	–
Magnesium T-Mg	9.96	10.1	1.4	9.96	10.4	4.3	11.6	11.9	2.6	10.8	10.8	0.0	10.8	11.2	3.6	12.3	12.5	1.6	11.5	11.6	0.9
Manganese T-Mn	0.00628	0.00651	3.6	0.00753	0.00650	14.7	0.444	0.523	16.3	0.00796	0.00756	5.2	0.0320	0.0362	12.3	0.538	0.585	8.4	0.0547	0.0548	0.2
Molybdenum T-Mo	0.000252	0.000																			

Appendix Table C2: QA/QC Results - Duplicates 2006

5/23/2006				5/23/2006			5/23/2006			7/4/2006			7/4/2006			7/4/2006			10/1/2006		
Sample	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)	U1-1 Rep. 1	U2-1 Rep. 2	Diff. (%)
Uranium T-U	0.000053	0.000048	9.9	0.000052	0.000050	3.9	0.000052	0.000056	7.4	0.000064	0.000065	1.6	0.000059	0.000052	12.6	0.000055	0.000058	5.3	0.000064	0.000064	0.0
Vanadium T-V	<0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–	0.0014	0.0013	7.4	0.0011	<0.0010	–	0.0016	0.0019	17.1	0.0013	0.0013	0.0
Zinc T-Zn	0.0010	0.0015	40.0	0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0040	<0.0040	–	<0.0040	0.0030	–	<0.0010	0.0015	–	0.0012	<0.0010	–
Dissolved Metals																					
Aluminum D-Al	0.0016	0.0023	35.9	0.0016	0.0020	22.2	0.0019	0.0025	27.3	<0.0050	<0.0050	–	<0.0050	<0.0050	–	<0.0050	<0.0050	–	<0.0010	<0.0010	–
Antimony D-Sb	<0.00010	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00011	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00012	<0.00010	–
Arsenic D-As	0.00033	0.00034	3.0	0.00036	0.00036	0.0	0.00048	0.00043	11.0	0.00038	0.00039	2.6	0.00039	0.00039	0.0	0.00063	0.00068	7.6	0.00047	0.00048	2.1
Barium D-Ba	0.00197	0.00204	3.5	0.00205	0.00203	1.0	0.00247	0.00262	5.9	0.00180	0.00166	8.1	0.00208	0.00205	1.5	0.00427	0.00491	13.9	0.00244	0.00236	3.3
Beryllium D-Be	<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	–
Bismuth D-Bi	<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	–
Boron D-B	<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	–
Cadmium D-Cd	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–	<0.000017	<0.000017	–
Calcium D-Ca	14.7	14.5	1.4	14.7	14.8	0.7	17.5	17.9	2.3	14.6	14.8	1.4	14.6	14.4	1.4	17.1	17.6	2.9	16.0	16.0	0.0
Chromium D-Cr	<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	–
Cobalt D-Co	<0.00010	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	<0.00010	<0.00010	–	0.00012	0.00018	40.0	<0.00010	<0.00010	–
Copper D-Cu	<0.0010	<0.0010	–	0.0016	<0.0010	–	<0.0010	0.00043	–	0.00126	0.00066	62.5	0.00067	0.00061	9.4	0.00035	0.00035	0.0	0.00067	0.00045	39.3
Iron D-Fe	0.089	0.096	7.6	0.094	0.089	5.5	0.285	0.310	8.4	0.045	0.043	4.5	0.113	0.125	10.1	2.02	2.43	18.4	0.032	0.080	85.7
Lead D-Pb	0.000052	0.000093	56.6	0.000062	<0.000050	–	<0.000050	<0.000050	–	0.000086	<0.000050	–	0.000235	0.000267	12.7	0.000147	0.000060	84.1	0.000182	0.000065	94.7
Lithium D-Li	<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	–
Magnesium D-Mg	10.0	10.0	0.0	9.99	10.1	1.1	11.5	11.9	3.4	10.7	10.8	0.9	10.5	10.2	2.9	11.5	11.7	-1.7	11.3	11.3	0.0
Manganese D-Mn	0.000392	0.00222	140.0	0.000526	0.000427	20.8	0.00177	0.00154	13.9	0.00222	0.00190	15.5	0.0210	0.0268	24.3	0.215	0.318	38.6	0.000938	0.00259	93.7
Molybdenum D-Mo	0.000260	0.000293	11.9	0.000274	0.000298	8.4	0.000273	0.000282	3.2	0.000284	0.000272	4.3	0.000295	0.000281	4.9	0.000292	0.000303	3.7	0.000267	0.000290	8.3
Nickel D-Ni	0.00197	0.00203	3.0	0.00199	0.00213	6.8	0.00206	0.00203	1.5	0.00208	0.00199	4.4	0.00205	0.00208	1.5	0.00217	0.00223	2.7	0.00180	0.00176	2.2
Phosphorus D-P	<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	–
Potassium D-K	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–	<2.0	<2.0	–
Selenium D-Se	<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	–
Silicon D-Si	6.81	6.76	0.7	6.77	6.82	0.7	8.77	8.78	0.1	6.11	6.00	1.8	6.10	5.96	2.3	7.87	8.19	4.0	7.11	7.21	1.4
Silver D-Ag	0.000018	<0.000010		0.000010	<0.000010	–	<0.000010	0.000025	–	0.000079	<0.000010	–	0.000019	<0.000010	–	<0.000010	<0.000010	–	<0.000010	<0.000010	–
Sodium D-Na	6.4	6.3	1.6	6.4	6.3	1.6	7.3	7.5	2.7	6.2	6.2	0.0	6.0	5.8	3.4	6.5	6.6	–	6.6	6.7	1.5
Strontium D-Sr	0.0439	0.0453	3.1	0.0458	0.0451	1.5	0.0535	0.0538	0.6	0.0482	0.0466	3.4	0.0474	0.0473	0.2	0.0562	0.0569	1.2	0.0507	0.0515	1.6
Thallium D-Tl	<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	–
Tin D-Sn	<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	–
Titanium D-Ti	<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	–
Uranium D-U	0.000051	0.000054	5.7	0.000056	0.000050	11.3	0.000052	0.000053	1.9	0.000057	0.000059	3.4	0.000052	0.000053	-1.9	0.000054	0.000056	3.6	0.000057	0.000061	6.8
Vanadium D-V	<0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–	0.0011	0.0011	0.0	<0.0010	<0.0010	–	0.0014	0.0016	13.3	0.0011	0.0011	0.0
Zinc D-Zn	<0.0010	<0.0010	–	<0.0010	0.0012	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Organic Parameters																					
Dissolved Organic Carbon C	14.9	15.3	2.6	15.3	15.7	2.6	15.4	16.8	8.7	15.9	14.9	6.5	16.5	14.5	12.9	15.1	15.5	2.6	15.4	15.3	0.7

Footnotes:

Results are expressed as milligrams per litre except where noted.

< = Less than the detection limit indicated.

Diff. = difference of field replicates relative to their mean [absolute value(replicate 1 - replicate 2)/mean]*100

Values highlighted in blue correspond to replicate values higher than five times the detection limit collected

at the same time and location for which 'diff.' is higher than 25%.

Appendix Table C2: QA/QC Results - Duplicates 2006

10/1/2006				10/1/2006		
Sample	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)
Physical Tests						
Conductivity (uS/cm)	167	166	0.6	180	173	4.0
Total Dissolved Solids	122	129	5.6	143	134	6.5
Hardness CaCO3	85.6	87.6	2.3	90.3	88.4	2.1
pH	8.11	8.13	0.2	7.91	7.91	0.0
Total Suspended Solids	<3.0	<3.0	–	4.5	4.0	11.8
Turbidity (NTU)						
Dissolved Anions						
Alkalinity-Total CaCO3	103	97.5	5.5	109	110	0.9
Bromide Br	–	–	–	–	–	–
Chloride Cl	<0.50	<0.50	–	<0.50	<0.50	–
Fluoride F	0.057	0.056	1.8	0.059	0.059	0.0
Sulphate SO4	0.63	0.61	3.2	<0.50	<0.50	–
Nutrients						
Ammonia Nitrogen N	0.127	0.136	6.8	0.521	0.404	25.3
Total Kjeldahl Nitrogen N	1.25	0.949	27.4	1.54	1.27	19.2
Nitrate Nitrogen N	0.0082	0.0082	0.0	<0.0050	<0.0050	–
Nitrite Nitrogen N	0.0012	0.0011	8.7	<0.0010	<0.0010	–
Total Nitrogen N	1.26	0.958	27.2	1.54	1.27	19.2
Dissolved ortho-Phosphate P	0.0136	0.0127	6.8	0.193	0.129	39.8
Total Dissolved Phosphate P	0.0280	0.0292	4.2	0.211	0.145	37.1
Total Phosphate P	0.0376	0.0431	13.6	0.302	0.199	41.1
Total Metals						
Aluminum T-Al	0.0020	0.0024	18.2	0.0031	0.0027	13.8
Antimony T-Sb	0.00014	<0.00010	–	<0.00010	<0.00010	–
Arsenic T-As	0.00051	0.00050	2.0	0.00063	0.00059	6.6
Barium T-Ba	0.00279	0.00285	2.1	0.00578	0.00491	16.3
Beryllium T-Be	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Bismuth T-Bi	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Boron T-B	<0.010	<0.010	–	<0.010	<0.010	–
Cadmium T-Cd	<0.000017	<0.000017	–	<0.000017	0.00489	–
Calcium T-Ca	16.7	16.3	2.4	18.3	17.5	4.5
Chromium T-Cr	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Cobalt T-Co	<0.00010	0.00011	–	0.00024	0.00021	13.3
Copper T-Cu	0.00051	0.00056	9.3	0.00045	0.00046	2.2
Iron T-Fe	0.307	0.286	7.1	2.26	1.48	41.7
Lead T-Pb	0.00933	0.000743	170.5	0.00365	0.000499	151.9
Lithium T-Li	<0.0050	<0.0050	–	<0.0050	<0.0050	–
Magnesium T-Mg	11.7	11.5	1.7	11.9	11.7	1.7
Manganese T-Mn	0.0574	0.0559	2.6	0.403	0.327	20.8
Molybdenum T-Mo	0.000288	0.000280	2.8	0.000243	0.000250	2.8
Nickel T-Ni	0.00177	0.00187	5.5	0.00202	0.00191	5.6
Phosphorus T-P	<0.30	<0.30	–	<0.30	<0.30	–
Potassium T-K	<2.0	<2.0	–	<2.0	<2.0	–
Selenium T-Se	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Silicon T-Si	7.61	7.28	4.4	8.59	8.19	4.8
Silver T-Ag	<0.000010	<0.000010	–	<0.000010	<0.000010	–
Sodium T-Na	6.9	6.7	2.9	6.9	6.8	1.5
Strontium T-Sr	0.0487	0.0513	5.2	0.0539	0.0531	1.5
Thallium T-Tl	<0.00010	<0.00010	–	<0.00010	<0.00010	–
Tin T-Sn	<0.00010	<0.00010	–	<0.00010	<0.00010	–
Titanium T-Ti	<0.010	<0.010	–	<0.010	<0.010	–

Appendix Table C2: QA/QC Results - Duplicates 2006

10/1/2006				10/1/2006		
Sample	U1-2 Rep. 1	U2-2 Rep. 2	Diff. (%)	U1-3 Rep. 1	U2-3 Rep. 2	Diff. (%)
Uranium T-U	0.000059	0.000066	11.2	0.000057	0.000057	0.0
Vanadium T-V	0.0012	0.0013	8.0	0.0018	0.0015	18.2
Zinc T-Zn	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Dissolved Metals						
Aluminum D-Al	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Antimony D-Sb	<0.00010	<0.00010	–	<0.00010	<0.00010	–
Arsenic D-As	0.00047	0.00047	0.0	0.00054	0.00054	0.0
Barium D-Ba	0.00249	0.00236	5.4	0.00366	0.00383	4.5
Beryllium D-Be	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Bismuth D-Bi	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Boron D-B	<0.010	<0.010	–	<0.010	<0.010	–
Cadmium D-Cd	<0.000017	<0.000017	–	<0.000017	<0.000017	–
Calcium D-Ca	15.9	16.3	2.5	17.5	16.9	3.5
Chromium D-Cr	<0.00050	<0.00050	–	<0.00050	<0.00050	–
Cobalt D-Co	<0.00010	<0.00010	–	0.00011	0.00014	24.0
Copper D-Cu	0.00051	0.00049	4.0	0.00041	0.00043	4.8
Iron D-Fe	0.067	0.075	11.3	1.17	0.770	41.2
Lead D-Pb	0.000694	0.000169	121.7	0.000869	0.000180	131.4
Lithium D-Li	<0.0050	<0.0050	–	<0.0050	<0.0050	–
Magnesium D-Mg	11.1	11.4	2.7	11.4	11.2	1.8
Manganese D-Mn	0.00147	0.00213	36.7	0.127	0.257	67.7
Molybdenum D-Mo	0.000306	0.000283	7.8	0.00139	0.000269	135.1
Nickel D-Ni	0.00178	0.00175	1.7	0.00181	0.00180	0.6
Phosphorus D-P	<0.30	<0.30	–	<0.30	<0.30	–
Potassium D-K	<2.0	<2.0	–	<2.0	<2.0	–
Selenium D-Se	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Silicon D-Si	7.15	7.09	0.8	8.25	7.81	5.5
Silver D-Ag	<0.000010	<0.000010	–	<0.000010	<0.000010	–
Sodium D-Na	6.5	6.7	3.0	6.6	6.5	1.5
Strontium D-Sr	0.0516	0.0503	2.6	0.0542	0.0542	0.0
Thallium D-Tl	<0.00010	<0.00010	–	<0.00010	<0.00010	–
Tin D-Sn	<0.00010	<0.00010	–	<0.00010	<0.00010	–
Titanium D-Ti	<0.010	<0.010	–	<0.010	<0.010	–
Uranium D-U	0.000063	0.000059	6.6	0.000056	0.000055	1.8
Vanadium D-V	0.0011	0.0011	0.0	0.0012	0.0012	0.0
Zinc D-Zn	<0.0010	<0.0010	–	<0.0010	<0.0010	–
Organic Parameters						
Dissolved Organic Carbon C	15.5	15.4	0.6	15.9	15.8	0.6

Footnotes:
Results are expressed as milligrams
< = Less than the detection limit indi
Diff. = difference of field replicates r
Values highlighted in blue correspor
at the same time and location for wf

Appendix C3 1993 to 2006 Lake Water Quality Raw Data

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Conductivity	Hardness	pH	Alkalinity	Turb.	DOC	TOC	TDS	TSS	Chloride	Fluoride	Sulphate	Ammonia N	Nitrate N	Nitrite N	D. ortho-Phosphate-P	T.Disolved Phosphate
			umhos/cm	mg/L		mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Fish Lake	epilimnion	8/31/1993	164	79.5	7.75	90.3	1.43	–	13.9	125	4	0.8	0.05	2.7	0.041	<0.005	<0.001	0.004	0.012
Fish Lake	epilimnion	8/26/1994	160	78.2	8.24	89.2	0.7	–	15.2	104	4	0.7	0.02	3.5	0.033	<0.005	0.002	0.004	0.013
Fish Lake	epilimnion	8/31/1994	161	–	8.27	88.1	0.92	–	13.8	–	<1	0.7	0.79	2.4	0.009	<0.005	0.003	0.006	0.015
Fish Lake	epilimnion	7/31/1995	158	77	8.74	88.8	2.33	–	11.4	109	1	0.8	0.06	2.8	0.019	<0.005	0.002	0.004	0.01
Fish Lake	epilimnion	3/6/1996	188	89	7.37	99.1	0.4	–	14.3	180	1	0.9	0.07	2.2	0.091	0.128	0.001	0.005	0.011
Fish Lake	epilimnion	5/13/1996	156	77	7.49	79.8	1.3	–	11.4	99	<1	<0.5	0.04	<1.0	<0.005	<0.005	0.001	0.005	0.007
Fish Lake	epilimnion	3/14/1997	187	92.6	7.47	101	0.3	–	19.1	119	2	1	0.06	2	0.015	0.245	0.004	0.006	0.022
Fish Lake	epilimnion	5/29/1997	148	69.4	7.51	81	1.1	–	13	90	2	<0.5	0.06	<1	0.035	<0.005	<0.001	0.006	0.014
Fish Lake	epilimnion	5/23/2006	152	77.8	7.81	84.9	1.01	14.9	–	115	<3.0	<0.50	0.046	0.76	0.0180	<0.0050	<0.0010	0.0016	<0.0020
Fish Lake	epilimnion	5/23/2006	155	77.6	8.02	87.4	2.20	15.3	–	120	<3.0	<0.50	0.045	0.63	0.0200	<0.0050	<0.0010	0.0057	0.0135
Fish Lake	epilimnion	7/4/2006	160	80.7	8.04	94.9	1.05	15.9	–	128	<3.0	0.52	0.050	0.68	0.0120	<0.0050	<0.0010	0.0114	0.0247
Fish Lake	epilimnion	7/4/2006	158	81.5	8.17	88.2	1.12	14.9	–	128	<3.0	<0.50	0.050	0.66	0.0240	<0.0050	<0.0010	0.0061	0.0173
Fish Lake	epilimnion	10/1/2006	166	86.6	8.06	102	–	15.4	–	120	<3.0	<0.50	0.058	0.69	0.109	0.0082	0.0012	0.0092	0.0215
Fish Lake	epilimnion	10/1/2006	166	86.3	8.13	104	–	15.3	–	129	<3.0	<0.50	0.056	0.61	0.117	0.0083	<0.0010	0.0118	0.0259
Fish Lake	metalimnion	5/13/1996	156	77.4	7.51	79.3	1.1	–	11.7	100	4	<0.5	0.03	<1.0	<0.005	<0.005	0.001	0.002	0.002
Fish Lake	metalimnion	5/29/1997	158	75.1	7.26	88	1.7	–	12.8	96	2	<0.5	0.06	<1	0.023	<0.005	0.001	0.003	0.015
Fish Lake	metalimnion	5/23/2006	154	77.9	7.95	85.0	1.31	15.3	–	114	<3.0	<0.50	0.046	0.68	0.0187	<0.0050	<0.0010	0.0027	0.0033
Fish Lake	metalimnion	5/23/2006	155	78.6	8.04	87.0	1.58	15.7	–	120	<3.0	<0.50	0.048	0.62	0.0273	<0.0050	<0.0010	0.0071	0.0168
Fish Lake	metalimnion	7/4/2006	158	79.4	8.02	84.2	1.28	16.5	–	126	<3.0	<0.50	0.047	0.68	0.0227	0.0102	0.0055	0.0065	0.0160
Fish Lake	metalimnion	7/4/2006	158	77.8	8.07	85.6	1.75	14.5	–	130	<3.0	<0.50	0.048	0.66	0.0307	0.0105	0.0061	0.0093	0.0167
Fish Lake	metalimnion	10/1/2006	167	85.6	8.11	103	–	15.5	–	122	<3.0	<0.50	0.057	0.63	0.127	0.0082	0.0012	0.0136	0.0280
Fish Lake	metalimnion	10/1/2006	166	87.6	8.13	97.5	–	15.4	–	129	<3.0	<0.50	0.056	0.61	0.136	0.0082	0.0011	0.0127	0.0292
Fish Lake	hypolimnion	7/31/1995	183	88.7	7.68	101	4.06	–	13.7	124	5	0.7	0.06	<1.0	0.154	<0.005	0.006	0.077	0.088
Fish Lake	hypolimnion	5/13/1996	155	78.9	7.54	78.8	6.1	–	11.8	100	19	<0.5	0.03	<1.0	0.005	<0.005	0.001	0.002	0.002
Fish Lake	hypolimnion	5/29/1997	202	97.7	7.17	118	4.6	–	13.7	139	8	<0.5	0.09	<1	0.22	<0.005	0.001	0.039	0.057
Fish Lake	hypolimnion	5/23/2006	180	91.0	7.86	105	4.32	15.4	–	133	4.6	<0.50	0.051	0.68	0.0533	<0.0050	0.0010	0.0241	0.0361
Fish Lake	hypolimnion	5/23/2006	176	93.7	7.67	98.1	4.59	16.8	–	138	6.1	<0.50	0.053	0.68	0.0927	0.0062	0.0014	0.0326	0.0420
Fish Lake	hypolimnion	7/4/2006	179	89.8	7.89	115	3.95	15.1	–	149	6.0	<0.50	0.059	<0.50	0.195	<0.0050	0.0013	0.173	0.168
Fish Lake	hypolimnion	7/4/2006	180	92.2	7.93	97.5	6.12	15.5	–	146	5.0	<0.50	0.057	<0.50	0.207	<0.0050	0.0015	0.209	0.213
Fish Lake	hypolimnion	10/1/2006	180	90.3	7.91	109	–	15.9	–	143	4.5	<0.50	0.059	<0.50	0.521	<0.0050	<0.0010	0.193	0.211
Fish Lake	hypolimnion	10/1/2006	173	88.4	7.91	110	–	15.8	–	134	4.0	<0.50	0.059	<0.50	0.404	<0.0050	<0.0010	0.129	0.145
Big Lake	epilimnion	3/6/1996	510	228	8.12	298	2.4	–	22.2	345	5	1.7	0.15	7.1	0.025	0.192	0.003	0.012	0.022
Big Lake	epilimnion	5/13/1998	468	214	8.12	265	1	–	17.4	335	3	0.8	0.2	3	0.045	<0.005	<0.001	<0.001	0.002
Big Lake	metalimnion	5/13/1998	505	224	8.24	283	1.3	–	18.6	355	<1	0.9	0.21	3	0.04	0.008	0.002	<0.001	0.009
Big Lake	hypolimnion	5/13/1998	543	239	8.16	296	2	–	19.6	374	<1	1	0.21	3	0.422	<0.005	<0.001	<0.001	<0.001
Big Onion Lake	epilimnion	8/27/1994	261	139	8.68	142	2.8	–	15.4	182	5	0.9	0.03	8.4	0.033	<0.005	0.002	0.008	0.022
Big Onion Lake	epilimnion	3/5/1996	318	158	7.62	162	1.4	–	15.2	210	2	1.4	0.15	8.4	0.088	0.082	0.002	0.005	0.007
Big Onion Lake	epilimnion	5/13/1996	284	148	8.02	146	2.1	–	8.9	195	2	0.9	0.09	6.1	0.013	0.013	0.001	0.009	0.01
Big Onion Lake	epilimnion	3/14/1997	326	161	7.92	173	1	–	15.2	202	2	1.4	0.11	8	0.013	0.04	0.003	<0.001	0.016
Big Onion Lake	epilimnion	5/29/1997	285	140	8.02	160	1.9	–	11.3	187	5	0.8	0.14	5	0.015	<0.005	<0.001	0.001	0.01
Big Onion Lake	metalimnion	5/13/1996	284	146	8.04	147	1.9	–	8.1	195	3	0.9	0.09	6.1	0.009	0.006	0.001	0.003	0.015
Big Onion Lake	metalimnion	5/29/1997	289	138	8.01	161	2.1	–	11.2	186	5	0.8	0.12	5	0.044	0.018	<0.001	0.002	0.011
Big Onion Lake	hypolimnion	5/13/1996	284	146	8.06	144	2.1	–	9.1	199	5	0.9	0.09	6.1	0.011	0.005	0.001	0.005	0.005
Big Onion Lake	hypolimnion	5/29/1997	287	140	7.8	164	3.1	–	11	189	6	0.8	0.12	5	0.043	0.007	<0.001	0.002	0.009
Little Fish Lake		8/31/1993	185	92.5	6.62	101	1.96	–	18.2	142	1	1.3	0.06	2.7	0.031	0.011	<0.001	0.005	0.005
Little Fish Lake		8/29/1994	193	103	7.87	104	0.6	–	17	122	<1	1	0.79	3.9	0.025	<0.005	0.003	0.004	0.004
Little Fish Lake		3/6/1996	209	111	7.3	118	0.8	–	21.1	172	3	1.2	0.07	2.6	0.01	0.116	0.002	0.014	0.018
Little Fish Lake		5/14/1996	232	115	7.32	124	15.5	–	20.4	155	34	0.8	0.08	<1.0	0.061	0.008	0.003	0.03	0.041
Little Fish Lake		5/14/1996	124	68.1	7.38	60.9	0.9	–	13.8	83	1	<0.5	<0.02	<1.0	0.006	<0.005	0.001	0.002	0.013
Little Fish Lake		3/14/1997	223	118	7.4	128	0.7	–	26.2	169	<1	1.1	0.07	2	0.025	0.133	0.003	0.019	0.028
Little Fish Lake		5/27/1997	168	81.7	7.47	94	1.6	–	19.3	106	1	<0.5	0.07	<1	0.024	<0.005	<0.001	0.003	0.003

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Conductivity	Hardness	pH	Alkalinity	Turb.	DOC	TOC	TDS	TSS	Chloride	Fluoride	Sulphate	Ammonia N	Nitrate N	Nitrite N	D. ortho-Phosphate-P	T.Disolved Phosphate
Little Onion Lake		3/14/1997	332	170	7.75	182	1.4	–	19.5	210	5	1.2	0.09	4	<0.005	<0.005	0.002	<0.001	0.017
Little Onion Lake		5/27/1997	249	124	7.93	146	1.2	–	10	162	3	<0.5	0.13	2	0.025	<0.005	<0.001	0.001	0.006
North Rat Cabin L		8/15/1997	181	–	8.08	91	1.1	–	18.4	–	4	<0.5	0.09	1	0.019	<0.005	0.002	0.001	0.003
North Rat Cabin L		5/13/1998	184	89.1	7.88	94	1.5	–	14.7	107	1	<0.5	0.06	1	0.026	<0.005	<0.001	0.002	0.007
South Rat Cabin L	–	8/16/1997	177	–	7.61	90	5	–	16.7	–	3	<0.5	0.1	1	0.13	<0.005	0.002	0.015	0.025
South Rat Cabin L	–	5/13/1998	165	80.1	7.86	82	0.7	–	14.8	97	<1	<0.5	0.06	1	0.028	<0.005	<0.001	<0.001	<0.001
Slim Lake	epilimnion	8/23/1994	2850**	163	2**	<1.0**	–	–	12.5	–	–	0.8	0.15	6.8	0.008	–	–	<0.001	–
Slim Lake	epilimnion	3/4/1996	395	169	8.4	214	8.9	–	–	239	27	1.3	0.15	6.8	<0.005	<0.005	0.001	0.005	0.005
Slim Lake	epilimnion	3/14/1997	398	177	8.17	223	0.8	–	15.4	232	1	1.3	0.18	6	0.011	0.071	0.003	<0.001	0.008
Slim Lake	epilimnion	6/4/1997	365	159	8.34	216	0.8	–	10.6	262	2	1.5	0.63	4	0.023	0.008	0.001	<0.001	0.001
Slim Lake	metalimnion	6/4/1997	366	163	8.29	212	1	–	10.9	260	<1	0.5	0.19	4	0.029	<0.005	<0.001	<0.001	0.003
Slim Lake	hypolimnion	6/4/1997	393	170	7.71	229	1.4	–	12.1	277	3	0.6	0.22	4	0.019	<0.005	<0.001	0.001	0.003
Tête Angela Lake	–	5/13/1998	170	81.4	7.82	81	0.9	–	11	104	1	<0.5	0.04	4	0.01	<0.005	<0.001	<0.001	0.001
Vick Lake	–	8/25/1994	282	146	7.8	161	1.3	–	19	181	1	0.8	0.14	4.2	0.073	<0.005	0.002	0.009	0.009
Vick Lake	–	3/5/1996	415	197	7.55	224	3.3	–	16.1	269	7	1.4	0.16	5.2	0.029	<0.005	0.001	0.006	0.011
Vick Lake	–	3/14/1997	417	201	7.77	227	2.3	–	16.2	272	4	1.2	0.16	7	<0.005	<0.005	0.002	<0.001	0.012
Wasp Lake	–	8/31/1993	183	81.8	8.43	99.2	1.18	–	11.8	132	1	1.7	0.09	1.9	0.071	0.014	<0.001	0.006	0.014
Wasp Lake	–	8/28/1994	182	85.6	8.46	96.7	1.1	–	16.3	113	4	1.3	0.1	<1.0	0.024	<0.005	0.001	0.005	0.014
Wasp Lake	–	7/31/1995	184	82.7	8.62	102	3.59	–	12	124	<1	1.4	0.09	1.3	0.017	<0.005	0.001	0.002	0.007
Wasp Lake	–	3/6/1996	230	103	7.31	123	2.2	–	14	153	11	2	0.1	<1.0	0.066	0.033	0.005	0.003	0.005
Wasp Lake	–	5/14/1996	90.2	35.6	7.2	46.7	0.8	–	6.6	57	1	0.7	0.03	<1.0	0.016	0.007	<0.001	0.001	0.002
Wasp Lake	–	5/14/1996	213	93	7.26	108	5.1	–	11.5	132	19	1.4	0.1	<1.0	0.032	<0.005	0.006	0.002	0.002
Wasp Lake	–	3/14/1997	223	97.5	7.41	116	0.5	–	15.8	150	<1	1.7	0.11	<1	0.042	0.154	0.002	<0.001	0.004
Wasp Lake	–	5/27/1997	183	78.7	7.73	104	1	–	8.2	148	<1	1.2	0.12	<1	0.015	<0.005	<0.001	0.001	0.004
Wolf Trap Lake	–	3/6/1996	435	240	7.63	256	4.4	–	21.7	289	16	1	0.07	1.9	0.09	<0.005	0.001	0.005	0.005
Wolf Trap Lake	–	5/24/1996	274	146	7.88	161	1.2	–	12.3	188	3	<0.5	0.06	<1.0	0.013	<0.005	0.001	0.002	0.008
Wolf Trap Lake	–	5/24/1996	56.4	27	6.91	29.4	1	–	15	43	<1	<0.5	0.03	<1.0	0.015	<0.005	0.002	0.002	0.002
Wolf Trap Lake	–	3/14/1997	413	230	7.85	249	1.4	–	23.7	294	1	1	0.08	<1	0.315	<0.005	0.002	<0.001	0.006
Wolf Trap Lake	–	5/28/1997	290	160	8.17	180	0.9	–	13.3	208	4	<0.5	0.08	<1	0.019	<0.005	<0.001	<0.001	0.005

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	T. Phosphate	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Fish Lake	epilimnion	8/31/1993	0.016	0.007	0.016	<0.0001	<0.0001	0.0001	0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.3	15.8	<0.001	<0.001	<0.001
Fish Lake	epilimnion	8/26/1994	0.015	<0.005	<0.005	<0.0001	<0.0001	0.0001	0.0002	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.6	14.6	<0.001	<0.001	<0.001
Fish Lake	epilimnion	8/31/1994	0.015	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	7/31/1995	0.015	0.006**	0.029**	<0.0001	<0.0001	0.0001	0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.8	<0.001	<0.001	<0.001
Fish Lake	epilimnion	3/6/1996	0.019	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	5/13/1996	0.017	0.013	0.008	<0.0001	<0.0001	0.0003	0.0004	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	13.7	14.4	0.002	<0.001	<0.001
Fish Lake	epilimnion	3/14/1997	0.037	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17.2	–	–	–
Fish Lake	epilimnion	5/29/1997	0.024	0.005	<0.005	<0.0001	<0.0001	0.0003	0.0003	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	12.8	12.2	<0.001	<0.001	<0.001
Fish Lake	epilimnion	5/23/2006	0.0026	0.0016	0.0035	<0.00010	<0.00010	0.00033	0.00035	0.00197	0.00211	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.7	14.7	<0.00050	<0.00050	<0.00010
Fish Lake	epilimnion	5/23/2006	0.0212	0.0023	0.0033	<0.00010	<0.00010	0.00034	0.00034	0.00204	0.00208	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.5	14.8	<0.00050	<0.00050	<0.00010
Fish Lake	epilimnion	7/4/2006	0.0256	<0.0050	0.0229	0.00011	0.00016	0.00038	0.00041	0.00180	0.00233	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.6	15.0	<0.00050	<0.00050	<0.00010
Fish Lake	epilimnion	7/4/2006	0.0199	<0.0050	<0.0070	<0.00010	<0.00010	0.00039	0.00042	0.00166	0.00215	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.8	14.9	<0.00050	<0.00050	<0.00010
Fish Lake	epilimnion	10/1/2006	0.0414	<0.0010	0.0070	0.00012	0.00016	0.00047	0.00050	0.00244	0.00286	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	16.0	16.4	<0.00050	<0.00050	<0.00010
Fish Lake	epilimnion	10/1/2006	0.0844	<0.0010	0.0022	<0.00010	<0.00010	0.00048	0.00050	0.00236	0.00275	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	16.0	16.3	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	5/13/1996	0.03	0.012	0.006	<0.0001	<0.0001	0.0003	0.0003	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.3	14.5	0.001	<0.001	<0.001
Fish Lake	metalimnion	5/29/1997	0.023	<0.005	<0.005	<0.0001	0.0001	0.0003	0.0003	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14	12.6	<0.001	<0.001	<0.001
Fish Lake	metalimnion	5/23/2006	0.0049	0.0016	0.0031	<0.00010	<0.00010	0.00036	0.00034	0.00205	0.00207	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.7	14.6	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	5/23/2006	0.0293	0.0020	0.0033	<0.00010	<0.00010	0.00036	0.00037	0.00203	0.00211	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.8	15.1	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	7/4/2006	0.0216	<0.0050	0.0071	<0.00010	<0.00010	0.00039	0.00042	0.00208	0.00246	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.6	15.1	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	7/4/2006	0.0241	<0.0050	0.0034	<0.00010	<0.00010	0.00039	0.00041	0.00205	0.00223	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	14.4	15.6	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	10/1/2006	0.0376	<0.0010	0.0020	<0.00010	0.00014	0.00047	0.00051	0.00249	0.00279	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	15.9	16.7	<0.00050	<0.00050	<0.00010
Fish Lake	metalimnion	10/1/2006	0.0431	<0.0010	0.0024	<0.00010	<0.00010	0.00047	0.00050	0.00236	0.00285	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	16.3	16.3	<0.00050	<0.00050	<0.00010
Fish Lake	hypolimnion	7/31/1995	0.134	<0.050	<0.050	<0.0001	<0.0001	0.0002	0.0002	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	17.1	16.8	<0.001	<0.001	<0.001
Fish Lake	hypolimnion	5/13/1996	0.022	0.008	0.058	<0.0001	<0.0001	0.0003	0.0003	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	14.6	14.6	0.001	<0.001	<0.001
Fish Lake	hypolimnion	5/29/1997	0.133	<0.005	<0.005	<0.0001	<0.0001	0.0008	0.0008	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.8	18.9	<0.001	<0.001	<0.001
Fish Lake	hypolimnion	5/23/2006	0.0915	0.0019	0.0025	<0.00010	<0.00010	0.00048	0.00055	0.00247	0.00437	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.5	17.9	<0.00050	<0.00050	<0.00010
Fish Lake	hypolimnion	5/23/2006	0.105	0.0025	0.0024	<0.00010	<0.00010	0.00043	0.00060	0.00262	0.00448	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.9	18.1	<0.00050	<0.00080	<0.00010
Fish Lake	hypolimnion	7/4/2006	0.288	<0.0050	0.0028	<0.00010	<0.00010	0.00063	0.00071	0.00427	0.00556	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.1	18.4	<0.00050	<0.00050	0.00012
Fish Lake	hypolimnion	7/4/2006	0.320	<0.0050	0.0047	<0.00010	<0.00010	0.00068	0.00075	0.00491	0.00617	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.6	18.7	<0.00050	<0.00050	0.00018
Fish Lake	hypolimnion	10/1/2006	0.302	<0.0010	0.0031	<0.00010	<0.00010	0.00054	0.00063	0.00366	0.00578	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	<0.000017	17.5	18.3	<0.00050	<0.00050	0.00011
Fish Lake	hypolimnion	10/1/2006	0.199	<0.0010	0.0027	<0.00010	<0.00010	0.00054	0.00059	0.00383	0.00491	<0.00050	<0.00050	<0.00050	<0.00050	<0.010	<0.010	<0.000017	0.00489	16.9	17.5	<0.00050	<0.00050	0.00014
Big Lake	epilimnion	3/6/1996	0.048	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	33.4	–	–	–	–
Big Lake	epilimnion	5/13/1998	0.006	0.001	0.017*	<0.00005	0.00006	0.0007	0.0007	0.00512	0.00582	<0.0005	<0.0005	<0.0005	<0.0005	0.06	0.059	<0.00005	0.00006	29.8	29.5	<0.0005	<0.0005	<0.0001
Big Lake	metalimnion	5/13/1998	0.01	<0.001	0.005	<0.00005	0.00005	0.0008	0.0007	0.0053	0.00562	<0.0005	<0.0005	<0.0005	<0.0005	0.066	0.068	<0.00005	<0.00005	31	31.5	<0.0005	<0.0005	<0.0001
Big Lake	hypolimnion	5/13/1998	<0.001	0.002	0.002	<0.00005	<0.00005	0.0008	0.0007	0.00618	0.00617	<0.0005	<0.0005	<0.0005	<0.0005	0.072	0.07	<0.00005	<0.00005	33.4	33.5	0.0006	0.0006	<0.0001
Big Onion Lake	epilimnion	8/27/1994	0.028	<0.005	0.009	<0.0001	<0.0001	0.0001	0.001	0.011	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	32.2	32.2	<0.001	<0.001	<0.001
Big Onion Lake	epilimnion	3/5/1996	0.025	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	37.7	–	–	–	–
Big Onion Lake	epilimnion	5/13/1996	0.017	0.01	0.009	<0.0001	<0.0001	0.0004	0.0004	0.01	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	35.2	36.3	0.002	<0.001	<0.001
Big Onion Lake	epilimnion	3/14/1997	0.021	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	38	–	–	–
Big Onion Lake	epilimnion	5/29/1997	0.017	<0.005	0.006	0.0001	0.0001	0.0004	0.0003	0.015	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	33.5	32.8	<0.001	<0.001	<0.001
Big Onion Lake	metalimnion	5/13/1996	0.018	0.011	0.009	<0.0001	<0.0001	0.0003	0.0004	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	35.6	35.8	0.001	<0.001	<0.001
Big Onion Lake	metalimnion	5/29/1997	0.025	<0.005	0.006	0.0001	0.0001	0.0004	0.0003	0.014	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	32.9	31.6	<0.001	<0.0	

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	T. Phosphate	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.
Little Onion Lake		3/14/1997	0.026	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	40.8	–	–	–
Little Onion Lake		5/27/1997	0.011	<0.005	0.005	0.0002	0.0002	0.0002	0.0003	0.014	0.014	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	29.8	29	<0.001	0.003	<0.001
North Rat Cabin L		8/15/1997	0.018	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
North Rat Cabin L		5/13/1998	0.013	<0.001	0.005	0.00006	0.00007	0.0008	0.0008	0.00244	0.00279	<0.0005	<0.0005	<0.0005	<0.0005	0.004	0.004	<0.00005	<0.00005	19.4	19.5	<0.0005	<0.0005	<0.0001
South Rat Cabin L	–	8/16/1997	0.034	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
South Rat Cabin L	–	5/13/1998	0.001	0.002	0.004	<0.00005	0.00005	0.0008	0.0008	0.00196	0.0021	<0.0005	<0.0005	<0.0005	<0.0005	0.006	0.007	<0.00005	<0.00005	17.5	17.3	<0.0005	<0.0005	<0.0001
Slim Lake	epilimnion	8/23/1994	0.006	<0.005	<0.005	<0.0001	<0.0001	0.0001	0.0001	0.017	0.018	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	–	25.7	25.9	<0.001	<0.001	<0.001
Slim Lake	epilimnion	3/4/1996	0.037	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	<0.0002	26	–	–	–	–
Slim Lake	epilimnion	3/14/1997	0.019	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	26.3	–	–	–
Slim Lake	epilimnion	6/4/1997	0.014	<0.005	<0.005	<0.0001	<0.0001	0.0008	0.0007	0.015	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	0.1	<0.0002	–	23.3	23.5	<0.001	<0.001	<0.001
Slim Lake	metalimnion	6/4/1997	0.016	<0.005	0.006	<0.0001	<0.0001	0.0007	0.0007	0.015	0.015	<0.005	<0.005	<0.10	<0.10	<0.10	0.1	<0.0002	–	24	24.1	<0.001	<0.001	<0.001
Slim Lake	hypolimnion	6/4/1997	0.033	<0.005	<0.005	<0.0001	<0.0001	0.0007	0.0008	0.015	0.015	<0.005	<0.005	<0.10	<0.10	0.11	<0.10	<0.0002	–	25.2	25.1	<0.001	<0.001	<0.001
Tête Angela Lake	–	5/13/1998	0.003	0.001	0.003	0.00005	0.00005	0.0016	0.0017	0.00226	0.00249	<0.0005	<0.0005	<0.0005	<0.0005	0.008	0.008	<0.00005	<0.00005	17.8	17.8	<0.0005	<0.0005	<0.0001
Vick Lake	–	8/25/1994	0.021	<0.005	<0.005	<0.0001	<0.0001	0.0001	0.0003	0.01	0.011	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	33.7	33.7	<0.001	<0.001	<0.001
Vick Lake	–	3/5/1996	0.06	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	44.3	–	–	–	–
Vick Lake	–	3/14/1997	0.049	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	46.9	–	–	–
Wasp Lake	–	8/31/1993	0.015	0.006	0.008	<0.0001	<0.0001	<0.0001	<0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.3	15.6	<0.001	<0.001	<0.001
Wasp Lake	–	8/28/1994	0.015	<0.005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	16.5	16.7	<0.001	<0.001	<0.001
Wasp Lake	–	7/31/1995	0.013	<0.005	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	0.11	0.11	<0.0002	<0.0002	15.3	15.3	<0.001	<0.001	<0.001
Wasp Lake	–	3/6/1996	0.025	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	20.6	–	–	–	–
Wasp Lake	–	5/14/1996	0.003	0.016	0.024	<0.0001	<0.0001	0.0001	0.0001	<0.010	<0.01	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	7.04	6.99	<0.001	<0.001	<0.001
Wasp Lake	–	5/14/1996	0.018	0.016	0.022	<0.0001	<0.0001	0.0003	0.0004	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	18.4	18.9	0.001	<0.001	<0.001
Wasp Lake	–	3/14/1997	0.006	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19.3	–	–	–
Wasp Lake	–	5/27/1997	0.007	<0.005	<0.005	<0.0001	<0.0001	0.0003	0.0003	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	15.6	16	<0.001	<0.001	<0.001
Wolf Trap Lake	–	3/6/1996	0.029	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	31.8	–	–	–
Wolf Trap Lake	–	5/24/1996	0.009	0.009	0.012	<0.0001	<0.0001	0.0004	0.0004	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	19.2	19.4	<0.001	<0.001	<0.001
Wolf Trap Lake	–	5/24/1996	0.011	0.021	0.031	<0.0001	<0.0001	0.0001	0.0001	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	5.3	5.26	<0.001	<0.001	<0.001
Wolf Trap Lake	–	3/14/1997	0.009	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	30.8	–	–	–
Wolf Trap Lake	–	5/28/1997	0.008	<0.005	<0.005	<0.0001	<0.0001	0.0004	0.0004	<0.010	<0.010	<0.005	<0.005	<0.10	<0.10	<0.10	<0.10	<0.0002	<0.0002	21.3	20	<0.001	<0.001	<0.001

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Fish Lake	epilimnion	8/31/1993	<0.001	<0.001	<0.001	0.05	0.088	<0.001	<0.001	–	–	10	10.3	<0.005	0.013	<0.001	<0.001	<0.001	0.001	–	–	0.64	–	<0.0005	<0.0005	7.43	7.62
Fish Lake	epilimnion	8/26/1994	<0.001	<0.001	<0.001	0.071	0.113	<0.001	<0.001	–	–	10.2	10.2	<0.005	0.013	<0.001	<0.001	0.002	0.002	–	–	0.56	–	<0.0005	<0.0005	7.84	7.86
Fish Lake	epilimnion	8/31/1994	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	7/31/1995	<0.001	<0.001	<0.001	0.049	0.071	<0.001	<0.001	–	–	10	10.3	<0.005	0.01	<0.001	<0.001	0.002	0.002	–	–	0.98	–	<0.0005	<0.0005	6.27	6.43
Fish Lake	epilimnion	3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	5/13/1996	<0.001	0.001	<0.001	0.163	0.167	0.001	<0.001	–	–	9.54	9.96	0.012	0.012	<0.001	<0.001	0.002	0.002	–	–	1	–	<0.0005	<0.0005	5.81	6.01
Fish Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	5/29/1997	<0.001	<0.001	<0.001	0.12	0.156	<0.001	<0.001	–	–	9.11	8.7	<0.005	0.007	<0.001	<0.001	0.002	0.002	–	–	1	–	<0.0005	<0.0005	6.32	6.37
Fish Lake	epilimnion	5/23/2006	<0.00010	<0.0010	0.00121	0.089	0.146	0.000052	0.000135	<0.0050	<0.0050	10.0	9.96	0.000392	0.00628	0.000260	0.000252	0.00197	0.00201	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.81	6.68
Fish Lake	epilimnion	5/23/2006	<0.00010	<0.0010	0.00112	0.096	0.146	0.000093	0.000307	<0.0050	<0.0050	10.0	10.1	0.00222	0.00651	0.000293	0.000282	0.00203	0.00202	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.76	6.73
Fish Lake	epilimnion	7/4/2006	<0.00010	0.00126	0.00170	0.045	0.085	0.000086	0.000224	<0.0050	<0.0050	10.7	10.8	0.00222	0.00796	0.000284	0.000329	0.00208	0.00247	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.11	6.03
Fish Lake	epilimnion	7/4/2006	<0.00010	0.00066	0.00101	0.043	0.072	<0.000050	<0.00010	<0.0050	<0.0050	10.8	10.8	0.00190	0.00756	0.000272	0.000328	0.00199	0.00241	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.00	5.97
Fish Lake	epilimnion	10/1/2006	0.00012	0.00067	0.00083	0.032	0.260	0.000182	0.00569	<0.0050	<0.0050	11.3	11.5	0.000938	0.0547	0.000267	0.000298	0.00180	0.00194	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.11	7.42
Fish Lake	epilimnion	10/1/2006	0.00010	0.00045	0.00057	0.080	0.261	0.000065	0.000350	<0.0050	<0.0050	11.3	11.6	0.00259	0.0548	0.000290	0.000265	0.00176	0.00187	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.21	7.32
Fish Lake	metalimnion	5/13/1996	<0.001	0.001	<0.001	0.169	0.171	<0.001	<0.001	–	–	9.92	10	0.013	0.012	<0.001	<0.001	0.002	0.002	–	–	1.04	–	<0.0005	<0.0005	5.99	6.02
Fish Lake	metalimnion	5/29/1997	<0.001	<0.001	<0.001	0.158	0.247	<0.001	<0.001	–	–	9.76	8.91	<0.005	0.024	<0.001	<0.001	0.002	0.002	–	–	1.04	–	<0.0005	<0.0005	6.88	6.71
Fish Lake	metalimnion	5/23/2006	<0.00010	0.0016	0.00140	0.094	0.157	0.000062	0.000110	<0.0050	<0.0050	9.99	9.96	0.000526	0.00753	0.000274	0.000260	0.00199	0.00200	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.77	6.74
Fish Lake	metalimnion	5/23/2006	<0.00010	<0.0010	0.00081	0.089	0.148	<0.000050	0.000114	<0.0050	<0.0050	10.1	10.4	0.000427	0.00650	0.000298	0.000245	0.00213	0.00209	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.82	6.89
Fish Lake	metalimnion	7/4/2006	<0.00010	0.00067	0.00111	0.113	0.189	0.000235	0.00102	<0.0050	<0.0050	10.5	10.8	0.0210	0.0320	0.000295	0.000319	0.00205	0.00245	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	6.10	6.30
Fish Lake	metalimnion	7/4/2006	<0.00010	0.00061	0.00071	0.125	0.209	0.000267	0.000632	<0.0050	<0.0050	10.2	11.2	0.0268	0.0362	0.000281	0.000292	0.00208	0.00211	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	5.96	6.52
Fish Lake	metalimnion	10/1/2006	<0.00010	0.00051	0.00051	0.067	0.307	0.000694	0.00933	<0.0050	<0.0050	11.1	11.7	0.00147	0.0574	0.000306	0.000288	0.00178	0.00177	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.15	7.61
Fish Lake	metalimnion	10/1/2006	0.00011	0.00049	0.00056	0.075	0.286	0.000169	0.000743	<0.0050	<0.0050	11.4	11.5	0.00213	0.0559	0.000283	0.000280	0.00175	0.00187	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.09	7.28
Fish Lake	hypolimnion	7/31/1995	<0.001	<0.001	<0.001	1.05	1.21	<0.001	<0.001	–	–	11.2	10.9	0.269	0.319	<0.001	<0.001	0.002	0.002	–	–	1.19	–	<0.0005	<0.0005	9.47	9.25
Fish Lake	hypolimnion	5/13/1996	<0.001	0.001	0.002	0.185	0.318	<0.001	<0.001	–	–	9.96	10.3	0.017	0.023	<0.001	<0.001	0.002	0.002	–	–	0.96	–	<0.0005	<0.0005	6.05	6.14
Fish Lake	hypolimnion	5/29/1997	<0.001	<0.001	<0.001	2.21	2.13	<0.001	<0.001	–	–	12.3	12.6	0.499	0.493	<0.001	<0.001	0.002	0.002	–	–	1.09	–	<0.0005	<0.0005	9.9	10
Fish Lake	hypolimnion	5/23/2006	0.00030	<0.0010	0.00096	0.285	0.909	<0.000050	<0.000050	<0.0050	<0.0050	11.5	11.6	0.00177	0.444	0.000273	0.000302	0.00206	0.00241	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.77	8.75
Fish Lake	hypolimnion	5/23/2006	0.00037	0.00043	0.00073	0.310	1.02	<0.000050	0.000540	<0.0050	<0.0050	11.9	11.9	0.00154	0.523	0.000282	0.000279	0.00203	0.00243	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.78	8.95
Fish Lake	hypolimnion	7/4/2006	0.00036	0.00035	0.00056	2.02	2.72	0.000147	0.000611	<0.0050	<0.0050	11.5	12.3	0.215	0.538	0.000292	0.000285	0.00217	0.00230	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.87	8.42
Fish Lake	hypolimnion	7/4/2006	0.00038	0.00035	0.00068	2.43	3.10	0.000060	0.000131	<0.0050	<0.0050	11.7	12.5	0.318	0.585	0.000303	0.000287	0.00223	0.00229	<0.30	0.30	<2.0	<2.0	<0.0010	<0.0010	8.19	8.57
Fish Lake	hypolimnion	10/1/2006	0.00024	0.00041	0.00045	1.17	2.26	0.000869	0.00365	<0.0050	<0.0050	11.4	11.9	0.127	0.403	0.00139	0.000243	0.00181	0.00202	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	8.25	8.59
Fish Lake	hypolimnion	10/1/2006	0.00021	0.00043	0.00046	0.770	1.48	0.000180	0.000499	<0.0050	<0.0050	11.2	11.7	0.257	0.327	0.000269	0.000250	0.00180	0.00191	<0.30	<0.30	<2.0	<2.0	<0.0010	<0.0010	7.81	8.19
Big Lake	epilimnion	3/6/1996	–	–	–	–	–	–	–	–	–	35.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Lake	epilimnion	5/13/1998	0.0001	0.0002	0.0011*	<0.03	<0.03	<0.00005	0.00008	0.003	0.003	34	33.3	0.00078	0.00413	0.00035	0.00036	0.0005	0.0008	–	–	5	5	<0.0005	<0.0005	2.75	2.7
Big Lake	metalimnion	5/13/1998	<0.0001	0.0003	0.0003	<0.03	<0.03	<0.00005	<0.00005	0.003	0.003	35.6	36.2	0.00038	0.0054	0.00035	0.00037	0.0006	0.0007	–	–	6	6	<0.0005	<0.0005	3.17	3.23
Big Lake	hypolimnion	5/13/1998	<0.0001	0.0003	0.0003	<0.03	<0.03	<0.00005	<0.00005	0.003	0.003	37.8	37.9	0.0986	0.0968	0.00032	0.00033	0.0006	0.0007	–	–	6	5	<0.0005	<0.0005	5.34	5.36
Big Onion Lake	epilimnion	8/27/1994	<0.001	<0.001	0.001	<0.030	0.04	<0.001	–	–	–	14.1	14.2	0.007	0.011	<0.001	<0.001	<0.001	<0.001	–	–	1.05	–	<0.0005	<0.0005	6.73	6.82
Big Onion Lake	epilimnion	3/5/1996	–	–	–	–	–	–	–	–	–	15.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Onion Lake	epilimnion	5/13/1996	<0.001	<0.001	0.001	<0.030	0.032	<0.001	–	–	–	13.6	13.9	0.006	0.006	<0.001	<0.001	<0.001	<0.001	–	–	1.1	–	<0.0005	<0.0005	5.4	5.47
Big Onion Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	16.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Onion Lake	epilimnion	5/29/1997	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	–	–	–	13.8	13.4	<0.005	0.006	<0.001	<0.001	<0.001	<0.001	–	–	1.17	–	<0.0005	<0.0005	6.16	6.03
Big Onion Lake	metalimnion	5/13/1996	<0.001	0.001	<0.001	0.032	0.032	<0.001	–	–	–	13.7	13.8	0.007	0.006	<0.001	<0.001	<0.001	<0.001	–	–	1	–	<0.0005	<0.0005	5.45	5.46
Big Onion Lake	metalimnion	5/29/1997	<0.001	<0.001	<0.001	<0.030	<0.030																				

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total
Little Onion Lake		3/14/1997	–	–	–	–	–	–	–	–	–	–	16.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Little Onion Lake		5/27/1997	<0.001	<0.001	<0.001	<0.030	0.082	0.009	<0.001	–	–	11.9	11.7	<0.005	0.019	<0.001	<0.001	<0.001	<0.001	–	–	0.79	–	<0.0005	<0.0005	4.09	4.21
North Rat Cabin L		8/15/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
North Rat Cabin L		5/13/1998	<0.0001	0.0007	0.0007	<0.03	0.1	<0.00005	<0.00005	<0.001	<0.001	9.9	9.9	0.00144	0.0147	0.0004	0.0004	0.0015	0.0016	–	–	<2	<2	<0.0005	<0.0005	6.14	6.26
South Rat Cabin L	–	8/16/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
South Rat Cabin L	–	5/13/1998	<0.0001	0.0008	0.0008	0.08	0.11	<0.00005	<0.00005	<0.001	<0.001	8.8	8.8	0.00522	0.0114	0.00039	0.00038	0.0015	0.0015	–	–	<2	<2	<0.0005	<0.0005	6.6	6.59
Slim Lake	epilimnion	8/23/1994	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001	–	–	23.9	23.9	<0.005	0.005	<0.001	<0.001	<0.001	<0.001	–	–	2.62	–	<0.0005	<0.0005	3.54	3.54
Slim Lake	epilimnion	3/4/1996	–	–	–	–	–	–	–	–	–	25.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Slim Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	27.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Slim Lake	epilimnion	6/4/1997	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001	–	–	24.6	25	<0.005	0.006	<0.001	<0.001	<0.001	<0.001	–	–	2.95	–	<0.0005	<0.0005	3.99	4.06
Slim Lake	metalimnion	6/4/1997	<0.001	<0.001	<0.001	<0.030	<0.030	<0.001	<0.001	–	–	25.1	25.1	<0.005	0.009	<0.001	<0.001	<0.001	<0.001	–	–	2.95	–	<0.0005	<0.0005	4.09	4.12
Slim Lake	hypolimnion	6/4/1997	<0.001	<0.001	<0.001	<0.030	0.056	<0.001	<0.001	–	–	26	26.2	0.052	0.075	<0.001	<0.001	<0.001	<0.001	–	–	3.05	–	<0.0005	<0.0005	4.9	4.85
Tête Angela Lake	–	5/13/1998	<0.0001	0.0005	0.0005	<0.03	0.07	<0.00005	<0.00005	<0.001	<0.001	9	9	0.00222	0.022	0.00041	0.00041	0.0009	0.0008	–	–	<2	<2	<0.0005	<0.0005	8.07	8.06
Vick Lake	–	8/25/1994	<0.001	<0.001	<0.001	0.031	0.107	<0.001	<0.001	–	–	14.9	15.3	0.008	0.048	<0.001	<0.001	<0.001	0.001	–	–	1.06	–	<0.0005	<0.0005	8.34	8.51
Vick Lake	–	3/5/1996	–	–	–	–	–	–	–	–	–	20.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vick Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	20.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	8/31/1993	<0.001	<0.001	<0.001	<0.030	0.041	<0.001	0.001	–	–	10.6	10.9	<0.005	0.005	<0.001	<0.001	<0.001	<0.001	–	–	1.47	–	<0.0005	<0.0005	5.27	5.38
Wasp Lake	–	8/28/1994	<0.001	<0.001	<0.001	<0.030	0.07	<0.001	<0.001	–	–	10.8	11	<0.005	0.02	<0.001	<0.001	<0.001	<0.001	–	–	1.43	–	<0.0005	<0.0005	5.25	5.36
Wasp Lake	–	7/31/1995	<0.001	<0.001	<0.001	<0.030	0.037	<0.001	<0.001	–	–	10.8	10.9	<0.005	0.007	<0.001	<0.001	<0.001	<0.001	–	–	2.05	–	<0.0005	<0.0005	4.89	4.9
Wasp Lake	–	3/6/1996	–	–	–	–	–	–	–	–	–	12.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	5/14/1996	<0.001	<0.001	<0.001	<0.030	0.032	<0.001	0.001	–	–	4.39	4.3	0.009	0.009	<0.001	<0.001	<0.001	<0.001	–	–	0.67	–	<0.0005	<0.0005	2.6	2.56
Wasp Lake	–	5/14/1996	<0.001	<0.001	<0.001	0.161	0.209	<0.001	<0.001	–	–	11.4	11.6	0.369	0.384	<0.001	<0.001	<0.001	<0.001	–	–	1.59	–	<0.0005	<0.0005	5.37	5.34
Wasp Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	5/27/1997	<0.001	<0.001	<0.001	<0.030	0.061	0.002	<0.001	–	–	9.64	10	<0.005	0.025	<0.001	<0.001	<0.001	<0.001	–	–	1.56	–	<0.0005	0.0005	4.14	4.34
Wolf Trap Lake	–	3/6/1996	–	–	–	–	–	–	–	–	–	39.1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wolf Trap Lake	–	5/24/1996	<0.001	<0.001	<0.001	<0.030	0.045	<0.001	<0.001	–	–	23.8	23.9	<0.005	0.007	<0.001	<0.001	0.003	0.003	–	–	0.95	–	<0.0005	<0.0005	5.89	5.92
Wolf Trap Lake	–	5/24/1996	<0.001	<0.001	0.002	0.169	0.249	<0.001	<0.001	–	–	3.34	3.34	0.017	0.022	<0.001	<0.001	<0.001	<0.001	–	–	0.45	–	<0.0005	<0.0005	1.37	1.39
Wolf Trap Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	37.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wolf Trap Lake	–	5/28/1997	<0.001	<0.001	<0.001	<0.030	0.058	<0.001	<0.001	–	–	25.9	24.4	<0.005	0.011	<0.001	<0.001	0.003	0.003	–	–	1.06	–	<0.0005	<0.0005	7.15	6.99

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L	Dis. mg/L	Total mg/L
Fish Lake	epilimnion	8/31/1993	<0.0001	<0.0001	–	–	0.047	0.049	–	–	–	–	–	–	0.00004	0.00004	<0.030	<0.030	<0.005	0.007
Fish Lake	epilimnion	8/26/1994	<0.0001	<0.0001	–	–	0.044	0.044	–	–	–	–	–	–	0.00002	0.00002	<0.030	<0.030	<0.005	<0.005
Fish Lake	epilimnion	8/31/1994	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	7/31/1995	<0.0001	<0.0001	–	–	0.051	0.052	–	–	–	–	<0.010	<0.010	0.00005	0.00006	<0.030	<0.030	<0.005	<0.005
Fish Lake	epilimnion	3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	5/13/1996	<0.0001	<0.0001	–	–	0.048	0.05	–	–	–	–	<0.010	<0.010	0.00004	0.00004	<0.030	<0.030	0.005	<0.005
Fish Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Fish Lake	epilimnion	5/29/1997	<0.0001	<0.0001	–	–	0.041	0.039	–	–	–	–	<0.010	<0.010	0.00004	0.00004	<0.030	<0.030	0.007	<0.005
Fish Lake	epilimnion	5/23/2006	0.000018	0.000048	6.4	6.4	0.0439	0.0445	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000051	0.000053	<0.0010	<0.0010	<0.0010	0.0010
Fish Lake	epilimnion	5/23/2006	<0.000010	<0.000010	6.3	6.4	0.0453	0.0452	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000054	0.000048	<0.0010	<0.0010	<0.0010	0.0015
Fish Lake	epilimnion	7/4/2006	0.000079	0.000355	6.2	6.4	0.0482	0.0494	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000057	0.000064	0.0011	0.0014	<0.0010	<0.0040
Fish Lake	epilimnion	7/4/2006	<0.000010	<0.000010	6.2	6.3	0.0466	0.0504	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000059	0.000065	0.0011	0.0013	<0.0010	<0.0040
Fish Lake	epilimnion	10/1/2006	<0.000010	<0.000010	6.6	6.7	0.0507	0.0509	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000057	0.000064	0.0011	0.0013	<0.0010	0.0012
Fish Lake	epilimnion	10/1/2006	<0.000010	<0.000010	6.7	6.8	0.0515	0.0514	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000061	0.000064	0.0011	0.0013	<0.0010	<0.0010
Fish Lake	metalimnion	5/13/1996	<0.0001	<0.0001	–	–	0.049	0.051	–	–	–	–	<0.010	<0.010	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
Fish Lake	metalimnion	5/29/1997	<0.0001	<0.0001	–	–	0.044	0.04	–	–	–	–	<0.010	<0.010	0.00004	0.00004	<0.030	<0.030	<0.005	<0.005
Fish Lake	metalimnion	5/23/2006	0.000010	<0.000010	6.4	6.3	0.0458	0.0443	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000056	0.000052	<0.0010	<0.0010	<0.0010	0.0010
Fish Lake	metalimnion	5/23/2006	<0.000010	<0.000010	6.3	6.6	0.0451	0.0452	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000050	0.000050	<0.0010	<0.0010	0.0012	<0.0010
Fish Lake	metalimnion	7/4/2006	0.000019	0.000029	6.0	6.3	0.0474	0.0507	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000052	0.000059	<0.0010	0.0011	<0.0010	<0.0040
Fish Lake	metalimnion	7/4/2006	<0.000010	<0.000010	5.8	6.4	0.0473	0.0482	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000053	0.000052	<0.0010	<0.0010	<0.0010	0.0030
Fish Lake	metalimnion	10/1/2006	<0.000010	<0.000010	6.5	6.9	0.0516	0.0487	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000063	0.000059	0.0011	0.0012	<0.0010	<0.0010
Fish Lake	metalimnion	10/1/2006	<0.000010	<0.000010	6.7	6.7	0.0503	0.0513	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000059	0.000066	0.0011	0.0013	<0.0010	<0.0010
Fish Lake	hypolimnion	7/31/1995	<0.0001	<0.0001	–	–	0.06	0.052	–	–	–	–	<0.010	<0.010	0.00003	0.00004	<0.030	<0.030	<0.005	<0.005
Fish Lake	hypolimnion	5/13/1996	<0.0001	<0.0001	–	–	0.051	0.052	–	–	–	–	<0.010	<0.010	0.00004	0.00005	<0.030	<0.030	<0.005	<0.005
Fish Lake	hypolimnion	5/29/1997	<0.0001	<0.0001	–	–	0.056	0.056	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	<0.005	<0.005
Fish Lake	hypolimnion	5/23/2006	<0.000010	<0.000010	7.3	7.4	0.0535	0.0542	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000052	0.000052	<0.0010	<0.0010	<0.0010	<0.0010
Fish Lake	hypolimnion	5/23/2006	0.000025	0.000083	7.5	7.4	0.0538	0.0546	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000053	0.000056	<0.0010	<0.0010	<0.0010	<0.0010
Fish Lake	hypolimnion	7/4/2006	<0.000010	<0.000010	6.5	7.0	0.0562	0.0559	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000054	0.000055	0.0014	0.0016	<0.0010	<0.0010
Fish Lake	hypolimnion	7/4/2006	<0.000010	<0.000010	6.6	7.1	0.0569	0.0572	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000056	0.000058	0.0016	0.0019	<0.0010	0.0015
Fish Lake	hypolimnion	10/1/2006	<0.000010	<0.000010	6.6	6.9	0.0542	0.0539	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000056	0.000057	0.0012	0.0018	<0.0010	<0.0010
Fish Lake	hypolimnion	10/1/2006	<0.000010	<0.000010	6.5	6.8	0.0542	0.0531	<0.00010	<0.00010	<0.00010	<0.00010	<0.010	<0.010	0.000055	0.000057	0.0012	0.0015	<0.0010	<0.0010
Big Lake	epilimnion	3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Lake	epilimnion	5/13/1998	<0.00001	<0.00001	–	–	0.204	0.202	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00014	0.00014	0.001	0.001	<0.001	0.017*
Big Lake	metalimnion	5/13/1998	<0.00001	<0.00001	–	–	0.216	0.226	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00015	0.00012	<0.001	<0.001	0.002	<0.001
Big Lake	hypolimnion	5/13/1998	<0.00001	<0.00001	–	–	0.238	0.239	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00014	0.00013	<0.001	<0.001	0.002	0.001
Big Onion Lake	epilimnion	8/27/1994	<0.0001	<0.0001	–	–	0.148	0.15	–	–	–	–	–	–	0.00003	0.00004	<0.030	<0.030	<0.005	<0.005
Big Onion Lake	epilimnion	3/5/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Onion Lake	epilimnion	5/13/1996	<0.0001	<0.0001	–	–	0.165	0.169	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	<0.005	0.006
Big Onion Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Big Onion Lake	epilimnion	5/29/1997	<0.0001	<0.0001	–	–	0.158	0.155	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	<0.005	<0.005
Big Onion Lake	metalimnion	5/13/1996	<0.0001	<0.0001	–	–	0.166	0.167	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	0.013	0.006
Big Onion Lake	metalimnion	5/29/1997	<0.0001	<0.0001	–	–	0.157	0.148	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	0.006	<0.005
Big Onion Lake	hypolimnion	5/13/1996	<0.0001	<0.0001	–	–	0.166	0.166	–	–	–	–	<0.010	<0.010	0.00006	0.00005	<0.030	<0.030	0.015	0.005
Big Onion Lake	hypolimnion	5/29/1997	<0.0001	<0.0001	–	–	0.157	0.158	–	–	–	–	<0.010	<0.010	0.00005	0.00005	<0.030	<0.030	0.006	<0.005
Little Fish Lake		8/31/1993	<0.0001	<0.0001	–	–	0.046	0.046	–	–	–	–	–	–	0.00002	0.00002	<0.030	<0.030	<0.005	<0.005
Little Fish Lake		8/29/1994	<0.0001	<0.0001	–	–	0.051	0.051	–	–	–	–	–	–	0.00001	0.00001	<0.030	<0.030	<0.005	<0.005
Little Fish Lake		3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Little Fish Lake		5/14/1996	<0.0001	<0.0001	–	–	0.061	0.064	–	–	–	–	<0.010	<0.010	0.00003	0.00003	<0.030	<0.030	0.006	0.005
Little Fish Lake		5/14/1996	<0.0001	<0.0001	–	–	0.031	0.031	–	–	–	–	<0.010	<0.010	0.00001	0.00001	<0.030	<0.030	<0.005	<0.005
Little Fish Lake		3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Little Fish Lake		5/27/1997	<0.0001	<0.0001	–	–	0.04	0.038	–	–	–	–	<0.010	<0.010	0.00002	0.00002	<0.030	<0.030	<0.005	<0.005

Appendix Table C3: Water Quality Data for Lakes 1993 to 2006

Lake	Site	Date	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total	Dis.	Total
Little Onion Lake		3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Little Onion Lake		5/27/1997	<0.0001	<0.0001	–	–	0.144	0.141	–	–	–	–	<0.010	<0.010	0.00003	0.00003	<0.030	<0.030	<0.005	<0.005
North Rat Cabin L		8/15/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
North Rat Cabin L		5/13/1998	<0.00001	<0.00001	–	–	0.0743	0.0747	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00006	0.00006	<0.001	<0.001	<0.001	<0.001
South Rat Cabin L	–	8/16/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
South Rat Cabin L	–	5/13/1998	<0.00001	<0.00001	–	–	0.068	0.069	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00006	0.00006	<0.001	<0.001	<0.001	<0.001
Slim Lake	epilimnion	8/23/1994	<0.0001	<0.0001	–	–	0.352	0.352	–	–	–	–	–	–	0.00008	0.00008	<0.030	<0.030	<0.005	<0.005
Slim Lake	epilimnion	3/4/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Slim Lake	epilimnion	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Slim Lake	epilimnion	6/4/1997	<0.0001	<0.0001	–	–	0.336	0.342	–	–	–	–	<0.010	<0.010	0.00012	0.00012	<0.030	<0.030	<0.005	<0.005
Slim Lake	metalimnion	6/4/1997	<0.0001	<0.0001	–	–	0.344	0.346	–	–	–	–	<0.010	<0.010	0.00012	0.00011	<0.030	<0.030	<0.005	<0.005
Slim Lake	hypolimnion	6/4/1997	<0.0001	<0.0001	–	–	0.364	0.362	–	–	–	–	<0.010	<0.010	0.00012	0.00012	<0.030	<0.030	<0.005	<0.005
Tête Angela Lake	–	5/13/1998	<0.00001	<0.00001	–	–	0.0703	0.0709	–	–	<0.0001	<0.0001	<0.01	<0.01	0.00006	0.00005	<0.001	<0.001	<0.001	<0.001
Vick Lake	–	8/25/1994	<0.0001	<0.0001	–	–	0.197	0.202	–	–	–	–	–	–	0.00008	0.00009	<0.030	<0.030	<0.005	<0.005
Vick Lake	–	3/5/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vick Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	8/31/1993	<0.0001	<0.0001	–	–	0.084	0.087	–	–	–	–	–	–	0.00001	0.00001	<0.030	<0.030	<0.005	<0.005
Wasp Lake	–	8/28/1994	<0.0001	<0.0001	–	–	0.086	0.088	–	–	–	–	–	–	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wasp Lake	–	7/31/1995	<0.0001	<0.0001	–	–	0.09	0.09	–	–	–	–	<0.010	<0.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wasp Lake	–	3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	5/14/1996	<0.0001	<0.0001	–	–	0.039	0.037	–	–	–	–	<0.010	<0.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wasp Lake	–	5/14/1996	<0.0001	<0.0001	–	–	0.098	0.098	–	–	–	–	<0.010	<0.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wasp Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wasp Lake	–	5/27/1997	<0.0001	<0.0001	–	–	0.082	0.085	–	–	–	–	<0.010	<0.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wolf Trap Lake	–	3/6/1996	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wolf Trap Lake	–	5/24/1996	<0.0001	<0.0001	–	–	0.048	0.049	–	–	–	–	<0.010	<.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wolf Trap Lake	–	5/24/1996	<0.0001	<0.0001	–	–	0.018	0.018	–	–	–	–	<0.010	<.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005
Wolf Trap Lake	–	3/14/1997	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wolf Trap Lake	–	5/28/1997	<0.0001	<0.0001	–	–	0.05	0.047	–	–	–	–	<0.010	<0.010	<0.00001	<0.00001	<0.030	<0.030	<0.005	<0.005

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-1 Water Quality Summary Statistics for the Epilimnion of Fish Lake, All
Sampling Dates**

Appendix Table C4-1 Water Quality Summary Statistics for the Epilimnion of Fish Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	14	148	188	160	162.8	11.6	7.1	–	–	–
T. Hardness	mg/L	13	69.4	92.6	79.5	81.0	6.2	7.6	–	–	–
pH		14	7.4	8.7	8.0	7.9	0.4	4.9	–	–	–
T. Alkalinity	mg/L	14	79.8	104	89	91.3	7.7	8.4	–	–	–
Turbidity	NTU	12	0.3	2.33	1.1	1.2	0.6	53.3	–	–	–
DOC	mg/L	5	14.9	15.9	15.3	15.3	0.4	2.7	–	–	–
TOC	mg/L	8	11.4	19.1	13.9	14.0	2.5	17.5	–	–	–
D. Solids	mg/L	13	90	180	120	120.5	21.6	17.9	–	–	–
TSS	mg/L	14	1	4	2	2.3	1.4	58.6	–	8	–
D. Chloride	mg/L	14	0.5	1	0.8	0.8	0.2	20.0	–	7	–
D. Fluoride	mg/L	14	0.02	0.79	0.05	0.10	0.20	190.3	–	–	1
D. Sulphate	mg/L	14	0.6	3.5	1.4	1.6	1.1	65.4	–	2	–
Ammonia-N	mg/L	14	0.009	0.117	0.024	0.042	0.038	90.8	–	1	–
Nitrate-N	mg/L	14	0.008	0.245	0.068	0.097	0.113	116.5	–	10	–
Nitrite-N	mg/L	14	0.001	0.004	0.002	0.002	0.001	55.6	–	7	–
Ortho-Phosphate	mg/L	14	0.002	0.012	0.006	0.006	0.003	46.7	–	–	–
D. Phosphate	mg/L	14	0.007	0.026	0.014	0.016	0.006	37.2	–	1	–
T. Phosphate	mg/L	14	0.003	0.084	0.019	0.025	0.020	77.5	72	–	–
T. Aluminum	mg/L	10	0.002	0.023	0.007	0.009	0.008	85.7	80	3	–
T. Antimony	mg/L	11	0.00016	0.00016	0.00016	0.00016	0	0	–	9	–
T. Arsenic	mg/L	11	0.0001	0.0005	0.0004	0.0003	0.0001	43.1	89	–	–
T. Cadmium	mg/L	11	–	–	–	–	–	–	–	11	–
T. Calcium	mg/L	12	12.2	17.2	14.9	15.1	1.3	8.4	89	–	–
T. Cobalt	mg/L	12	0.0001	0.0001	0.0001	0.0001	0.0000	12.9	–	10	–
T. Copper	mg/L	11	0.0006	0.0017	0.0011	0.0011	0.0004	35.6	70	5	–
T. Iron	mg/L	11	0.07	0.26	0.15	0.14	0.07	47.6	67	–	–
T. Lead	mg/L	11	0.00014	0.00569	0.00031	0.00134	0.00243	181.4	36	6	1
T. Magnesium	mg/L	12	8.7	12	10.3	10.5	0.9	8.5	89	–	–
T. Manganese	mg/L	11	0.01	0.05	0.01	0.02	0.02	105.9	39	–	–
T. Molybdenum	mg/L	11	0.00025	0.00033	0.00029	0.00029	0.00003	11.0	94	5	–
T. Nickel	mg/L	11	0.0010	0.0025	0.0020	0.0020	0.0004	19.0	96	–	–
T. Potassium	mg/L	6	–	–	–	–	–	–	–	6	–
T. Selenium	mg/L	11	–	–	–	–	–	–	–	11	–
T. Silver	mg/L	11	0.00005	0.00036	0.00020	0.00020	0.00022	107.7	30	9	–
T. Sodium	mg/L	6	6.3	6.8	6.4	6.5	0.2	3.1	98	–	–
T. Strontium	mg/L	11	0.039	0.052	0.049	0.048	0.004	8.5	98	–	–
T. Titanium	mg/L	7	–	–	–	–	–	–	–	7	–
T. Zinc	mg/L	3	0.0010	0.0070	0.0014	0.0027	0.0029	108.1	–	8	–

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-2 Water Quality Summary Statistics for the Metalimnion of Fish Lake,
All Sampling Dates**

Appendix Table C4-2 Water Quality Summary Statistics for the Metalimnion of Fish Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	8	154	167	158	159	4.9	3.1	—	—	—
T. Hardness	mg/L	8	75.1	87.6	78.3	79.9	4.3	5.4	—	—	—
pH		8	7.3	8.1	8.0	7.9	0.3	4.1	—	—	—
T. Alkalinity	mg/L	8	79.3	103	86.3	88.7	7.7	8.7	—	—	—
Turbidity	NTU	6	1.1	1.8	1.4	1.5	0.3	18.0	—	—	—
DOC	mg/L	4	14.5	16.5	15.5	15.5	0.8	5.4	—	—	—
TOC	mg/L	2	11.7	12.8	12.3	12.3	0.8	6.3	—	—	—
D. Solids	mg/L	8	96	130	121	117.1	12.9	11.0	—	—	—
TSS	mg/L	8	2	4	3	3	1.4	47.1	—	6	—
D. Chloride	mg/L	8	—	—	—	—	—	—	—	8	—
D. Fluoride	mg/L	8	0.03	0.06	0.05	0.05	0.01	19.1	—	—	—
D. Sulphate	mg/L	8	0.6	0.7	0.6	0.6	0.0	4.8	—	2	—
Ammonia-N	mg/L	8	0.019	0.136	0.027	0.055	0.052	95.2	—	1	—
Nitrate-N	mg/L	8	0.008	0.011	0.009	0.009	0.001	13.4	—	4	—
Nitrite-N	mg/L	8	0.001	0.006	0.001	0.003	0.002	92.4	—	2	—
Ortho-Phosphate	mg/L	8	0.002	0.014	0.007	0.007	0.004	63.1	—	—	—
D. Phosphate	mg/L	8	0.002	0.029	0.016	0.016	0.010	62.0	—	—	—
T. Phosphate	mg/L	8	0.005	0.043	0.027	0.027	0.012	43.1	57	—	—
T. Aluminum	mg/L	8	0.002	0.007	0.003	0.004	0.002	48.8	104	1	—
T. Antimony	mg/L	7	0.00010	0.00014	0.00012	0.00012	0.00003	23.6	—	5	—
T. Arsenic	mg/L	8	0.0003	0.0005	0.0004	0.0004	0.0001	20.8	98	—	—
T. Cadmium	mg/L	4	—	—	—	—	—	—	—	4	—
T. Calcium	mg/L	8	12.6	16.7	15.1	15.1	1.3	8.4	100	—	—
T. Cobalt	mg/L	8	0.0001	0.0001	0.0001	0.0001	—	—	—	7	—
T. Copper	mg/L	8	0.0005	0.0014	0.0008	0.0009	0.0003	40.4	87	2	—
T. Iron	mg/L	8	0.15	0.31	0.20	0.21	0.06	27.9	67	—	1
T. Lead	mg/L	8	0.00011	0.00933	0.00069	0.00199	0.00361	181.4	40	2	—
T. Magnesium	mg/L	8	8.9	11.7	10.6	10.6	0.9	8.8	99	—	—
T. Manganese	mg/L	8	0.01	0.06	0.03	0.03	0.02	70.0	52	—	—
T. Molybdenum	mg/L	8	0.00025	0.00032	0.00028	0.00028	0.00003	9.2	104	2	—
T. Nickel	mg/L	8	0.0018	0.0025	0.0020	0.0020	0.0002	9.9	97	—	—
T. Potassium	mg/L	6	—	—	—	—	—	—	—	6	—
T. Selenium	mg/L	8	—	—	—	—	—	—	—	8	—
T. Silver	mg/L	8	0.00003	0.00003	0.00003	0.00003	—	—	65	7	—
T. Sodium	mg/L	6	6.3	6.9	6.5	6.5	0.2	3.7	96	—	—
T. Strontium	mg/L	8	0.04	0.051	0.048	0.047	0.004	8.4	100	—	—
T. Titanium	mg/L	8	—	—	—	—	—	—	—	8	—
T. Zinc	mg/L	3	0.001	0.003	0.002	0.002	0.0014	70.7	—	6	—

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-3 Water Quality Summary Statistics for the Hypolimnion of Fish Lake,
All Sampling Dates**

Appendix Table C4-3 Water Quality Summary Statistics for the Hypolimnion of Fish Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	9	155.0	202.0	180.0	178.7	12.1	6.8	—	—	—
T. Hardness	mg/L	9	78.9	97.7	90.3	90.1	5.1	5.6	—	—	—
pH		9	7.2	7.9	7.9	7.7	0.3	3.2	—	—	—
T. Alkalinity	mg/L	9	78.8	118.0	105.0	103.6	11.7	11.3	—	—	—
Turbidity	NTU	7	4.0	6.1	4.6	4.8	0.9	19.0	—	—	—
DOC	mg/L	4	15.1	16.8	15.5	15.7	0.8	4.8	—	—	—
TOC	mg/L	3	11.8	13.7	13.7	13.1	1.1	8.4	—	—	—
D. Solids	mg/L	9	100	149	138	134	14.8	11.0	—	—	—
TSS	mg/L	9	4	19	5	6.9	4.7	67.8	—	—	—
D. Chloride	mg/L	9	0.7	0.7	0.7	0.7	—	—	—	—	—
D. Fluoride	mg/L	9	0.03	0.09	0.06	0.06	0.02	26.7	—	—	—
D. Sulphate	mg/L	9	0.7	0.7	0.7	0.7	0	0	—	7	—
Ammonia-N	mg/L	9	0.005	0.521	0.195	0.206	0.165	80.2	—	—	—
Nitrate-N	mg/L	9	0.006	0.006	0.006	0.006	—	—	—	8	—
Nitrite-N	mg/L	9	0.001	0.006	0.001	0.002	0.002	96.8	—	2	—
Ortho-Phosphate	mg/L	9	0.002	0.209	0.077	0.098	0.080	81.6	—	—	—
D. Phosphate	mg/L	9	0.002	0.213	0.088	0.107	0.079	74.2	—	—	—
T. Phosphate	mg/L	9	0.022	0.320	0.134	0.177	0.106	59.6	46	—	—
T. Aluminum	mg/L	9	0.002	0.058	0.003	0.011	0.021	191.0	65	2	—
T. Antimony	mg/L	9	—	—	—	—	—	—	—	9	—
T. Arsenic	mg/L	9	0.0002	0.0008	0.0006	0.0006	0.0002	35.1	91	—	—
T. Cadmium	mg/L	5	0.00489	0.00489	0.00489	0.00489	—	—	—	4	—
T. Calcium	mg/L	9	14.6	18.9	18.1	17.7	1.3	7.5	98	—	—
T. Cobalt	mg/L	9	0.0002	0.0004	0.0003	0.0003	0.0001	23.3	40	3	—
T. Copper	mg/L	9	0.0005	0.0020	0.0007	0.0008	0.0005	65.1	56	2	—
T. Iron	mg/L	9	0.32	3.10	1.48	1.68	0.92	54.7	66	—	—
T. Lead	mg/L	9	0.00013	0.00365	0.00054	0.00109	0.00145	133.1	35	4	—
T. Magnesium	mg/L	9	10.3	12.6	11.9	11.7	0.7	6.4	98	—	—
T. Manganese	mg/L	9	0.02	0.59	0.44	0.41	0.17	42.0	51	—	—
T. Molybdenum	mg/L	9	0.00024	0.00030	0.00028	0.00027	0.00002	8.4	100	3	—
T. Nickel	mg/L	9	0.0019	0.0024	0.0020	0.0022	0.0002	9.4	94	—	—
T. Potassium	mg/L	6	—	—	—	—	—	—	—	6	—
T. Selenium	mg/L	9	—	—	—	—	—	—	—	9	—
T. Silver	mg/L	9	0.00008	0.00008	0.00008	0.00008	—	—	30	8	—
T. Sodium	mg/L	6	6.8	7.4	7.1	7.1	0.3	3.6	96	—	—
T. Strontium	mg/L	9	0.052	0.057	0.054	0.054	0.002	3.3	102	—	—
T. Titanium	mg/L	9	—	—	—	—	—	—	—	9	—
T. Zinc	mg/L	3	0.0015	0.0015	0.0015	0.0015	—	—	—	8	—

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-4 Water Quality Summary Statistics for the Epilimnion of Big Lake, All
Sampling Dates**

Appendix Table C4-4 Water Quality Summary Statistics for the Epilimnion of Big Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	4	468	543	507.5	506.5	30.7	6.1	—	—	—
T. Hardness	mg/L	4	214	239	226	226.3	10.3	4.6	—	—	—
pH		4	8.1	8.2	8.1	8.2	0.1	0.7	—	—	—
T. Alkalinity	mg/L	4	265	298	289.5	285.5	15.2	5.3	—	—	—
Turbidity	NTU	4	1	2.4	1.7	1.7	0.6	38.2	—	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—
TOC	mg/L	4	17.4	22.2	19.1	19.5	2.0	10.5	—	—	—
D. Solids	mg/L	4	335	374	350	352.3	16.6	4.7	—	—	—
TSS	mg/L	4	3	5	4	4	1.4	35.4	—	2	—
D. Chloride	mg/L	4	0.8	1.7	1.0	1.1	0.4	37.1	—	—	—
D. Fluoride	mg/L	4	0.15	0.21	0.21	0.19	0.03	14.9	—	—	—
D. Sulphate	mg/L	4	3	7.1	3	4.0	2.1	50.9	—	—	—
Ammonia-N	mg/L	4	0.025	0.422	0.043	0.133	0.193	145.0	—	—	—
Nitrate-N	mg/L	4	0.008	0.192	0.1	0.1	0.130	130.1	—	2	—
Nitrite-N	mg/L	4	0.002	0.003	0.003	0.003	0.001	28.3	—	2	—
Ortho-Phosphate	mg/L	4	0.012	0.012	0.012	0.012	—	—	—	3	—
D. Phosphate	mg/L	4	0.002	0.022	0.009	0.011	0.010	92.3	—	1	—
T. Phosphate	mg/L	4	0.006	0.048	0.01	0.021	0.023	108.7	56	1	—
T. Aluminum	mg/L	2	0.002	0.005	—	—	—	—	100	—	—
T. Antimony	mg/L	3	0.00005	0.00006	0.00006	0.00006	0.00001	12.9	—	1	—
T. Arsenic	mg/L	3	0.0007	0.0007	0.0007	0.0007	0.0000	0.0	110	—	—
T. Cadmium	mg/L	3	0.0	0.0	0.00006	0.00006	—	—	—	2	—
T. Calcium	mg/L	3	29.5	33.5	31.5	31.5	2	6.3	100	—	—
T. Cobalt	mg/L	3	0.0001	0.0001	0.0001	0.0001	—	—	—	2	—
T. Copper	mg/L	2	0.0003	0.0003	—	—	—	—	100	—	—
T. Iron	mg/L	3	—	—	—	—	—	—	—	3	—
T. Lead	mg/L	3	0.00008	0.00008	0.00008	0.00008	—	—	—	2	—
T. Magnesium	mg/L	3	33.3	37.9	36.2	35.8	2.3	6.5	100	—	—
T. Manganese	mg/L	3	0.00	0.10	0.01	0.04	0.05	149.9	43	—	—
T. Molybdenum	mg/L	3	0.00033	0.00037	0.00036	0.00035	0.00002	5.9	96	—	—
T. Nickel	mg/L	3	0.0007	0.0008	0.0007	0.0007	0.0001	7.9	78	—	—
T. Potassium	mg/L	3	5	6	5	5.3	0.6	10.8	107	—	—
T. Selenium	mg/L	3	—	—	—	—	—	—	—	3	—
T. Silver	mg/L	3	—	—	—	—	—	—	—	3	—
T. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Strontium	mg/L	3	0.202	0.239	0.226	0.222	0.019	8.4	99	—	—
T. Titanium	mg/L	3	—	—	—	—	—	—	—	3	—
T. Zinc	mg/L	3	0.001	0.001	0.001	0.001	—	—	200	1	2

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-5 Water Quality Summary Statistics for the Epilimnion of Big Onion
Lake, All Sampling Dates**

Appendix Table C4-5 Water Quality Summary Statistics for the Epilimnion of Big Onion Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	5	261	326	285	294.8	26.8	9.1	—	—	—
T. Hardness	mg/L	5	139	161	148	149.2	10.1	6.8	—	—	—
pH		5	7.6	8.7	8.0	8.1	0.4	4.8	—	—	—
T. Alkalinity	mg/L	5	142	173	160	156.6	12.6	8.0	—	—	—
Turbidity	NTU	5	1	2.8	1.9	1.8	0.7	37.4	—	—	—
DOC		0	—	—	—	—	—	—	—	—	—
TOC	mg/L	5	8.9	15.4	15.2	13.2	3.0	22.4	—	—	—
D. Solids	mg/L	5	182	210	195	195.2	11.3	5.8	—	—	—
TSS	mg/L	5	2	5	2	3.2	1.6	51.3	—	—	—
D. Chloride	mg/L	5	0.8	1.4	0.9	1.1	0.3	27.3	—	—	—
D. Fluoride	mg/L	5	0.03	0.15	0.11	0.10	0.05	45.9	—	—	—
D. Sulphate	mg/L	5	5	8.4	8	7.2	1.5	21.5	—	—	—
Ammonia-N	mg/L	5	0.013	0.088	0.015	0.032	0.032	99.4	—	—	—
Nitrate-N	mg/L	5	0.013	0.082	0.040	0.045	0.035	77.3	—	2	—
Nitrite-N	mg/L	5	0.001	0.003	0.002	0.002	0.001	40.8	—	1	—
Ortho-Phosphate	mg/L	5	0.001	0.009	0.007	0.006	0.004	62.5	—	1	—
D. Phosphate	mg/L	5	0.007	0.022	0.010	0.013	0.006	46.2	—	—	—
T. Phosphate	mg/L	5	0.017	0.028	0.021	0.022	0.005	22.6	60	—	—
T. Aluminum	mg/L	3	0.006	0.009	0.009	0.008	0.002	21.7	111	—	—
T. Antimony	mg/L	3	0.0001	0.0001	0.0001	0.0001	—	—	—	2	—
T. Arsenic	mg/L	3	0.0001	0.0004	0.0003	0.0003	0.0002	57.3	117	—	—
T. Cadmium	mg/L	3	—	—	—	—	—	—	—	3	—
T. Calcium	mg/L	4	32.2	38	34.6	34.8	2.8	8.0	75	—	—
T. Cobalt	mg/L	3	0	0	—	—	—	—	—	3	—
T. Copper	mg/L	3	0.001	0.001	0.001	0.001	0	0	—	1	—
T. Iron	mg/L	3	0.03	0.04	0.04	0.04	0.01	15.7	—	1	—
T. Lead	mg/L	0	—	—	—	—	—	—	—	—	—
T. Magnesium	mg/L	4	13.4	16.1	14.1	14.4	1.2	8.2	75	—	—
T. Manganese	mg/L	3	0.01	0.01	0.01	0.01	0.00	37.7	82	—	—
T. Molybdenum	mg/L	3	—	—	—	—	—	—	—	3	—
T. Nickel	mg/L	3	—	—	—	—	—	—	—	3	—
T. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Selenium	mg/L	3	—	—	—	—	—	—	—	3	—
T. Silver	mg/L	3	—	—	—	—	—	—	—	3	—
T. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Strontium	mg/L	3	0.15	0.17	0.16	0.16	0.01	6.2	99	—	—
T. Titanium	mg/L	2	—	—	—	—	—	—	—	2	—
T. Zinc	mg/L	3	0.006	0.006	0.006	0.006	—	—	—	2	—

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-6 Water Quality Summary Statistics for the Metalimnion of Big Onion Lake, All Sampling Dates

Appendix Table C4-6 Water Quality Summary Statistics for the Metalimnion of Big Onion Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	2	284	289	–	–	–	–	–	–	–
T. Hardness	mg/L	2	138	146	–	–	–	–	–	–	–
pH		2	8.0	8.0	–	–	–	–	–	–	–
T. Alkalinity	mg/L	2	147	161	–	–	–	–	–	–	–
Turbidity	NTU	2	1.9	2.1	–	–	–	–	–	–	–
DOC		0	–	–	–	–	–	–	–	–	–
TOC	mg/L	2	8.1	11.2	–	–	–	–	–	–	–
D. Solids	mg/L	2	186	195	–	–	–	–	–	–	–
TSS	mg/L	2	3	5	–	–	–	–	–	–	–
D. Chloride	mg/L	2	0.8	0.9	–	–	–	–	–	–	–
D. Fluoride	mg/L	2	0.09	0.12	–	–	–	–	–	–	–
D. Sulphate	mg/L	2	5	6.1	–	–	–	–	–	–	–
Ammonia-N	mg/L	2	0.009	0.044	–	–	–	–	–	–	–
Nitrate-N	mg/L	2	0.006	0.018	–	–	–	–	–	–	–
Nitrite-N	mg/L	2	0.001	0.001	–	–	–	–	–	1	–
Ortho-Phosphate	mg/L	2	0.002	0.003	–	–	–	–	–	–	–
D. Phosphate	mg/L	2	0.011	0.015	–	–	–	–	–	–	–
T. Phosphate	mg/L	2	0.018	0.025	–	–	–	–	64	–	–
T. Aluminum	mg/L	2	0.006	0.009	–	–	–	–	122	–	–
T. Antimony	mg/L	2	0.0001	0.0001	–	–	–	–	–	1	–
T. Arsenic	mg/L	2	0.0003	0.0004	–	–	–	–	104	–	–
T. Cadmium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Calcium	mg/L	2	31.6	35.8	–	–	–	–	102	–	–
T. Cobalt	mg/L	2	–	–	–	–	–	–	–	2	–
T. Copper	mg/L	2	–	–	–	–	–	–	–	2	–
T. Iron	mg/L	2	0.03	0.03	–	–	–	–	100	1	–
T. Lead	mg/L	0	–	–	–	–	–	–	–	–	–
T. Magnesium	mg/L	2	13.1	13.8	–	–	–	–	101	–	–
T. Manganese	mg/L	2	0.01	0.01	–	–	–	–	117	–	–
T. Molybdenum	mg/L	2	–	–	–	–	–	–	–	2	–
T. Nickel	mg/L	2	–	–	–	–	–	–	–	2	–
T. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–
T. Selenium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Silver	mg/L	2	–	–	–	–	–	–	–	2	–
T. Sodium	mg/L	0	–	–	–	–	–	–	–	–	–
T. Strontium	mg/L	2	0.148	0.167	–	–	–	–	103	–	–
T. Titanium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Zinc	mg/L	3	0.006	0.006	–	–	–	–	217	1	2

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-7 Water Quality Summary Statistics for the Hypolimnion of Big Onion Lake, All Sampling Dates

Appendix Table C4-7 Water Quality Summary Statistics for the Hypolimnion of Big Onion Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	2	284	287	–	–	–	–	–	–	–
T. Hardness	mg/L	2	140	146	–	–	–	–	–	–	–
pH		2	7.8	8.1	–	–	–	–	–	–	–
T. Alkalinity	mg/L	2	144	164	–	–	–	–	–	–	–
Turbidity	NTU	2	2.1	3.1	–	–	–	–	–	–	–
DOC	mg/L	0	–	–	–	–	–	–	–	–	–
TOC	mg/L	2	9.1	11	–	–	–	–	–	–	–
D. Solids	mg/L	2	189	199	–	–	–	–	–	–	–
TSS	mg/L	2	5	6	–	–	–	–	–	–	–
D. Chloride	mg/L	2	0.8	0.9	–	–	–	–	–	–	–
D. Fluoride	mg/L	2	0.09	0.12	–	–	–	–	–	–	–
D. Sulphate	mg/L	2	5	6.1	–	–	–	–	–	–	–
Ammonia-N	mg/L	2	0.011	0.043	–	–	–	–	–	–	–
Nitrate-N	mg/L	2	0.005	0.007	–	–	–	–	–	–	–
Nitrite-N	mg/L	2	0.001	0.001	–	–	–	–	–	1	–
Ortho-Phosphate	mg/L	2	0.002	0.005	–	–	–	–	–	–	–
D. Phosphate	mg/L	2	0.005	0.009	–	–	–	–	–	–	–
T. Phosphate	mg/L	2	0.017	0.030	–	–	–	–	30	–	–
T. Aluminum	mg/L	2	0.010	0.013	–	–	–	–	100	–	–
T. Antimony	mg/L	2	0.0001	0.0001	–	–	–	–	–	1	–
T. Arsenic	mg/L	2	0.0003	0.0004	–	–	–	–	117	–	–
T. Cadmium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Calcium	mg/L	2	33.8	35.2	–	–	–	–	104	–	–
T. Cobalt	mg/L	2	0	0	–	–	–	–	–	2	–
T. Copper	mg/L	2	0.001	0.001	–	–	–	–	200	1	–
T. Iron	mg/L	2	0.04	0.05	–	–	–	–	109	–	–
T. Lead	mg/L	0	–	–	–	–	–	–	–	–	–
T. Magnesium	mg/L	2	13.6	14.1	–	–	–	–	99	–	–
T. Manganese	mg/L	2	0.01	0.01	–	–	–	–	100	–	–
T. Molybdenum	mg/L	2	–	–	–	–	–	–	–	2	–
T. Nickel	mg/L	2	–	–	–	–	–	–	–	2	–
T. Potassium	mg/L	0	–	–	–	–	–	–	–	–	–
T. Selenium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Silver	mg/L	2	–	–	–	–	–	–	–	2	–
T. Sodium	mg/L	0	–	–	–	–	–	–	–	–	–
T. Strontium	mg/L	2	0.158	0.166	–	–	–	–	100	–	–
T. Titanium	mg/L	2	–	–	–	–	–	–	–	2	–
T. Zinc	mg/L	3	0.005	0.005	0.005	0.005	–	–	300	1	2

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-8 Water Quality Summary Statistics for Little Fish Lake, All Sampling
Dates**

Appendix Table C4-8 Water Quality Summary Statistics for Little Fish Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	7	124	232	193	190.6	36.7	19.3	—	—	—
T. Hardness	mg/L	7	68.1	118	103	98.5	18.6	18.9	—	—	—
pH		7	6.6	7.87	7.4	7.3	0.4	5.0	—	—	—
T. Alkalinity	mg/L	7	60.9	128	104	104.3	22.9	21.9	—	—	—
Turbidity	NTU	7	0.6	15.5	0.9	3.2	5.5	173.5	—	—	1
DOC	mg/L	0	—	—	—	—	—	—	—	—	—
TOC	mg/L	7	13.8	26.2	19.3	19.4	3.8	19.8	—	—	—
D. Solids	mg/L	7	83	172	142	135.6	33.4	24.6	—	—	—
TSS	mg/L	7	1	34	1	8	14.6	182.0	—	2	—
D. Chloride	mg/L	7	0.8	1.3	1.1	1.1	0.2	17.8	—	2	—
D. Fluoride	mg/L	7	0.06	0.79	0.07	0.19	0.29	154.7	—	1	1
D. Sulphate	mg/L	7	2	3.9	2.7	2.8	0.8	28.4	—	3	—
Ammonia-N	mg/L	7	0.006	0.061	0.025	0.026	0.018	68.7	—	—	—
Nitrate-N	mg/L	7	0.008	0.133	0.064	0.067	0.067	99.7	—	3	—
Nitrite-N	mg/L	7	0.001	0.003	0.003	0.002	0.001	37.3	—	2	—
Ortho-Phosphate	mg/L	7	0.002	0.030	0.005	0.011	0.011	95.6	—	—	—
D. Phosphate	mg/L	7	0.003	0.041	0.013	0.016	0.014	89.0	—	—	—
T. Phosphate	mg/L	7	0.004	0.069	0.022	0.026	0.021	81.0	66	—	—
T. Aluminum	mg/L	5	0.005	0.033	0.014	0.015	0.011	75.3	76	—	—
T. Antimony	mg/L	5	—	—	—	—	—	—	—	5	—
T. Arsenic	mg/L	4	0.0001	0.002	0.0005	0.0008	0.0009	114.4	73	—	—
T. Cadmium	mg/L	5	0	0	—	—	—	—	—	5	—
T. Calcium	mg/L	6	9.6	17.9	15	14.5	3.3	22.9	83	—	—
T. Cobalt	mg/L	5	0	0	—	—	—	—	—	5	—
T. Copper	mg/L	5	0.001	0.001	0.001	0.001	0	0	—	2	—
T. Iron	mg/L	5	0.10	0.81	0.14	0.28	0.30	107.3	83	—	1
T. Lead	mg/L	5	—	—	—	—	—	—	—	5	—
T. Magnesium	mg/L	6	10.2	17.9	15	14.6	3.1	21.3	84	—	—
T. Manganese	mg/L	5	0.01	0.15	0.02	0.05	0.07	140.8	80	1	—
T. Molybdenum	mg/L	5	—	—	—	—	—	—	—	5	—
T. Nickel	mg/L	5	0.003	0.005	0.003	0.0036	0.0009	24.8	91	—	—
T. Potassium	mg/L	6	—	—	—	—	—	—	—	6	—
T. Selenium	mg/L	5	—	—	—	—	—	—	—	5	—
T. Silver	mg/L	5	—	—	—	—	—	—	—	5	—
T. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Strontium	mg/L	5	0.031	0.064	0.046	0.046	0.013	27.5	100	—	—
T. Titanium	mg/L	3	—	—	—	—	—	—	—	3	—
T. Zinc	mg/L	5	0.005	0.005	0.005	0.005	—	—	120	5	—

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-9 Water Quality Summary Statistics for Little Onion Lake, All Sampling
Dates**

Appendix Table C4-9 Water Quality Summary Statistics for Little Onion Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	2	249	332	—	—	—	—	—	—	—
T. Hardness	mg/L	2	124	170	—	—	—	—	—	—	—
pH		2	7.75	7.93	—	—	—	—	—	—	—
T. Alkalinity	mg/L	2	146	182	—	—	—	—	—	—	—
Turbidity	NTU	2	1.2	1.4	—	—	—	—	—	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—
TOC	mg/L	2	10	19.5	—	—	—	—	—	—	—
D. Solids	mg/L	2	162	210	—	—	—	—	—	—	—
TSS	mg/L	2	3	5	—	—	—	—	—	—	—
D. Chloride	mg/L	2	<0.5	1.2	—	—	—	—	—	1	—
D. Fluoride	mg/L	2	0.09	0.13	—	—	—	—	—	—	—
D. Sulphate	mg/L	2	2	4	—	—	—	—	—	—	—
Ammonia-N	mg/L	2	<0.005	0.025	—	—	—	—	—	1	—
Nitrate-N	mg/L	2	<0.005	<0.005	—	—	—	—	—	2	—
Nitrite-N	mg/L	2	<0.001	0.002	—	—	—	—	—	1	—
Ortho-Phosphate	mg/L	2	<0.001	0.001	—	—	—	—	—	1	—
D. Phosphate	mg/L	2	0.017	0.006	—	—	—	—	—	—	—
T. Phosphate	mg/L	2	0.011	0.026	—	—	—	—	60	—	—
T. Aluminum	mg/L	1	0.005	—	—	—	—	—	—	—	—
T. Antimony	mg/L	1	0.0002	—	—	—	—	—	—	—	—
T. Arsenic	mg/L	1	0.0003	—	—	—	—	—	67	—	—
T. Cadmium	mg/L	1	<0.0002	—	—	—	—	—	—	1	—
T. Calcium	mg/L	2	29	40.8	—	—	—	—	51	—	—
T. Cobalt	mg/L	1	<0.001	—	—	—	—	—	—	1	—
T. Copper	mg/L	1	<0.001	—	—	—	—	—	—	1	—
T. Iron	mg/L	1	0.082	—	—	—	—	—	—	—	—
T. Lead	mg/L	1	<0.001	—	—	—	—	—	—	1	—
T. Magnesium	mg/L	2	11.7	16.6	—	—	—	—	51	—	—
T. Manganese	mg/L	1	0.019	—	—	—	—	—	—	—	—
T. Molybdenum	mg/L	1	<0.001	—	—	—	—	—	—	1	—
T. Nickel	mg/L	1	<0.001	—	—	—	—	—	—	1	—
T. Potassium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Selenium	mg/L	1	<0.0005	—	—	—	—	—	—	1	—
T. Silver	mg/L	1	<0.0001	—	—	—	—	—	—	1	—
T. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Strontium	mg/L	1	0.141	—	—	—	—	—	102	—	—
T. Titanium	mg/L	1	<0.010	—	—	—	—	—	—	1	—
T. Zinc	mg/L	1	<0.005	—	—	—	—	—	—	1	—

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-10 Water Quality Summary Statistics for North Rat Cabin Lake, All
Sampling Dates**

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-11 Water Quality Summary Statistics for South Rat Cabin Lake, All
Sampling Dates**

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-12 Water Quality Summary Statistics for Slim Lake, All Sampling Dates

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-13 Water Quality Summary Statistics Tête Angela Lake, All Sampling

Dates

Appendix Table C4-13 Water Quality Summary Statistics Tête Angela Lake, All Sampling Dates

Parameter	Unit	N	Min	Max	Median	Mean	SD	CV	% Dis	N = DL	N > G
Conductivity	µS/cm	1	170	—	—	—	—	—	—	—	—
T. Hardness	mg/L	1	81.4	—	—	—	—	—	—	—	—
pH		1	7.82	—	—	—	—	—	—	—	—
T. Alkalinity	mg/L	1	81	—	—	—	—	—	—	—	—
Turbidity	NTU	1	0.9	—	—	—	—	—	—	—	—
DOC	mg/L	0	—	—	—	—	—	—	—	—	—
TOC	mg/L	1	11	—	—	—	—	—	—	—	—
D. Solids	mg/L	1	104	—	—	—	—	—	—	—	—
TSS	mg/L	1	1	—	—	—	—	—	—	—	—
D. Chloride	mg/L	1	<0.5	—	—	—	—	—	—	1	—
D. Fluoride	mg/L	1	0.04	—	—	—	—	—	—	—	—
D. Sulphate	mg/L	1	4	—	—	—	—	—	—	—	—
Ammonia-N	mg/L	1	0.01	—	—	—	—	—	—	—	—
Nitrate-N	mg/L	1	<0.005	—	—	—	—	—	—	1	—
Nitrite-N	mg/L	1	<0.001	—	—	—	—	—	—	1	—
Ortho-Phosphate	mg/L	1	<0.001	—	—	—	—	—	—	1	—
D. Phosphate	mg/L	1	0.001	—	—	—	—	—	—	—	—
T. Phosphate	mg/L	1	0.003	—	—	—	—	—	33	—	—
T. Aluminum	mg/L	1	0.003	—	—	—	—	—	33	—	—
T. Antimony	mg/L	1	0.00005	—	—	—	—	—	—	—	—
T. Arsenic	mg/L	1	0.0017	—	—	—	—	—	94	—	—
T. Cadmium	mg/L	1	<0.00005	—	—	—	—	—	—	1	—
T. Calcium	mg/L	1	17.8	—	—	—	—	—	100	—	—
T. Cobalt	mg/L	1	<0.0001	—	—	—	—	—	—	1	—
T. Copper	mg/L	1	0.0005	—	—	—	—	—	100	—	—
T. Iron	mg/L	1	0.07	—	—	—	—	—	—	—	—
T. Lead	mg/L	1	<0.00005	—	—	—	—	—	—	1	—
T. Magnesium	mg/L	1	9	—	—	—	—	—	100	—	—
T. Manganese	mg/L	1	0.022	—	—	—	—	—	10	—	—
T. Molybdenum	mg/L	1	0.00041	—	—	—	—	—	100	—	—
T. Nickel	mg/L	1	0.0008	—	—	—	—	—	112	—	—
T. Potassium	mg/L	1	<2	—	—	—	—	—	—	1	—
T. Selenium	mg/L	1	<0.0005	—	—	—	—	—	—	1	—
T. Silver	mg/L	1	<0.00001	—	—	—	—	—	—	1	—
T. Sodium	mg/L	0	—	—	—	—	—	—	—	—	—
T. Strontium	mg/L	1	0.0709	—	—	—	—	—	99	—	—
T. Titanium	mg/L	1	<0.01	—	—	—	—	—	—	1	—
T. Zinc	mg/L	1	<0.001	—	—	—	—	—	—	1	—

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-14 Water Quality Summary Statistics for Vick Lake, All Sampling Dates

Appendix C4 Water Quality Summary Statistics for Lakes:

**Appendix Table C4-15 Water Quality Summary Statistics for Wasp Lake, All Sampling
Dates**

Appendix C4 Water Quality Summary Statistics for Lakes:

Appendix Table C4-16 Water Quality Summary Statistics for Wolf Trap Lake, All Sampling

Dates

Appendix D Sediment

Contents

Appendix D1 1994 to 2006 Stream Sediment Data

Appendix Table D1-1 Sediment Quality of Streams - Fish Creek

Appendix Table D1-2 Sediment Quality of Streams - Taseko River

Appendix Table D1-3 Sediment Quality of Streams - Other Regional Streams

Appendix D2 Methods and Detection Limits for Sediment Analyses

Appendix D3 Summary Statistics for Sediment in Streams and Lakes

Appendix Table D3-1 Summary of Sediment Quality in Fish Creek, all sites, 1994 to 2006

Appendix Table D3-2 Summary of Sediment Quality in Taseko River, all sites, 1994 to 2006

Appendix Table D3-3 Summary of Sediment Quality in Beece Creek, all sites, 1994 to 1997

Appendix Table D3-4 Summary of Sediment Quality in Tête Angela Creek, all sites, 1994 to 2006

Appendix Table D3-5 Sediment Quality in Fish Lake, 1997 (n=5 replicates)

Appendix Table D3-6 Sediment Quality in Little Fish Lake, 1997 (n=5 replicates)

Appendix Table D3-7 Sediment Quality in Wasp Lake, 1997 (n=5 replicates)

Appendix Table D3-8 Sediment Quality in Big Onion Lake, 1997 (n=5 replicates)

Appendix Table D3-9 Sediment Quality in Taseko Lake, 1997 (n=5 replicates)

Appendix D4 Historical Lake Sediment Data

Appendix D1 1994 to 2006 Stream Sediment Data

Appendix Table D1-1 Sediment Quality of Streams - Fish Creek

Appendix Table D1-2 Sediment Quality of Streams - Taseko River

Appendix Table D1-3 Sediment Quality of Streams - Other Regional Streams

Appendix Table D1-1: Sediment Quality of Streams - Fish Creek

System	Site	Sample	Habitat	Date	Size fraction µm	T-Aluminum µg/g DL: 50	T-Antimony µg/g DL: 0.05	T-Arsenic µg/g DL: 0.05	T-Barium µg/g DL: 1.0	T-Beryllium µg/g DL: 0.5	T-Boron µg/g DL: 10	T-Cadmium µg/g DL: 0.1	T-Calcium µg/g DL: 50	T-Chromium µg/g DL: 2.0	T-Cobalt µg/g DL: 2.0	T-Copper µg/g DL: 1.0	T-Iron µg/g DL: 50	T-Lead µg/g DL: 2.0	T-Magnesium µg/g DL: 50	T-Manganese µg/g DL: 1
Fish C.	W1	540	Pool	21-Aug-97	63	15,400	2.7	2.4	49	0.5	10	0.1	7,640	58	14	28	29,600	2	15,100	456
Fish C.	W1	543	Pool	21-Aug-97	63	18,500	0.4	4.8	85	0.5	10	0.1	9,390	51	22	11	36,600	3	10,900	772
Fish C.	W1	542	Pool	21-Aug-97	63	20,200	0.5	4.6	86	0.5	10	0.1	10,500	54	20	13	37,200	3	7,580	899
Fish C.	W1	544	Pool	21-Aug-97	63	21,000	0.4	4.7	80	0.5	10	0.1	10,400	50	18	15	40,000	4	9,670	896
Fish C.	W1	541	Pool	21-Aug-97	63	20,400	0.4	3.3	111	0.5	10	0.1	10,600	59	22	13	35,200	3	9,570	653
Fish C.	W2	211	Pool	15-Aug-97	63	13,100	0.3	1.2	28	0.5	10	0.1	5,050	28	6	11	20,700	2	7,330	240
Fish C.	W2	212	Pool	15-Aug-97	63	17,700	0.6	2.3	68	0.5	10	0.1	7,040	48	14	26	34,800	3	11,500	462
Fish C.	W2	213	Pool	15-Aug-97	63	15,200	1.6	7.0	48	0.5	10	0.1	5,930	32	14	24	30,800	3	9,010	472
Fish C.	W2	214	Pool	15-Aug-97	63	17,300	0.4	7.4	56	0.5	10	0.1	6,480	40	14	22	34,800	3	10,900	392
Fish C.	W2	215	Pool	15-Aug-97	63	17,300	0.5	6.0	86	0.5	10	0.1	7,290	36	18	33	36,000	4	9,940	431
Fish C.	W2	Rep.1	Pool	17-May-94	whole		1.2	9.1				0.1		35.5	16.6	49.1		6.2		
Fish C.	W2	Rep.2	Pool	17-May-94	whole		0.9	6.2				0.1		47.8	18.9	33.9		4.7		
Fish C.	W2	Rep.3	Pool	17-May-94	whole		1.9	11.2				0.1		42.9	20.7	55.6		7.1		
Fish C.	W2	Rep.4	Pool	17-May-94	whole		0.4	1.7				0.1		34.9	12.6	14.3		2.4		
Fish C.	W2	Rep.5	Pool	17-May-94	whole		0.5	2.0				0.1		30	10	14.9		2.5		
Fish C.	W2	Rep.6	Pool	17-May-94	whole		0.4	2.7				0.1		50.4	10.9	14.5		2.2		
Fish C.	W2	1	Pool	15-Aug-06	63	18,700	0.6	3.2	79.8	0.5		0.1	8,030	51.8	12.6	26.1	38,000	5	11,500	401
Fish C.	W2	2	Pool	15-Aug-06	63	18,400	0.4	3.5	72.1	0.5		0.1	7,940	53.9	13.7	26.6	39,400	4	12,100	393
Fish C.	W2	3	Pool	15-Aug-06	250	15,100	0.5	3.4	62.2	0.5		0.1	6,980	48.5	12.9	22.1	34,600	10.7	9,420	388
Fish C.	W2	4	Pool	15-Aug-06	250	12,700	0.3	1.3	42.5	0.5		0.1	6,180	27.2	7.5	8.8	20,200	2.8	7,270	276
Fish C.	W2	5	Pool	15-Aug-06	250	14,400	0.3	1.2	50.6	0.5		0.1	6,440	37.8	8.9	9.7	23,200	2.4	8,310	294
Fish C.	W3	271	Pool	15-Aug-97	63	23,400	2.7	37.8	69	0.5	10	0.1	21,600	14	13	34	38,300	21	9,820	735
Fish C.	W3	272	Pool	15-Aug-97	63	23,700	1.8	41.3	56	0.5	10	0.1	20,900	15	16	47	39,000	5	10,600	638
Fish C.	W3	273	Pool	15-Aug-97	63	21,000	1.3	36.2	51	0.5	10	0.1	24,100	13	10	33	35,500	5	9,450	598
Fish C.	W3	274	Pool	15-Aug-97	63	22,100	2.0	44	67	0.5	10	0.1	16,700	14	12	46	39,500	5	9,790	600
Fish C.	W3	275	Pool	15-Aug-97	63	24,900	1.4	43.9	58	0.5	10	0.1	15,100	16	11	35	37,900	6	10,100	602
Fish C.	W3	Rep.1	Pool	15-May-94	whole		1.4	64				0.1		16	10.1	36.7		6.4		
Fish C.	W3	Rep.2	Pool	15-May-94	whole		2.2	68				0.1		14.9	13.2	37.4		6.4		
Fish C.	W3	Rep.3	Pool	15-May-94	whole		1.4	57				0.1		16	12.3	50.2		8.5		
Fish C.	W3	Rep.4	Pool	15-May-94	whole		1.6	60				0.1		17.1	13.7	36.7		6.3		
Fish C.	W3	Rep.5	Pool	15-May-94	whole		1.4	89				0.1		17.4	15.4	42.8		7.1		
Fish C.	W3	Rep.6	Pool	15-May-94	whole		1.2	58				0.1		14.9	12.8	41.8		6.8		
Fish C.	W3	1	Pool	15-Aug-06	250	-	-	-	-	-		-	-	-	-	-	-	-	-	-
Fish C.	W3	2	Pool	15-Aug-06	250	19,100	2.1	99	168	0.5		0.28	24,500	98.4	18.9	55.9	41,800	16.8	10,400	894
Fish C.	W3	3	Pool	15-Aug-06	63	19,700	1.7	92	162	0.5		0.23	24,700	49.9	19.1	54.5	44,800	9.9	11,300	975
Fish C.	W3	4	Pool	15-Aug-06	250	19,200	5.2	74.1	128	0.5		0.2	15,400	43.4	24.2	85.2	39,200	17	9,020	1,000
Fish C.	W3	5	Pool	15-Aug-06	63	18,500	4.8	75.8	113	0.5		0.22	16,100	44.7	24.7	69.3	38,400	13.7	9,270	1,130
Fish C.	W7	Rep.1	Pool	15-May-94	whole		0.9	7.0				0.1		36.8	17	31.7		4.2		
Fish C.	W7	Rep.2	Pool	15-May-94	whole		1.1	5.4				0.1		40.5	17.8	35.6		4.1		
Fish C.	W7	Rep.3	Pool	15-May-94	whole		0.9	7.4				0.1		36.7	18.5	32.2		3.7		
Fish C.	W7	Rep.4	Pool	15-May-94	whole		0.7	5.4				0.1		36.3	15.5	26.1		4.2		
Fish C.	W7	Rep.5	Pool	15-May-94	whole		0.7	6.0				0.1		36.1	17.4	31.1		3.9		
Fish C.	W7	Rep.6	Pool	15-May-94	whole		1.0	3.2				0.1		46.6	16.6	30.8		3.4		
Fish C.	W8	571	Pool	22-Aug-97	63	12,700	0.3	3.7	62	0.5	10	0.1	6,140	35	11	26	27,000	3	8,390	1,970
Fish C.	W8	572	Pool	22-Aug-97	63	14,800	0.5	4.2	60	0.5	10	0.1	7,130	31	11	16	27,400	2	8,020	1,890
Fish C.	W8	573	Pool	22-Aug-97	63	13,100	0.3	4.2	56	0.5	10	0.1	5,020	20	10	19	25,100	2	8,930	1,240
Fish C.	W8	574	Pool	22-Aug-97	63	13,900	0.5	4.0	43	0.5	10	0.1	6,180	25	11	28	27,200	2	8,970	843
Fish C.	W8	575	Pool	22-Aug-97	63	15,400	0.5	1.9	54	0.5	10	0.1	8,130	30	12	20	29,800	2	9,540	1,050
Fish C.	W8	Rep.1	Pool	14-May-94	whole		0.5	3				0.1		39.5	12.5	13.3		2.7		
Fish C.	W8	Rep.2	Pool	14-May-94	whole		0.6	2.9				0.1		33	11.8	11.3		2.1		
Fish C.	W8	Rep.3	Pool	14-May-94	whole		0.5	4.1				0.1		38.1	12.8	14.9		2.2		
Fish C.	W8	Rep.4	Pool	14-May-94	whole		0.6	6.2				0.1		33.6	11.8	14		2.2		

Appendix Table D1-1: Sediment Quality of Streams - Fish Creek

System	Site	Sample	Habitat	Date	T-Mercury µg/g DL: 0.005	T-Molybdenum µg/g DL: 4-20	T-Nickel µg/g DL: 2.0	T-Potassium µg/g DL: 200	T-Selenium µg/g DL: 0.1	T-Silver µg/g DL: 0.1-2	T-Sodium µg/g DL: 200	T-Tin µg/g DL: 5-50	T-Zinc µg/g DL: 1	TOC µg/g DL: 0.001-0.05	Gravel ¹ % DL: N/A	Sand ² % DL: N/A	Silt ³ % DL: N/A	Clay ⁴ % DL: N/A	% Moisture % DL: N/A	Notes
Fish C.	W1	540	Pool	21-Aug-97	0.0	4	56	438	0.1	0.4	975	10	52	0.1	85	14.3	0.2	0.5	15.2	
Fish C.	W1	543	Pool	21-Aug-97	0.0	4	78	778	0.1	0.6	1,410	10	52	1.6	45.9	43.5	5.3	5.3	27.9	
Fish C.	W1	542	Pool	21-Aug-97	0.0	4	53	954	0.2	0.9	1,540	10	57	3.2	0.1	61.6	18.3	20.1	44.7	
Fish C.	W1	544	Pool	21-Aug-97	0.0	4	52	1,040	0.1	0.5	1,820	10	56	2.3	33.8	49.3	8.3	8.6	38.7	
Fish C.	W1	541	Pool	21-Aug-97	0.0	4	55	886	0.1	0.7	1,810	10	56	1.0	27.5	62.9	5.1	4.5	26.4	
Fish C.	W2	211	Pool	15-Aug-97	0.0	4	22	301	0.1	0.1	693	10	33	0.4	45.5	53.4	0.6	0.5	16.1	
Fish C.	W2	212	Pool	15-Aug-97	0.1	4	44	819	0.1	0.2	799	10	54	0.4	68.7	24	2.8	4.5	14.8	
Fish C.	W2	213	Pool	15-Aug-97	0.1	4	35	561	0.1	0.1	799	10	46	0.3	75.5	22.4	1.2	0.9	17.2	
Fish C.	W2	214	Pool	15-Aug-97	0.1	4	42	573	0.1	0.5	768	10	50	1.5	46.7	44.2	4.6	4.5	27.0	
Fish C.	W2	215	Pool	15-Aug-97	0.1	4	40	738	0.1	0.1	810	10	58	1.8	10.2	54.7	17.8	17.3	32.3	
Fish C.	W2	Rep.1	Pool	17-May-94	0.1	4	38.6		0.1	2			65.9		62.6	33.5	1.5	2.4	5.9	5
Fish C.	W2	Rep.2	Pool	17-May-94	0.1	4	59.3		0.1	2			63.9						8.7	5
Fish C.	W2	Rep.3	Pool	17-May-94	0.2	4	43.1		0.1	2			94.1						22.3	5
Fish C.	W2	Rep.4	Pool	17-May-94	0.0	4	32.3		0.1	2			47.3						8.8	5
Fish C.	W2	Rep.5	Pool	17-May-94	0.0	4	27.9		0.1	2			43.1						6.7	5
Fish C.	W2	Rep.6	Pool	17-May-94	0.0	4	39.5		0.1	2			43.6						4.9	5
Fish C.	W2	1	Pool	15-Aug-06	0.0	4	42.7	510	0.1	0.1	590	5	65.6	0.7	38.8	58.1	2.3	0.8	26.4	
Fish C.	W2	2	Pool	15-Aug-06	0.0	4	48.4	550	0.1	0.1	630	5	64.1	0.5	41	56.4	1	1.6	22.9	
Fish C.	W2	3	Pool	15-Aug-06	0.1	4	43.7	510	0.1	0.1	730	5	62.8	0.3	58.8	39.8	0.9	0.5	22.0	
Fish C.	W2	4	Pool	15-Aug-06	0.0	4	20.6	360	0.1	0.1	520	5	42.3	0.6	30.4	67.7	1.7	0.2	24.9	
Fish C.	W2	5	Pool	15-Aug-06	0.0	4	24.6	400	0.1	0.1	640	5	48.9	0.3	36.1	62.8	0.5	0.6	20.3	
Fish C.	W3	271	Pool	15-Aug-97	0.2	4	18	861	0.1	0.2	405	10	78	0.3	45.7	51.1	1.4	1.8	18.2	
Fish C.	W3	272	Pool	15-Aug-97	0.1	4	19	875	0.1	0.3	429	10	77	0.4	90	9.3	0.3	0.4	22.2	
Fish C.	W3	273	Pool	15-Aug-97	0.1	4	15	705	0.1	0.2	372	10	66	0.3	71.5	27.2	0.6	0.7	20.6	
Fish C.	W3	274	Pool	15-Aug-97	0.1	4	18	622	0.1	0.2	313	10	80	0.4	54.8	42.6	1.2	1.4	18.4	
Fish C.	W3	275	Pool	15-Aug-97	0.1	4	17	892	0.1	0.5	443	10	74	0.8	59.3	38.5	0.9	1.3	19.9	
Fish C.	W3	Rep.1	Pool	15-May-94	0.2	4	14.2		0.2	2			70.5		56.9	35.8	3.1	4.2	2.0	5
Fish C.	W3	Rep.2	Pool	15-May-94	0.2	4	15.9		0.1	2			75.1						2.2	5
Fish C.	W3	Rep.3	Pool	15-May-94	0.2	4	16.9		0.1	2			80.5						1.8	5
Fish C.	W3	Rep.4	Pool	15-May-94	0.2	4	16.3		0.1	2			87.7						2.0	5
Fish C.	W3	Rep.5	Pool	15-May-94	0.2	4	17.8		0.2	2			86.2						2.2	5
Fish C.	W3	Rep.6	Pool	15-May-94	0.2	4	14.8		0.1	2			78.4						2.2	5
Fish C.	W3	1	Pool	15-Aug-06	-	-	-	-	-	-	-	-	-	0.2	54.6	43.7	0.9	0.8	21.5	6
Fish C.	W3	2	Pool	15-Aug-06	0.1	11	81.6	900	0.4	0.1	510	21.4	77.3	0.3	69.2	29.6	0.8	0.4	21.8	
Fish C.	W3	3	Pool	15-Aug-06	0.1	4.3	47.7	780	0.4	0.1	450	5	89.6	0.2	75.9	22.5	0.1	1.5	23.8	
Fish C.	W3	4	Pool	15-Aug-06	0.1	4.4	48	800	1.0	0.1	380	5	78.4	0.4	60.4	36.1	2.4	1.1	23.1	
Fish C.	W3	5	Pool	15-Aug-06	0.1	4	49.5	770	0.8	0.1	390	5	79.5	0.6	73	25.3	0.9	0.8	25.0	
Fish C.	W7	Rep.1	Pool	15-May-94	0.2	4	40.5		0.1	2			57.3		58.4	35.2	2.7	3.7	2.3	5
Fish C.	W7	Rep.2	Pool	15-May-94	0.1	4	47.2		0.1	2			64.3						2.6	5
Fish C.	W7	Rep.3	Pool	15-May-94	0.1	4	43.5		0.1	2			56.7						3.1	5
Fish C.	W7	Rep.4	Pool	15-May-94	0.1	4	36.5		0.1	2			50.1						3.9	5
Fish C.	W7	Rep.5	Pool	15-May-94	0.1	4	40.5		0.1	2			52						2.7	5
Fish C.	W7	Rep.6	Pool	15-May-94	0.1	4	45.1		0.1	2			52.5						2.3	5
Fish C.	W8	571	Pool	22-Aug-97	0.0	4	30	587	0.1	0.3	813	10	40	0.1	97.4	2.6	0.1	0.1	18.0	
Fish C.	W8	572	Pool	22-Aug-97	0.0	4	25	650	0.1	0.2	878	10	46	0.5	66	31.9	0.9	1.2	22.3	
Fish C.	W8	573	Pool	22-Aug-97	0.0	4	20	517	0.1	0.3	609	10	47	0.2	92.8	7.2	0.1	0.1	18.0	
Fish C.	W8	574	Pool	22-Aug-97	0.0	4	25	420	0.1	0.4	709	10	45	0.4	55.3	42.4	1.4	0.9	21.5	
Fish C.	W8	575	Pool	22-Aug-97	0.0	4	31	590	0.1	0.2	1,010	10	47	0.2	59.3	39.6	0.3	0.8	16.6	
Fish C.	W8	Rep.1	Pool	14-May-94	0.3	4	25.9		0.1	2			52		61.7	32.5	1.8	4	1.7	5
Fish C.	W8	Rep.2	Pool	14-May-94	0.0	4	24.5		0.1	2			49.2						2.9	5
Fish C.	W8	Rep.3	Pool	14-May-94	0.1	4	27.8		0.1	2			49.7						10.3	5
Fish C.	W8	Rep.4	Pool	14-May-94	0.2	4	24.6		0.1	2			57.5						7.5	5

Appendix Table D1-1: Sediment Quality of Streams - Fish Creek

System	Site	Sample	Habitat	Date	Size fraction µm	T-Aluminum µg/g DL: 50	T-Antimony µg/g DL: 0.05	T-Arsenic µg/g DL: 0.05	T-Barium µg/g DL: 1.0	T-Beryllium µg/g DL: 0.5	T-Boron µg/g DL: 10	T-Cadmium µg/g DL: 0.1	T-Calcium µg/g DL: 50	T-Chromium µg/g DL: 2.0	T-Cobalt µg/g DL: 2.0	T-Copper µg/g DL: 1.0	T-Iron µg/g DL: 50	T-Lead µg/g DL: 2.0	T-Magnesium µg/g DL: 50	T-Manganese µg/g DL: 1
Fish C.	W8	Rep.5	Pool	14-May-94	whole		0.5	3.9				0.1		29.8	11	14.5		2.1		
Fish C.	W8	Rep.6	Pool	14-May-94	whole		0.5	6.0				0.1		39.4	11.8	16.8		2.2		
Fish C.	W8	1	Pool	16-Aug-06	63	18,800	0.7	22.1	97.9	0.5		0.1	9,300	58.9	13.4	29.3	52,000	11.8	9,260	474
Fish C.	W8	2	Pool	16-Aug-06	63	19,900	0.7	12.8	111	0.5		0.1	10,600	65.8	15.5	33.3	42,000	5.4	10,200	1,030
Fish C.	W8	3	Pool	16-Aug-06	63	19,900	0.8	14.5	106	0.5		0.1	9,920	71.8	19	29.6	46,400	5.1	11,800	1,230
Fish C.	W8	4	Pool	16-Aug-06	63	17,300	0.1	9.3	111	0.5		0.1	9,220	55	15.7	32.9	37,300	4.6	10,800	1,050
Fish C.	W8	5	Pool	16-Aug-06	63	18,000	0.8	14.5	112	0.5		0.1	10,200	66	16.1	26.1	41,100	5.2	10,100	2,880
Fish C.	W1	539	Riffle	21-Aug-97	63	15,500	0.4	2.1	116	0.5	10	0.1	8,280	34	14	15	32,300	2	9,320	630
Fish C.	W1	537	Riffle	21-Aug-97	63	14,900	0.2	6.7	47	0.5	10	0.1	7,530	36	14	13	31,300	2	10,100	652
Fish C.	W1	535	Riffle	21-Aug-97	63	13,500	0.4	7.2	47	0.5	10	0.1	6,600	25	12	16	29,300	3	8,420	417
Fish C.	W1	536	Riffle	21-Aug-97	63	16,300	0.3	2.7	58	0.5	10	0.1	8,540	89	14	12	32,900	2	11,300	409
Fish C.	W1	538	Riffle	21-Aug-97	63	9,800	0.4	2.2	35	0.5	10	0.1	5,740	25	9	14	23,100	2	8,600	374
Fish C.	W2	216	Riffle	15-Aug-97	63	16,200	0.4	1.7	56	0.5	10	0.1	7,240	41	14	19	24,000	2	8,740	330
Fish C.	W2	217	Riffle	15-Aug-97	63	16,300	0.5	1.4	81	0.5	10	0.1	7,300	33	9	14	24,600	2	8,270	288
Fish C.	W2	218	Riffle	15-Aug-97	63	11,400	0.2	1.2	37	0.5	10	0.1	6,300	19	7	12	17,100	2	6,770	408
Fish C.	W2	219	Riffle	15-Aug-97	63	14,800	0.3	1.1	44	0.5	10	0.1	6,480	40	10	16	23,400	3	8,910	341
Fish C.	W2	220	Riffle	15-Aug-97	63	20,000	0.6	3.1	50	0.5	10	0.1	7,830	35	11	22	28,400	2	9,500	375
Fish C.	W2	6	Riffle	15-Aug-06	250	16,700	0.4	4.1	115	0.5		0.1	8,790	69.4	15.8	24.1	37,000	6.8	12,900	418
Fish C.	W2	7	Riffle	15-Aug-06	63	28,500	0.8	5.2	120	0.5		0.1	10,200	48.5	14.1	50.8	33,700	6.9	12,500	436
Fish C.	W2	8	Riffle	15-Aug-06	63	24,300	0.9	3.8	191	0.5		0.1	9,070	52.4	15.9	53.5	34,900	6	13,500	456
Fish C.	W2	9	Riffle	15-Aug-06	250	16,000	0.3	2.9	57.6	0.5		0.15	8,840	115	19.1	20.8	36,300	3.9	20,200	688
Fish C.	W2	10	Riffle	15-Aug-06	250	17,600	0.4	2.6	83.1	0.5		0.12	9,520	229	19.2	25.4	34,100	6.7	14,100	1,350
Fish C.	W3	246	Riffle	15-Aug-97	63	22,500	4.5	64.2	40	0.5	10	0.1	15,800	14	10	39	41,600	6	10,200	635
Fish C.	W3	247	Riffle	15-Aug-97	63	17,400	1.9	42.4	29	0.5	10	0.1	20,200	12	10	30	33,900	5	8,870	555
Fish C.	W3	248	Riffle	15-Aug-97	63	16,200	9.3	62.1	35	0.5	10	0.1	37,400	12	9	28	29,900	4	7,870	1,010
Fish C.	W3	249	Riffle	15-Aug-97	63	21,200	1.1	43.6	48	0.5	10	0.1	13,500	15	9	36	38,700	5	9,100	497
Fish C.	W3	250	Riffle	15-Aug-97	63	16,500	1.1	42.2	18	0.5	10	0.1	22,200	12	10	29	34,900	6	9,160	690
Fish C.	W3	6	Riffle	15-Aug-06	250	-	-	-	-	-		-	-	-	-	-	-	-	-	-
Fish C.	W3	7	Riffle	15-Aug-06	250	-	-	-	-	-		-	-	-	-	-	-	-	-	-
Fish C.	W3	8	Riffle	15-Aug-06	250	-	-	-	-	-		-	-	-	-	-	-	-	-	-
Fish C.	W3	9	Riffle	15-Aug-06	250	22,400	5.2	88.7	713	0.5		0.14	29,300	91.2	22.8	63.5	46,600	7.9	12,100	1,050
Fish C.	W3	10	Riffle	15-Aug-06	250	22,400	1.7	80	302	0.5		0.18	28,100	161	24.5	75.1	45,500	32.8	11,600	1,080
Fish C.	W8	566	Riffle	22-Aug-97	63	15,000	0.4	4.5	61	0.5	10	0.1	7,740	41	11	14	25,600	2	9,060	1,340
Fish C.	W8	567	Riffle	22-Aug-97	63	16,000	0.5	4.1	61	0.5	10	0.1	7,260	38	11	13	25,800	2	8,260	496
Fish C.	W8	568	Riffle	22-Aug-97	63	21,100	0.6	7.6	103	0.5	10	0.1	10,500	40	13	10	34,200	3	7,720	1,280
Fish C.	W8	569	Riffle	22-Aug-97	63	23,600	0.6	7.9	94	0.5	10	0.1	11,300	46	15	18	37,200	3	10,300	1,740
Fish C.	W8	570	Riffle	22-Aug-97	63	17,900	0.4	4.6	70	0.5	10	0.1	9,370	34	10	8	25,100	2	7,200	764
Fish C.	W8	6	Riffle	16-Aug-06	250	15,900	0.7	12.3	198	0.5		0.1	8,850	68.7	17.7	17.6	42,800	3.5	10,600	3,730
Fish C.	W8	7	Riffle	16-Aug-06	250	13,700	0.4	5.4	67.7	0.5		0.1	6,630	42.9	12.8	13.3	30,500	2.6	7,800	1,300
Fish C.	W8	8	Riffle	16-Aug-06	250	13,900	0.5	5.9	71.3	0.5		0.1	7,240	44.8	13.3	12.4	30,900	2.8	7,890	1,510
Fish C.	W8	9	Riffle	16-Aug-06	63	18,900	1.8	8.6	125	0.5		0.11	9,340	82	17.3	25.1	41,700	6.8	10,800	1,660
Fish c.	W8	10	Riffle	16-Aug-06	250	16,800	1.0	6.7	81.4	0.5		0.1	7,330	72.7	15.3	20.3	36,500	5.5	10,600	1,610

Notes: ¹ >2.0 mm
² 0.063 mm-2.0 mm
³ 4 µm-0.063 mm
⁴ 4 µm
⁵ Detection limit of antimony above PRS recommendations
⁶ Insufficient volume to analyse sample
⁷ Insufficient volume to analyse sample - sample 6-9 composited to make one sample - reported under sample 9
Bold indicates guideline exceedances

Appendix Table D1-1: Sediment Quality of Streams - Fish Creek

System	Site	Sample	Habitat	Date	T-Mercury µg/g DL: 0.005	T-Molybdenum µg/g DL: 4-20	T-Nickel µg/g DL: 2.0	T-Potassium µg/g DL: 200	T-Selenium µg/g DL: 0.1	T-Silver µg/g DL: 0.1-2	T-Sodium µg/g DL: 200	T-Tin µg/g DL: 5-50	T-Zinc µg/g DL: 1	TOC µg/g DL: 0.001-0.05	Gravel ¹ % DL: N/A	Sand ² % DL: N/A	Silt ³ % DL: N/A	Clay ⁴ % DL: N/A	% Moisture % DL: N/A	Notes
Fish C.	W8	Rep.5	Pool	14-May-94	0.0	4	21.6		0.1	2			43.4						1.9	5
Fish C.	W8	Rep.6	Pool	14-May-94	0.0	4	27.1		0.1	2			53.8						15.6	5
Fish C.	W8	1	Pool	16-Aug-06	0.1	4	41.8	650	0.4	0.1	550	5	72.5	0.6	30.1	62.4	4.4	3.1	28.0	
Fish C.	W8	2	Pool	16-Aug-06	0.1	4	48.7	630	0.4	0.1	540	5	75.1	0.9	4	84.1	6.8	5.1	30.4	
Fish C.	W8	3	Pool	16-Aug-06	0.1	4	57	580	0.3	0.1	610	5	83.9	0.3	26.4	69.8	2.8	1	22.5	
Fish C.	W8	4	Pool	16-Aug-06	0.1	4	50.2	490	0.5	0.1	300	5	80	0.4	5.1	89	3.4	2.5	25.8	
Fish C.	W8	5	Pool	16-Aug-06	0.1	4	53.3	580	0.4	0.1	580	5	71.4	0.5	79.9	18.9	1	0.2	25.4	
Fish C.	W1	539	Riffle	21-Aug-97	0.0	4	37	597	0.1	0.6	1,110	10	53	0.4	76	22.6	0.5	0.9	17.0	
Fish C.	W1	537	Riffle	21-Aug-97	0.0	4	39	572	0.1	0.3	1,490	10	48	0.2	73.7	24.9	0.5	0.9	18.5	
Fish C.	W1	535	Riffle	21-Aug-97	0.0	4	27	596	0.1	0.6	882	10	47	0.4	64.4	33.8	0.6	1.2	19.3	
Fish C.	W1	536	Riffle	21-Aug-97	0.0	4	57	680	0.1	0.4	1,520	10	49	0.3	59	38.6	1	1.4	20.8	
Fish C.	W1	538	Riffle	21-Aug-97	0.0	4	24	378	0.1	0.1	706	10	39	*	92.4	7	0.3	0.3	16.4	
Fish C.	W2	216	Riffle	15-Aug-97	0.0	4	48	358	0.1	0.3	1,050	10	44	0.3	67.8	29.6	1	1.6	13.4	
Fish C.	W2	217	Riffle	15-Aug-97	0.0	4	24	615	0.1	0.7	761	10	42	0.8	54.4	41.7	2.1	1.8	18.9	
Fish C.	W2	218	Riffle	15-Aug-97	0.0	4	16	237	0.1	0.1	570	10	36	0.2	79.3	20.3	0.2	0.2	16.7	
Fish C.	W2	219	Riffle	15-Aug-97	0.0	4	33	471	0.1	0.2	937	10	45	0.5	78.7	20	0.5	0.8	13.0	
Fish C.	W2	220	Riffle	15-Aug-97	0.0	4	34	806	0.1	0.1	1,340	10	54	0.3	58.1	38.7	1.7	1.5	43.2	
Fish C.	W2	6	Riffle	15-Aug-06	0.1	4	66.1	570	0.1	0.1	950	5	66.8	0.2	83.7	16	0.1	0.2	21.2	
Fish C.	W2	7	Riffle	15-Aug-06	0.1	4	39	880	0.2	0.1	600	5	75.9	0.5	53.6	27.9	8.2	10.3	22.8	
Fish C.	W2	8	Riffle	15-Aug-06	0.2	4	49.9	870	0.1	0.1	660	5	77.1	0.4	54.7	39.6	2.9	2.8	22.6	
Fish C.	W2	9	Riffle	15-Aug-06	0.1	4.7	114	460	0.1	0.1	1,390	5	70.4	0.1	85.6	14.1	0.1	0.2	23.1	
Fish C.	W2	10	Riffle	15-Aug-06	0.1	18.9	165	560	0.1	0.1	1,330	5	68.7	0.1	97.2	2.8	0.1	0.1	20.6	
Fish C.	W3	246	Riffle	15-Aug-97	0.2	4	18	524	0.2	0.2	216	10	80	0.2	73.3	24.1	0.8	0.8	23.3	
Fish C.	W3	247	Riffle	15-Aug-97	0.1	4	14	296	0.1	0.4	200	10	70	0.7	76.9	21.4	1	0.7	22.8	
Fish C.	W3	248	Riffle	15-Aug-97	0.1	4	12	297	0.1	0.2	200	10	61	0.2	90	9.5	0.2	0.3	19.2	
Fish C.	W3	249	Riffle	15-Aug-97	0.2	4	14	799	0.1	0.2	327	10	70	0.4	73.2	25.2	0.7	0.9	23.4	
Fish C.	W3	250	Riffle	15-Aug-97	0.2	4	15	223	0.2	0.2	200	10	71	0.5	75.9	22.5	0.8	0.8	7.9	
Fish C.	W3	6	Riffle	15-Aug-06	-	-	-	-	-	-	-	-	-	0.2	87.9	11.9	0.1	0.1	18.3	7
Fish C.	W3	7	Riffle	15-Aug-06	-	-	-	-	-	-	-	-	-	0.3	92	8	0.1	0.1	20.2	7
Fish C.	W3	8	Riffle	15-Aug-06	-	-	-	-	-	-	-	-	-	0.2	81.7	17.3	0.6	0.4	21.4	7
Fish C.	W3	9	Riffle	15-Aug-06	0.1	8.7	76	940	0.4	0.1	480	5	87.2	0.2	94	6	0.1	0.1	20.5	7
Fish C.	W3	10	Riffle	15-Aug-06	0.1	19.2	131	1,090	0.3	0.3	610	5	80.3	0.2	89	11	0.1	0.1	20.3	
Fish C.	W8	566	Riffle	22-Aug-97	0.0	4	33	608	0.1	0.5	853	10	45	0.9	50.9	43.6	2.7	2.8	32.9	
Fish C.	W8	567	Riffle	22-Aug-97	0.2	4	27	767	0.1	0.1	1,010	10	48	0.6	36.5	59.2	2.5	1.8	36	
Fish C.	W8	568	Riffle	22-Aug-97	0.1	4	30	1,150	0.3	0.2	1,460	10	57	1.8	0.1	78.9	10.8	10.3	53.5	
Fish C.	W8	569	Riffle	22-Aug-97	0.0	4	36	1,230	0.3	0.2	1,560	10	64	2.3	35	57	3.2	4.8	60.5	
Fish C.	W8	570	Riffle	22-Aug-97	0.0	4	24	783	0.2	0.5	1,150	10	50	1.0	19.5	67.2	7	6.3	41.9	
Fish C.	W8	6	Riffle	16-Aug-06	0.1	4	57.7	680	0.2	0.1	780	5	63.6	0.3	86.1	13.7	0.1	0.1	21.6	
Fish C.	W8	7	Riffle	16-Aug-06	0.0	4	36.1	490	0.1	0.1	630	5	50.7	0.3	95.4	4.6	0.1	0.1	18.3	
Fish C.	W8	8	Riffle	16-Aug-06	0.0	4	37.5	470	0.1	0.1	610	5	51.5	0.3	95.3	4.7	0.1	0.1	17.2	
Fish C.	W8	9	Riffle	16-Aug-06	0.1	4	61.7	640	0.2	0.1	620	5	78.6	0.2	91.3	8.2	0.3	0.2	20.8	
Fish c.	W8	10	Riffle	16-Aug-06	0.0	4	59.8	570	0.1	0.3	720	5	64.2	0.2	84.6	14.9	0.3	0.2	19.5	

Notes: ¹ >2.0 mm
² 0.063 mm-2.0 mm
³ 4 µm-0.063 mm
⁴ 4 µm
⁵ Detection limit of antimony above PRS
⁶ Insufficient volume to analyse sample
⁷ Insufficient volume to analyse sample
Bold indicates guideline exceedances

Appendix D2

Methods and Detection Limits for Sediment Analyses

APPENDIX D2: METHODS OF SEDIMENT ANALYSIS

The method used to analyse the sediments for conventional parameters was a leaching process whereby the leachate was filtered and analyzed in accordance with procedures described in “Methods for Chemical Analysis of Water and Wastes” (USEPA), “Manual for the chemical analysis of water, wastewaters, sediments and biological tissues” (BCMOE) and/or “Standard Methods for the examination of Water and Wastewater” (APHA). The percent moisture content of sediment was measured gravimetrically by drying the sample at 103° C for at least three hours. Metals were measured using a 1:1 nitric acid/hydrochloric acid digestion adopted from procedures in “Test Methods for Evaluating Solid Waste” SW-846 Method 3050 or Method 3051 (USEPA). The Instrumental analysis was conducted by atomic absorption spectrophotometry (EPA Method 7000) and/or inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010). The analysis of antimony was slightly different from the other metals: a hydrochloric acid digestion was used along with instrumental analysis using hydride vapour atomic absorption spectrophotometry (EPA Method 7062).

Detection limits of metals recommended in the report project specifications (Prosperity Project Committee, April 1998) were met except for two metals. The laboratory detection limit for cadmium was 0.1 µg/g compared to the recommended 0.06 µg/g and for nickel it was 2 µg/g compared to the recommended 1.6 µg/g. Additionally, in some samples where the moisture content was high, methodological limitations imposed an increase in the detection limits of silver.

Total organic carbon (TOC), the difference between total carbon and inorganic carbon, was analysed according to the methods described in Method 9060A (USEPA). The carbon dioxide from both fractions was measured with a nondispersive infrared analyzer. The sample was first oxidized to convert the carbon to carbon dioxide at high temperature. The inorganic carbon was reacted with phosphoric acid to convert the carbonates to carbon dioxide.

Particle size distribution analysis was conducted by Pacific Soils Analysis Inc. Methods for measuring particle size distribution were adapted from those in Fisheries and Environment Canada (described in Walton, 1978). The sediment was oven dried, the organics were removed, and standard sieves were used to determine the sand and silt fractions, and the pipette method for the clay fraction. In some of the samples, e.g., lake samples, the high organic content precluded the detailed particle size analysis and the analysis was limited to the fine (<2.0) and coarse (>2.0 mm) size categories.

Appendix D2: Methods of Sediment Analysis

Detection Limits for Sediment Analyses	
Physical Tests	
Moisture %	0.10
pH	0.010
Total Metals	
Aluminum T-Al	50
Antimony T-Sb	0.10
Arsenic T-As	0.10
Barium T-Ba	1.0
Beryllium T-Be	0.50
Bismuth T-Bi	20
Cadmium T-Cd	0.10
Calcium T-Ca	50
Chromium T-Cr	2.0
Cobalt T-Co	2.0
Copper T-Cu	1.0
Iron T-Fe	50
Lead T-Pb	2.0
Lithium T-Li	2.0
Magnesium T-Mg	50
Manganese T-Mn	1.0
Mercury T-Hg	0.0050
Molybdenum T-Mo	4.0
Nickel T-Ni	2.0
Phosphorus T-P	50
Potassium T-K	200
Selenium T-Se	0.10
Silver T-Ag	0.10
Sodium T-Na	200
Strontium T-Sr	0.50
Thallium T-Tl	1.0
Tin T-Sn	5.0
Titanium T-Ti	1.0
Vanadium T-V	2.0
Zinc T-Zn	1.0
Organic Parameters	
Total Organic Carbon C	0.050
Particle Size	
Gravel (>2.00mm) (%)	0.10
Sand (2.00mm - 0.063mm) (%)	0.10
Silt (0.063mm - 4um) (%)	0.10
Clay (<4um) (%)	0.10

Appendix D3	Summary Statistics for Sediment in Streams and Lakes
Appendix Table D3-1	Summary of Sediment Quality in Fish Creek, all sites, 1994 to 2006
Appendix Table D3-2	Summary of Sediment Quality in Taseko River, all sites, 1994 to 2006
Appendix Table D3-3	Summary of Sediment Quality in Beece Creek, all sites, 1994 to 1997
Appendix Table D3-4	Summary of Sediment Quality in Tête Angela Creek, all sites, 1994 to 2006
Appendix Table D3-5	Sediment Quality in Fish Lake, 1997 (n=5 replicates)
Appendix Table D3-6	Sediment Quality in Little Fish Lake, 1997 (n=5 replicates)
Appendix Table D3-7	Sediment Quality in Wasp Lake, 1997 (n=5 replicates)
Appendix Table D3-8	Sediment Quality in Big Onion Lake, 1997 (n=5 replicates)
Appendix Table D3-9	Sediment Quality in Taseko Lake, 1997 (n=5 replicates)

Appendix Table D3-1 Summary of Sediment Quality in Fish Creek, all sites, 1994 to 2006

Parameter	Habitat	N ¹	# Times BC SQG Exceeded	Range		Mean
				Minimum	Maximum	
Antimony, total ² (µg/g)	Pool	58	45	0.1	5.24	1.05
	Riffle	32	19	0.2	9.33	1.19
Arsenic, total (µg/g)	Pool	58	31	1.2	99	20.4
	Riffle	32	14	1.06	88.7	16.8
Cadmium, total (µg/g)	Pool	58	0	0.05	0.28	0.063
	Riffle	32	0	0.05	0.18	0.064
Chromium, total (µg/g)	Pool	58	28	13	98.4	38.4
	Riffle	32	19	12	229	53.7
Copper, total (µg/g)	Pool	58	14	8.8	85.2	29.5
	Riffle	32	6	8	75.1	24.4
Iron, total (µg/g)	Pool	34	32	20,200	52,000	35,300
	Riffle	32	31	17,100	46,600	32,600
Lead, total (µg/g)	Pool	58	0	1	21	5.16
	Riffle	32	0	1	32.8	4.69
Manganese, total ² (µg/g)	Pool	34	25	240	2880	831
	Riffle	32	21	288	3730	891
Mercury, total (µg/g)	Pool	58	7	0.019	0.343	0.09
	Riffle	32	2	0.007	0.23	0.07
Nickel, total (µg/g)	Pool	58	54	14.2	81.6	36
	Riffle	32	27	12	165	45
Selenium, total (µg/g)	Pool	58	0	0.05	0.97	0.141
	Riffle	32	0	0.05	0.41	0.125
Silver, total (µg/g)	Pool	34	3	0.05	<2	0.226
	Riffle	32	3	0.05	0.7	0.230
Zinc, total (µg/g)	Pool	58	0	33	94.1	61.7
	Riffle	32	0	36	87.2	59.6
% TOC	Pool	35	n/a	0.1	3.23	0.66
	Riffle	34	n/a	0.12	2.3	0.45
% Gravel	Pool	39	n/a	4	97.4	54.1
	Riffle	35	n/a	19.5	97.2	73.7
% Sand	Pool	39	n/a	2.6	89	41.7
	Riffle	35	n/a	2.8	78.9	25.3
% Silt	Pool	39	n/a	0.1	18.3	3.0
	Riffle	35	n/a	0.1	10.8	1.8
% Clay	Pool	39	n/a	0.2	20.1	3.0
	Riffle	35	n/a	0.1	10.3	1.9
% Moisture	Pool	59	n/a	1.71	44.7	16.0
	Riffle	35	n/a	7.9	60.5	23.6

Note: 1. N = the total number of replicate samples analyzed
2. Number of times antimony or manganese exceed PRS criterion (no applicable BC SQG)

Appendix Table D3-2 Summary of Sediment Quality in Taseko River, all sites, 1994 to 2006

Parameter	Habitat	N ¹	# Times BC SQG Exceeded	Range		Mean
				Minimum	Maximum	
Antimony, total ² (µg/g)	Pool	51	43	0.49	6.13	2.19
	Riffle	29	21	0.25	21.6	2.87
Arsenic, total (µg/g)	Pool	51	44	3.33	25.7	12.1
	Riffle	29	19	2.22	65.1	16.8
Cadmium, total (µg/g)	Pool	51	0	0.05	0.34	0.102
	Riffle	29	0	0.05	0.27	0.105
Chromium, total (µg/g)	Pool	51	6	18	47.3	31.8
	Riffle	29	3	17	47.8	26.9
Copper, total (µg/g)	Pool	51	17	20	60	34.1
	Riffle	29	9	19	43	31.8
Iron, total (µg/g)	Pool	15	15	22,000	47,800	34,400
	Riffle	20	20	25,400	45,900	35,900
Lead, total (µg/g)	Pool	51	0	2.9	10.7	5.60
	Riffle	29	0	3	8.3	4.95
Manganese, total ² (µg/g)	Pool	27	19	335	688	522
	Riffle	29	22	405	1010	619
Mercury, total (µg/g)	Pool	51	0	0.0143	0.162	0.049
	Riffle	29	0	0.019	0.133	0.047
Nickel, total (µg/g)	Pool	51	51	18	36	26.5
	Riffle	29	29	18	37	26.2
Selenium, total (µg/g)	Pool	51	0	0.05	4.23	0.66
	Riffle	29	0	0.05	0.12	0.06
Silver, total (µg/g)	Pool	32	2	0.05	2.1	0.28
	Riffle	29	5	0.05	1	0.29
Zinc, total (µg/g)	Pool	51	0	39	98	66
	Riffle	29	0	45	82	64
% TOC	Pool	51	n/a	0	2.54	0.43
	Riffle	29	n/a	0	0.77	0.19
% Gravel	Pool	31	n/a	0	76.2	35.7
	Riffle	29	n/a	0	81.9	59.2
% Sand	Pool	31	n/a	10.5	81.8	55.4
	Riffle	29	n/a	17.6	96.4	38.8
% Silt	Pool	31	n/a	0.1	28.3	5.2
	Riffle	29	n/a	0.1	3.4	1.0
% Clay	Pool	31	n/a	0.1	15.0	3.6
	Riffle	29	n/a	0.1	3.7	1.1
% Moisture	Pool	51	n/a	3.07	39.5	19.9
	Riffle	29	n/a	9.91	20.5	15.5

Note: 1. N = the total number of replicate samples analyzed
2. number of times antimony or manganese exceed PRS criterion (no applicable BC SQG)

Appendix Table D3-3 Summary of Sediment Quality in Beece Creek, all sites, 1994 to 1997

Parameter	Habitat	N ¹	# Times BC SQG Exceeded	Range		Mean
				Minimum	Maximum	
Antimony, total2 (µg/g)	Pool	22	22	0.63	2.31	1.27
	Riffle	10	10	0.92	1.27	1.11
Arsenic, total (µg/g)	Pool	22	20	4.15	20.1	10.3
	Riffle	10	5	5.03	11	6.61
Cadmium, total (µg/g)	Pool	22	0	0.05	0.05	0.05
	Riffle	10	0	0.05	0.05	0.05
Chromium, total (µg/g)	Pool	22	0	18.4	32.7	24.4
	Riffle	10	2	19	45	30.0
Copper, total (µg/g)	Pool	22	1	18	37	24.7
	Riffle	10	0	15	32	23.2
Iron, total (µg/g)	Pool	10	9	17,300	31,300	26,800
	Riffle	10	8	19,400	37,800	29,030
Lead, total (µg/g)	Pool	22	0	4	12	6.3
	Riffle	10	0	4	7	5.6
Manganese, total2 (µg/g)	Pool	10	1	242	486	398
	Riffle	10	4	280	586	435
Mercury, total (µg/g)	Pool	22	0	0.0025	0.03	0.016
	Riffle	10	0	0.0025	0.028	0.014
Nickel, total (µg/g)	Pool	22	21	15.5	29.5	21.7
	Riffle	10	10	17	41	28.5
Selenium, total (µg/g)	Pool	22	0	0.05	0.6	0.14
	Riffle	10	0	0.05	0.4	0.11
Silver, total (µg/g)	Pool	10	1	0.2	0.6	0.35
	Riffle	10	0	0.05	0.3	0.18
Zinc, total (µg/g)	Pool	22	0	40	76	59.1
	Riffle	10	0	40	78	57.4
TOC, (µg/g)	Pool	10	n/a	0.24	1.46	0.48
	Riffle	10	n/a	0.06	0.29	0.18
% Gravel	Pool	12	n/a	0	62.2	10.7
	Riffle	10	n/a	26.2	67.1	44.8
% Sand	Pool	12	n/a	36.7	96.8	74.4
	Riffle	10	n/a	31.4	69.2	52.9
% Silt	Pool	12	n/a	0.2	33.9	9.0
	Riffle	10	n/a	0.2	2.4	0.8
% Clay	Pool	12	n/a	0.9	17.6	5.8
	Riffle	10	n/a	0.5	2.2	1.4
% Moisture	Pool	16	n/a	7.24	52	23.9
	Riffle	10	n/a	13.8	44.3	22.4

Note: 1. N = the total number of replicate samples analyzed
2. Number of times antimony or manganese exceed PRS criterion (no applicable BC SQG)

Appendix Table D3-4 Summary of Sediment Quality in Tête Angela Creek, all sites, 1994 to 2006

Parameter	Habitat	N ¹	# Times BC SQG Exceeded	Range		Mean
				Minimum	Maximum	
Antimony, total ² (µg/g)	Pool	27	8	0.23	0.58	0.39
	Riffle	10	3	0.26	0.73	0.41
Arsenic, total (µg/g)	Pool	27	1	0.31	5.98	2.99
	Riffle	10	5	1.57	8.07	4.29
Cadmium, total (µg/g)	Pool	27	0	0.05	0.28	0.09
	Riffle	10	0	0.05	0.16	0.08
Chromium, total (µg/g)	Pool	27	11	7	61	35.9
	Riffle	10	9	36	65.4	45.4
Copper, total (µg/g)	Pool	27	0	6	27.9	16.4
	Riffle	10	1	16	47.6	27.0
Iron, total (µg/g)	Pool	15	14	4,940	37,200	28,700
	Riffle	10	10	29,400	48,800	39,700
Lead, total (µg/g)	Pool	27	0	1.4	4.8	3.00
	Riffle	10	0	2	7.3	4.44
Manganese, total ² (µg/g)	Pool	15	11	151	4350	1620
	Riffle	10	10	553	2870	1460
Mercury, total (µg/g)	Pool	27	0	0.0025	0.053	0.02
	Riffle	10	0	0.006	0.0197	0.01
Nickel, total (µg/g)	Pool	27	25	10	65.8	36.8
	Riffle	10	10	40	92	67.4
Selenium, total (µg/g)	Pool	27	0	0.05	0.29	0.09
	Riffle	10	0	0.05	0.12	0.06
Silver, total (µg/g)	Pool	15	0	0.05	0.05	0.05
	Riffle	10	0	0.05	0.10	0.05
Zinc, total (µg/g)	Pool	27	0	23	62	52
	Riffle	10	0	44	65	58
TOC, (µg/g)	Pool	15	n/a	0.07	1.5	0.47
	Riffle	9	n/a	0.06	0.19	0.13
% Gravel	Pool	17	n/a	5.5	74.8	52.0
	Riffle	10	n/a	48.3	90.3	77.1
% Sand	Pool	17	n/a	22.8	81.1	43.5
	Riffle	10	n/a	9.5	50.9	22.5
% Silt	Pool	17	n/a	0.3	14.5	2.5
	Riffle	10	n/a	0.1	0.5	0.2
% Clay	Pool	17	n/a	0.3	11.2	2.0
	Riffle	10	n/a	0.1	0.5	0.2
% Moisture	Pool	27	n/a	11.1	75.3	27.3
	Riffle	10	n/a	10.1	19.1	15.4

Note: 1. N = the total number of replicate samples analyzed
2. number of times antimony or manganese exceed PRS criterion (no applicable BC SQG)

Appendix Table D3-5 Sediment Quality in Fish Lake, 1997 (n=5 replicates)

Parameter	Mean	St. Dev.	Range	
			Minimum	Maximum
Antimony, total (µg/g)	0.60	0.05	0.59	0.70
Arsenic, total (µg/g)	3.31	0.14	3.11	3.43
Cadmium, total (µg/g)	0.10	0.11	<0.05	0.30
Chromium, total (µg/g)	52	1	51	52
Copper, total (µg/g)	41	1	39	42
Iron, total (µg/g)	17,900	570	17,400	18,900
Lead, total (µg/g)	6	0	5	6
Manganese, total (µg/g)	269	13	251	288
Mercury, total (µg/g)	0.110	0.004	0.105	0.114
Nickel, total (µg/g)	66	3	64	70
Selenium, total (µg/g)	1	0.1	1	2
Silver, total (µg/g)	0.6	0.1	0.5	0.7
Zinc, total (µg/g)	71	1	70	72
% TOC	16.5	0.5	15.8	17.3

Note: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Appendix Table D3-6 Sediment Quality in Little Fish Lake, 1997 (n=5 replicates)

Parameter	Mean	St. Dev.	Range	
			Minimum	Maximum
Antimony, total (µg/g)	0.8	0.2	0.6	1.1
Arsenic, total (µg/g)	3.4	2.0	2.0	6.8
Cadmium, total (µg/g)	0.1	0.2	0.05	0.4
Chromium, total (µg/g)	50	3	46	53
Copper, total (µg/g)	49	5	42	55
Iron, total (µg/g)	17,400	870	16,500	18,600
Lead, total (µg/g)	6	2	4	8
Manganese, total (µg/g)	194	8	181	201
Mercury, total (µg/g)	0.106	0.011	0.090	0.120
Nickel, total (µg/g)	87	5	80	95
Selenium, total (µg/g)	1	0.1	1	1
Silver, total (µg/g)	0.1	0.0	0.1	0.1
Zinc, total (µg/g)	76	6	76	92
% TOC	16.9	1.9	14.2	19.0

Note: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Appendix Table D3-7 Sediment Quality in Wasp Lake, 1997 (n=5 replicates)

Parameter	Mean	St. Dev.	Range	
			Minimum	Maximum
Antimony, total (µg/g)	0.7	0.2	0.4	0.7
Arsenic, total (µg/g)	4.0	2.7	1.6	8.5
Cadmium, total (µg/g)	<0.5	0.0	<0.5	<0.5
Chromium, total (µg/g)	38	10	23	47
Copper, total (µg/g)	45	6	40	52
Iron, total (µg/g)	28,200	16,000	10,600	53,000
Lead, total (µg/g)	<20	0	<20	<20
Manganese, total (µg/g)	373	110	224	514
Mercury, total (µg/g)	0.018	0.010	0.006	0.028
Nickel, total (µg/g)	48	5	43	55
Selenium, total (µg/g)	1	0.5	1	2
Silver, total (µg/g)	<1	0.0	<1	<1
Zinc, total (µg/g)	61	19	36	81
% TOC	30.1	2.3	26.4	32.5

Note: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Appendix Table D3-8 Sediment Quality in Big Onion Lake, 1997 (n=5 replicates)

Parameter	Mean	St. Dev.	Range	
			Minimum	Maximum
Antimony, total (µg/g)	1.3	0.2	1.1	1.7
Arsenic, total (µg/g)	7.4	6.6	3.7	19.1
Cadmium, total (µg/g)	<0.5	0.0	<0.5	<0.5
Chromium, total (µg/g)	29	5	20	33
Copper, total (µg/g)	58	3	54	61
Iron, total (µg/g)	24,800	2,900	21,200	29,100
Lead, total (µg/g)	<20	0.0	<20	<20
Manganese, total (µg/g)	296	38	265	358
Mercury, total (µg/g)	0.048	0.018	0.021	0.064
Nickel, total (µg/g)	40	7	33	52
Selenium, total (µg/g)	4	0.5	3.0	4.2
Silver, total (µg/g)	<1	0.4	<1	1.5
Zinc, total (µg/g)	74	8	61	84
% TOC	24.5	2.8	21.1	28.1

Note: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Appendix Table D3-9 Sediment Quality in Taseko Lake, 1997 (n=5 replicates)

Parameter	Mean	St. Dev.	Range	
			Minimum	Maximum
Antimony, total (µg/g)	1.23	0.29	1.05	1.58
Arsenic, total (µg/g)	9.7	5.1	3.7	14.4
Cadmium, total (µg/g)	0.12	0.08	0.05	0.20
Chromium, total (µg/g)	35	6	29	45
Copper, total (µg/g)	42	17	26	68
Iron, total (µg/g)	34,200	5,400	27,400	42,200
Lead, total (µg/g)	7	2	4	10
Manganese, total (µg/g)	704	219	431	958
Mercury, total (µg/g)	0.033	0.014	0.018	0.055
Nickel, total (µg/g)	32	8	26	46
Selenium, total (µg/g)	0.2	0.1	0.1	0.3
Silver, total (µg/g)	0.3	0.2	0.1	0.5
Zinc, total (µg/g)	73	20	50	104
% TOC	1.9	1.9	0.12	4.9

Note: numbers in bold exceed PRS (Sb and Mn) or BC Sediment Quality Guideline (all other metals)

Appendix D4 Historical Lake Sediment Data

Appendix Table D4: Sediment Quality in Lakes

Site	Sample	Date	Size fraction µm	T-Aluminum µg/g DL: 50	T-Antimony µg/g DL: 0.05	T-Arsenic µg/g DL: 0.05	T-Barium µg/g DL: 1.0	T-Beryllium µg/g DL: 0.5-3	T-Boron µg/g DL: 10-40	T-Cadmium µg/g DL: 0.1-0.5	T-Calcium µg/g DL: 50	T-Chromium µg/g DL: 2	T-Cobalt µg/g DL: 2-20	T-Copper µg/g DL: 1	T-Iron µg/g DL: 50	T-Lead µg/g DL: 2-20	T-Magnesium µg/g DL: 50	T-Manganese µg/g DL: 1	T-Mercury µg/g DL: 0.005	T-Molybdenum µg/g DL: 4-20	T-Nickel µg/g DL: 2	T-Potassium µg/g DL: 200
Big Onion Lake	19	11-Aug-97	63	23,900	1.1	3.7	121	2	97	0.5	27,100	33	10	61	25,600	20	8,500	305	0.064	20	40	2130
Big Onion Lake	20	11-Aug-97	63	15,900	1.1	4.1	86	3	94	0.5	65,600	20	20	55	21,200	20	6,920	267	0.021	30	52	1630
Big Onion Lake	21	11-Aug-97	63	22,200	1.7	4.6	115	3	71	0.5	41,800	31	10	60	29,100	20	8,440	358	0.04	20	37	2190
Big Onion Lake	22	11-Aug-97	63	23,500	1.4	19.1	114	3	98	0.5	21,900	32	10	59	24,600	20	8,700	283	0.062	20	33	2550
Big Onion Lake	23	11-Aug-97	63	22,300	1.3	5.3	110	3	92	0.5	22,100	30	10	54	23,700	20	8,000	265	0.052	20	39	2370
Big Onion Lake		23-Aug-95	whole		1	1.1				0.1		20		52	16,200	7		192	0.053		27	
Big Onion Lake		23-Aug-95	whole		1.11	1.2				0.1		19		48	16,400	6		191	0.049		22	
Wasp Lake	50	12-Aug-97	63	21,700	0.7	8.5	80	3	78	0.5	11,500	46	12	52	31,800	20	6,680	431	0.024	20	55	1020
Wasp Lake	51	12-Aug-97	63	17,700	0.5	2.2	68	3	181	0.5	11,400	36	20	44	18,500	20	5,720	330	0.028	30	44	2000
Wasp Lake	52	12-Aug-97	63	18,500	0.4	3.3	64	3	103	0.5	10,600	39	10	40	27,300	20	5,800	364	0.013	20	48	1080
Wasp Lake	53	12-Aug-97	63	22,700	0.7	4.3	85	3	103	0.5	12,300	47	11	50	53,000	20	6,760	514	0.006	20	50	1500
Wasp Lake	54	12-Aug-97	63	12,400	0.2	1.6	47	3	71	0.5	9,810	23	10	40	10,600	20	4,550	224	0.005	20	43	1090
Wasp Lake East Bay		29-Jul-95	whole		0.4	1.5				0.1		30		32	16,800	2		285	0.038		37	
Wasp Lake East Bay		29-Jul-95	whole		0.4	1.4				0.1		39		37	21,300	6		333	0.046		47	
Wasp Lake West Bay		29-Jul-95	whole		0.3	0.8				0.1		25		19	13,100	3		275	0.031		24	
Wasp Lake West Bay		29-Jul-95	whole		0.4	0.9				0.2		24		20	12,100	4		178	0.025		24	
Little Fish Lake	141	13-Aug-97	63	19,000	1.1	6.8	63	1	36	0.4	12,800	52	10	52	17,700	7	7,910	195	0.11	10	86	1350
Little Fish Lake	142	13-Aug-97	63	16,000	0.8	3.1	54	2	40	0.1	11,400	46	9	48	17,600	8	7,090	181	0.12	10	86	1100
Little Fish Lake	143	13-Aug-97	63	16,600	0.6	2.2	58	2	40	0.1	12,400	49	9	48	16,500	5	7,750	195	0.1	10	88	1010
Little Fish Lake	144	13-Aug-97	63	18,900	0.9	2.8	61	2	40	0.1	12,600	53	10	55	18,600	7	8,020	197	0.11	10	95	1400
Little Fish Lake	145	13-Aug-97	63	18,200	0.6	2.0	62	2	40	0.1	12,600	48	9	42	16,600	4	7,680	201	0.09	10	80	1070
Slim Lake	174	14-Aug-97	63	29,300	0.7	4	164	2	63	0.1	61,500	31	11	44	28,500	10	8,680	765	0.043	10	36	2820
Slim Lake	173	14-Aug-97	63	35,100	0.7	4	188	2	88	0.1	57,700	36	13	47	28,800	8	9,600	780	0.045	10	39	3330
Slim Lake	176	14-Aug-97	63	28,200	0.9	3.5	169	1	58	0.1	54,000	33	12	47	29,400	9	9,340	757	0.027	10	44	2280
Slim Lake	175	14-Aug-97	63	28,500	0.9	5.0	162	1	67	0.1	39,700	32	12	44	30,800	9	8,190	663	0.031	10	42	2270
Slim Lake	172	14-Aug-97	63	33,100	0.9	4.5	177	1	55	0.1	54,900	35	13	47	29,900	9	8,920	707	0.024	10	42	3000
Fish Lake	505	21-Aug-97	63	13,800	0.7	3.4	61	1	30	0.3	11,300	51	10	42	17,900	6	5,930	272	0.114	10	67	1320
Fish Lake	508	21-Aug-97	63	15,400	0.6	3.2	63	1	35	0.1	10,100	52	9	41	17,700	6	5,690	265	0.114	10	64	1380
Fish Lake	507	21-Aug-97	63	15,100	0.6	3.4	64	1	51	0.1	9,690	51	9	39	17,800	6	5,520	267	0.112	10	64	1250
Fish Lake	509	21-Aug-97	63	15,000	0.6	3.1	60	1	36	0.1	9,790	52	10	40	17,400	6	5,610	251	0.105	8	67	1300
Fish Lake	506	21-Aug-97	63	15,700	0.6	3.4	65	1	35	0.1	10,200	52	11	41	18,900	5	5,800	288	0.11	10	70	1380
Fish Lake		31-Jul-95	whole		1.4	3.3				0.7		74		60	22,700	7		313	0.164		90	
Taseko Lake	350	18-Aug-97	63	35,300	1.4	11.2	250	0.5	10	0.2	14,100	36	17	68	42,200	10	16,400	871	0.055	4	29	4780
Taseko Lake	351	18-Aug-97	63	25,600	1.6	14.4	177	0.5	10	0.2	10,900	29	14	50	35,100	8	11,200	958	0.038	4	26	2730
Taseko Lake	352	18-Aug-97	63	23,300	1.3	14.1	140	0.5	10	0.1	7,790	32	11	34	32,900	8	8,330	548	0.024	4	27	2190
Taseko Lake	353	18-Aug-97	63	19,800	1.1	4.9	82	0.5	10	0.1	5,190	45	11	26	33,500	6	11,000	714	0.031	4	46	1220
Taseko Lake	354	18-Aug-97	63	19,000	0.8	3.7	81	0.5	10	0.1	6,150	33	9	31	27,300	4	9,100	431	0.018	4	30	1180
Little Onion Lake	1	22-Oct-98	63	13,200	3.9	1.7	54	2	57	0.7	14,700	32	8	42	16,600	5	5,130	190	0.1	20	43	996
Little Onion Lake	2	22-Oct-98	63	10,600	3.5	1.8	54	3	61	0.8	15,300	26	10	34	10,900	7	4,500	146	0.094	20	47	1000
Little Onion Lake	3	22-Oct-98	63	12,800	3.7	1.8	54	3	66	0.7	15,200	31	10	41	17,700	5	5,180	183	0.115	20	47	1000
Little Onion Lake	4	22-Oct-98	63	14,900	3.8	1.8	62	2	44	0.1	14,800	34	8	43	17,600	5	5,500	199	0.076	20	48	909
Little Onion Lake	5	22-Oct-98	63	15,600	3.6	2.1	62	2	54	0.5	15,200	34	8	39	17,600	5	5,480	200	0.087	20	49	1040
Rat Lake Cabin South	1	16-Aug-97	63	13,100	0.4	5.8	40	1	32	0.1	12,500	55	10	142	22,700	7	4,330	177	0.12	10	59	735
Rat Lake Cabin South	2	16-Aug-97	63	14,500	0.4	5.6	40	1	31	0.1	12,200	51	9	46	16,900	5	4,170	135	0.1	10	49	832
Rat Lake Cabin North	1	16-Aug-97	63	12,000	0.2	4.3	32	1	50	0.1	15,600	54	12	44	21,100	7	4,670	182	0.12	10	59	755
Rat Lake Cabin North	2	16-Aug-97	63	10,200	0.3	5.1	25	1	30	0.1	13,300	49	11	36	18,700	6	4,310	147	0.083	10	60	600
Vick Lake	96	14-Aug-97	63	20,000	0.6	4.3	118	2	40	0.1	15,200	33	10	42	32,800	7	6,390	323	0.039	10	42	1980
Vick Lake	98	14-Aug-97	63	28,900	0.8	5.7	164	2	50	0.1	18,500	41	12	48	39,800	7	7,590	409	0.046	10	49	3200
Vick Lake	99	14-Aug-97	63	24,600	0.6	4.5	136	2	49	0.1	17,200	39	12	51	34,100	7	7,440	340	0.047	10	50	2410
Vick Lake	100	14-Aug-97	63	28,200	0.9	4.6	153	1	53	0.1	18,100	42	11	49	39,500	7	7,890	368	0.033	10	47	2760
Vick Lake	97	14-Aug-97	63	24,500	0.6	3.9	153	2	72	0.7	18,100	36	11	42	38,400	7	7,040	359	0.05	20	44	2640
Big Lake	74	18-Aug-97	63	11,400	0.5	2.2	74	1	68	0.5	143,000	21	6	16	15,100	11	9,680	511	0.043	10	28	1560
Big Lake	73	18-Aug-97	63	9,630	0.5	2.0	68	1	51	0.4	143,000	20	7	16	14,400	12	9,270	498	0.035	10	32	1200
Big Lake	72	18-Aug-97	63	10,000	0.4	2.5	70	2	48	0.5	150,000	19	8	17	14,900	12	9,680	511	0.042	10	30	1270
Big Lake	71	18-Aug-97	63	10,300	0.4	2.1	69	2	60	0.5	146,000	20	8	18	14,600	11	9,480	492	0.034	10	28	1150
Big Lake	75	18-Aug-97	63	9,860	0.5	2.0	68	1	48	0.4	139,000	20	6	16	14,500	11	9,110	480	0.034	10	21	1170

Notes:

¹ >2.0 mm

² 0.063 mm-2.0 mm

³ 4 µm-0.063 mm

⁴ 4 µm

Appendix Table D4: Sediment Quality in Lakes

Site	Sample	Date	Size fraction µm	T-Selenium µg/g DL: 0.1	T-Silver µg/g DL: 0.2-1.1	T-Sodium µg/g DL: 200	T-Tin µg/g DL: 5-60	T-Zinc µg/g DL: 1	TOC µg/g	Gravel ¹ %	Sand ² %	Silt ³ %	Clay ⁴ %	% Moisture %
Big Onion Lake	19	11-Aug-97	63	3	1	1050	50	84	25.6					93.5
Big Onion Lake	20	11-Aug-97	63	4.2	1.5	2000	60	61	22.5					95.8
Big Onion Lake	21	11-Aug-97	63	3.8	1	1150	50	74	21.1					91.3
Big Onion Lake	22	11-Aug-97	63	3.6	1	1080	50	76	28.1					94.0
Big Onion Lake	23	11-Aug-97	63	3.3	1	1020	50	74	25.3					93.3
Big Onion Lake		23-Aug-95	whole	2.9	8			52						90.3
Big Onion Lake		23-Aug-95	whole	2.9	8			50						89.2
Wasp Lake	50	12-Aug-97	63	1.9	1.1	1000	50	81	26.4					94.6
Wasp Lake	51	12-Aug-97	63	1	1	2000	60	54	29.9					96.6
Wasp Lake	52	12-Aug-97	63	1	1	1150	50	56	30.1					95.1
Wasp Lake	53	12-Aug-97	63	1	1	1290	50	78	32.5					95.0
Wasp Lake	54	12-Aug-97	63	0.7	1	1000	50	36	31.7					96.1
Wasp Lake East Bay		29-Jul-95	whole	0.8	0.5			46						90.6
Wasp Lake East Bay		29-Jul-95	whole	0.5	0.5			56						95.4
Wasp Lake West Bay		29-Jul-95	whole	0.3	0.5			33						89.9
Wasp Lake West Bay		29-Jul-95	whole	0.4	0.5			34						87.2
Little Fish Lake	141	13-Aug-97	63	1	0.1	1180	30	85	17.9	<0.1			100	92.5
Little Fish Lake	142	13-Aug-97	63	0.8	0.1	926	40	85	19	<0.1			100	93.2
Little Fish Lake	143	13-Aug-97	63	0.7	0.1	1010	40	79	14.2	<0.1			100	93.3
Little Fish Lake	144	13-Aug-97	63	1	0.1	1050	40	92	17.7	<0.1			100	92.9
Little Fish Lake	145	13-Aug-97	63	0.8	0.1	1190	40	76	15.9	<0.1			100	91.1
Slim Lake	174	14-Aug-97	63	1.1	0.1	1090	40	66	19.3	<0.1			100	93.4
Slim Lake	173	14-Aug-97	63	1.2	0.1	1350	40	68	19.9	<0.1			100	94.0
Slim Lake	176	14-Aug-97	63	1.1	0.7	1060	30	70	19.5	<0.1			100	92.9
Slim Lake	175	14-Aug-97	63	1.1	0.1	1090	30	67	18.1	<0.1			100	92.5
Slim Lake	172	14-Aug-97	63	1.1	0.1	1220	30	70	18.4	<0.1			100	91.5
Fish Lake	505	21-Aug-97	63	1.4	0.5	726	30	72	16.4	<0.1			100	92.2
Fish Lake	508	21-Aug-97	63	1.4	0.6	937	30	72	17.3	<0.1			100	92.6
Fish Lake	507	21-Aug-97	63	1.5	0.7	938	30	70	16.5	<0.1			100	92.3
Fish Lake	509	21-Aug-97	63	1.4	0.5	854	20	71	15.8	<0.1			100	92.0
Fish Lake	506	21-Aug-97	63	1.6	0.6	946	30	71	16.3	<0.1			100	92.2
Fish Lake		31-Jul-95	whole	1.5	0.5			102						95.0
Taseko Lake	350	18-Aug-97	63	0.3	0.3	2000	10	104	2.1	<0.1	19.1	28.7	52.2	59.2
Taseko Lake	351	18-Aug-97	63	0.3	0.5	1220	10	78	4.9	<0.1	48.4	19.4	32.2	53.7
Taseko Lake	352	18-Aug-97	63	0.3	0.2	857	10	67	2.1	<0.1	77.8	10.9	11.3	44.1
Taseko Lake	353	18-Aug-97	63	0.1	0.2	450	10	65	0.1	60.6	38.8	0.3	0.3	12.6
Taseko Lake	354	18-Aug-97	63	0.1	0.1	731	10	50	0.2	74.5	25.2	0.1	0.2	8.5
Little Onion Lake	1	22-Oct-98	63	2.6	0.1	800	40	55	36.5					95.9
Little Onion Lake	2	22-Oct-98	63	2	0.1	1000	50	37	41.1					96.9
Little Onion Lake	3	22-Oct-98	63	2.6	0.1	1000	50	55	37.8					96.3
Little Onion Lake	4	22-Oct-98	63	2.7	0.1	800	40	60	37.4					95.3
Little Onion Lake	5	22-Oct-98	63	2.5	0.1	800	40	56	38.9					95.6
Rat Lake Cabin South	1	16-Aug-97	63	0.7	0.1	1930	62	154	19.3	<0.1			100	93.3
Rat Lake Cabin South	2	16-Aug-97	63	0.8	0.1	1150	30	76	18.3	<0.1			100	91.7
Rat Lake Cabin North	1	16-Aug-97	63	1	0.1	1300	30	79	24.4	<0.1			100	93.2
Rat Lake Cabin North	2	16-Aug-97	63	0.9	0.1	922	30	75	23.0	<0.1			100	91.7
Vick Lake	96	14-Aug-97	63	1.3	0.1	800	40	65	21.3	<0.1			100	93.9
Vick Lake	98	14-Aug-97	63	1.6	0.1	1070	40	78	21.1	<0.1			100	92.1
Vick Lake	99	14-Aug-97	63	1.4	0.1	851	40	75	22	<0.1			100	93.0
Vick Lake	100	14-Aug-97	63	1.8	0.6	1070	30	76	24.1	<0.1			100	92.6
Vick Lake	97	14-Aug-97	63	1.5	0.1	1000	50	75	24.9	<0.1			100	93.7
Big Lake	74	18-Aug-97	63	1.1	0.1	1490	30	36	18.3	<0.1			100	90.1
Big Lake	73	18-Aug-97	63	1	0.1	1190	30	33	17.7	<0.1			100	88.8
Big Lake	72	18-Aug-97	63	1	0.1	1280	40	35	18.2	<0.1			100	89.2
Big Lake	71	18-Aug-97	63	1.1	0.1	1260	40	35	18.1	<0.1			100	88.9
Big Lake	75	18-Aug-97	63	0.9	0.1	1230	30	35	17.3	<0.1			100	89.3

Notes:

¹ >2.0 mm

² 0.063 mm-2.0 mm

³ 4 µm-0.063 mm

⁴ 4 µm

Appendix E Fish Tissue

Contents

Appendix E1	1996–1997 Metals in Fish Tissue –QA/QC Results
Appendix E2	2006 Metals in Fish Tissue –QA/QC Results
Appendix E3	1995–1997 and 2006 Raw Data for Metals in Fish Tissue

Appendix E1 1996–1997 Metals in Fish Tissue –QA/QC Results

Appendix Table E1: Quality Assurance/Quality Control for Fish Tissue Analysis - Duplicates 1997-1998

ALS File # G5541		09-96								
		96-01		%	96-13			96-22		
		(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.
Antimony	T-Sb	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Arsenic	T-As	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Cadmium	T-Cd	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0
Chromium	T-Cr	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Lead	T-Pb	<0.05	<0.05	0	<0.05	0.06	18	<0.05	<0.05	0
Mercury	T-Hg	0.04	0.034	16	0.036	0.037	3	0.054	0.036	40
Nickel	T-Ni	<1	<1	0	<1	<1	0	<1	<1	0
Selenium	T-Se	0.7	0.8	13	<0.1	<0.1	0	0.1	0.1	0

* percent difference is greater than the 25% indicated in the PRS as being acceptable

ALS File # H5822		RT5			%	RT8			%
		(mg/kg)	(mg/kg)	diff.		(mg/kg)	(mg/kg)	diff.	
Antimony	T-Sb	<0.05	<0.05	0		<0.05	<0.05	0	
Arsenic	T-As	<0.05	<0.05	0		<0.05	<0.05	0	
Cadmium	T-Cd	<0.03	<0.03	0		<0.03	<0.03	0	
Chromium	T-Cr	<0.5	<0.5	0		<0.5	<0.5	0	
Lead	T-Pb	<0.05	<0.05	0		<0.05	<0.05	0	
Mercury	T-Hg	0.084	0.115	31	*	0.071	0.082	14	
Nickel	T-Ni	<1	<1	0		<1	<1	0	
Selenium	T-Se	<0.1	<0.1	0		<0.1	<0.1	0	

* percent difference is greater than the 25% indicated in the PRS as being acceptable

Appendix Table E1: Quality Assurance/Quality Control for Fish Tissue Analysis - Duplicates 1997-1998

ALS File # H6460

		Taseko R.			Little Fish Cr			Little Fish Cr		
		RB#6	RB#6	%	RB#4	RB#4	%	RB#8	RB#8	%
		(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.
Antimony	T-Sb	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Arsenic	T-As	0.11	0.12	9	<0.05	<0.05	0	0.05	0.05	0
Cadmium	T-Cd	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0
Chromium	T-Cr	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Lead	T-Pb	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Mercury	T-Hg	0.029	0.026	11	0.038	0.034	11	0.051	0.052	2
Nickel	T-Ni	<1	<1	0	<1	<1	0	<1	<1	0
Selenium	T-Se	0.4	0.4	0	0.1	0.1	0	0.2	0.2	0

ALS File # H6460

		Taseko R.			Taseko R.			Taseko R.		
		WF#3	WF#3	%	WF#9	WF#9	%	BT#6	BT#6	%
		(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.	(mg/kg)	(mg/kg)	diff.
Antimony	T-Sb	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Arsenic	T-As	0.07	0.07	0	0.06	0.07	15	0.09	0.09	0
Cadmium	T-Cd	<0.03	<0.03	0	<0.03	<0.03	0	<0.03	<0.03	0
Chromium	T-Cr	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
Lead	T-Pb	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
Mercury	T-Hg	0.066	0.066	0	0.042	0.046	9	0.042	0.045	7
Nickel	T-Ni	<1	<1	0	<1	<1	0	<1	<1	0
Selenium	T-Se	0.3	0.3	0	0.4	0.4	0	0.4	0.4	0

Appendix Table E1: Quality Assurance/Quality Control for Fish Tissue Analysis - Duplicates 1997-1998

ALS File # H7799

09-97

		Little Fish L.		
		RB#4	RB#4	%
		(mg/kg)	(mg/kg)	diff.
Antimony	T-Sb	<0.05	<0.05	0
Arsenic	T-As	<0.05	<0.05	0
Cadmium	T-Cd	<0.03	<0.03	0
Chromium	T-Cr	<0.5	<0.5	0
Lead	T-Pb	<0.05	<0.05	0
Mercury	T-Hg	0.063	0.059	7
Nickel	T-Ni	<1	<1	0
Selenium	T-Se	<0.5	<0.5	0

		Little Fish L.		
		RB#7	RB#7	%
		(mg/kg)	(mg/kg)	diff.
		<0.05	<0.05	0
		<0.05	<0.05	0
		<0.03	<0.03	0
		<0.5	<0.5	0
		<0.05	<0.05	0
		0.048	0.048	0
		<1	<1	0
		<0.5	<0.5	0

		Little Fish L.		
		RB#10	RB#10	%
		(mg/kg)	(mg/kg)	diff.
		<0.05	<0.05	0
		<0.05	<0.05	0
		<0.03	<0.03	0
		<0.5	<0.5	0
		<0.05	<0.05	0
		0.069	0.061	12
		<1	<1	0
		<0.5	<0.5	0

ALS File # H7799

		Tête Angela		
		RB#4	RB#4	%
		(mg/kg)	(mg/kg)	diff.
Antimony	T-Sb	<0.05	<0.05	0
Arsenic	T-As	0.07	0.07	0
Cadmium	T-Cd	<0.03	<0.03	0
Chromium	T-Cr	<0.5	<0.5	0
Lead	T-Pb	<0.05	<0.05	0
Mercury	T-Hg	0.188	0.197	5
Nickel	T-Ni	<1	<1	0
Selenium	T-Se	<0.5	<0.5	0

		Tête Angela		
		RB#8	RB#8	%
		(mg/kg)	(mg/kg)	diff.
		<0.05	<0.05	0
		0.07	0.07	0
		<0.03	<0.03	0
		<0.5	<0.5	0
		<0.05	<0.05	0
		0.196	0.195	1
		<1	<1	0
		<0.5	<0.5	0

Appendix E2 2006 Metals in Fish Tissue –QA/QC Results

Appendix Table E2: Quality Assurance/Quality Control for Fish Tissue Analysis - Duplicates 2006

Date Sampled	9/28/2006	QC# 531725	
Sample ID	Tete Angela Lk-RbT5	Tete Angela Lk-RbT5	RPD %
Total Metals			
Aluminum T-Al	<2.0	2.1	4.88
Antimony T-Sb	<0.010	<0.010	0
Arsenic T-As	0.045	0.050	10.5
Barium T-Ba	<0.010	0.011	9.52
Beryllium T-Be	<0.10	<0.10	0
Bismuth T-Bi	<0.10	<0.10	0
Cadmium T-Cd	<0.0050	<0.0050	0
Calcium T-Ca	62.1	59.1	4.95
Chromium T-Cr	<0.10	<0.10	0
Cobalt T-Co	<0.020	<0.020	0
Copper T-Cu	0.296	0.348	16.1
Lead T-Pb	<0.020	<0.020	0
Lithium T-Li	<0.10	<0.10	0
Magnesium T-Mg	280	305	8.55
Manganese T-Mn	0.067	0.069	2.94
Mercury T-Hg	0.132	0.128	3.08
Molybdenum T-Mo	<0.010	<0.010	0
Nickel T-Ni	<0.10	<0.10	0
Selenium T-Se	<0.20	<0.20	0
Strontium T-Sr	0.042	0.039	7.41
Thallium T-Tl	<0.010	<0.010	0
Tin T-Sn	<0.050	<0.050	0
Uranium T-U	<0.0020	<0.0020	0
Vanadium T-V	<0.10	<0.10	0
Zinc T-Zn	3.41	3.64	6.52

Appendix E3 1995–1997 and 2006 Raw Data for Metals in Fish Tissue

Appendix Table E3 Metal Levels in Fish Tissue

Year	Date	Location	Species	Sample #	Fork Length (mm)	Weight (g)	Tissue	H2O %	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
1995	Jul/Aug-95	Fish L.	RB	95-1	274	170.9	Liver	-	<0.05	<0.05	<0.03	0.06	<0.05	0.091	0.06	0.8
1995	Jul/Aug-95	Fish L.	RB	95-1	274	170.9	Muscle	-	<0.05	<0.05	<0.03	0.08	<0.05	0.085	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-10	232	131.1	Liver	-	<0.05	<0.05	<0.03	0.07	0.14	0.098	<0.05	1.83
1995	Jul/Aug-95	Fish L.	RB	95-10	232	131.1	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.09	<0.05	0.13
1995	Jul/Aug-95	Fish L.	RB	95-11	251	172.4	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.045	<0.05	0.12
1995	Jul/Aug-95	Fish L.	RB	95-12	251	155.5	Liver	-	<0.05	<0.05	<0.03	0.06	<0.05	0.123	<0.05	0.97
1995	Jul/Aug-95	Fish L.	RB	95-12	251	155.5	Muscle	-	<0.05	<0.05	<0.03	0.07	<0.05	0.153	<0.05	<0.10
1995	Jul/Aug-95	Beece C.	BT	95-128	368	480.6	Liver	-	<0.05	<0.05	<0.03	0.06	<0.05	0.171	<0.05	0.9
1995	Jul/Aug-95	Beece C.	BT	95-128	368	480.6	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.136	<0.05	0.28
1995	Jul/Aug-95	Beece C.	WF	95-129	276	245.1	Liver	-	<0.05	0.12	0.11	0.06	<0.05	0.041	<0.05	1.87
1995	Jul/Aug-95	Beece C.	WF	95-129	276	245.1	Muscle	-	<0.05	<0.05	<0.03	0.18	<0.05	0.048	<0.05	0.54
1995	Jul/Aug-95	Fish L.	RB	95-13	252	157.9	Liver	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.085	<0.05	0.59
1995	Jul/Aug-95	Fish L.	RB	95-13	252	157.9	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.093	<0.05	<0.10
1995	Jul/Aug-95	Beece C.	WF	95-130	232	148.8	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.061	<0.05	0.45
1995	Jul/Aug-95	Beece C.	WF	95-130/131	n/a	n/a	Liver Comp.	-	<0.05	0.2	0.1	0.09	<0.05	0.061	0.07	3.23
1995	Jul/Aug-95	Beece C.	WF	95-131	213	98.7	Muscle	-	<0.05	<0.05	<0.03	0.1	<0.05	0.04	<0.05	1.06
1995	Jul/Aug-95	Beece C.	RB	95-132/133/134	n/a	n/a	Liver Comp.	-	<0.05	0.12	0.1	0.24	<0.05	0.024	<0.05	4.35
1995	Jul/Aug-95	Beece C.	RB	95-132/133/134	n/a	n/a	Muscle Comp.	-	<0.05	<0.05	<0.03	0.22	<0.05	0.018	<0.05	0.72
1995	Jul/Aug-95	Fish L.	RB	95-14	250	150	Liver	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.102	<0.05	2.64
1995	Jul/Aug-95	Fish L.	RB	95-14	250	150	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.095	0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-15	236	129.6	Liver	-	<0.05	<0.05	<0.03	0.07	<0.05	0.076	<0.05	2.66
1995	Jul/Aug-95	Fish L.	RB	95-15	236	129.6	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.082	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-16	264	197.7	Liver	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.127	<0.05	3.76
1995	Jul/Aug-95	Fish L.	RB	95-16	264	197.7	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.087	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-17	249	171.2	Liver	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.091	0.05	4.18
1995	Jul/Aug-95	Fish L.	RB	95-17	249	171.2	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.083	0.07	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-18	229	133.5	Liver	-	<0.05	<0.05	<0.03	0.06	0.06	0.095	0.06	5.6
1995	Jul/Aug-95	Fish L.	RB	95-18	229	133.5	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.078	<0.05	0.17
1995	Jul/Aug-95	Fish L.	RB	95-19	241	138	Liver	-	<0.05	<0.05	<0.03	0.07	<0.05	0.137	<0.05	1.37
1995	Jul/Aug-95	Fish L.	RB	95-19	241	138	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.098	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-2	257	178.7	Liver	-	<0.05	<0.05	<0.03	0.05	<0.05	0.056	0.05	1.49
1995	Jul/Aug-95	Fish L.	RB	95-2	257	178.7	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.06	<0.05	0.1
1995	Jul/Aug-95	Fish L.	RB	95-20	224	134.9	Liver	-	<0.05	<0.05	<0.03	0.07	<0.05	0.144	<0.05	1.67
1995	Jul/Aug-95	Fish L.	RB	95-20	224	134.9	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.107	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-3	243	151.5	Liver	-	<0.05	<0.05	<0.03	0.07	<0.05	0.087	<0.05	1.78
1995	Jul/Aug-95	Fish L.	RB	95-3	243	151.5	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.094	<0.05	0.12
1995	Jul/Aug-95	Fish L.	RB	95-4	239	143.4	Liver	-	<0.05	<0.05	<0.03	0.1	<0.05	0.075	0.1	2.33
1995	Jul/Aug-95	Fish L.	RB	95-4	239	143.4	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.067	<0.05	0.14
1995	Jul/Aug-95	Fish L.	RB	95-5	235	140.7	Liver	-	<0.05	<0.05	<0.03	0.08	0.08	0.066	<0.05	0.48
1995	Jul/Aug-95	Fish L.	RB	95-5	235	140.7	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.056	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-6	244	147.6	Liver	-	<0.05	<0.05	<0.03	0.06	<0.05	0.1	<0.05	2.06
1995	Jul/Aug-95	Fish L.	RB	95-6	244	147.6	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.101	<0.05	<0.10
1995	Jul/Aug-95	Fish L.	RB	95-7	260	176.8	Liver	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.064	<0.05	1.71
1995	Jul/Aug-95	Fish L.	RB	95-7	260	176.8	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.074	<0.05	0.17
1995	Jul/Aug-95	Fish L.	RB	95-8	233	134.4	Liver	-	<0.05	<0.05	<0.03	0.07	<0.05	0.125	<0.05	5.35
1995	Jul/Aug-95	Fish L.	RB	95-8	233	134.4	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.124	<0.05	0.15
1995	Jul/Aug-95	Fish L.	RB	95-9	244	146.5	Liver	-	<0.05	<0.05	<0.03	0.06	<0.05	0.072	0.06	4.21
1995	Jul/Aug-95	Fish L.	RB	95-9	244	146.5	Muscle	-	<0.05	<0.05	<0.03	<0.05	<0.05	0.052	<0.05	0.2
1996	Sep-96	Beece C.	WF	96-01	232	175.2	Liver	-	<0.05	0.17	0.06	<0.5	0.05	0.051	<1	3.3
1996	Sep-96	Beece C.	WF	96-01	232	175.2	Muscle	76.7	<0.05	<0.05	<0.03	<0.5	<0.05	0.04	<1	0.7
1996	Sep-96	Beece C.	BT	96-02	120	19.1	Muscle	-	<0.05	<0.05	<0.03	<0.5	0.05	0.017	<1	0.9
1996	Sep-96	Beece C.	BT	96-02,03	n/a	n/a	Liver Comp.	-	<0.05	<0.05	0.1	<0.5	0.41	<0.005	<1	1.9

Appendix Table E3 Metal Levels in Fish Tissue

Year	Date	Location	Species	Sample #	Fork Length (mm)	Weight (g)	Tissue	H2O %	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
1996	Sep-96	Beece C.	BT	96-03	112	15.2	Muscle	-	<0.05	<0.05	<0.03	<0.5	<0.05	0.015	<1	1
1996	Sep-96	Beece C.	BT	96-04	104	12.5	Muscle	-	<0.05	<0.05	<0.03	<0.5	<0.05	0.018	<1	0.9
1996	Sep-96	Beece C.	BT	96-05	104	11	Muscle	-	<0.05	<0.05	<0.03	<0.5	<0.05	<0.005	<1	0.8
1996	Sep-96	Beece C.	BT	96-06	111	12.6	Muscle	-	<0.05	<0.05	<0.03	<0.5	0.05	0.011	<1	0.9
1996	Sep-96	Beece C.	BT	96-07	127	24.3	Muscle	81.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.015	<1	0.8
1996	Sep-96	Beece C.	BT	96-07,08	n/a	n/a	Liver Comp.	-	<0.05	<0.05	0.22	<0.5	0.09	<0.005	<1	2.2
1996	Sep-96	Beece C.	BT	96-08	150	33	Muscle	80	<0.05	<0.05	<0.03	<0.5	<0.05	0.013	<1	0.8
1996	Sep-96	Beece C.	BT	96-09	187	61	Liver	-	<0.05	<0.05	0.17	<0.5	0.12	0.021	<1	2.7
1996	Sep-96	Beece C.	BT	96-09	187	61	Muscle	80.4	<0.05	<0.05	<0.03	<0.5	<0.05	0.021	<1	1
1996	Sep-96	Beece C.	BT	96-10	127	19	Muscle	-	<0.05	<0.05	<0.03	<0.5	<0.05	0.027	<1	1.2
1996	Sep-96	Beece C.	BT	96-11	146	35.5	Muscle	80.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.014	<1	1.1
1996	Sep-96	Groundhog C.	RB	96-22	188	76.2	Liver	-	<0.05	<0.05	<0.03	<0.5	0.06	0.064	<1	0.7
1996	Sep-96	Groundhog C.	RB	96-22	188	76.2	Muscle	78.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.054	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-23	141	28.4	Muscle	79.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.09	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-23,24,25	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	<0.05	<0.005	<1	0.6
1996	Sep-96	Groundhog C.	RB	96-24	195	62.1	Muscle	82.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.121	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-25	187	67.1	Muscle	78.2	<0.05	<0.05	<0.03	<0.5	0.06	0.045	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-26	135	31.5	Muscle	77.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.042	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-26,27,28	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	0.12	<0.005	<1	0.8
1996	Sep-96	Groundhog C.	RB	96-27	180	59.1	Muscle	77.6	<0.05	<0.05	<0.03	<0.5	<0.05	0.053	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-28	168	53.1	Muscle	76.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.084	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-29	160	49.6	Muscle	77.6	<0.05	<0.05	<0.03	<0.5	0.05	0.066	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-29,30,31	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	<0.05	<0.005	<1	1.2
1996	Sep-96	Groundhog C.	RB	96-30	158	45.8	Muscle	77.5	<0.05	<0.05	0.11	<0.5	0.05	0.08	<1	0.1
1996	Sep-96	Groundhog C.	RB	96-31	175	66.1	Muscle	77.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.086	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-12	175	56.4	Muscle	78.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.068	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-12,13	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	0.05	0.069	<1	0.6
1996	Sep-96	Tete Angela East	RB	96-13	183	56.9	Muscle	78.6	<0.05	<0.05	<0.03	<0.5	<0.05	0.036	<1	<0.1
1996	Sep-96	Tete Angela East	RB	96-14	152	39	Muscle	80	<0.05	<0.05	<0.03	<0.5	<0.05	0.086	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-14,15,16	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	0.05	<0.005	<1	0.5
1996	Sep-96	Tete Angela East	RB	96-15	168	57.5	Muscle	78.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.03	<1	<0.1
1996	Sep-96	Tete Angela East	RB	96-16	154	38.6	Muscle	78.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.042	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-17	185	70.7	Muscle	78.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.031	<1	<0.1
1996	Sep-96	Tete Angela East	RB	96-17,18,19,20,21	n/a	n/a	Liver Comp.	-	<0.05	<0.05	<0.03	<0.5	<0.05	0.075	<1	0.6
1996	Sep-96	Tete Angela East	RB	96-18	154	40.7	Muscle	78.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.066	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-19	167	45.4	Muscle	78.8	<0.05	<0.05	<0.03	<0.5	0.06	0.038	<1	<0.1
1996	Sep-96	Tete Angela East	RB	96-20	161	42.4	Muscle	78.6	<0.05	<0.05	<0.03	<0.5	<0.05	0.036	<1	0.1
1996	Sep-96	Tete Angela East	RB	96-21	174	51.9	Muscle	79.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.043	<1	<0.1
1996	Oct-96	Beece C.	RB	96-32	215	n/a	Liver	-	<0.05	0.17	0.07	<0.5	0.05	0.017	<1	3.3
1996	Oct-96	Beece C.	RB	96-32	215	n/a	Muscle	78.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.015	<1	0.7
1996	Oct-96	Beece C.	RB	96-33	175	69.1	Liver	-	<0.05	0.09	0.11	<0.5	<0.05	0.027	<1	6.5
1996	Oct-96	Beece C.	RB	96-33	175	69.1	Muscle	79.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.045	<1	0.9
1996	Oct-96	Beece C.	RB	96-34	216	155.9	Liver	-	<0.05	0.06	0.07	<0.5	<0.05	0.022	<1	4
1996	Oct-96	Beece C.	RB	96-34	216	155.9	Muscle	76.7	<0.05	<0.05	<0.03	<0.5	<0.05	0.019	<1	0.7
1997	Jul-97	Fish L.	RB	RT1	290	201.0	Muscle	83.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.175	<1	<0.1
1997	Jul-97	Fish L.	RB	RT1	290	201.0	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.311	<1	3.8
1997	Jul-97	Fish L.	RB	RT10	301	275.4	Muscle	77.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.06	<1	<0.1
1997	Jul-97	Fish L.	RB	RT10	301	275.4	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.078	<1	3.2
1997	Jul-97	Fish L.	RB	RT2	290	190.7	Muscle	83.6	<0.05	<0.05	<0.03	<0.5	<0.05	0.117	<1	<0.1
1997	Jul-97	Fish L.	RB	RT2	290	190.7	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.155	<1	3
1997	Jul-97	Fish L.	RB	RT3	290	235.5	Muscle	78	<0.05	<0.05	<0.03	<0.5	<0.05	0.113	<1	<0.1
1997	Jul-97	Fish L.	RB	RT3	290	235.5	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.123	<1	2.2

Appendix Table E3 Metal Levels in Fish Tissue

Year	Date	Location	Species	Sample #	Fork Length (mm)	Weight (g)	Tissue	H2O %	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
1997	Jul-97	Fish L.	RB	RT4	293	245.1	Muscle	78.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.125	<1	<0.1
1997	Jul-97	Fish L.	RB	RT4	293	245.1	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.147	<1	5.1
1997	Jul-97	Fish L.	RB	RT5	290	252.5	Muscle	75.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.084	<1	<0.1
1997	Jul-97	Fish L.	RB	RT5	290	252.5	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.096	<1	1.8
1997	Jul-97	Fish L.	RB	RT6	291	217.0	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.125	<1	0.7
1997	Jul-97	Fish L.	RB	RT6	291	217.0	Muscle	78.7	<0.05	<0.05	<0.03	<0.5	<0.05	0.147	<1	<0.1
1997	Jul-97	Fish L.	RB	RT7	301	244.4	Muscle	80.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.095	<1	<0.1
1997	Jul-97	Fish L.	RB	RT7	301	244.4	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.118	<1	0.7
1997	Jul-97	Fish L.	RB	RT8	295	252.8	Muscle	77.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.071	<1	<0.1
1997	Jul-97	Fish L.	RB	RT8	295	252.8	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.092	<1	2.6
1997	Jul-97	Fish L.	RB	RT9	300	276.9	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.065	<1	1.1
1997	Jul-97	Fish L.	RB	RT9	300	276.9	Muscle	77.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.074	<1	<0.1
1997	Jul-97	Taseko R.	BT	BT1	316	337.1	Muscle	79.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.091	<1	0.4
1997	Jul-97	Taseko R.	BT	BT1	316	337.1	Liver		<0.05	<0.05	0.03	<0.5	<0.05	0.116	<1	2.3
1997	Jul-97	Taseko R.	RB	RT1	150	31.9	Liver		<0.2	<0.1	0.13	<1	0.2	0.031	<2	2.8
1997	Jul-97	Taseko R.	RB	RT1	150	31.9	Muscle	80.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.031	<1	0.4
1997	Jul-97	Taseko R.	RB	RT2	150	26.6	Liver		<0.2	<0.1	0.13	<2	<0.2	0.043	<3	2.5
1997	Jul-97	Taseko R.	RB	RT2	150	26.6	Muscle	82.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.067	<1	0.3
1997	Jul-97	Taseko R.	WF	WF1	240	155.0	Muscle	79.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.045	<1	0.5
1997	Jul-97	Taseko R.	WF	WF1	240	155.0	Liver		<0.05	<0.05	0.07	<0.5	<0.05	0.055	<1	2.8
1997	Aug-97	Little Fish L.	RB	RB#1	202	103.5	Muscle	75.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.067	<1	<0.1
1997	Aug-97	Little Fish L.	RB	RB#1	202	103.5	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.128	<1	1.4
1997	Aug-97	Little Fish L.	RB	RB#2	180	68.8	Muscle	76	<0.05	<0.05	<0.03	<0.5	<0.05	0.058	<1	<0.1
1997	Aug-97	Little Fish L.	RB	RB#2	180	68.8	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.116	<1	1.1
1997	Aug-97	Little Fish L.	RB	RB#3	170	65.8	Liver		<0.05	0.1	<0.03	<0.5	<0.05	0.077	<1	0.7
1997	Aug-97	Little Fish L.	RB	RB#3	170	65.8	Muscle	78.4	<0.05	<0.05	<0.03	<0.5	<0.05	0.048	<1	<0.1
1997	Aug-97	Lower Fish C.	BT	BT#1	266	206.4	Muscle	77.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.06	<1	0.2
1997	Aug-97	Lower Fish C.	BT	BT#1	266	206.4	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.133	<1	0.6
1997	Aug-97	Lower Fish C.	BT	BT#2	234	145.3	Muscle	80.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.082	<1	0.2
1997	Aug-97	Lower Fish C.	BT	BT#2	234	145.3	Liver		<0.05	<0.05	0.06	<0.5	<0.05	0.132	<1	0.7
1997	Aug-97	Lower Fish C.	BT	BT#3	194	88.8	Muscle	80	<0.05	<0.05	<0.03	<0.5	<0.05	0.026	<1	0.2
1997	Aug-97	Lower Fish C.	BT	BT#3	194	88.8	Liver		<0.05	0.05	0.11	<0.5	<0.05	0.068	<1	0.6
1997	Aug-97	Lower Fish C.	RB	RB#1	272	138.4	Muscle	86.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.263	<1	<0.1
1997	Aug-97	Lower Fish C.	RB	RB#1	272	138.4	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.528	<1	0.8
1997	Aug-97	Lower Fish C.	RB	RB#10	202	114.3	Muscle	77.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.063	<1	0.1
1997	Aug-97	Lower Fish C.	RB	RB#10	202	114.3	Liver		<0.05	0.08	0.04	<0.5	<0.05	0.109	<1	0.9
1997	Aug-97	Lower Fish C.	RB	RB#2	273	166.5	Muscle	84	<0.05	<0.05	<0.03	<0.5	<0.05	0.105	<1	<0.1
1997	Aug-97	Lower Fish C.	RB	RB#2	273	166.5	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.122	<1	0.6
1997	Aug-97	Lower Fish C.	RB	RB#3	252	162.0	Muscle	80.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.339	<1	0.1
1997	Aug-97	Lower Fish C.	RB	RB#3	252	162.0	Liver		<0.05	<0.05	0.04	<0.5	<0.05	0.447	<1	1.1
1997	Aug-97	Lower Fish C.	RB	RB#4	190	89.9	Liver		<0.05	0.08	<0.03	<0.5	<0.05	0.038	<1	1.2
1997	Aug-97	Lower Fish C.	RB	RB#4	190	89.9	Muscle	77.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.038	<1	0.1
1997	Aug-97	Lower Fish C.	RB	RB#5	176	64.6	Muscle	79.4	<0.05	<0.05	<0.03	<0.5	<0.05	0.091	<1	0.1
1997	Aug-97	Lower Fish C.	RB	RB#5	176	64.6	Liver		<0.05	0.1	<0.03	<0.5	<0.05	0.098	<1	1.2
1997	Aug-97	Lower Fish C.	RB	RB#6	184	83.5	Liver		<0.05	0.09	0.05	<0.5	<0.05	0.062	<1	0.9
1997	Aug-97	Lower Fish C.	RB	RB#6	184	83.5	Muscle	77	<0.05	<0.05	<0.03	<0.5	<0.05	0.064	<1	0.2
1997	Aug-97	Lower Fish C.	RB	RB#7	201	99.0	Muscle	77.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.072	<1	0.2
1997	Aug-97	Lower Fish C.	RB	RB#7	201	99.0	Liver		<0.05	0.08	0.06	<0.5	<0.05	0.084	<1	0.8
1997	Aug-97	Lower Fish C.	RB	RB#8	227	158.5	Muscle	79.8	<0.05	0.05	<0.03	<0.5	<0.05	0.051	<1	0.2
1997	Aug-97	Lower Fish C.	RB	RB#8	227	158.5	Liver		<0.05	0.09	0.05	<0.5	<0.05	0.07	<1	1.2
1997	Aug-97	Lower Fish C.	RB	RB#9	201	112.1	Muscle	78.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.057	<1	0.2
1997	Aug-97	Lower Fish C.	RB	RB#9	201	112.1	Liver		<0.05	0.09	<0.03	<0.5	<0.05	0.088	<1	0.9

Appendix Table E3 Metal Levels in Fish Tissue

Year	Date	Location	Species	Sample #	Fork Length (mm)	Weight (g)	Tissue	H2O %	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
1997	Aug-97	Taseko R.	BT	BT#2	302	31.9	Liver		<0.05	<0.05	0.08	<0.5	<0.05	0.066	<1	1.5
1997	Aug-97	Taseko R.	BT	BT#2	302	31.9	Muscle	80.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.082	<1	0.4
1997	Aug-97	Taseko R.	BT	BT#3	244	26.6	Muscle	79.4	<0.05	0.07	<0.03	<0.5	<0.05	0.048	<1	0.4
1997	Aug-97	Taseko R.	BT	BT#3	244	26.6	Liver		<0.05	0.05	0.09	<0.5	<0.05	0.062	<1	1.9
1997	Aug-97	Taseko R.	BT	BT#4	268	155.0	Muscle	79.4	<0.05	0.1	<0.03	<0.5	<0.05	0.037	<1	0.4
1997	Aug-97	Taseko R.	BT	BT#4	268	155.0	Liver		<0.05	<0.05	0.09	<0.5	<0.05	0.061	<1	1.7
1997	Aug-97	Taseko R.	BT	BT#5	214	101.1	Muscle	80.3	<0.05	0.05	<0.03	<0.5	0.11	0.067	<1	0.3
1997	Aug-97	Taseko R.	BT	BT#5	214	101.1	Liver		<0.05	<0.05	0.09	<0.5	<0.05	0.085	<1	1.7
1997	Aug-97	Taseko R.	BT	BT#6	255	155.3	Muscle	79.7	<0.05	0.09	<0.03	<0.5	<0.05	0.042	<1	0.4
1997	Aug-97	Taseko R.	BT	BT#6	255	155.3	Liver		<0.05	0.05	0.1	<0.5	<0.05	0.053	<1	1.7
1997	Aug-97	Taseko R.	BT	BT#7	307	206.4	Muscle	78.7	<0.05	<0.05	<0.03	<0.5	<0.05	0.072	<1	0.3
1997	Aug-97	Taseko R.	BT	BT#7	307	206.4	Liver		<0.05	<0.05	0.04	<0.5	<0.05	0.082	<1	1.6
1997	Aug-97	Taseko R.	BT	BT#8	275	199.4	Muscle	79.4	<0.05	0.07	<0.03	<0.5	<0.05	0.055	<1	0.3
1997	Aug-97	Taseko R.	BT	BT#8	275	199.4	Liver		<0.05	<0.05	0.05	<0.5	<0.05	0.07	<1	1.4
1997	Aug-97	Taseko R.	RB	RB#3	189	75.4	Muscle	79.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.018	<1	0.9
1997	Aug-97	Taseko R.	RB	RB#3	189	75.4	Liver		<0.05	0.11	0.24	<0.5	<0.05	0.033	<1	5.9
1997	Aug-97	Taseko R.	RB	RB#4	183	73.3	Muscle	80.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.048	<1	0.4
1997	Aug-97	Taseko R.	RB	RB#4	183	73.3	Liver		<0.05	0.06	0.13	<0.5	0.08	0.067	<1	4.6
1997	Aug-97	Taseko R.	RB	RB#5	180	78.0	Muscle	80	<0.05	0.09	<0.03	<0.5	<0.05	0.044	<1	0.3
1997	Aug-97	Taseko R.	RB	RB#5	180	78.0	Liver		<0.05	0.46	0.09	<0.5	<0.05	0.054	<1	2.4
1997	Aug-97	Taseko R.	RB	RB#6	178	62.5	Liver		<0.05	<0.05	0.11	<0.5	<0.05	0.029	<1	2.1
1997	Aug-97	Taseko R.	RB	RB#6	178	62.5	Muscle	80	<0.05	<0.05	<0.03	<0.5	<0.05	0.029	<1	0.4
1997	Aug-97	Taseko R.	RB	RB#7	315	351.4	Liver		<0.05	0.06	0.15	<0.5	<0.05	0.049	<1	3.1
1997	Aug-97	Taseko R.	RB	RB#7	315	351.4	Muscle	78.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.066	<1	0.4
1997	Aug-97	Taseko R.	RB	RB#8	195	86.3	Muscle	81.1	<0.05	0.11	<0.03	<0.5	<0.05	0.029	<1	0.4
1997	Aug-97	Taseko R.	RB	RB#8	195	86.3	Liver		<0.05	0.07	0.15	<0.5	<0.05	0.03	<1	1.9
1997	Aug-97	Taseko R.	RB	RB#9	180	77.1	Liver		<0.05	0.07	0.07	<0.5	<0.05	0.041	<1	1.7
1997	Aug-97	Taseko R.	RB	RB#9	180	77.1	Muscle	79.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.058	<1	0.4
1997	Aug-97	Taseko R.	RB	RB#10	175	65.0	Liver		<0.05	<0.05	0.06	<0.5	<0.05	0.027	<1	1.8
1997	Aug-97	Taseko R.	RB	RB#10	175	65.0	Muscle	80.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.03	<1	0.3
1997	Aug-97	Taseko R.	WF	WF#10	182	62.1	Muscle	78.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.033	<1	0.4
1997	Aug-97	Taseko R.	WF	WF#10	182	62.1	Liver		<0.05	0.07	0.05	<0.5	<0.05	0.098	<1	2.3
1997	Aug-97	Taseko R.	WF	WF#2	216	136.9	Muscle	75.5	<0.05	0.09	<0.03	<0.5	<0.05	0.059	<1	0.3
1997	Aug-97	Taseko R.	WF	WF#2	216	136.9	Liver		<0.05	0.18	0.03	<0.5	<0.05	0.13	<1	1.5
1997	Aug-97	Taseko R.	WF	WF#3	240	168.8	Muscle	77	<0.05	0.07	<0.03	<0.5	<0.05	0.066	<1	0.3
1997	Aug-97	Taseko R.	WF	WF#3	240	168.8	Liver		<0.05	0.11	0.1	<0.5	<0.05	0.113	<1	1
1997	Aug-97	Taseko R.	WF	WF#4	261	220.5	Muscle	77.2	<0.05	<0.05	<0.03	<0.5	<0.05	0.072	<1	0.4
1997	Aug-97	Taseko R.	WF	WF#4	261	220.5	Liver		<0.05	<0.05	0.3	<0.5	<0.05	0.102	<1	1.9
1997	Aug-97	Taseko R.	WF	WF#5	223	141.3	Muscle	76.7	<0.05	<0.05	<0.03	<0.5	<0.05	0.039	<1	0.4
1997	Aug-97	Taseko R.	WF	WF#5	223	141.3	Liver		<0.05	<0.05	0.06	<0.5	<0.05	0.065	<1	2
1997	Aug-97	Taseko R.	WF	WF#6	218	126.3	Muscle	77.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.077	<1	0.3
1997	Aug-97	Taseko R.	WF	WF#6	218	126.3	Liver		<0.05	0.06	0.1	<0.5	<0.05	0.119	<1	2.2
1997	Aug-97	Taseko R.	WF	WF#7	231	138.2	Muscle	78.5	<0.05	0.05	<0.03	<0.5	<0.05	0.045	<1	0.4
1997	Aug-97	Taseko R.	WF	WF#7	231	138.2	Liver		<0.05	0.13	0.12	<0.5	<0.05	0.097	<1	3.1
1997	Aug-97	Taseko R.	WF	WF#8	244	158.6	Muscle	78.2	<0.05	0.05	<0.03	<0.5	<0.05	0.054	<1	0.3
1997	Aug-97	Taseko R.	WF	WF#8	244	158.6	Liver		<0.05	0.12	0.08	<0.5	<0.05	0.133	<1	2.2
1997	Aug-97	Taseko R.	WF	WF#9	241	172.2	Muscle	77.4	<0.05	0.06	<0.03	<0.5	<0.05	0.042	<1	0.4
1997	Aug-97	Taseko R.	WF	WF#9	241	172.2	Liver		<0.05	0.08	0.05	<0.5	<0.05	0.072	<1	3.9
1997	Sep-97	Little Fish L.	RB	4	245	196.8	Liver		<0.05	0.06	<0.03	<0.5	<0.05	0.096	<1.0	1.50
1997	Sep-97	Little Fish L.	RB	4	245	196.8	Muscle	77.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.063	<1.0	<0.5
1997	Sep-97	Little Fish L.	RB	5	253	204.7	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.076	<1.0	1.20
1997	Sep-97	Little Fish L.	RB	5	253	204.7	Muscle	75.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.068	<1.0	<0.5

Appendix Table E3 Metal Levels in Fish Tissue

Year	Date	Location	Species	Sample #	Fork Length (mm)	Weight (g)	Tissue	H2O %	Antimony (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)
1997	Sep-97	Little Fish L.	RB	6	274	258.9	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.084	<1.0	1.50
1997	Sep-97	Little Fish L.	RB	6	274	258.9	Muscle	73.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.055	<1.0	<0.5
1997	Sep-97	Little Fish L.	RB	7	232	173.1	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.054	<1.0	0.90
1997	Sep-97	Little Fish L.	RB	7	232	173.1	Muscle	76.0	<0.05	<0.05	<0.03	<0.5	<0.05	0.048	<1.0	<0.5
1997	Sep-97	Little Fish L.	RB	8	274	290.7	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.096	<1.0	2.50
1997	Sep-97	Little Fish L.	RB	8	274	290.7	Muscle	72.8	<0.05	<0.05	<0.03	<0.5	<0.05	0.066	<1.0	<0.5
1997	Sep-97	Little Fish L.	RB	9	270	262.5	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.061	<1.0	2.00
1997	Sep-97	Little Fish L.	RB	9	270	262.5	Muscle	75.5	<0.05	<0.05	<0.03	<0.5	<0.05	0.058	<1.0	<0.5
1997	Sep-97	Little Fish L.	RB	10	268	264.6	Liver		<0.05	<0.05	<0.03	<0.5	<0.05	0.091	<1.0	2.70
1997	Sep-97	Little Fish L.	RB	10	268	264.6	Muscle	74.3	<0.05	<0.05	<0.03	<0.5	<0.05	0.069	<1.0	<0.5
1997	Sep-97	Taseko R.	BT	9	193	67.9	Liver		<0.05	<0.05	0.06	<0.5	<0.05	0.048	<1.0	1.40
1997	Sep-97	Taseko R.	BT	9	193	67.9	Muscle	79.9	<0.05	<0.05	<0.03	<0.5	<0.05	0.034	<1.0	<0.5
1997	Sep-97	Taseko R.	BT	10	177	51.0	Liver		<0.05	<0.05	0.07	<0.5	<0.05	0.043	<1.0	1.50
1997	Sep-97	Taseko R.	BT	10	177	51.0	Muscle	79.6	<0.05	0.06	<0.03	<0.5	<0.05	0.031	<1.0	<0.5
1997	Sep-97	Taseko R.	RB	11	183	75.1	Liver		<0.05	0.06	0.11	<0.5	<0.05	0.047	<1.0	2.30
1997	Sep-97	Taseko R.	RB	11	183	75.1	Muscle	79.6	<0.05	<0.05	<0.03	<0.5	<0.05	0.048	<1.0	<0.5
1997	Sep-97	Taseko R.	RB	12	178	67.4	Liver		<0.1	0.20	0.12	<1	<0.1	0.056	<2.0	3.00
1997	Sep-97	Taseko R.	RB	12	178	67.4	Muscle	80.1	<0.05	0.05	<0.03	<0.5	<0.05	0.044	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	1	330	392.3	Liver		<0.05	0.11	<0.03	<0.5	<0.05	0.147	<1.0	2.00
1997	Sep-97	Tete Angela West	RB	1	330	392.3	Muscle	77.3	<0.05	0.09	<0.03	<0.5	<0.05	0.135	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	2	379	613.6	Liver	78.6	<0.05	0.06	<0.03	<0.5	<0.05	0.159	<1.0	0.90
1997	Sep-97	Tete Angela West	RB	2	379	613.6	Muscle	77.1	<0.05	<0.05	<0.03	<0.5	<0.05	0.167	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	3	384	597.8	Liver	77.5	<0.05	0.09	<0.03	<0.5	<0.05	0.165	<1.0	1.20
1997	Sep-97	Tete Angela West	RB	3	384	597.8	Muscle	79.0	<0.05	0.07	<0.03	<0.5	<0.05	0.165	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	4	399	650.7	Liver		<0.05	0.11	<0.03	<0.5	<0.05	0.185	<1.0	2.50
1997	Sep-97	Tete Angela West	RB	4	399	650.7	Muscle	77.7	<0.05	0.07	<0.03	<0.5	<0.05	0.188	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	5	376	526.2	Liver	79.0	<0.05	0.14	<0.03	<0.5	<0.05	0.137	<1.0	1.70
1997	Sep-97	Tete Angela West	RB	5	376	526.2	Muscle	78.2	<0.05	0.09	<0.03	<0.5	<0.05	0.231	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	6	340	422.2	Liver		<0.05	0.08	<0.03	<0.5	<0.05	0.142	<1.0	2.10
1997	Sep-97	Tete Angela West	RB	6	340	422.2	Muscle	78.5	<0.05	0.06	<0.03	<0.5	<0.05	0.148	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	7	368	509.1	Liver		<0.05	0.10	<0.03	<0.5	<0.05	0.127	<1.0	2.50
1997	Sep-97	Tete Angela West	RB	7	368	509.1	Muscle	77.1	<0.05	0.09	<0.03	<0.5	<0.05	0.177	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	8	333	364.1	Liver		<0.05	0.10	<0.03	<0.5	<0.05	0.208	<1.0	2.10
1997	Sep-97	Tete Angela West	RB	8	333	364.1	Muscle	79.0	<0.05	0.07	<0.03	<0.5	<0.05	0.196	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	9	447	885.9	Liver	78.1	<0.05	0.11	<0.03	<0.5	<0.05	0.168	<1.0	1.50
1997	Sep-97	Tete Angela West	RB	9	447	885.9	Muscle	76.8	<0.05	0.09	<0.03	<0.5	<0.05	0.225	<1.0	<0.5
1997	Sep-97	Tete Angela West	RB	10	346	474.7	Liver		<0.05	0.16	<0.03	<0.5	<0.05	0.147	<1.0	2.30
1997	Sep-97	Tete Angela West	RB	10	346	474.7	Muscle	77.0	<0.05	0.10	<0.03	<0.5	<0.05	0.161	<1.0	<0.5
2006	Sep-06	Fish Lake	RB	T1	205	100	Muscle	77.0	<0.010	0.014	<0.0050	<0.10	<0.020	0.0387	<0.10	<0.20
2006	Sep-06	Fish Lake	RB	T4	290	284	Muscle	78.3	<0.010	0.016	<0.0050	<0.10	<0.020	0.137	<0.10	<0.20
2006	Sep-06	Fish Lake	RB	T7	205	136	Muscle	80.0	<0.010	0.017	<0.0050	<0.10	<0.020	0.0971	<0.10	<0.20
2006	Sep-06	Tete Angela L.	RB	T1	260	218	Muscle	76.5	<0.010	0.056	<0.0050	<0.10	<0.020	0.134	<0.10	<0.20
2006	Sep-06	Tete Angela L.	RB	T3	330	398	Muscle	74.0	<0.010	0.058	<0.0050	<0.10	<0.020	0.148	<0.10	<0.20
2006	Sep-06	Tete Angela L.	RB	T5	330	498	Muscle	77.4	<0.010	0.045	<0.0050	<0.10	<0.020	0.132	<0.10	<0.20

Appendix F Periphyton

Contents

Appendix F1 2006 Periphyton Sampling Summary

Appendix F2 Taxonomic References

Appendix F3 Chlorophyll a Raw Data

Table 1: August 1997 Stream Chlorophyll a Raw Data

Table 2: September 2006 Stream Chlorophyll a Raw Data

Appendix F4 Fraser Environmental Methods and QA/QC

Appendix F5 Periphyton composition 1997

Table 1: 1997 Fish Creek Periphyton Composition

Table 2: 1997 Taseko River Periphyton Composition

Table 3: 1997 Beece Creek Periphyton Composition

Table 4: 1997 Tête Angela Periphyton Composition

Appendix F6 Periphyton composition 2006

Table 1: 2006 Fish Creek Periphyton Composition

Table 2: 2006 Taseko River Periphyton Composition

Table 3: 2006 Tête Angela Periphyton Composition

Appendix F1

2006 Periphyton Sampling Summary

APPENDIX TABLE F1: PERIPHYTON SAMPLING SUMMARY 2006

Date	Site	Number of Discs	Area Sampled per Replicate (cm ²) ¹	Comments
08/15/2005	W2	3 discs per rock, 3 rocks, 5 replicate samples	72.4	N/A
08/15/2006	W3	3 discs per rock, 3 rocks, 5 replicate samples	72.4	In general, rocks in river bed had sparse, patchy algae populations.
08/16/2006	W8	2 discs per rock, 3 rocks, 5 replicate samples	48.2	Sampled rocks have dark, slimy, patchy growth. River flow at time of sampling is very low
08/16/2006	WC	4 discs per rock, except 2nd replicate (3 discs), 3 rocks, 5 replicate samples	96.5 (reps 1, 3, 4, 5) 72.4 (rep 2)	Very sparse algae present on rocks. Rocks have numerous small crevices.
09/05/2006	W5	2 discs per rock, 3 rocks, 5 replicate samples	48.2	Patchy, lumpy, whitish-coloured algae on rocks.
09/05/2006	W6	2 discs per rock, 3 rocks, 5 replicate samples	48.2	All rocks had slimy, patchy algae with some green filamentous algae present
09/05/2006	WA	2 discs per rock, 3 rocks, 5 replicate samples	48.2	Patchy, lumpy, whitish-coloured algae on rocks.
1 Based on a 8.04 cm ² sampling disc surface area				

Appendix F2 Taxonomic References

APPENDIX TABLE F2: TAXONOMIC REFERENCES FOR PERIPHYTON, FRASER ENVIRONMENTAL SERVICES

Bold, Harold C., and Wynne, Michael J. 1978. **Introduction to the Algae : Structure and Reproduction.**

Bourrelly P. 1966. **Les Algues D'Eau Douce. Initiation a la systematique. Tome 1. Les Algues Vertes.**

Clesceri, L.S., Greenberg, A.E. and Trussell, R.R. (eds). 1989. **Standard Methods for the Examination of Water and Wastewater. 17th edition.** APHA - AWWA - WPCF.

Cleve-Euler, Astrid. 1951. **Die Diatomeen Von Schweden Und Finnland.** Bibliotheca Phycologica, Band 2.

Cleve-Euler, Astrid. 1968. **Die Diatomeen Von Schweden Und Finnland.** Bibliotheca Phycologica, Band 5.

Contant, Helene and Duthie, Hamish C. 1978. **The Phytoplankton of Lac St-Jean, Quebec.** Bibliotheca Phycologica, Band 40.

Dodd, John Jeffrey. 1947. **Diatoms : The Illustrated Flora of Illinois.**

Geitler, L. 1932. **Cyanophyceae.** In: Kryptogamen-Flora von Duetschland, Osterreich und der Schweiz. (ed., L. Rabenhorst). Akademische, Leipzig. 1196 pp.

Germain, Henry. 1981. **Flore Des Diatomees eaux douces et saumates.**

Huber-Pestalozzi, G. 1938. **Das Phytoplankton des Susswassers. Teil 1. Allgemeiner Teil, Blaualgen, Bakterien, Pilze.** In Die Binnengewasser (ed., A. Thienemann). E. Schweizerbart, Stuttgart. 342 pp.

Huber-Pestalozzi, G. 1941. **Das Phytoplankton des Susswassers. Teil 2(1). Chrysophyceen.** In Die Binnengewasser (ed., A. Thienemann). E. Schweizerbart, Stuttgart. 365 pp.

Huber-Pestalozzi, G. 1955. **Das Phytoplankton des Susswassers. Teil 4. Euglenophyceen.** In Die Binnengewasser (ed., A. Thienemann), E. Schweizerbart, Stuttgart. 606 pp. 114 pl.

Huber-Pestalozzi, G. 1961. **Das Phytoplankton des Susswassers. Teil 5. Chlorophyceae : Volvocales.** In Die Binnengewasser (ed., A. Thienemann), E. Schweizerbart, Stuttgart. 744 pp. 158 pl.

APPENDIX TABLE F2: TAXONOMIC REFERENCES FOR PERIPHYTON, FRASER
ENVIRONMENTAL SERVICES

Huber-Pestalozzi, G. and B. Fott. 1972. **Das Phytoplankton des Susswassers. Teil 6. Chlorophyceae : Tetrasporales.** In Die Binnengewasser (ed., A. Thienemann). E. Schweizerbart, Stuttgart. 116 pp. 47 pl.

Huber-Pestalozzi, G., J. Komarek and B. Fott. 1983. **Das Phytoplankton des Susswassers. Teil 7. Chlorophyceae : Chlorococcales.** In Die Binnengewasser (ed., A. Thienemann). E. Schweizerbart, Stuttgart. 1044 pp.

Hustedt, Friedrich. 1930. **The Bacillariophyta.**

Hustedt, Friedrich. 1985. **The Pennate Diatoms.**

Komarek, J. and K. Anagnostidis. 1999. **Susswasserflora von Mitteleuropa. Band 19/1. Cyanoprokaryota: Chroococcales.** (ed., H. Ettl, G Gartner, H. Heynig and D. Mollenhauer). Gustav Fischer, Jena. 548 pp.

Lind, O.T. 1985. **Handbook of Common Methods in Limnology : Second edition.**

Patrick, Ruth and Reimer, Charles W. 1966. **The Diatoms of the United States : Exclusive of Alaska and Hawaii : Volume 1.**

Patrick, Ruth and Reimer, Charles W. 1975. **The Diatoms of the United States : Exclusive of Alaska and Hawaii : Volume 2, Part 1.**

Pennak, Robert W. 1953. **Fresh-Water Invertebrates of the United States.**

Prescott, G.W. 1978. **How to Know the Freshwater Algae, 3rd edition.**

Stein, Janet R. 1975. Freshwater algae of British Columbia : the Lower Fraser Valley. **Syesis**, Vol.8, 1975.

Ward, H.B. and Whipple, G.C. 1959. **Freshwater Biology, 2nd edition.**

Weber, Cornelius I. 1966. **A Guide to the Common Diatoms at Water Pollution Surveillance System Stations.** U.S. Environmental Protection Agency, National Environmental Research Center, Analytical Quality Control Laboratory, Cincinnati, Ohio 45268. Reprint 1971.

Wetzel, R.G. 1983. **Limnology: Second edition**

Appendix F3 Chlorophyll a Raw Data

Table 1: August 1997 Stream Chlorophyll a Raw Data

Table 2: September 2006 Stream Chlorophyll a Raw Data

Raw data (µg/L) were transformed to mg/m² by multiplying by the area of rock scraped per 250 mL sample.

Site, Date	Sample	Units	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Mean	Stdev	SE	CV (%)
W1 Riffle 8/21/1997	Chlorophyll a	µg/L	141	207	117	151	117	2.96	0.36	0.16	12
	Area scraped	cm sq	102	177	93	148	107				
	Chlor	mg/m sq	3.46	2.92	3.15	2.55	2.72				
W1 Pool 8/21/1997	Chlorophyll a	µg/L	112	87	159	103	97	2.67	0.74	0.33	28
	Area scraped	cm sq	119	128	126	101	67				
	Chlor	mg/m sq	2.36	1.69	3.15	2.55	3.61				
W2 Riffle 8/15/1997	Chlorophyll a	µg/L	72	359	65	237		3.55	2.74	1.37	77
	Area scraped	cm sq	129	129	129	129					
	Chlor	mg/m sq	1.39	6.96	1.26	4.59					
W2 Pool 8/15/1997	Chlorophyll a	µg/L	171	288	93	128	291	3.76	1.76	0.79	47
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	3.31	5.57	1.81	2.48	5.64				
W3 Riffle 8/16/1997	Chlorophyll a	µg/L	13	34	66	35	64	0.82	0.44	0.20	53
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	0.25	0.66	1.28	0.68	1.24				
W3 Pool 8/16/1997	Chlorophyll a	µg/L	86	39	111	100	112	1.73	0.59	0.26	34
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	1.66	0.75	2.15	1.93	2.17				
W8 Riffle 8/22/1997	Chlorophyll a	µg/L	254	263	409	370	545	10.96	3.56	1.78	33
	Area scraped	cm sq	86	99	79	69	94				
	Chlor	mg/m sq	7.37	6.65	12.99	13.33	14.47				
W8 Pool 8/22/1997	Chlorophyll a	µg/L	175	426	452	444	463	12.41	4.21	1.88	34
	Area scraped	cm sq	83	86	73	72	86				
	Chlor	mg/m sq	5.26	12.43	15.50	15.44	13.43				
W4 Glide 8/16/1997	Chlorophyll a	µg/L	52	95	55	35	44	1.09	0.44	0.20	41
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	1.01	1.83	1.07	0.69	0.84				
W5 Riffle 8/19/1997	Chlorophyll a	µg/L	101	297	246	267	435	5.22	2.31	1.04	44
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	1.96	5.75	4.77	5.17	8.43				
W5 Pool 8/19/1997	Chlorophyll a	µg/L	489	423	411	267	191	6.90	2.38	1.06	34
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	9.47	8.20	7.96	5.17	3.70				
W6 Riffle 8/19/1997	Chlorophyll a	µg/L	59	51	47	99	164	1.63	0.95	0.43	58
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	1.15	0.99	0.92	1.91	3.18				
W19 Riffle 8/22/1997	Chlorophyll a	µg/L	66	83	134	67	197	3.57	1.83	0.82	51
	Area scraped	cm sq	67	74	76	91	77				
	Chlor	mg/m sq	2.45	2.78	4.40	1.85	6.38				
W19 Pool 8/22/1997	Chlorophyll a	µg/L	113	141	82	72	135	3.28	0.61	0.27	19
	Area scraped	cm sq	78	98	72	73	87				
	Chlor	mg/m sq	3.61	3.60	2.83	2.45	3.89				
W20 Riffle 8/23/1997	Chlorophyll a	µg/L	224	519	240	177	303	3.66	1.35	0.60	37
	Area scraped	cm sq	210	229	185	185	176				
	Chlor	mg/m sq	2.67	5.67	3.24	2.39	4.31				
W20 Pool 8/23/1997	Chlorophyll a	µg/L	466	323	657	585	196	5.30	2.34	1.05	44
	Area scraped	cm sq	250	203	208	194	201				
	Chlor	mg/m sq	4.67	3.98	7.89	7.53	2.44				
W11 Riffle 8/20/1997	Chlorophyll a	µg/L	10	12	6	16	15	0.23	0.05	0.02	22
	Area scraped	cm sq	110	137	99	149	126				
	Chlor	mg/m sq	0.23	0.23	0.16	0.26	0.30				
W11 Pool 8/20/1997	Chlorophyll a	µg/L	44	29	45	129	190	1.53	1.13	0.51	74
	Area scraped	cm sq	134	116	138	148	148				
	Chlor	mg/m sq	0.82	0.62	0.82	2.18	3.22				
W12 Riffle 8/20/1997	Chlorophyll a	µg/L	53	77	42	55	29	1.05	0.42	0.19	40
	Area scraped	cm sq	140	112	116	129	122				
	Chlor	mg/m sq	0.94	1.73	0.89	1.07	0.60				
W12 Pool 8/20/1997	Chlorophyll a	µg/L	125	167	249	137	268	4.10	1.48	0.66	36
	Area scraped	cm sq	116	129	98	100	140				
	Chlor	mg/m sq	2.69	3.24	6.36	3.43	4.77				
W17 Pool 8/17/1997	Chlorophyll a	µg/L	636	688	138	397	475	9.04	4.23	1.89	47
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	12.32	13.33	2.67	7.69	9.20				
W17 Riffle 8/17/1997	Chlorophyll a	µg/L	779	51	670	360	107	7.62	6.32	2.83	83
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	15.09	0.99	12.98	6.98	2.07				
W18 Pool 8/17/1997	Chlorophyll a	µg/L	280	276	320	412	223	5.86	1.36	0.61	23
	Area scraped	cm sq	129	129	129	129	129				
	Chlor	mg/m sq	5.43	5.35	6.20	7.98	4.32				

Appendix Table F3-2: Chlorophyll A Data for Streams, 2006

Raw data ($\mu\text{g}/\text{sample}$) were transformed to mg/m^2 by dividing by the area of rock scraped

Site, Date	Sample	Units	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Mean	Stdev	SE	CV (%)
W2	Chlorophyll a	μg	6.03	8.20	no sample	10.4	12.7				
Riffle	Area scraped	cm sq	72.4	72.4	72.4	72.4	72.4				
8/16/2006	Chlor	mg/m sq	0.83	1.13		1.44	1.75	1.29	0.40	0.20	31
W8	Chlorophyll a	μg	6.81	8.19	0.14	6.16	8.18				
Riffle	Area scraped	cm sq	48.2	48.2	48.2	48.2	48.2				
8/16/2006	Chlor	mg/m sq	1.41	1.70	0.03	1.28	1.70	1.22	0.69	0.31	57
W3	Chlorophyll a	μg	18.1	14.4	11.9	8.49	9.74				
Riffle	Area scraped	cm sq	72.4	72.4	72.4	72.4	72.4				
8/16/2006	Chlor	mg/m sq	2.50	1.99	1.64	1.17	1.35	1.73	0.53	0.24	31
WA	Chlorophyll a	μg	6.58	9.20	7.43	7.57	14.4				
Riffle	Area scraped	cm sq	48.2	48.2	48.2	48.2	48.2				
9/5/2006	Chlor	mg/m sq	1.37	1.91	1.54	1.57	2.99	1.87	0.65	0.29	35
W5	Chlorophyll a	μg	17.8	6.53	17.2	2.74	8.63				
Riffle	Area scraped	cm sq	48.2	48.2	48.2	48.2	48.2				
9/5/2006	Chlor	mg/m sq	3.69	1.35	3.57	0.57	1.79	2.20	1.38	0.62	63
W6	Chlorophyll a	μg	18.5	21.9	20.7	7.70	11.6				
Riffle	Area scraped	cm sq	48.2	48.2	48.2	48.2	48.2				
9/5/2006	Chlor	mg/m sq	3.84	4.54	4.29	1.60	2.41	3.34	1.28	0.57	38
WC	Chlorophyll a	μg	2.52	7.14	3.88	10.0	7.21				
Riffle	Area scraped	cm sq	96.5	72.4	96.5	96.5	96.5				
8/16/2006	Chlor	mg/m sq	0.26	0.99	0.40	1.04	0.75	0.69	0.35	0.15	50

Appendix F4

Fraser Environmental Methods and QA/QC

Appendix F4

FRASER ENVIRONMENTAL SERVICES

METHODS MANUAL **JANUARY 1994**

By Linde Looy, R.P.Bio.

**Fraser Environmental Services
9358 Cinnamon Drive
Surrey, B.C., V3V 1V2
Telephone and Fax (604) 588-9738
FRASER ENVIRONMENTAL SERVICES**

METHODS MANUAL

Details of the analytical methods used by Fraser Environmental Services are described here. Our firm employs similar standard techniques to ensure consistency over time. The QA/QC procedures employed can be found in the QA/QC Manual.

Phytoplankton Identification and Enumeration

Scope :

This method describes the identification and enumeration of phytoplankton.

Summary :

The sample is settled overnight and the slide is examined. Using the appropriate keys and procedures, phytoplankton can then be identified and subsequently enumerated.

Apparatus :

1. Utermohl-type settling chambers
2. Inverted microscope
3. Compound microscope
4. Appropriate taxonomic keys

Reagents :

1. Lugol's Solution : prepared as outlined in **Standard Methods for the Examination of Water and Wastewater**.

Procedure :

1. Calibrate the microscope using stage and ocular micrometers (see Section 1, page 8 for procedure).
2. Confirm that the sample is appropriately preserved.
3. Settle out an appropriate sample volume randomly removed depending on the density of organisms (usually 100 mL) for approximately 24 hours. Use smaller or diluted volumes for densely populated samples or concentrate sparsely populated samples by centrifugation or by sedimentation.
4. Scan the entire slide at increasing powers of magnification to determine

which species/genera are present. Identify the organisms observed to the requested level if possible.

5. Once the identifications are made, do the counts. Count at least 10 random fields, continue counting until you get a total count of at least 100 for the dominant species. Statistical tests for randomness will be performed.
6. Enumerate the data by a total cell count (cells/mL). Calculate the per mL total for each species or genera by multiplying the actual count by the factor F as defined below:

$$F = \frac{A / r^2 \pi N}{V}$$

where A= the area of the settling chamber

r= the radius of the field

N= the number of fields counted

V= the volume settled

Periphyton Identification and Enumeration

Scope :

This method describes the identification and enumeration of periphyton.

Summary :

The sample is settled for at least two hours and the slide is examined. The minimum settling time is dependent on the volume of the chamber used. Using the appropriate keys and procedures, periphyton can then be identified and subsequently enumerated.

Apparatus :

1. Utermohl-type settling chambers
2. Inverted microscope
3. Compound microscope
4. Appropriate taxonomic keys

Reagents :

1. Lugol's Solution : prepared as outlined in **Standard Methods for the Examination of Water and Wastewater**.
2. Hyrax mounting medium (or other medium with similar optical properties).

Procedure :

1. Calibrate the microscope using stage and ocular micrometers (see Section 1, page 8 for procedure).
2. Confirm that the sample is appropriately preserved. Measure and record

the total volume of the sample.

3. Settle out an appropriate sample volume randomly removed, depending on the density of organisms (usually 25 mL) for approximately 4 hours. Use smaller or diluted volumes for densely populated samples or concentrate sparsely populated samples by centrifugation or by sedimentation.
4. Scan the entire slide at increasing powers of magnification to determine which species/genera are present. Identify the organisms observed to the requested level if possible.
5. Prepare three diatom slides using either pyrolysis or acid digestion to clear the frustules. See Standard Methods for the Examination of Water and Wastewater for further details of these procedures.
6. Examine the three diatom slides at increasing powers of magnification. Identify the organisms observed to the requested level if possible. Work on one slide and use the other two slides for confirmation.
7. Once the identifications are made, do the counts. From the settling chambers count at least 10 random fields, continue counting until you get a total count of at least 100 for the dominant species. Statistical tests for randomness will be performed.
8. Enumerate the data by a total cell count (cells/mL). Calculate the per mL total for each species or genera by multiplying the actual count by the factor F as defined below :

$$F = \frac{A / r^2 \pi N}{V}$$

where A= the area of the settling chamber
 r= the radius of the field
 N= the number of fields counted
 V= the volume settled

The cells per total sample can then be determined by multiplying by the total sample volume. Then divide by the area sampled to get cells per cm². In other words the count can be multiplied by factor P as defined below to get cells per cm² :

$$P = \frac{FD V_t}{A_s}$$

where F = the factor defined previously
 D = the dilution
 V_t = the total sample volume
 A_s = the area sampled (cm²)

Appendix F5 Periphyton composition 1997

Table 1: 1997 Fish Creek Periphyton Composition

Table 2: 1997 Taseko River Periphyton Composition

Table 3: 1997 Beece Creek Periphyton Composition

Table 4: 1997 Tête Angela Periphyton Composition

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W1 Riffle										
Date: August 21, 1997										
		Sample Number Area Sampled (cm ²)	545 102	546 177	547 93	548 148	549 107			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W1 545	W1 546	W1 547	W1 548	W1 549	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	0	0	2655	1123	579	871	1101	492
Bacillariophyta	Centrales	<i>Melosira ambigua</i>	0	718	0	0	2314	606	1004	449
Bacillariophyta	Centrales	<i>Melosira varians</i>	587	0	1328	562	579	611	472	211
Bacillariophyta	Centrales	<i>Melosira</i>	0	0	2655	0	0	531	1188	531
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	0	2871	10622	3369	3471	4066	3930	1758
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	1175	718	10622	3369	2314	3639	4037	1805
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	1175	0	5311	1123	1157	1753	2050	917
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1175	1435	2655	2246	1157	1734	679	304
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	1175	718	1328	1123	579	984	320	143
Bacillariophyta	Pennales	<i>Caloneis</i>	587	0	0	562	0	230	315	141
Bacillariophyta	Pennales	<i>Campylodiscus sp.</i>	0	718	0	562	0	256	355	159
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	2349	1435	10622	11230	2314	5590	4889	2187
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	0	0	1328	562	0	378	584	261
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	587	718	1328	562	579	755	326	146
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	2349	1435	2655	1123	1157	1744	711	318
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	587	718	5311	562	1157	1667	2051	917
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	0	0	0	0	579	116	259	116
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	718	0	562	579	372	345	154
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	1175	0	2655	562	0	878	1106	494
Bacillariophyta	Pennales	<i>Diploneis</i>	587	0	0	562	0	230	315	141
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	8223	2871	7966	4492	2314	5173	2786	1246
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	23494	20096	42486	17968	18510	24511	10277	4596
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	587	718	0	562	0	373	346	155
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	2349	24402	34520	17968	9255	17699	12598	5634
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	1175	5742	5311	2246	3471	3589	1952	873
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	7048	7177	13277	1123	3471	6419	4603	2058
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	10572	5742	10622	16845	11569	11070	3951	1767
Bacillariophyta	Pennales	<i>Hantzschia sp.</i>	0	0	1328	562	0	378	584	261
Bacillariophyta	Pennales	<i>Meridion circulare</i>	587	0	1328	562	1157	727	529	237
Bacillariophyta	Pennales	<i>Navicula aurora</i>	587	718	0	562	579	489	280	125
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	0	0	1328	562	579	494	547	244
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	587	1435	2655	562	0	1048	1035	463
Bacillariophyta	Pennales	<i>Navicula exigua</i>	0	1435	0	2246	579	852	976	436
Bacillariophyta	Pennales	<i>Navicula pupula</i>	0	718	0	0	579	259	358	160
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	587	1435	2655	562	579	1164	913	408
Bacillariophyta	Pennales	<i>Navicula spp.</i>	2349	718	13277	4492	4628	5093	4854	2171
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	3524	718	0	1123	579	1189	1366	611
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	1175	0	0	0	0	235	525	235
Bacillariophyta	Pennales	<i>Nitzschia sigmoidea</i>	0	718	1328	562	0	521	555	248
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	4699	11483	23899	10107	4628	10963	7869	3519
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	587	0	1328	562	579	611	472	211
Bacillariophyta	Pennales	<i>Pleurosigma / Gyrosigma</i>	0	718	1328	0	579	525	556	249
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	1175	1435	2655	2246	3471	2196	930	416
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	1175	1435	5311	1123	3471	2503	1846	825
Bacillariophyta	Pennales	<i>Stauroneis sp.</i>	0	0	1328	562	0	378	584	261
Bacillariophyta	Pennales	<i>Surirella angusta</i>	587	1435	1328	1123	1157	1126	327	146
Bacillariophyta	Pennales	<i>Surirella spp.</i>	587	718	1328	562	579	755	326	146
Bacillariophyta	Pennales	<i>Synedra ulna</i>	1175	1435	2655	562	1157	1397	773	346
Bacillariophyta	Pennales	<i>Synedra spp.</i>	587	0	2655	1123	1157	1105	987	441
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	43464	100478	151358	90963	70571	91367	40029	17901
Chlorophyta	Chaetophorales	<i>Protoderma</i>	5874	718	7966	5615	3471	4729	2750	1230
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	3524	718	1328	1123	1157	1570	1115	499
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	718	0	0	0	144	321	144
Chlorophyta	Chlorococcales	<i>Crucigenia</i>	0	0	0	562	0	112	251	112
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	0	1328	562	0	378	584	261
Chlorophyta	Chlorococcales	<i>Scenedesmus spp.</i>	4699	718	10622	4492	6941	5494	3634	1625
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	5874	718	1328	562	579	1812	2292	1025
Chlorophyta	Chlorococcales	<i>Tetradron</i>	587	0	0	1123	579	458	472	211
Chlorophyta	Euglenales	<i>Euglena</i>	0	718	0	0	0	144	321	144
Chlorophyta	Euglenales	<i>Phacus spp.</i>	0	0	1328	562	579	494	547	244
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	1175	0	2655	1123	579	1106	988	442
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	5874	10048	1328	562	579	3678	4190	1874
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	0	718	0	562	0	256	355	159
Chlorophyta	Ulothricales	<i>Microspora</i>	587	718	1328	2246	579	1091	715	320
Chlorophyta	Ulothricales	<i>Ulothrix</i>	0	0	1328	562	0	378	584	261
Chlorophyta	Volvocales	<i>Carteria</i>	2349	0	0	0	0	470	1051	470
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	587	0	2655	0	579	764	1097	490
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	587	718	1328	562	579	755	326	146
Chlorophyta	Zygnematales	<i>Cosmarium</i>	587	0	1328	0	579	499	547	245
Chlorophyta	Zygnematales	<i>Mougeotia</i>	1175	2871	1328	2246	1157	1755	769	344
Chlorophyta	Zygnematales	<i>Spirogyra</i>	587	0	0	0	0	117	263	117
Chlorophyta	Zygnematales	<i>Staurastrum</i>	587	0	1328	562	579	611	472	211
Chrysophyta	Ochromonadales	<i>Dinobryon</i>	587	0	0	0	0	117	263	117
Cyanophyta	Chroococcales	<i>Agmenellum</i>	0	0	0	562	0	112	251	112
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	587	0	7966	2246	0	2160	3374	1509
Cyanophyta	Nostocales	<i>Anabaena</i>	587	8612	10622	562	9255	5928	4940	2209
Cyanophyta	Nostocales	<i>Calothrix poss.</i>	98675	86124	305371	562	120318	122210	112033	50103
Cyanophyta	Nostocales	<i>Nostoc</i>	587	718	31865	22460	579	11242	14909	6668
Cyanophyta	Nostocales	<i>Plectonema</i>	0	0	0	562	12726	2657	5634	2519
Cyanophyta	Nostocales	<i>Rivularia</i>	14096	718	1328	41551	15040	14547	16550	7402
Cyanophyta	Nostocales	<i>Tolypothrix</i>	587	718	0	0	0	261	360	161
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	41115	44497	31865	8984	31236	31539	13861	6199
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	8223	31579	45142	0	13883	19765	18317	8192
Pyrrophyta	Dinokontae	<i>Peridinium / Glenodinium</i>	0	718	1328	562	0	521	555	248
Rhodophyta	Nemalionales	<i>Audouinella</i>	587	718	7966	562	4628	2892	3325	1487

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W1 Pool										
Date: August 21, 1997										
		Sample Number Area Sampled (cm ²)	550 129	551 129	552 129	553 101	554 67			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W1 550	W1 551	W1 552	W1 553	W1 554	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella</i> sp.	0	0	0	0	1249	250	559	250
Bacillariophyta	Centrales	<i>Melosira ambigua</i>	540	0	0	0	0	108	241	108
Bacillariophyta	Centrales	<i>Melosira varians</i>	540	0	0	0	0	108	241	108
Bacillariophyta	Centrales	<i>Melosira</i>	0	0	0	605	1249	371	557	249
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	1079	1997	505	0	9994	2715	4136	1850
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	4317	2996	3027	1210	2498	2810	1119	500
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	0	0	505	1210	4997	1342	2102	940
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1079	0	0	0	1249	466	641	286
Bacillariophyta	Pennales	<i>Amphiprora</i> sp.	0	499	0	605	0	221	305	136
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	540	999	1009	605	7495	2130	3007	1345
Bacillariophyta	Pennales	<i>Amphora</i> sp.	0	0	1009	0	1249	452	624	279
Bacillariophyta	Pennales	<i>Caloneis</i>	540	0	505	0	0	209	286	128
Bacillariophyta	Pennales	<i>Campylodiscus</i> sp.	0	0	0	0	1249	250	559	250
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	4317	3994	4036	7262	9994	5921	2656	1188
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	0	499	505	0	0	201	275	123
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	540	499	505	605	1249	680	321	144
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	540	499	505	0	0	309	282	126
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	540	499	505	605	1249	680	321	144
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	540	1997	505	605	1249	979	646	289
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	499	505	0	1249	451	512	229
Bacillariophyta	Pennales	<i>Cymbella</i> spp.	0	499	1009	1210	0	544	560	250
Bacillariophyta	Pennales	<i>Diploneis</i>	540	499	1009	0	1249	659	486	217
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	25903	10985	15135	4841	4997	12372	8714	3897
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	28062	19972	20180	24206	17489	21982	4165	1863
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	540	499	505	605	1249	680	321	144
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	9714	9986	0	6052	19987	9148	7276	3254
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	0	0	0	0	1249	250	559	250
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	0	0	0	0	2498	500	1117	500
Bacillariophyta	Pennales	<i>Fragilaria</i> spp.	540	2996	5045	4841	7495	4183	2590	1158
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	14031	7989	10090	16944	24984	14808	6661	2979
Bacillariophyta	Pennales	<i>Hantzschia</i> sp.	0	499	0	0	1249	350	547	245
Bacillariophyta	Pennales	<i>Meridion circulare</i>	0	0	505	1210	4997	1342	2102	940
Bacillariophyta	Pennales	<i>Navicula aurora</i>	540	499	505	0	1249	559	446	199
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	0	499	0	0	1249	350	547	245
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	540	499	505	605	1249	680	321	144
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	540	0	0	0	1249	358	550	246
Bacillariophyta	Pennales	<i>Navicula exigua</i>	1079	2996	2018	1210	1249	1711	807	361
Bacillariophyta	Pennales	<i>Navicula pupula</i>	0	499	1009	605	1249	673	483	216
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	540	499	505	0	0	309	282	126
Bacillariophyta	Pennales	<i>Navicula</i> spp.	4317	6990	11099	2421	12492	7464	4303	1924
Bacillariophyta	Pennales	<i>Neidium</i> spp.	540	499	0	0	2498	707	1034	463
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	540	0	0	0	0	108	241	108
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	540	499	0	0	0	208	285	127
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	0	1997	1009	0	2498	1101	1139	509
Bacillariophyta	Pennales	<i>Nitzschia sigmoidea</i>	0	0	505	0	0	101	226	101
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	6476	5992	3027	1210	22486	7838	8469	3787
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	540	499	1009	605	1249	780	332	148
Bacillariophyta	Pennales	<i>Pleurosigma</i> / <i>Gyrosigma</i>	540	0	505	605	1249	580	445	199
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	2159	499	505	3631	4997	2358	1969	881
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	2159	1997	1009	1210	1249	1525	516	231
Bacillariophyta	Pennales	<i>Stauroneis</i> sp.	0	0	505	0	1249	351	548	245
Bacillariophyta	Pennales	<i>Surirella angusta</i>	540	499	0	605	1249	579	445	199
Bacillariophyta	Pennales	<i>Surirella</i> spp.	540	999	505	605	1249	779	329	147
Bacillariophyta	Pennales	<i>Synedra ulna</i>	540	499	505	605	1249	680	321	144
Bacillariophyta	Pennales	<i>Synedra</i> spp.	540	999	1009	0	0	509	502	225
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	36696	999	505	605	1249	8011	16038	7173
Chlorophyta	Chaetophorales	<i>Protoderma</i>	5397	499	0	605	0	1300	2307	1032
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	1079	0	0	0	0	216	483	216
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	0	0	0	1249	250	559	250
Chlorophyta	Chlorococcales	<i>Euastropsis richteri</i>	0	0	505	0	0	101	226	101
Chlorophyta	Chlorococcales	<i>Oocystis</i> spp.	540	499	0	0	0	208	285	127
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	499	0	0	0	100	223	100
Chlorophyta	Chlorococcales	<i>Scenedesmus</i> spp.	4317	0	4036	605	0	1792	2193	981
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	2159	499	0	0	0	532	935	418
Chlorophyta	Euglenales	<i>Euglena</i>	540	499	0	1210	0	450	498	223
Chlorophyta	Euglenales	<i>Trachelomonas</i> spp.	1079	999	505	2421	4997	2000	1820	814
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	5397	4993	7063	6052	4997	5700	876	392
Chlorophyta	Ulothricales	<i>Ulothrix</i>	540	3994	505	605	0	1129	1620	724
Chlorophyta	Ulothricales	<i>Ulothrix</i>	0	0	505	605	0	222	306	137
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	0	499	505	605	0	322	297	133
Chlorophyta	Zygnematales	<i>Cosmarium</i>	540	499	0	605	0	329	303	135
Chlorophyta	Zygnematales	<i>Mougeotia</i>	540	1997	1009	1210	1249	1201	527	236
Chlorophyta	Zygnematales	<i>Spirogyra</i>	540	499	0	605	0	329	303	135
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	0	0	0	9682	0	1936	4330	1936
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	10793	499	14126	2421	0	5568	6464	2891
Cyanophyta	Chroococcales	<i>Gomphosphaeria</i> sp.	0	0	0	0	1249	250	559	250
Cyanophyta	Nostocales	<i>Anabaena</i>	7555	11983	505	10893	0	6187	5661	2532
Cyanophyta	Nostocales	<i>Nostoc</i>	20507	499	505	605	1249	4673	8857	3961
Cyanophyta	Nostocales	<i>Rivularia</i>	20507	499	34306	36309	9994	20323	15417	6895
Cyanophyta	Nostocales	<i>Tolypothrix</i>	540	0	0	0	0	108	241	108
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	12952	0	6054	41150	1249	12281	16920	7567
Cyanophyta	Oscillatoriales	<i>Oscillatoria tenuis</i>	0	0	0	605	0	121	271	121
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	35617	0	505	6052	1249	8684	15247	6819
Pyrrophyta	Dinokontae	<i>Peridinium</i> / <i>Glenodinium</i>	0	499	0	0	0	100	223	100
Rhodophyta	Nemalionales	<i>Audouinella</i>	540	499	505	605	1249	680	321	144

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W2 Pool Date: August 15, 1997										
		Sample Number Area Sampled (cm ²)	201 129	202 129	203 129	204 129	205 129			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W2 201	W2 202	W2 203	W2 204	W2 205	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella bodanica</i>	565	590	518	781	874	666	154	69
Bacillariophyta	Centrales	<i>Cyclotella</i> sp.	283	0	0	0	0	57	126	57
Bacillariophyta	Centrales	<i>Melosira arenaria</i>	283	295	259	781	874	498	303	135
Bacillariophyta	Centrales	<i>Melosira italica</i> possibly	283	2951	2072	781	3497	1917	1374	614
Bacillariophyta	Centrales	<i>Melosira</i>	283	0	0	0	0	57	126	57
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	283	1180	259	781	1748	850	631	282
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	2261	0	4662	6246	5245	3683	2527	1130
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	1131	590	0	6246	1748	1943	2491	1114
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	565	1180	259	781	0	557	458	205
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	1131	590	518	1562	1748	1110	555	248
Bacillariophyta	Pennales	<i>Amphora</i> sp.	1696	590	1554	1562	0	1080	749	335
Bacillariophyta	Pennales	<i>Asterionella formosa</i>	0	295	259	0	874	286	357	160
Bacillariophyta	Pennales	<i>Campylodiscus</i> sp.	283	295	0	781	0	272	319	143
Bacillariophyta	Pennales	<i>Cocconeis diminuta</i>	0	0	0	781	0	156	349	156
Bacillariophyta	Pennales	<i>Cocconeis pediculus</i>	0	590	0	0	0	118	264	118
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	7349	1180	1554	781	1748	2522	2723	1218
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	0	295	259	781	874	442	371	166
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	0	0	259	0	874	227	379	169
Bacillariophyta	Pennales	<i>Cymbella affinis</i>	0	0	518	4685	0	1041	2049	917
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	1131	2951	518	781	874	1251	975	436
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	283	590	259	781	874	557	281	126
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	1696	590	1036	3123	1748	1639	959	429
Bacillariophyta	Pennales	<i>Cymbella muelleri</i>	0	0	259	1562	0	364	679	304
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	295	259	0	0	111	152	68
Bacillariophyta	Pennales	<i>Cymbella</i> spp.	0	295	518	7808	0	1724	3408	1524
Bacillariophyta	Pennales	<i>Diatoma elongatum</i>	0	295	0	0	0	59	132	59
Bacillariophyta	Pennales	<i>Diploneis</i>	0	295	518	781	874	494	357	160
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	1696	295	518	1562	1748	1164	699	313
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	2261	5902	518	1562	3497	2748	2069	925
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	0	295	0	0	0	59	132	59
Bacillariophyta	Pennales	<i>Fragilaria capucina</i>	16394	138107	0	10931	874	33261	59015	26392
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	48051	40134	21238	26546	89163	45026	26873	12018
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	283	3541	0	0	0	765	1557	696
Bacillariophyta	Pennales	<i>Fragilaria inflata</i>	0	0	0	781	0	156	349	156
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	565	590	0	0	874	406	390	174
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	0	590	259	0	874	345	383	171
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	283	590	259	0	1748	576	688	308
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	0	0	259	0	0	52	116	52
Bacillariophyta	Pennales	<i>Gomphonema acuminatum</i>	0	295	259	781	0	267	319	143
Bacillariophyta	Pennales	<i>Gomphonema brebissonii</i>	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	<i>Gomphonema constrictum</i>	0	0	259	781	1748	558	738	330
Bacillariophyta	Pennales	<i>Gomphonema herculeanum</i>	0	295	0	0	0	59	132	59
Bacillariophyta	Pennales	<i>Gomphonema sphaerosporum</i>	0	0	0	781	1748	506	772	345
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	3392	6492	2072	6246	3497	4340	1938	867
Bacillariophyta	Pennales	<i>Navicula aurora</i>	0	295	0	0	874	234	380	170
Bacillariophyta	Pennales	<i>Navicula capitata</i>	0	0	518	0	0	104	232	104
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	0	590	2072	1562	1748	1194	867	388
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	283	590	259	1562	1748	888	715	320
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	0	590	518	1562	3497	1233	1385	620
Bacillariophyta	Pennales	<i>Navicula exigua</i>	0	0	0	0	3497	699	1564	699
Bacillariophyta	Pennales	<i>Navicula pupula</i>	0	590	259	3123	3497	1494	1676	750
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	283	295	518	1562	874	706	535	239
Bacillariophyta	Pennales	<i>Navicula</i> spp.	5088	4722	6734	14054	13986	8917	4720	2111
Bacillariophyta	Pennales	<i>Neidium dubium</i>	0	0	0	781	874	331	454	203
Bacillariophyta	Pennales	<i>Neidium</i> spp.	0	0	518	1562	1748	766	842	376
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	2827	1771	1036	781	0	1283	1070	479
Bacillariophyta	Pennales	<i>Nitzschia amphibia</i>	565	0	0	0	874	288	409	183
Bacillariophyta	Pennales	<i>Nitzschia dissipata</i>	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	<i>Nitzschia fonticola</i>	0	0	518	0	874	278	402	180
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	1131	295	259	0	5245	1386	2199	983
Bacillariophyta	Pennales	<i>Nitzschia recta</i>	0	0	259	0	0	52	116	52
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	5088	5902	3108	10931	10490	7104	3449	1542
Bacillariophyta	Pennales	<i>Opephora martyi</i>	0	295	0	0	0	59	132	59
Bacillariophyta	Pennales	<i>Opephora</i>	283	0	259	3123	874	908	1279	572
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	283	590	259	781	1748	732	608	272
Bacillariophyta	Pennales	<i>Pleurosigma</i> / <i>Gyrosigma</i>	283	295	518	781	874	550	272	122
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	565	590	1036	6246	5245	2736	2776	1241
Bacillariophyta	Pennales	<i>Stauroneis</i> sp.	0	295	259	781	874	442	371	166
Bacillariophyta	Pennales	<i>Surirella angusta</i>	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	<i>Surirella</i> spp.	283	295	518	781	1748	725	607	271
Bacillariophyta	Pennales	<i>Synedra acus</i>	0	2361	0	781	874	803	965	431
Bacillariophyta	Pennales	<i>Synedra rumpens</i>	0	295	0	1562	0	371	677	303
Bacillariophyta	Pennales	<i>Synedra ulna</i>	0	590	0	0	0	118	264	118
Bacillariophyta	Pennales	<i>Synedra</i> spp.	565	2361	1036	0	0	792	978	437
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	0	0	31598	232664	0	52852	101444	45367
Chlorophyta	Chaetophorales	<i>Protoderma</i>	7349	4131	0	0	0	2296	3343	1495
Chlorophyta	Chlorococcales	<i>Ankistrodesmus Braunii</i>	283	590	259	0	0	226	244	109
Chlorophyta	Chlorococcales	<i>Ankistrodesmus elongatum</i>	0	295	0	0	0	59	132	59
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	283	295	0	0	0	116	158	71
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	0	0	781	0	156	349	156
Chlorophyta	Chlorococcales	<i>Botryococcus braunii</i>	283	7082	259	781	0	1681	3033	1356
Chlorophyta	Chlorococcales	<i>Crucigenia rectangularis</i>	0	295	0	0	0	59	132	59
Chlorophyta	Chlorococcales	<i>Oocystis</i> spp.	0	6492	4144	781	874	2458	2760	1235
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	283	295	259	781	43708	9065	19367	8661
Chlorophyta	Chlorococcales	<i>Pediastrum</i>	0	0	0	781	0	156	349	156
Chlorophyta	Chlorococcales	<i>Quadrigula</i>	283	295	0	781	0	272	319	143
Chlorophyta	Chlorococcales	<i>Scenedesmus</i> spp.	13567	8263	6216	24984	13986	13403	7290	3260
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	0	5312	0	0	874	1237	2309	1033
Chlorophyta	Chlorococcales	UID	20351	1180	0	1562	0	4619	8822	3945
Chlorophyta	Euglenales	<i>Euglena</i>	0	295	259	781	0	267	319	143
Chlorophyta	Euglenales	<i>Trachelomonas</i> spp.	2261	1180	1554	1562	6993	2710	2426	1085

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W2 Pool Date: August 15, 1997										
		Sample Number Area Sampled (cm ²)	201 129	202 129	203 129	204 129	205 129			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W2 201	W2 202	W2 203	W2 204	W2 205	mean	stdev	SE
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	283	1771	1036	781	0	774	690	308
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	0	11214	259	781	0	2451	4909	2195
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	0	590	518	781	874	553	340	152
Chlorophyta	Volvocales	<i>Eudorina</i> sp. poss.	0	295	0	0	0	59	132	59
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	283	295	0	0	0	116	158	71
Chlorophyta	Zygnematales	<i>Cosmarium</i>	0	295	0	0	874	234	380	170
Chlorophyta	Zygnematales	<i>Mougeotia</i>	0	1180	518	1562	0	652	703	314
Chlorophyta	Zygnematales	<i>Spirogyra</i>	0	590	259	0	0	170	260	116
Chlorophyta	Zygnematales	<i>Staurastrum</i>	0	295	259	0	0	111	152	68
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	4522	18886	2072	12492	27973	13189	10609	4744
Cyanophyta	Chroococcales	<i>Agmenellum</i>	0	295	0	0	0	59	132	59
Cyanophyta	Chroococcales	<i>Anacystis elachista</i> poss.	50877	0	259	0	0	10227	22724	10163
Cyanophyta	Chroococcales	<i>Anacystis limneticus</i>	0	4722	0	0	0	944	2112	944
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	13567	14165	8288	12492	0	9702	5890	2634
Cyanophyta	Chroococcales	<i>Coccochloris clathrata</i> poss.	25439	295	28490	781	78674	26736	31918	14274
Cyanophyta	Chroococcales	<i>Coccochloris</i>	283	295	259	0	0	167	153	69
Cyanophyta	Chroococcales	<i>Gomphosphaeria naegelianum</i>	33918	40724	259	781	874	15311	20237	9050
Cyanophyta	Chroococcales	<i>Gomphosphaeria pallidum</i>	0	295	0	0	0	59	132	59
Cyanophyta	Nostocales	<i>Anabaena</i>	283	295	4144	781	874	1275	1626	727
Cyanophyta	Nostocales	<i>Aphanizomenon flos-aquae</i>	11871	7673	31080	9369	874	12173	11329	5066
Cyanophyta	Nostocales	<i>Gloeotrichia</i> poss.	0	0	12950	85883	874	19941	37269	16667
Cyanophyta	Nostocales	<i>Nostoc</i>	283	0	259	781	0	265	319	143
Cyanophyta	Nostocales	<i>Rivularia</i>	283	0	0	781	874	388	419	187
Cyanophyta	Nostocales	<i>Tolypothrix</i>	0	0	259	0	874	227	379	169
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	0	0	0	15615	0	3123	6983	3123
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	283	0	0	0	0	57	126	57
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	5653	4722	259	15615	20980	9446	8547	3822
Pyrrophyta	Cryptomonadales	<i>Chroomonas acuta</i>	0	0	518	0	0	104	232	104
Pyrrophyta	Cryptomonadales	<i>Cryptomonas</i> sp.	283	295	518	1562	0	531	604	270
Pyrrophyta	Dinokontae	<i>Ceratium hirundinella</i>	0	0	259	0	0	52	116	52
Rhodophyta	Nemalionales	<i>Audouinella</i>	0	295	0	0	0	59	132	59

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W2 Riffle Date: August 15, 1997										
		Sample Number Area Sampled (cm ²)	206 129	207 129	208 129	209 129	210 129			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W2 206	W2 207	W2 208	W2 209	W2 210	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella bodanica</i>	844	240	404	209	219	383	270	121
Bacillariophyta	Centrales	<i>Melosira arenaria</i>	844	240	202	418	219	385	271	121
Bacillariophyta	Centrales	<i>Melosira italica possibly</i>	844	240	202	209	219	343	281	126
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	1689	0	807	837	0	666	704	315
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	0	0	5649	2929	219	1759	2503	1119
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	5066	2884	1211	837	0	1999	2010	899
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1689	240	404	209	219	552	640	286
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	1689	240	202	209	219	512	658	294
Bacillariophyta	Pennales	<i>Amphora sp.</i>	0	961	202	1255	219	527	547	245
Bacillariophyta	Pennales	<i>Asterionella formosa</i>	844	240	0	209	219	303	318	142
Bacillariophyta	Pennales	<i>Caloneis</i>	0	240	0	0	0	48	108	48
Bacillariophyta	Pennales	<i>Campylodiscus sp.</i>	0	0	202	0	0	40	90	40
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	15197	2884	2018	2929	7868	6179	5543	2479
Bacillariophyta	Pennales	<i>Cocconeis</i>	0	240	404	209	0	171	172	77
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	844	0	202	209	0	251	347	155
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	0	0	202	0	0	40	90	40
Bacillariophyta	Pennales	<i>Cymbella affinis</i>	0	0	404	837	0	248	373	167
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	844	481	2825	1255	437	1168	983	439
Bacillariophyta	Pennales	<i>Cymbella cymbiformis</i>	0	0	2018	837	0	571	886	396
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	844	0	202	209	219	295	320	143
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	1689	481	2825	1674	219	1377	1052	470
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	844	0	404	418	219	377	311	139
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	844	240	2421	4811	874	1838	1847	826
Bacillariophyta	Pennales	<i>Diploneis</i>	0	0	0	0	219	44	98	44
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	0	0	202	418	0	124	186	83
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	8443	7691	404	209	10928	5535	4921	2201
Bacillariophyta	Pennales	<i>Fragilaria capucina</i>	59098	8172	202	0	2186	13931	25464	11388
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	5066	1442	12912	15899	9179	8900	5820	2603
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	0	0	202	0	219	84	115	52
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	1689	1442	0	0	0	626	862	385
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	0	0	404	0	219	125	183	82
Bacillariophyta	Pennales	<i>Gomphonema acuminatum</i>	0	0	0	209	219	86	117	52
Bacillariophyta	Pennales	<i>Gomphonema constrictum</i>	0	240	202	0	0	88	122	55
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	9287	8172	7062	5439	1748	6342	2935	1313
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	844	5288	404	1255	437	1646	2065	924
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	844	0	0	209	0	211	366	163
Bacillariophyta	Pennales	<i>Navicula exigua</i>	0	0	202	418	219	168	175	78
Bacillariophyta	Pennales	<i>Navicula peragalli</i>	0	0	202	0	0	40	90	40
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	844	481	404	418	0	429	300	134
Bacillariophyta	Pennales	<i>Navicula vulpina</i>	0	0	202	0	0	40	90	40
Bacillariophyta	Pennales	<i>Navicula spp.</i>	3377	3365	3632	3347	656	2875	1246	557
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	5066	0	202	837	437	1308	2123	950
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	0	240	404	0	219	173	173	77
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	10131	3846	4035	2510	1311	4367	3406	1523
Bacillariophyta	Pennales	<i>Opephora</i>	1689	0	202	209	0	420	717	320
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	0	0	202	209	219	126	115	51
Bacillariophyta	Pennales	<i>Pleurosigma / Gyrosigma</i>	844	240	202	209	0	299	319	143
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	0	0	202	418	0	124	186	83
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	844	240	1614	418	219	667	586	262
Bacillariophyta	Pennales	<i>Stauroneis sp.</i>	0	240	404	0	219	173	173	77
Bacillariophyta	Pennales	<i>Surirella angusta</i>	844	0	202	0	0	209	366	164
Bacillariophyta	Pennales	<i>Surirella spp.</i>	844	240	202	209	219	343	281	126
Bacillariophyta	Pennales	<i>Synedra acus</i>	1689	481	404	418	219	642	593	265
Bacillariophyta	Pennales	<i>Synedra rumpens</i>	844	0	0	0	0	169	378	169
Bacillariophyta	Pennales	<i>Synedra ulna</i>	844	240	404	209	437	427	254	113
Bacillariophyta	Pennales	<i>Synedra spp.</i>	1689	240	807	0	1093	766	675	302
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	844	0	22596	32217	0	11131	15245	6818
Chlorophyta	Chlorococcales	<i>Ankistrodesmus Braunii</i>	1689	961	202	209	219	656	663	296
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	0	240	202	209	0	130	120	54
Chlorophyta	Chlorococcales	<i>Botryococcus braunii</i>	844	240	202	209	219	343	281	126
Chlorophyta	Chlorococcales	<i>Crucigenia rectangularis</i>	0	0	0	0	219	44	98	44
Chlorophyta	Chlorococcales	<i>Oocystis spp.</i>	1689	0	202	0	219	422	716	320
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	0	3228	0	219	689	1422	636
Chlorophyta	Chlorococcales	<i>Pediastrum duplex</i>	0	240	0	0	0	48	108	48
Chlorophyta	Chlorococcales	<i>Pediastrum</i>	844	240	0	0	0	217	366	164
Chlorophyta	Chlorococcales	<i>Quadrigula</i>	0	240	202	0	219	132	121	54
Chlorophyta	Chlorococcales	<i>Scenedesmus spp.</i>	20262	1923	2825	4602	3497	6622	7688	3438
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	844	240	202	4184	219	1138	1724	771
Chlorophyta	Cladophorales	<i>Rhizoclonium</i>	0	240	0	0	0	48	108	48
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	3377	961	807	837	874	1371	1123	502
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	844	0	202	0	219	253	347	155
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	0	240	202	0	0	88	122	55
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	0	0	202	418	0	124	186	83
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	844	240	0	0	0	217	366	164
Chlorophyta	Zygnematales	<i>Mougeotia</i>	844	240	202	418	0	341	318	142
Chrysophyta	Ochromonadales	<i>Mallomonas sp.</i>	0	0	0	418	0	84	187	84
Cyanophyta	Chamaesiphonales	<i>Clastidium setiferum</i>	0	0	404	209	0	123	181	81
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	0	0	6456	0	0	1291	2887	1291
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	844	961	3228	2510	6994	2908	2500	1118
Cyanophyta	Chroococcales	<i>Coccochloris clathrata poss.</i>	0	240	18158	10460	0	5772	8255	3692
Cyanophyta	Chroococcales	<i>Coccochloris</i>	0	0	0	0	219	44	98	44
Cyanophyta	Chroococcales	<i>Gomphosphaeria naegelianum</i>	0	0	202	0	219	84	115	52
Cyanophyta	Chroococcales	<i>Gomphosphaeria sp.</i>	0	16825	0	0	0	3365	7524	3365
Cyanophyta	Nostocales	<i>Anabaena</i>	0	240	1211	2929	219	920	1217	544
Cyanophyta	Nostocales	<i>Aphanizomenon flos-aquae</i>	15197	29803	16544	36819	24041	24481	9082	4062
Cyanophyta	Nostocales	<i>Gloeotrichia poss.</i>	0	0	202	209	219	126	115	51
Cyanophyta	Nostocales	<i>Nostoc</i>	844	0	0	209	0	211	366	163
Cyanophyta	Nostocales	<i>Tolypothrix</i>	0	240	0	0	0	48	108	48
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	0	4807	5246	3766	4808	3725	2152	963
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	844	2884	17351	15481	11802	9672	7437	3326
Pyrrophyta	Dinokontae	<i>Ceratium hirundinella</i>	0	240	0	0	0	48	108	48
Rhodophyta	Nemalionales	<i>Audouinella</i>	3377	5768	0	209	1311	2133	2434	1088

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W8 Riffle Date: August 22, 1997										
		Sample Number Area Sampled (cm ²)	576 86	577 99	578 79	579 69	580 94			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W8 576	W8 577	W8 578	W8 579	W8 580	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	2716	5169	3107	3638	1351	3196	1390	622
Bacillariophyta	Centrales	<i>Melosira varians</i>	48889	41350	12428	1819	2702	21438	22176	9918
Bacillariophyta	Centrales	<i>Melosira</i>	0	0	3107	0	0	621	1389	621
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	2716	5169	6214	0	2702	3360	2427	1085
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	2716	5169	6214	0	1351	3090	2588	1157
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	0	2584	0	3638	0	1245	1744	780
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	16296	5169	49712	0	5403	15316	20124	9000
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	2716	0	0	0	1351	813	1214	543
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	10864	5169	6214	3638	2702	5717	3180	1422
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	2716	2584	6214	0	0	2303	2557	1144
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	2716	2584	3107	1819	1351	2316	713	319
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	2716	5169	6214	3638	1351	3818	1930	863
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	2716	0	12428	1819	0	3393	5186	2319
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	0	0	0	0	1351	270	604	270
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	16296	5169	12428	1819	8105	8763	5739	2567
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	16296	25844	37284	3638	2702	17153	14773	6607
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	0	0	3107	0	0	621	1389	621
Bacillariophyta	Pennales	<i>Fragilaria capucina</i>	2716	10338	0	0	1351	2881	4318	1931
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	5432	5169	12428	7277	5403	7142	3074	1375
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	32593	10338	0	0	0	8586	14147	6327
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	0	2584	0	0	0	517	1156	517
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	0	0	0	1819	0	364	814	364
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	5432	15506	3107	0	1351	5079	6173	2761
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	54321	56857	37284	21830	18912	37841	17665	7900
Bacillariophyta	Pennales	<i>Frustulia sp.</i>	5432	10338	12428	1819	0	6003	5337	2387
Bacillariophyta	Pennales	<i>Gomphonema herculeanum</i>	2716	2584	3107	1819	0	2045	1235	552
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	10864	15506	6214	18192	1351	10426	6827	3053
Bacillariophyta	Pennales	<i>Meridion circulare</i>	0	0	0	1819	0	364	814	364
Bacillariophyta	Pennales	<i>Navicula capitata</i>	5432	0	0	0	1351	1357	2352	1052
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	271605	258440	105638	3638	21614	132187	127312	56936
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	0	2584	0	0	0	517	1156	517
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	2716	0	3107	0	1351	1435	1463	654
Bacillariophyta	Pennales	<i>Navicula pupula</i>	0	5169	0	0	0	1034	2312	1034
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	2716	5169	12428	1819	2702	4967	4354	1947
Bacillariophyta	Pennales	<i>Navicula spp.</i>	21728	41350	31070	3638	13509	22259	14711	6579
Bacillariophyta	Pennales	<i>Neidium spp.</i>	2716	0	3107	1819	1351	1799	1224	547
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	2716	5169	3107	1819	0	2562	1886	844
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	81482	93038	105638	25469	18912	64908	39988	17883
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	2716	5169	6214	0	2702	3360	2427	1085
Bacillariophyta	Pennales	<i>Pleurosigma / Gyrosigma</i>	2716	0	3107	0	1351	1435	1463	654
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	5432	2584	6214	1819	1351	3480	2201	984
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	10864	2584	6214	1819	1351	4567	4006	1792
Bacillariophyta	Pennales	<i>Surirella angusta</i>	5432	0	3107	1819	2702	2612	1978	885
Bacillariophyta	Pennales	<i>Surirella spp.</i>	0	0	0	0	1351	270	604	270
Bacillariophyta	Pennales	<i>Synedra ulna</i>	21728	15506	6214	3638	1351	9688	8617	3854
Bacillariophyta	Pennales	<i>Synedra spp.</i>	2716	10338	0	3638	1351	3609	4006	1792
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	0	67184	31070	10915	1351	22104	28094	12564
Chlorophyta	Chaetophorales	<i>Protoderma</i>	0	0	0	1819	0	364	814	364
Chlorophyta	Chlorococcales	<i>Ankistrodesmus Braunii</i>	0	0	0	1819	0	364	814	364
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	2716	10338	6214	0	1351	4124	4173	1866
Chlorophyta	Chlorococcales	<i>Ankistrodesmus spiralis</i>	0	2584	0	0	0	517	1156	517
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	0	3107	1819	1351	1255	1314	588
Chlorophyta	Chlorococcales	<i>Scenedesmus spp.</i>	21728	0	3107	14554	1351	8148	9532	4263
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	0	2584	0	1819	1351	1151	1139	509
Chlorophyta	Chlorococcales	<i>Tetraedron</i>	0	2584	3107	0	0	1138	1570	702
Chlorophyta	Euglenales	<i>Euglena</i>	0	2584	0	0	0	517	1156	517
Chlorophyta	Euglenales	<i>Phacus spp.</i>	2716	0	0	0	0	543	1215	543
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	5432	10338	3107	3638	1351	4773	3434	1536
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	0	0	0	0	1351	270	604	270
Chlorophyta	Tetrasporales	<i>Palmella</i>	54321	51688	3107	1819	13509	24889	26080	11663
Chlorophyta	Ulothricales	<i>Microspora</i>	0	2584	0	0	1351	787	1163	520
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	5432	0	3107	0	1351	1978	2314	1035
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	2716	2584	3107	1819	1351	2316	713	319
Chlorophyta	Zygnematales	<i>Cosmarium</i>	0	0	3107	0	1351	892	1370	613
Chlorophyta	Zygnematales	<i>Mougeotia</i>	2716	2584	0	0	1351	1330	1326	593
Chlorophyta	Zygnematales	<i>Staurastrum</i>	5432	2584	3107	1819	1351	2859	1590	711
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	0	10338	0	0	0	2068	4623	2068
Cyanophyta	Chroococcales	<i>Agmenellum</i>	2716	2584	0	0	0	1060	1452	650
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	0	15506	6214	1819	0	4708	6549	2929
Cyanophyta	Chroococcales	<i>Gomphosphaeria sp.</i>	2716	2584	0	0	0	1060	1452	650
Cyanophyta	Nostocales	<i>Anabaena</i>	2716	56857	0	0	1351	12185	24998	11179
Cyanophyta	Nostocales	<i>Nostoc</i>	2716	129220	3107	1819	1351	27643	56788	25396
Cyanophyta	Nostocales	<i>Rivularia</i>	0	20675	3107	3241814	35122	660144	1443267	645449
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	65185	20675	3107	2696054	64841	569972	1188829	531660
Cyanophyta	Oscillatoriales	<i>Oscillatoria limnetica</i>	0	0	0	36384	0	7277	16271	7277
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	2716	2584	0	0	0	1060	1452	650
Rhodophyta	Nemalionales	<i>Audouinella</i>	320494	165402	211276	1819	507920	241382	187996	84075
Rhodophyta	Nemalionales	<i>Batrachospermum</i>	0	25844	37284	0	1351	12896	17524	7837

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W8 Pool Date: August 22, 1997										
		Sample Number Area Sampled (cm ²)	581 83	582 86	583 73	584 72	585 86			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W8 581	W8 582	W8 583	W8 584	W8 585	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	1495	5873	1646	1743	1736	2499	1889	845
Bacillariophyta	Centrales	<i>Cyclotella</i> sp.	1495	0	0	0	0	299	669	299
Bacillariophyta	Centrales	<i>Melosira arenaria</i>	0	1468	0	0	0	294	657	294
Bacillariophyta	Centrales	<i>Melosira varians</i>	2990	1468	1646	5228	868	2440	1741	779
Bacillariophyta	Centrales	<i>Melosira</i>	1495	1468	0	0	0	593	812	363
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	8969	2937	1646	3486	3472	4102	2822	1262
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	5980	5873	3293	5228	1736	4422	1849	827
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	5980	0	0	0	1736	1543	2591	1159
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1495	1468	1646	1743	1736	1618	130	58
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	1495	2937	823	3486	868	1922	1222	547
Bacillariophyta	Pennales	<i>Amphora</i> sp.	1495	8810	6586	6971	868	4946	3545	1585
Bacillariophyta	Pennales	<i>Caloneis</i>	0	1468	0	871	0	468	675	302
Bacillariophyta	Pennales	<i>Campylodiscus</i> sp.	0	1468	0	0	0	294	657	294
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	14949	8810	9878	5228	1736	8120	4983	2228
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	0	1468	0	0	0	294	657	294
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	1495	0	823	871	868	812	532	238
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	1495	1468	823	0	868	931	610	273
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	2990	8810	1646	1743	1736	3385	3083	1379
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	2990	2937	823	871	868	1698	1155	517
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	2990	1468	4939	5228	868	3099	1973	882
Bacillariophyta	Pennales	<i>Cymbella</i> spp.	1495	2937	0	0	0	886	1316	589
Bacillariophyta	Pennales	<i>Diploneis</i>	2990	2937	0	0	1736	1532	1486	665
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	5980	2937	1646	5228	5208	4200	1827	817
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	17939	20556	23050	13942	13888	17875	4041	1807
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	1495	0	0	0	868	473	684	306
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	2990	8810	0	1743	10416	4792	4563	2041
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	0	0	0	0	6944	1389	3105	1389
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	0	2937	0	0	0	587	1313	587
Bacillariophyta	Pennales	<i>Fragilaria</i> spp.	23918	11746	6586	13942	5208	12280	7432	3324
Bacillariophyta	Pennales	<i>Gomphonema acuminatum</i>	1495	1468	823	871	0	932	610	273
Bacillariophyta	Pennales	<i>Gomphonema constrictum</i>	0	0	0	871	0	174	390	174
Bacillariophyta	Pennales	<i>Gomphonema herculeanum</i>	1495	0	823	871	868	812	532	238
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	5980	29366	8232	17428	13888	14979	9229	4127
Bacillariophyta	Pennales	<i>Hantzschia</i> sp.	0	1468	0	871	0	468	675	302
Bacillariophyta	Pennales	<i>Meridion circulare</i>	1495	0	0	0	868	473	684	306
Bacillariophyta	Pennales	<i>Navicula aurora</i>	0	0	823	871	0	339	464	208
Bacillariophyta	Pennales	<i>Navicula capitata</i>	1495	1468	1646	1743	0	1270	719	322
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	0	0	3293	0	3472	1353	1854	829
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	1495	0	823	0	0	464	678	303
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	1495	1468	823	0	0	757	742	332
Bacillariophyta	Pennales	<i>Navicula exigua</i>	0	1468	823	0	868	632	631	282
Bacillariophyta	Pennales	<i>Navicula pupula</i>	1495	1468	823	0	868	931	610	273
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	1495	5873	1646	1743	868	2325	2013	900
Bacillariophyta	Pennales	<i>Navicula</i> spp.	35878	55795	6586	12200	12152	24522	20818	9310
Bacillariophyta	Pennales	<i>Neidium</i> spp.	1495	1468	0	0	868	766	743	332
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	0	0	823	871	868	513	468	209
Bacillariophyta	Pennales	<i>Nitzschia sigmoidea</i>	1495	0	0	0	0	299	669	299
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	11959	17620	6586	12200	6944	11062	4530	2026
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	1495	1468	1646	871	868	1270	372	166
Bacillariophyta	Pennales	<i>Pleurosigma</i> / <i>Gyrosigma</i>	1495	1468	823	871	868	1105	344	154
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	2990	11746	6586	6971	3472	6353	3505	1567
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	1495	2937	823	1743	1736	1747	764	341
Bacillariophyta	Pennales	<i>Surirella angusta</i>	0	1468	1646	0	868	797	782	350
Bacillariophyta	Pennales	<i>Synedra ulna</i>	1495	0	1646	1743	868	1150	728	325
Bacillariophyta	Pennales	<i>Synedra</i> spp.	0	1468	1646	1743	868	1145	725	324
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	47837	1468	823	5228	86800	28431	38115	17046
Chlorophyta	Chaetophorales	<i>Protoderma</i>	0	1468	0	8714	0	2036	3787	1693
Chlorophyta	Chlorococcales	<i>Ankistrodesmus Braunii</i>	1495	0	0	871	0	473	685	306
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	1495	2937	0	1743	3472	1929	1355	606
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	0	823	0	0	165	368	165
Chlorophyta	Chlorococcales	<i>Oocystis</i> spp.	0	0	0	871	0	174	390	174
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	1495	1468	0	0	0	593	812	363
Chlorophyta	Chlorococcales	<i>Scenedesmus</i> spp.	1495	11746	6586	871	6944	5528	4465	1997
Chlorophyta	Chlorococcales	<i>Sphaerocystis</i>	0	1468	0	3486	0	991	1533	685
Chlorophyta	Euglenales	<i>Euglena</i>	1495	0	823	871	5208	1680	2043	914
Chlorophyta	Euglenales	<i>Phacus</i> spp.	0	0	0	0	868	174	388	174
Chlorophyta	Euglenales	<i>Trachelomonas</i> spp.	2990	5873	823	871	1736	2459	2101	940
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	1495	1468	823	871	868	1105	344	154
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	1495	1468	0	871	868	941	608	272
Chlorophyta	Zygnematales	<i>Cosmarium</i>	1495	0	0	871	868	647	643	288
Chlorophyta	Zygnematales	<i>Mougeotia</i>	1495	0	823	1743	1736	1159	749	335
Chlorophyta	Zygnematales	<i>Spirogyra</i>	0	1468	0	0	0	294	657	294
Chlorophyta	Zygnematales	<i>Staurastrum</i>	0	1468	0	871	0	468	675	302
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	14949	55795	19757	12200	6944	21929	19491	8717
Cyanophyta	Chroococcales	<i>Gomphosphaeria</i> sp.	0	0	823	0	0	165	368	165
Cyanophyta	Nostocales	<i>Anabaena</i>	1495	0	823	0	0	464	678	303
Cyanophyta	Nostocales	<i>Calothrix</i> poss.	0	20556	0	26142	868	9513	12789	5719
Cyanophyta	Nostocales	<i>Nostoc</i>	0	1468	0	871	0	468	675	302
Cyanophyta	Nostocales	<i>Plectonema</i>	35878	0	0	0	0	7176	16045	7176
Cyanophyta	Nostocales	<i>Rivularia</i>	242174	1468	823	48798	59024	70458	99618	44550
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	0	1468	19757	29628	20832	14337	13005	5816
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	0	0	8232	871	13888	4598	6239	2790
Rhodophyta	Nemalionales	<i>Audouinella</i>	8969	135084	11525	13942	868	34078	56678	25347
Rhodophyta	Nemalionales	<i>Batrachospermum</i>	20929	1468	0	0	0	4479	9217	4122

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W3 Riffle Date: August 16, 1997										
		Sample Number Area Sampled (cm ²)	236 129	237 129	238 129	239 129	240 129			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W3 236	W3 237	W3 238	W3 239	W3 240	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	250	0	1756	194	0	440	744	333
Bacillariophyta	Centrales	<i>Cyclotella</i> sp.	0	0	0	194	540	147	235	105
Bacillariophyta	Centrales	<i>Melosira arenaria</i>	0	263	0	194	270	145	136	61
Bacillariophyta	Centrales	<i>Melosira varians</i>	125	263	0	0	270	132	133	60
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	0	526	1171	389	1621	741	648	290
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	250	526	0	194	0	194	217	97
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	501	526	585	0	1081	538	383	171
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	125	263	0	0	0	78	117	52
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	0	0	0	194	0	39	87	39
Bacillariophyta	Pennales	<i>Amphora</i> sp.	125	263	293	0	1081	352	424	189
Bacillariophyta	Pennales	<i>Caloneis ventricosa</i>	0	0	293	0	0	59	131	59
Bacillariophyta	Pennales	<i>Caloneis</i>	0	263	293	0	270	165	151	68
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	8010	20495	31021	15152	26480	20231	9093	4066
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	125	263	293	194	270	229	69	31
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	125	263	293	0	270	190	125	56
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	125	263	0	0	270	132	133	60
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	125	263	293	194	270	229	69	31
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	0	263	0	0	270	107	146	65
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	1252	1577	1756	389	1081	1211	530	237
Bacillariophyta	Pennales	<i>Diploneis oblongella</i>	0	263	0	0	0	53	118	53
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	250	526	585	389	270	404	149	67
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	125	526	0	0	270	184	221	99
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	125	0	0	0	270	79	120	54
Bacillariophyta	Pennales	<i>Fragilaria capucina</i>	125	0	0	194	0	64	91	41
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	0	263	2341	0	540	629	983	440
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	125	526	0	0	270	184	221	99
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	0	0	0	777	2162	588	942	421
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	501	263	293	389	540	397	123	55
Bacillariophyta	Pennales	<i>Fragilaria</i> spp.	1001	6306	585	777	4323	2599	2581	1154
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	0	0	293	194	0	97	138	62
Bacillariophyta	Pennales	<i>Gomphonema angustatum</i>	0	263	0	0	0	53	118	53
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	501	1051	2341	777	540	1042	759	339
Bacillariophyta	Pennales	<i>Hantzschia amphioxys</i>	0	263	0	0	0	53	118	53
Bacillariophyta	Pennales	<i>Meridion circulare</i>	0	0	293	194	0	97	138	62
Bacillariophyta	Pennales	<i>Navicula aurora</i>	125	0	0	194	270	118	119	53
Bacillariophyta	Pennales	<i>Navicula capitata</i>	0	0	0	194	0	39	87	39
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	250	2102	4682	389	3783	2241	1984	887
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	0	263	0	194	270	145	136	61
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	0	0	0	194	270	93	130	58
Bacillariophyta	Pennales	<i>Navicula pupula</i>	0	526	585	389	540	408	240	107
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	125	526	585	0	270	301	252	113
Bacillariophyta	Pennales	<i>Navicula rhyconcephala</i>	0	263	0	0	0	53	118	53
Bacillariophyta	Pennales	<i>Navicula salinarum</i>	0	263	0	194	540	200	224	100
Bacillariophyta	Pennales	<i>Navicula semen</i>	0	263	0	0	0	53	118	53
Bacillariophyta	Pennales	<i>Navicula tripunctata</i>	125	526	1756	194	540	628	658	294
Bacillariophyta	Pennales	<i>Navicula</i> spp.	250	2102	2927	1166	2162	1721	1032	462
Bacillariophyta	Pennales	<i>Neidium</i> spp.	250	263	585	0	0	220	241	108
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	250	1051	585	389	270	509	331	148
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	250	3679	1756	0	0	1137	1598	715
Bacillariophyta	Pennales	<i>Nitzschia sigmoidea</i>	0	263	0	0	270	107	146	65
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	501	2102	2927	1166	2702	1879	1029	460
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	250	263	585	194	270	313	155	69
Bacillariophyta	Pennales	<i>Pleurosigma</i> / <i>Gyrosigma</i>	125	263	293	194	270	229	69	31
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	501	1577	2927	2720	3242	2193	1136	508
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	250	263	293	194	540	308	135	60
Bacillariophyta	Pennales	<i>Surirella angusta</i>	125	0	585	0	0	142	254	113
Bacillariophyta	Pennales	<i>Surirella</i> spp.	0	263	293	194	270	204	120	54
Bacillariophyta	Pennales	<i>Synedra ulna</i>	125	526	585	389	1081	541	350	156
Chlorophyta	Chaetophorales	<i>Protoderma</i>	0	0	0	194	270	93	130	58
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	250	0	0	194	0	89	123	55
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	0	293	0	270	113	154	69
Chlorophyta	Chlorococcales	<i>Scenedesmus</i> spp.	125	263	0	0	270	132	133	60
Chlorophyta	Euglenales	<i>Trachelomonas</i> spp.	125	526	585	389	1081	541	350	156
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	125	263	293	194	270	229	69	31
Chlorophyta	Zygnematales	<i>Staurastrum</i>	125	0	0	0	270	79	120	54
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	17020	25224	21071	3885	38909	21222	12719	5688
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	501	0	2341	9324	0	2433	3971	1776
Cyanophyta	Chroococcales	<i>Entophysalis</i> sp.	0	263	0	3885	12429	3315	5355	2395
Cyanophyta	Nostocales	<i>Anabaena</i>	0	6832	8194	194	3242	3692	3748	1676
Cyanophyta	Nostocales	<i>Nostoc</i>	125	263	293	194	270	229	69	31
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	125	263	0	0	0	78	117	52
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	125	263	4682	194	270	1107	2000	894
Pyrrophyta	Cryptomonadales	<i>Cryptomonas</i> sp.	0	0	0	0	270	54	121	54
Pyrrophyta	Cryptomonadales	<i>Cyanophora</i> poss.	0	263	293	0	0	111	152	68
Rhodophyta	Nemalionales	<i>Audouinella</i>	125	263	293	194	270	229	69	31

Appendix Table F5-1 Periphyton data (cells/cm2) and summary statistics, mean, standard deviation, and standard error, collected from five replicate samples at four sites in Fish Creek, August 1997

Site Name: Fish Creek W3 Pool Date: August 16, 1997										
		Sample Number Area Sampled (cm ²)	266 129	267 129	268 129	269 129	270 129			
			Cell Density (cells / cm ²)							
Phylum	Order	Genera and Species	W3 266	W3 267	W3 268	W3 269	W3 270	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	0	0	372	0	217	118	170	76
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	0	0	0	141	217	72	102	45
Bacillariophyta	Pennales	<i>Amphora sp.</i>	0	329	186	141	217	175	120	54
Bacillariophyta	Pennales	<i>Caloneis</i>	0	0	186	0	0	37	83	37
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	19332	9532	22302	16097	30331	19519	7683	3436
Bacillariophyta	Pennales	<i>Cymatopleura elliptica</i>	0	164	0	0	0	33	73	33
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	215	164	0	0	0	76	105	47
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	215	164	0	141	217	147	89	40
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	0	0	0	0	217	43	97	43
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	657	1115	565	867	641	416	186
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	0	0	186	0	0	37	83	37
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	430	0	0	0	0	86	192	86
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	215	0	0	0	0	43	96	43
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	430	329	743	141	217	372	235	105
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	215	164	186	282	433	256	109	49
Bacillariophyta	Pennales	<i>Hantzschia amphioxys</i>	0	0	186	0	0	37	83	37
Bacillariophyta	Pennales	<i>Meridion circulare</i>	0	0	186	0	0	37	83	37
Bacillariophyta	Pennales	<i>Navicula aurora</i>	0	0	0	141	0	28	63	28
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	215	0	186	282	433	223	157	70
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	0	0	0	141	217	72	102	45
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	0	0	0	141	217	72	102	45
Bacillariophyta	Pennales	<i>Navicula salinarum</i>	215	329	0	141	217	180	121	54
Bacillariophyta	Pennales	<i>Navicula tripunctata</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Navicula spp.</i>	859	986	372	282	0	500	412	184
Bacillariophyta	Pennales	<i>Neidium spp.</i>	0	0	186	0	0	37	83	37
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	430	164	0	282	217	219	158	70
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	430	164	1115	282	433	485	370	165
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	215	164	0	141	217	147	89	40
Bacillariophyta	Pennales	<i>Pleurosigma / Gyrosigma</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	430	329	372	1694	1300	825	630	282
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	215	164	186	141	217	185	33	15
Bacillariophyta	Pennales	<i>Surirella angusta</i>	215	0	0	0	0	43	96	43
Bacillariophyta	Pennales	<i>Surirella spp.</i>	0	164	186	141	0	98	91	41
Bacillariophyta	Pennales	<i>Synedra ulna</i>	430	164	743	141	217	339	253	113
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i>	0	0	186	0	0	37	83	37
Chlorophyta	Euglenales	<i>Euglena</i>	215	0	0	0	0	43	96	43
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	430	164	186	282	217	256	107	48
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	0	0	186	141	0	65	91	41
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	17184	0	186	141	217	3546	7625	3410
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	0	0	186	0	1733	384	759	339
Cyanophyta	Chroococcales	<i>Entophysalis sp.</i>	8162	12162	10779	27393	19499	15599	7821	3497
Cyanophyta	Nostocales	<i>Anabaena</i>	215	1972	186	0	217	518	818	366
Cyanophyta	Nostocales	<i>Calothrix poss.</i>	0	0	0	0	217	43	97	43
Cyanophyta	Nostocales	<i>Nostoc</i>	10310	2958	186	141	217	2763	4387	1962
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	0	0	3345	0	0	669	1496	669
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	215	164	0	1694	3466	1108	1485	664
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	0	0	186	0	0	37	83	37
Cyanophyta	Oscillatoriales	<i>Schizothrix</i>	0	0	186	0	0	37	83	37
Rhodophyta	Nemalionales	<i>Audouinella</i>	12458	6574	186	141	217	3915	5520	2469

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W4 Glide		Site Number	231	232	233	234	235			
Date: August 16, 1997		Area Sampled (cm ²)	129	129	129	129	129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W4 231	W4 232	W4 233	W4 234	W4 235	mean	stdev	SE
Bacillariophyta	Centrales	Melosira varians	0	0	1651	0	874	505	744	333
Bacillariophyta	Centrales	Melosira	0	3123	0	867	874	973	1278	572
Bacillariophyta	Pennales	Achnanthes flexella	2122	6246	6605	6934	3497	5081	2143	959
Bacillariophyta	Pennales	Achnanthes lanceolata	0	0	1651	0	874	505	744	333
Bacillariophyta	Pennales	Achnanthes minutissima	27403	62460	92464	39868	12238	46887	31422	14052
Bacillariophyta	Pennales	Achnanthes spp.	1061	9369	6605	3467	5245	5149	3142	1405
Bacillariophyta	Pennales	Amphipleura pellucida	265	1562	1651	1733	874	1217	632	283
Bacillariophyta	Pennales	Amphora sp.	531	1562	1651	1733	1748	1445	517	231
Bacillariophyta	Pennales	Anomoeoneis vitrea	265	3123	3302	3467	1748	2381	1365	611
Bacillariophyta	Pennales	Ceratoneis arcus	0	1562	0	867	0	486	709	317
Bacillariophyta	Pennales	Cymbella cesatii	1061	6246	9907	8667	5245	6225	3433	1535
Bacillariophyta	Pennales	Cymbella cistula	531	6246	6605	867	874	3024	3110	1391
Bacillariophyta	Pennales	Cymbella minuta	5305	31230	33023	26001	6993	20510	13375	5981
Bacillariophyta	Pennales	Cymbella sinuata	265	0	0	0	0	53	119	53
Bacillariophyta	Pennales	Cymbella spp.	0	1562	1651	0	0	643	880	394
Bacillariophyta	Pennales	Denticula	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	Diatoma elongatum	531	12492	23116	3467	3497	8620	9265	4144
Bacillariophyta	Pennales	Diatoma heimale	265	0	0	0	0	53	119	53
Bacillariophyta	Pennales	Diploneis elliptica	265	0	0	0	0	53	119	53
Bacillariophyta	Pennales	Diploneis	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	Eunotia sp.	265	0	1651	867	874	731	640	286
Bacillariophyta	Pennales	Fragilaria capucina	0	1562	0	0	0	312	698	312
Bacillariophyta	Pennales	Fragilaria crotonensis	0	1562	0	0	0	312	698	312
Bacillariophyta	Pennales	Fragilaria vaucheriae	265	9369	3302	1733	1748	3284	3567	1595
Bacillariophyta	Pennales	Fragilaria spp.	1592	21861	26418	5200	8742	12763	10810	4834
Bacillariophyta	Pennales	Frustulia sp.	0	0	0	0	874	175	391	175
Bacillariophyta	Pennales	Gomphonema parvulum	0	6246	3302	1733	1748	2606	2346	1049
Bacillariophyta	Pennales	Gomphonema spp.	2122	6246	3302	8667	3497	4767	2653	1186
Bacillariophyta	Pennales	Navicula radiosa	265	3123	0	867	0	851	1318	590
Bacillariophyta	Pennales	Navicula spp.	1592	9369	6605	867	3497	4386	3562	1593
Bacillariophyta	Pennales	Neidium spp.	0	0	0	867	1748	523	781	349
Bacillariophyta	Pennales	Nitzschia acicularis	531	1562	0	867	1748	941	724	324
Bacillariophyta	Pennales	Nitzschia palea	265	3123	0	867	1748	1201	1267	567
Bacillariophyta	Pennales	Nitzschia spp.	265	6246	1651	867	1748	2156	2366	1058
Bacillariophyta	Pennales	Pinnularia spp.	265	1562	1651	0	0	696	839	375
Bacillariophyta	Pennales	Synedra filiformis	3714	93690	72651	24268	19231	42711	38430	17186
Bacillariophyta	Pennales	Synedra radians	265	1562	1651	867	874	1044	571	255
Bacillariophyta	Pennales	Synedra rumpens	265	1562	1651	867	874	1044	571	255
Bacillariophyta	Pennales	Synedra ulna	265	6246	6605	1733	874	3145	3042	1361
Bacillariophyta	Pennales	Synedra spp.	1061	1562	13209	5200	6993	5605	4922	2201
Bacillariophyta	Pennales	Tabellaria fenestrata	0	1562	1651	867	0	816	804	360
Bacillariophyta	Pennales	Tabellaria flocculosa	2122	9369	19814	867	1748	6784	8040	3596
Chlorophyta	Chaetophorales	Chaetophora	265	0	0	0	0	53	119	53
Chlorophyta	Euglenales	Trachelomonas spp.	0	0	0	1733	0	347	775	347
Chlorophyta	Ulothricales	Ulothrix zonata	0	1562	1651	867	874	991	666	298
Chlorophyta	Volvocales	Chlamydomonas	265	0	0	0	874	228	379	170
Chlorophyta	Zygnematales	Closterium spp.	0	1562	0	0	874	487	710	317
Chlorophyta	Zygnematales	Cosmarium	0	1562	1651	0	0	643	880	394
Chlorophyta	Zygnematales	Euastrum	0	0	1651	0	0	330	738	330
Cyanophyta	Chamaesiphonales	Clastidium setiferum	265	0	3302	0	0	714	1452	649
Cyanophyta	Chroococcales	Agmenellum tenuissima	21220	174888	290602	152539	48952	137640	107733	48180
Cyanophyta	Chroococcales	Anacystis spp.	0	0	0	867	0	173	388	173
Cyanophyta	Nostocales	Anabaena	265	0	0	0	0	53	119	53
Cyanophyta	Nostocales	Dichothrix poss.	0	0	0	0	26225	5245	11728	5245
Cyanophyta	Oscillatoriales	Oscillatoria spp.	12202	190503	59441	31201	10490	60767	75156	33611
Cyanophyta	Oscillatoriales	Schizothrix lacustris	110334	521541	287300	223609	8742	230305	194676	87062

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W5 Riffle		Site Number	399	400	401	402	403			
Date: August 19, 1997		Area Sampled (cm2)	129	129	129	129	129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W5 399	W5 400	W5 401	W5 402	W5 403	mean	stdev	SE
Bacillariophyta	Centrales	Melosira ambigua	941	0	7950	0	0	1778	3474	1554
Bacillariophyta	Centrales	Melosira varians	0	941	0	0	0	188	421	188
Bacillariophyta	Pennales	Achnanthes flexella	3766	3766	31798	1987	0	8263	13248	5925
Bacillariophyta	Pennales	Achnanthes lanceolata	0	1883	0	0	0	377	842	377
Bacillariophyta	Pennales	Achnanthes minutissima	39539	84726	103345	39748	80646	69601	28655	12815
Bacillariophyta	Pennales	Achnanthes spp.	9414	3766	3975	0	0	3431	3865	1728
Bacillariophyta	Pennales	Amphipleura pellucida	1883	941	0	0	0	565	842	377
Bacillariophyta	Pennales	Anomoeoneis vitrea	0	0	1987	0	0	397	889	397
Bacillariophyta	Pennales	Caloneis	941	0	0	0	0	188	421	188
Bacillariophyta	Pennales	Ceratoneis arcus	0	941	1987	0	0	586	883	395
Bacillariophyta	Pennales	Cymbella affinis	0	3766	7950	1987	0	2741	3308	1479
Bacillariophyta	Pennales	Cymbella cesatii	941	941	0	0	0	377	516	231
Bacillariophyta	Pennales	Cymbella cistula	941	3766	27824	1987	0	6904	11778	5267
Bacillariophyta	Pennales	Cymbella mexicana	0	0	1987	0	0	397	889	397
Bacillariophyta	Pennales	Cymbella minuta	1883	3766	1987	3975	0	2322	1621	725
Bacillariophyta	Pennales	Cymbella sinuata	0	941	0	994	0	387	530	237
Bacillariophyta	Pennales	Cymbella spp.	0	1883	47698	0	0	9916	21136	9452
Bacillariophyta	Pennales	Diatoma elongatum	3766	7531	7950	3975	3840	5412	2132	953
Bacillariophyta	Pennales	Diatoma heimale	1883	5648	1987	7950	7681	5030	2962	1325
Bacillariophyta	Pennales	Diploneis	0	0	0	994	0	199	444	199
Bacillariophyta	Pennales	Eunotia sp.	941	1883	11924	1987	3840	4115	4490	2008
Bacillariophyta	Pennales	Fragilaria construens	7531	0	1987	0	0	1904	3261	1459
Bacillariophyta	Pennales	Fragilaria vaucheriae	3766	5648	23849	9937	15361	11712	8119	3631
Bacillariophyta	Pennales	Fragilaria spp.	13180	5648	15899	5962	3840	8906	5294	2368
Bacillariophyta	Pennales	Gomphonema angustatum	0	0	0	0	92167	18433	41218	18433
Bacillariophyta	Pennales	Gomphonema geminata	941	941	3975	994	0	1370	1514	677
Bacillariophyta	Pennales	Gomphonema spp.	16945	11297	39748	13912	153612	47103	60604	27103
Bacillariophyta	Pennales	Meridion circulare	941	941	1987	15899	15361	7026	7868	3519
Bacillariophyta	Pennales	Navicula cryptocephala	1883	941	0	0	0	565	842	377
Bacillariophyta	Pennales	Navicula spp.	5648	9414	3975	1987	3840	4973	2801	1252
Bacillariophyta	Pennales	Nitzschia palea	0	1883	0	0	0	377	842	377
Bacillariophyta	Pennales	Nitzschia spp.	9414	5648	1987	0	0	3410	4072	1821
Bacillariophyta	Pennales	Pinnularia spp.	941	1883	0	994	0	764	791	354
Bacillariophyta	Pennales	Synedra acus	0	0	1987	0	0	397	889	397
Bacillariophyta	Pennales	Synedra filiformis	16945	5648	19874	7950	19202	13924	6644	2971
Bacillariophyta	Pennales	Synedra radians	0	1883	0	0	3840	1145	1713	766
Bacillariophyta	Pennales	Synedra rumpens	0	0	1987	0	0	397	889	397
Bacillariophyta	Pennales	Synedra ulna	941	3766	19874	1987	1920	5698	7990	3573
Bacillariophyta	Pennales	Synedra spp.	9414	11297	11924	13912	11521	11614	1607	719
Bacillariophyta	Pennales	Tabellaria fenestrata	0	941	1987	0	0	586	883	395
Chlorophyta	Chaetophorales	Stigeoclonium poss.	941	941	19874	1987	0	4749	8484	3794
Chlorophyta	Chlorococcales	Ankistrodesmus falcatus	941	0	0	0	0	188	421	188
Chlorophyta	Oedogoniales	Bulbochaete	0	0	15899	0	0	3180	7110	3180
Chlorophyta	Ulothricales	Microspora	0	0	0	994	0	199	444	199
Chlorophyta	Ulothricales	Ulothrix zonata	0	941	1987	0	1920	970	977	437
Chlorophyta	Ulothricales	Ulothrix	0	0	0	994	1920	583	863	386
Chlorophyta	Zygnematales	Closterium spp.	0	0	1987	0	0	397	889	397
Chlorophyta	Zygnematales	Mougeotia	0	0	0	0	1920	384	859	384
Chlorophyta	Zygnematales	Spirogyra	0	0	15899	0	1920	3564	6946	3106
Chlorophyta	Zygnematales	Zygnema	0	0	43723	0	0	8745	19553	8745
Cyanophyta	Chamaesiphonales	Clastidium setiferum	1883	1883	0	0	0	753	1031	461
Cyanophyta	Chroococcales	Agmenellum tenuissima	941	0	0	0	0	188	421	188
Cyanophyta	Chroococcales	Entophysalis sp.	0	7531	0	994	1920	2089	3145	1407
Cyanophyta	Nostocales	Anabaena	0	941	0	0	0	188	421	188
Cyanophyta	Oscillatoriales	Lyngbya spp.	0	0	0	994	249620	50123	111523	49875
Cyanophyta	Oscillatoriales	Oscillatoria spp.	22594	15062	63597	53660	0	30983	26747	11962
Cyanophyta	Oscillatoriales	Schizothrix	0	941	1987	0	0	586	883	395

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W5 Pool		Site Number	404	405	406	407	408			
Date: August 19, 1997		Area Sampled (cm ²)	129	129	129	129	129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W5 404	W5 405	W5 406	W5 407	W5 408	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella sp.</i>	0	1913	0	0	0	383	855	383
Bacillariophyta	Centrales	<i>Melosira</i>	3855	0	0	0	0	771	1724	771
Bacillariophyta	Pennales	<i>Achnanthes flexella</i>	3855	1913	1980	3975	1973	2739	1075	481
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	0	0	1980	0	0	396	885	396
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	146498	195090	233628	190790	130182	179238	41296	18468
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	3855	0	1980	3975	1973	2356	1636	732
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1928	1913	0	1987	1973	1560	873	390
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	0	0	1980	1987	0	793	1086	486
Bacillariophyta	Pennales	<i>Amphora sp.</i>	1928	0	0	0	0	386	862	386
Bacillariophyta	Pennales	<i>Anomoeoneis vitrea</i>	1928	0	1980	7950	0	2371	3268	1461
Bacillariophyta	Pennales	<i>Caloneis</i>	1928	0	0	3975	0	1180	1771	792
Bacillariophyta	Pennales	<i>Ceratoneis arcus</i>	0	0	1980	0	0	396	885	396
Bacillariophyta	Pennales	<i>Cymbella affinis</i>	1928	0	3960	1987	1973	1969	1400	626
Bacillariophyta	Pennales	<i>Cymbella cesatii</i>	3855	1913	3960	0	0	1946	1954	874
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	3855	3825	7920	3975	3945	4704	1799	804
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	1928	1913	1980	1987	0	1562	874	391
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	3855	1913	3960	3975	3945	3529	905	405
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	1913	0	0	0	383	855	383
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	7710	0	11879	1987	3945	5104	4738	2119
Bacillariophyta	Pennales	<i>Diatoma elongatum</i>	7710	11476	7920	0	1973	5816	4708	2105
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	23131	15301	27719	15899	27614	21933	6074	2716
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	0	0	0	0	1973	395	882	395
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	1928	1913	1980	7950	15780	5910	6100	2728
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	11566	0	0	11924	0	4698	6434	2877
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	0	0	1980	0	0	396	885	396
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	1928	0	3960	0	0	1177	1765	789
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	1928	1913	3960	0	7890	3138	3003	1343
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	15421	11476	19799	11924	7890	13302	4506	2015
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	15421	19127	55437	27824	15780	26718	16815	7520
Bacillariophyta	Pennales	<i>Frustulia sp.</i>	0	0	0	1987	0	397	889	397
Bacillariophyta	Pennales	<i>Gomphonema angustatum</i>	11566	11476	0	3975	3945	6192	5126	2292
Bacillariophyta	Pennales	<i>Gomphonema geminata</i>	1928	1913	3960	1987	1973	2352	899	402
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	23131	19127	27719	23849	27614	24288	3571	1597
Bacillariophyta	Pennales	<i>Meridion circulare</i>	38552	19127	27719	27824	59174	34479	15428	6900
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	0	7651	0	0	0	1530	3421	1530
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	0	1913	0	0	0	383	855	383
Bacillariophyta	Pennales	<i>Navicula spp.</i>	0	3825	1980	3975	7890	3534	2922	1307
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	7710	7651	1980	3975	7890	5841	2709	1212
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	1928	1913	1980	1987	1973	1956	34	15
Bacillariophyta	Pennales	<i>Synedra filiformis</i>	19276	3825	27719	7950	7890	13332	9890	4423
Bacillariophyta	Pennales	<i>Synedra radians</i>	3855	0	0	0	0	771	1724	771
Bacillariophyta	Pennales	<i>Synedra ulna</i>	1928	7651	7920	7950	1973	5484	3228	1444
Bacillariophyta	Pennales	<i>Synedra spp.</i>	3855	7651	15839	7950	11835	9426	4563	2041
Bacillariophyta	Pennales	<i>Tabellaria fenestrata</i>	0	1913	1980	0	0	779	1066	477
Chlorophyta	Chaetophorales	<i>Stigeoclonium poss.</i>	0	1913	1980	1987	1973	1571	878	393
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	0	1913	0	0	0	383	855	383
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	3855	0	0	0	0	771	1724	771
Chlorophyta	Oedogoniales	<i>Bulbochaete</i>	0	1913	0	0	0	383	855	383
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	0	1913	0	1987	1973	1175	1073	480
Chlorophyta	Ulothricales	<i>Microspora</i>	1928	0	0	1987	1973	1178	1075	481
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	1928	1913	7920	0	0	2352	3257	1457
Chlorophyta	Zygnematales	<i>Cosmarium</i>	0	1913	0	0	0	383	855	383
Chlorophyta	Zygnematales	<i>Mougeotia</i>	0	3825	1980	0	0	1161	1718	769
Chlorophyta	Zygnematales	<i>Spirogyra</i>	0	0	0	1987	0	397	889	397
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	0	1913	15839	1987	0	3948	6719	3005
Cyanophyta	Chroococcales	<i>Entophysalis sp.</i>	0	0	1980	0	0	396	885	396
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	11566	1913	27719	0	1973	8634	11586	5181
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	19276	0	1980	71546	7890	20138	29702	13283
Rhodophyta	Nemalionales	<i>Audouinella</i>	0	0	0	0	1973	395	882	395
Rhodophyta	Nemalionales	<i>Batrachospermum</i>	0	11476	1980	35773	1973	10240	14958	6689

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W6 Riffle		Site Number	369	370	371	372	373			
Date: August 19, 1997		Area Sampled (cm2)	129	129	129	129	129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W6 369	W6 370	W6 371	W6 372	W6 373	mean	stdev	SE
Bacillariophyta	Pennales	Achnanthes flexella	432	227	0	295	603	311	226	101
Bacillariophyta	Pennales	Achnanthes minutissima	3884	4539	3571	12984	5424	6080	3924	1755
Bacillariophyta	Pennales	Achnanthes spp.	0	0	298	295	603	239	252	112
Bacillariophyta	Pennales	Ceratoneis arcus	0	0	298	0	0	60	133	60
Bacillariophyta	Pennales	Cymbella cesatii	0	0	0	295	0	59	132	59
Bacillariophyta	Pennales	Cymbella cistula	0	227	0	295	0	104	145	65
Bacillariophyta	Pennales	Cymbella minuta	0	454	0	0	0	91	203	91
Bacillariophyta	Pennales	Cymbella sinuata	0	227	298	0	0	105	146	65
Bacillariophyta	Pennales	Cymbella spp.	0	454	595	590	301	388	248	111
Bacillariophyta	Pennales	Diatoma elongatum	863	2723	1786	295	603	1254	992	444
Bacillariophyta	Pennales	Epithemia turgida	432	0	298	0	0	146	205	92
Bacillariophyta	Pennales	Fragilaria crotonensis	0	0	0	295	0	59	132	59
Bacillariophyta	Pennales	Fragilaria vaucheriae	0	454	298	295	603	330	224	100
Bacillariophyta	Pennales	Fragilaria spp.	5178	4539	4166	5312	4219	4683	535	239
Bacillariophyta	Pennales	Gomphonema angustatum	0	2723	1190	0	0	783	1201	537
Bacillariophyta	Pennales	Gomphonema spp.	2589	8170	5952	10033	6630	6675	2772	1240
Bacillariophyta	Pennales	Meridion circulare	0	227	0	0	0	45	102	45
Bacillariophyta	Pennales	Navicula cryptocephala	0	227	0	0	0	45	102	45
Bacillariophyta	Pennales	Navicula spp.	0	227	0	590	301	224	245	110
Bacillariophyta	Pennales	Nitzschia spp.	432	227	595	295	301	370	146	65
Bacillariophyta	Pennales	Pleurosigma / Gyrosigma	0	0	0	295	0	59	132	59
Bacillariophyta	Pennales	Rhopalodia gibba	0	227	0	0	0	45	102	45
Bacillariophyta	Pennales	Synedra filiformis	2158	1362	1190	590	2411	1542	741	331
Bacillariophyta	Pennales	Synedra ulna	432	454	298	295	301	356	80	36
Bacillariophyta	Pennales	Synedra spp.	3884	4539	3571	590	3616	3240	1531	685
Bacillariophyta	Pennales	Tabellaria fenestrata	432	227	0	0	0	132	194	87
Chlorophyta	Cladophorales	Cladophora sp. poss.	432	0	0	0	0	86	193	86
Chlorophyta	Oedogoniales	Bulbochaete	0	0	0	295	0	59	132	59
Chlorophyta	Oedogoniales	Oedogonium	432	227	0	0	0	132	194	87
Chlorophyta	Ulothricales	Ulothrix	432	0	0	0	0	86	193	86
Chlorophyta	Zygnematales	Closterium spp.	0	227	0	0	0	45	102	45
Chlorophyta	Zygnematales	Mougeotia	432	0	0	0	0	86	193	86
Cyanophyta	Chamaesiphonales	Clastidium setiferum	0	0	0	295	0	59	132	59
Cyanophyta	Chroococcales	Agmenellum tenuissima	432	0	0	0	0	86	193	86
Cyanophyta	Nostocales	Anabaena	432	0	0	0	0	86	193	86
Cyanophyta	Nostocales	Nostoc	432	227	298	295	301	311	74	33
Cyanophyta	Nostocales	Rivularia	432	7716	4166	12394	301	5002	5140	2299
Cyanophyta	Oscillatoriales	Lyngbya spp.	4315	6809	298	11214	4219	5371	4012	1794
Cyanophyta	Oscillatoriales	Oscillatoria tenuis	5610	40851	298	14755	16273	15557	15594	6974
Cyanophyta	Oscillatoriales	Oscillatoria spp.	0	227	0	295	3014	707	1296	580
Rhodophyta	Nemalionales	Audouinella	432	0	0	0	0	86	193	86

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W19 Riffle		Site Number	606	607	608	609	610			
Date: August 22, 1997		Area Sampled (cm2)	67	74	76	91	77			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W19 606	W19 607	W19 608	W19 609	W19 610	mean	stdev	SE
Bacillariophyta	Centrales	Cyclotella sp.	0	0	1696	2775	0	894	1283	574
Bacillariophyta	Centrales	Stephanodiscus	0	0	1696	0	0	339	758	339
Bacillariophyta	Pennales	Achnanthes flexella	3673	10215	3392	5551	1637	4893	3283	1468
Bacillariophyta	Pennales	Achnanthes minutissima	106511	119175	203514	169293	255325	170764	61268	27400
Bacillariophyta	Pennales	Achnanthes spp.	121202	88530	179771	135990	229138	150926	54656	24443
Bacillariophyta	Pennales	Amphora sp.	1836	0	1696	0	0	706	969	433
Bacillariophyta	Pennales	Anomoeoneis vitrea	1836	3405	3392	5551	3273	3491	1327	593
Bacillariophyta	Pennales	Ceratoneis arcus	0	0	0	2775	0	555	1241	555
Bacillariophyta	Pennales	Cocconeis placentula	0	0	0	2775	0	555	1241	555
Bacillariophyta	Pennales	Cocconeis	918	1703	0	0	0	524	769	344
Bacillariophyta	Pennales	Cymbella affinis	918	1703	1696	0	3273	1518	1205	539
Bacillariophyta	Pennales	Cymbella cesatii	1836	3405	1696	8326	6547	4362	2953	1321
Bacillariophyta	Pennales	Cymbella cistula	918	3405	1696	2775	1637	2086	992	443
Bacillariophyta	Pennales	Cymbella mexicana	0	1703	0	0	1637	668	915	409
Bacillariophyta	Pennales	Cymbella minuta	1836	3405	3392	5551	6547	4146	1883	842
Bacillariophyta	Pennales	Cymbella spp.	0	0	1696	0	0	339	758	339
Bacillariophyta	Pennales	Diatoma elongatum	9182	20430	10176	13877	3273	11388	6327	2830
Bacillariophyta	Pennales	Diploneis	918	0	0	0	0	184	411	184
Bacillariophyta	Pennales	Epithemia turgida	918	0	0	0	0	184	411	184
Bacillariophyta	Pennales	Fragilaria crotonensis	918	0	0	0	0	184	411	184
Bacillariophyta	Pennales	Fragilaria leptostauron	918	0	0	0	0	184	411	184
Bacillariophyta	Pennales	Fragilaria vaucheriae	1836	1703	10176	8326	6547	5717	3826	1711
Bacillariophyta	Pennales	Fragilaria spp.	16528	10215	57662	22202	52374	31796	21699	9704
Bacillariophyta	Pennales	Gomphonema geminata	918	1703	0	2775	0	1079	1185	530
Bacillariophyta	Pennales	Gomphonema spp.	69783	47670	206906	185945	183310	138723	74010	33099
Bacillariophyta	Pennales	Navicula spp.	1836	3405	10176	5551	6547	5503	3193	1428
Bacillariophyta	Pennales	Nitzschia spp.	1836	0	3392	0	3273	1700	1669	746
Bacillariophyta	Pennales	Pinnularia spp.	0	1703	0	0	0	341	761	341
Bacillariophyta	Pennales	Rhoicosphenia curvata	918	0	0	0	0	184	411	184
Bacillariophyta	Pennales	Synedra filiformis	53256	37455	84798	77708	81835	67010	20696	9256
Bacillariophyta	Pennales	Synedra ulna	1836	1703	3392	2775	3273	2596	791	354
Bacillariophyta	Pennales	Synedra spp.	5509	3405	27135	36079	55648	25555	21859	9776
Bacillariophyta	Pennales	Tabellaria fenestrata	918	0	1696	0	0	523	767	343
Bacillariophyta	Pennales	Tabellaria flocculosa	918	0	0	2775	3273	1393	1545	691
Chlorophyta	Chaetophorales	Draparnaldia	18364	27240	0	0	1637	9448	12606	5637
Chlorophyta	Chaetophorales	Stigeoclonium poss.	918	0	16960	11101	22914	10379	9977	4462
Chlorophyta	Euglenales	Trachelomonas spp.	0	1703	0	0	0	341	761	341
Chlorophyta	Oedogoniales	Bulbochaete	20200	1703	10176	2775	1637	7298	8040	3596
Chlorophyta	Oedogoniales	Oedogonium	0	0	0	2775	0	555	1241	555
Chlorophyta	Ulothricales	Ulothrix zonata	0	0	1696	2775	0	894	1283	574
Chlorophyta	Zygnematales	Closterium spp.	0	0	1696	0	0	339	758	339
Chlorophyta	Zygnematales	Cosmarium	918	3405	1696	2775	0	1759	1374	614
Chlorophyta	Zygnematales	Staurostrum	0	1703	0	2775	0	896	1284	574
Cyanophyta	UID		918	0	0	0	0	184	411	184
Cyanophyta	Chamaesiphonales	Clastidium sp.	0	0	3392	2775	0	1233	1703	762
Cyanophyta	Chroococcales	Agmenellum	0	0	1696	0	0	339	758	339
Cyanophyta	Chroococcales	Anacystis spp.	918	1703	0	0	1637	851	836	374
Cyanophyta	Nostocales	Dichothrix poss.	0	1703	54270	2775	1637	12077	23608	10558
Cyanophyta	Nostocales	Nostoc	0	0	0	0	1637	327	732	327
Cyanophyta	Oscillatoriales	Lyngbya spp.	0	1703	0	24978	13094	7955	10975	4908
Cyanophyta	Oscillatoriales	Oscillatoria spp.	22037	44265	101757	72158	36007	55245	31792	14218
Cyanophyta	Oscillatoriales	Schizothrix lacustris	918	40860	142460	80484	32734	59491	54356	24309
Rhodophyta	Nemalionales	Audouinella	918	1703	1696	0	0	863	850	380

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W19 Pool		Site Number	611	612	613	614	615			
Date: August 22, 1997		Area Sampled (cm2)	78	98	72	73	87			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W19 611	W19 612	W19 613	W19 614	W19 615	mean	stdev	SE
Bacillariophyta	Centrales	Melosira	0	0	0	1749	0	350	782	350
Bacillariophyta	Centrales	Stephanodiscus	0	0	1767	0	1402	634	877	392
Bacillariophyta	Pennales	Achnanthes flexella	3225	2629	7067	1749	1402	3214	2270	1015
Bacillariophyta	Pennales	Achnanthes minutissima	45143	39429	38867	31475	56060	42195	9146	4090
Bacillariophyta	Pennales	Achnanthes spp.	51592	42058	42401	41966	61666	47937	8699	3890
Bacillariophyta	Pennales	Amphipleura pellucida	0	0	1767	0	0	353	790	353
Bacillariophyta	Pennales	Amphora sp.	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Anomoeoneis vitrea	1612	1314	3533	3497	1402	2272	1140	510
Bacillariophyta	Pennales	Ceratoneis arcus	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Cocconeis	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Cymatopleura solea	0	0	0	1749	1402	630	871	390
Bacillariophyta	Pennales	Cymbella affinis	0	0	10600	3497	2803	3380	4340	1941
Bacillariophyta	Pennales	Cymbella cesatii	3225	5257	3533	10492	1402	4782	3473	1553
Bacillariophyta	Pennales	Cymbella cistula	1612	1314	3533	1749	1402	1922	917	410
Bacillariophyta	Pennales	Cymbella mexicana	1612	1314	1767	0	0	939	872	390
Bacillariophyta	Pennales	Cymbella minuta	3225	2629	3533	6994	2803	3837	1800	805
Bacillariophyta	Pennales	Cymbella sinuata	0	0	0	3497	0	699	1564	699
Bacillariophyta	Pennales	Denticula	0	0	0	0	1402	280	627	280
Bacillariophyta	Pennales	Diatoma elongatum	3225	5257	3533	10492	2803	5062	3175	1420
Bacillariophyta	Pennales	Diatoma heimale	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Diploneis	0	0	1767	0	0	353	790	353
Bacillariophyta	Pennales	Epithemia sorex	0	0	0	0	1402	280	627	280
Bacillariophyta	Pennales	Epithemia turgida	0	1314	0	0	0	263	588	263
Bacillariophyta	Pennales	Eunotia sp.	1612	1314	0	1749	0	935	868	388
Bacillariophyta	Pennales	Fragilaria leptostauron	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Fragilaria vaucheriae	0	7886	3533	10492	5606	5503	4023	1799
Bacillariophyta	Pennales	Fragilaria spp.	16123	18400	28267	31475	22424	23338	6477	2896
Bacillariophyta	Pennales	Frustulia sp.	0	0	1767	0	0	353	790	353
Bacillariophyta	Pennales	Gomphonema geminata	1612	0	1767	1749	1402	1306	744	333
Bacillariophyta	Pennales	Gomphonema spp.	16123	10514	21200	34972	50454	26653	16099	7200
Bacillariophyta	Pennales	Navicula vulpina	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Navicula spp.	6449	7886	21200	3497	5606	8928	7042	3149
Bacillariophyta	Pennales	Nitzschia acicularis	0	0	1767	0	0	353	790	353
Bacillariophyta	Pennales	Nitzschia spp.	0	2629	3533	10492	5606	4452	3931	1758
Bacillariophyta	Pennales	Pinnularia spp.	0	0	0	0	1402	280	627	280
Bacillariophyta	Pennales	Rhopalodia gibba	0	0	0	1749	0	350	782	350
Bacillariophyta	Pennales	Surirella spp.	1612	1314	0	1749	1402	1215	701	313
Bacillariophyta	Pennales	Synedra filiformis	54817	26286	70668	38469	39242	45896	17155	7672
Bacillariophyta	Pennales	Synedra ulna	6449	5257	3533	3497	5606	4869	1309	585
Bacillariophyta	Pennales	Synedra spp.	19347	21029	10600	13989	8409	14675	5444	2435
Bacillariophyta	Pennales	Tabellaria fenestrata	1612	0	1767	0	0	676	927	415
Bacillariophyta	Pennales	Tabellaria flocculosa	0	1314	1767	1749	1402	1246	725	324
Chlorophyta	Chaetophorales	Stigeoclonium poss.	1612	1314	7067	1749	1402	2629	2487	1112
Chlorophyta	Euglenales	Trachelomonas spp.	0	1314	0	0	0	263	588	263
Chlorophyta	Oedogoniales	Bulbochaete	6449	5257	3533	6994	5606	5568	1327	594
Chlorophyta	Oedogoniales	Oedogonium	1612	0	0	1749	1402	952	878	393
Chlorophyta	Ulothricales	Ulothrix zonata	1612	0	1767	0	0	676	927	415
Chlorophyta	Zygnematales	Cosmarium	1612	1314	1767	1749	1402	1569	204	91
Chlorophyta	Zygnematales	Spirogyra	1612	0	0	0	0	322	721	322
Chlorophyta	Zygnematales	Staurastrum	1612	0	0	0	0	322	721	322
Cyanophyta	Chamaesiphonales	Clastidium sp.	9674	0	0	0	0	1935	4326	1935
Cyanophyta	Chroococcales	Agmenellum tenuissima	12898	10514	0	0	0	4682	6467	2892
Cyanophyta	Chroococcales	Anacystis spp.	1612	15772	7067	20983	5606	10208	7937	3550
Cyanophyta	Nostocales	Dichothrix poss.	48368	157716	70668	55955	56060	77753	45424	20314
Cyanophyta	Nostocales	Tolypothrix	1612	0	0	0	1402	603	829	371
Cyanophyta	Oscillatoriales	Lyngbya spp.	0	1314	1767	1749	0	966	900	403
Cyanophyta	Oscillatoriales	Oscillatoria spp.	125756	81487	88335	52458	78484	85304	26389	11801
Cyanophyta	Oscillatoriales	Schizothrix lacustris	87062	31543	123669	115408	1402	71817	53389	23876

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W20 Riffle		Site Number	691	692	693	694	695			
Date: August 23, 1997		Area Sampled (cm ²)	210	229	185	185	176			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W20 691	W20 692	W20 693	W20 694	W20 695	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella bodanica</i>	0	0	0	671	0	134	300	134
Bacillariophyta	Centrales	<i>Cyclotella sp.</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Centrales	<i>Stephanodiscus</i>	0	2666	693	0	0	672	1155	516
Bacillariophyta	Pennales	<i>Achnanthes flexella</i>	2354	10665	693	1341	1471	3305	4157	1859
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	44722	202635	29083	33528	26481	67290	75981	33980
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	42368	170640	12464	22799	23538	54362	65890	29467
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1177	0	0	0	1471	530	733	328
Bacillariophyta	Pennales	<i>Anomoeoneis vitrea</i>	2354	10665	693	1341	5885	4187	4139	1851
Bacillariophyta	Pennales	<i>Caloneis</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Ceratoneis arcus</i>	0	0	693	671	1471	567	610	273
Bacillariophyta	Pennales	<i>Cocconeis pediculus</i>	0	0	693	0	0	139	310	139
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	0	2666	693	671	0	806	1094	489
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Cymbella affinis</i>	1177	5333	1385	1341	5885	3024	2369	1059
Bacillariophyta	Pennales	<i>Cymbella cesatii</i>	1177	5333	693	671	1471	1869	1966	879
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	2536	10665	693	671	2942	3501	4137	1850
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	2354	10665	2770	1341	5885	4603	3790	1695
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	1177	0	0	0	0	235	526	235
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	1177	5333	1385	0	2942	2167	2056	919
Bacillariophyta	Pennales	<i>Diatoma elongatum</i>	32953	26663	2770	12070	17654	18422	11885	5315
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	1177	0	0	671	0	370	537	240
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	1177	2666	0	671	1471	1197	993	444
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	1177	0	0	0	0	235	526	235
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	4708	10665	1385	2682	5885	5065	3584	1603
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	28246	53325	11079	671	32365	25137	20327	9090
Bacillariophyta	Pennales	<i>Frustulia sp.</i>	1177	2666	0	0	0	769	1177	526
Bacillariophyta	Pennales	<i>Gomphonema geminata</i>	1177	31995	693	671	1471	7201	13864	6200
Bacillariophyta	Pennales	<i>Gomphonema herculeanum</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	32953	165308	11079	13411	79442	60439	64734	28950
Bacillariophyta	Pennales	<i>Navicula aurora</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	1177	2666	693	0	0	907	1102	493
Bacillariophyta	Pennales	<i>Navicula vulpina</i>	0	0	0	0	1471	294	658	294
Bacillariophyta	Pennales	<i>Navicula spp.</i>	2354	2666	1385	671	2942	2004	949	424
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	0	10665	693	0	1471	2566	4568	2043
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Stauroneis sp.</i>	0	2666	0	0	0	533	1192	533
Bacillariophyta	Pennales	<i>Synedra filiformis</i>	25892	106650	22158	17434	11769	36781	39414	17627
Bacillariophyta	Pennales	<i>Synedra ulna</i>	4708	21330	1385	2682	1471	6315	8500	3801
Bacillariophyta	Pennales	<i>Synedra spp.</i>	32953	21330	6925	4023	23538	17754	12073	5399
Bacillariophyta	Pennales	<i>Tabellaria fenestrata</i>	0	2666	0	0	1471	828	1209	541
Bacillariophyta	Pennales	<i>Tabellaria flocculosa</i>	1177	0	693	671	1471	802	561	251
Chlorophyta	Chaetophorales	<i>Stigeoclonium poss.</i>	1177	0	693	671	1471	802	561	251
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	1177	0	0	0	0	235	526	235
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	0	0	0	0	1471	294	658	294
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	4708	10665	693	671	1471	3641	4263	1907
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	1177	0	0	0	0	235	526	235
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	0	0	693	0	1471	433	653	292
Chlorophyta	Zygnematales	<i>Cosmarium</i>	0	5333	693	0	0	1205	2327	1041
Chlorophyta	Zygnematales	<i>Mougeotia</i>	1177	0	0	0	1471	530	733	328
Chlorophyta	Zygnematales	<i>Spirogyra</i>	11769	2666	693	671	1471	3454	4719	2110
Chlorophyta	Zygnematales	<i>Staurastrum</i>	0	0	693	671	0	273	373	167
Chlorophyta	Zygnematales	<i>Zygnema</i>	0	2666	693	671	1471	1100	1019	456
Cyanophyta	Chamaesiphonales	<i>Clastidium sp.</i>	2354	5333	0	1341	0	1805	2207	987
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	0	0	0	671	0	134	300	134
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	4708	0	0	671	0	1076	2051	917
Cyanophyta	Nostocales	<i>Nostoc</i>	0	0	693	671	1471	567	610	273
Cyanophyta	Nostocales	<i>Tolypothrix</i>	7061	2666	693	671	1471	2512	2670	1194
Cyanophyta	Nostocales	UID	1177	0	0	671	0	370	537	240
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	1177	2666	693	42915	50019	19494	24761	11074
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	21184	127980	6925	8047	1471	33121	53520	23935
Cyanophyta	Oscillatoriales	<i>Schizothrix lacustris</i>	1177	0	0	0	1471	530	733	328
Cyanophyta	Oscillatoriales	<i>Schizothrix</i>	200073	159975	109407	17434	273634	152105	96296	43065
Rhodophyta	Nemalionales	<i>Audouinella</i>	0	0	0	671	1471	428	651	291

Appendix Table F5-2 Periphyton data (cells/cm²) and summary statistics, mean, standard deviation, and standard error, in samples from pool and riffle habitats collected from five replicate sites in Taseko River, August, 1997.

Site Name: Taseko River W20 Pool		Site Number	686	687	688	689	690			
Date: August 23, 1997		Area Sampled (cm ²)	250	203	208	194	201			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W20 686	W20 687	W20 688	W20 689	W20 690	mean	stdev	SE
Bacillariophyta	Centrales	Cyclotella sp.	0	6751	0	3138	0	1978	2994	1339
Bacillariophyta	Centrales	Melosira	2722	0	0	0	0	544	1217	544
Bacillariophyta	Centrales	Stephanodiscus	2722	0	1227	3138	1248	1667	1267	567
Bacillariophyta	Pennales	Achnanthes flexella	10886	3376	1227	3138	1248	3975	3994	1786
Bacillariophyta	Pennales	Achnanthes minutissima	125194	243040	157011	175728	62405	152675	66370	29682
Bacillariophyta	Pennales	Achnanthes spp.	103421	148524	110399	100416	27458	98044	43925	19644
Bacillariophyta	Pennales	Amphipleura pellucida	2722	0	0	0	1248	794	1206	539
Bacillariophyta	Pennales	Amphora ovalis	0	0	0	0	1248	250	558	250
Bacillariophyta	Pennales	Amphora sp.	0	3376	0	3138	0	1303	1786	799
Bacillariophyta	Pennales	Anomoeoneis vitrea	5443	6751	9813	18828	2496	8666	6259	2799
Bacillariophyta	Pennales	Ceratoneis arcus	2722	3376	0	0	0	1219	1686	754
Bacillariophyta	Pennales	Cocconeis placentula	2722	3376	1227	3138	1248	2342	1035	463
Bacillariophyta	Pennales	Cymatopleura solea	0	0	0	3138	0	628	1403	628
Bacillariophyta	Pennales	Cymbella affinis	5443	13502	2453	3138	2496	5407	4687	2096
Bacillariophyta	Pennales	Cymbella cesatii	5443	3376	1227	6276	1248	3514	2331	1042
Bacillariophyta	Pennales	Cymbella cistula	5443	3376	2453	6276	1248	3759	2081	931
Bacillariophyta	Pennales	Cymbella mexicana	2722	3376	0	3138	1248	2097	1434	641
Bacillariophyta	Pennales	Cymbella minuta	10886	13502	9813	12552	4992	10349	3319	1484
Bacillariophyta	Pennales	Cymbella sinuata	0	3376	0	0	0	675	1510	675
Bacillariophyta	Pennales	Cymbella spp.	2722	3376	1227	3138	4992	3091	1352	605
Bacillariophyta	Pennales	Diatoma elongatum	21773	33756	34346	43932	17473	30256	10623	4751
Bacillariophyta	Pennales	Epithemia turgida	2722	3376	1227	3138	1248	2342	1035	463
Bacillariophyta	Pennales	Eunotia sp.	0	0	1227	3138	0	873	1373	614
Bacillariophyta	Pennales	Fragilaria construens	0	13502	0	12552	0	5211	7143	3195
Bacillariophyta	Pennales	Fragilaria vaucheriae	21773	6751	7360	12552	7489	11185	6362	2845
Bacillariophyta	Pennales	Fragilaria spp.	114307	47258	34346	43932	24962	52961	35383	15824
Bacillariophyta	Pennales	Frustulia sp.	0	3376	0	3138	0	1303	1786	799
Bacillariophyta	Pennales	Gomphonema geminata	2722	6751	2453	6276	1248	3890	2464	1102
Bacillariophyta	Pennales	Gomphonema herculeanum	0	3376	0	0	0	675	1510	675
Bacillariophyta	Pennales	Gomphonema spp.	70762	168778	41706	125520	34947	88342	57418	25678
Bacillariophyta	Pennales	Navicula aurora	0	3376	0	0	0	675	1510	675
Bacillariophyta	Pennales	Navicula cryptocephala	0	0	1227	3138	1248	1123	1285	575
Bacillariophyta	Pennales	Navicula spp.	16330	13502	2453	3138	2496	7584	6773	3029
Bacillariophyta	Pennales	Nitzschia spp.	21773	6751	4907	31380	1248	13212	12818	5732
Bacillariophyta	Pennales	Rhopalodia gibba	2722	0	1227	0	0	790	1204	538
Bacillariophyta	Pennales	Surirella angusta	0	0	1227	0	0	245	549	245
Bacillariophyta	Pennales	Surirella spp.	0	0	1227	0	0	245	549	245
Bacillariophyta	Pennales	Synedra filiformis	125194	121520	73599	75312	54916	90108	31415	14049
Bacillariophyta	Pennales	Synedra ulna	5443	6751	14720	12552	4992	8892	4445	1988
Bacillariophyta	Pennales	Synedra spp.	48989	20253	17173	18828	12481	23545	14521	6494
Bacillariophyta	Pennales	Tabellaria fenestrata	0	0	0	0	1248	250	558	250
Bacillariophyta	Pennales	Tabellaria flocculosa	2722	3376	0	3138	0	1847	1702	761
Chlorophyta	Chaetophorales	Stigeoclonium poss.	0	0	1227	0	0	245	549	245
Chlorophyta	Euglenales	Trachelomonas spp.	0	0	1227	0	1248	495	678	303
Chlorophyta	Oedogoniales	Bulbochaete	0	0	1227	0	0	245	549	245
Chlorophyta	Oedogoniales	Oedogonium	2722	3376	1227	0	0	1465	1547	692
Chlorophyta	Ulothricales	Ulothrix zonata	27216	20253	4907	31380	4992	17750	12343	5520
Chlorophyta	Zygnematales	Cosmarium	0	0	1227	3138	1248	1123	1285	575
Chlorophyta	Zygnematales	Mougeotia	0	0	1227	0	0	245	549	245
Chlorophyta	Zygnematales	Spirogyra	16330	3376	1227	81588	1248	20754	34584	15466
Chlorophyta	Zygnematales	Zygnema	2722	3376	1227	0	1248	1714	1339	599
Cyanophyta	Chamaesiphonales	Clastidium sp.	0	0	1227	0	1248	495	678	303
Cyanophyta	Chroococcales	Agmenellum tenuissima	0	3376	0	0	0	675	1510	675
Cyanophyta	Chroococcales	Agmenellum	0	0	0	3138	0	628	1403	628
Cyanophyta	Chroococcales	Anacystis spp.	2722	0	0	0	0	544	1217	544
Cyanophyta	Nostocales	Dichothrix poss.	0	3376	0	0	0	675	1510	675
Cyanophyta	Nostocales	Tolypothrix	2722	94515	1227	3138	1248	20570	41346	18490
Cyanophyta	Oscillatoriales	Lyngbya spp.	38102	3376	68692	3138	57413	34144	30244	13525
Cyanophyta	Oscillatoriales	Oscillatoria tenuis	2722	0	0	0	0	544	1217	544
Cyanophyta	Oscillatoriales	Oscillatoria spp.	190512	141773	9813	112968	27458	96505	76551	34235
Cyanophyta	Oscillatoriales	Schizothrix lacustris	0	0	0	0	1248	250	558	250
Cyanophyta	Oscillatoriales	Schizothrix	2722	3376	1227	0	0	1465	1547	692

Appendix Table F5-3: Periphyton data (cells/cm²) and summary statistics, mean standard deviation, and standard error, collected from five replicate samples from two habitats, pool and riffle, at W11 and W12 in Beece Creek.

Site Name: Beece Creek W11 Riffle										
Sampling Date: August 20, 1997		Site Number	429	430	431	432	433			
		Area Sampled (cm ²)	110	137	99	149	126			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W11 429	W11 430	W11 431	W11 432	W11 433	mean	stdev	SE
Bacillariophyceae	Centrales	<i>Melosira</i>	64	0	48	22	0	27	29	13
Bacillariophyceae	Pennales	<i>Achnanthes minutissima</i>	6149	3276	821	1992	7181	3884	2708	1211
Bacillariophyceae	Pennales	<i>Achnanthes</i> spp.	64	27	0	0	167	52	70	31
Bacillariophyceae	Pennales	<i>Ceratoneis arcus</i>	256	54	145	87	501	208	181	81
Bacillariophyceae	Pennales	<i>Cocconeis placentula</i>	0	27	24	22	84	31	31	14
Bacillariophyceae	Pennales	<i>Cocconeis</i>	128	0	0	0	0	26	57	26
Bacillariophyceae	Pennales	<i>Cymbella</i> spp.	128	54	48	43	668	188	270	121
Bacillariophyceae	Pennales	<i>Diatoma anceps</i>	0	0	24	0	0	5	11	5
Bacillariophyceae	Pennales	<i>Diatoma heimale</i>	64	27	0	22	0	23	26	12
Bacillariophyceae	Pennales	<i>Epithemia sorex</i>	0	0	0	22	0	4	10	4
Bacillariophyceae	Pennales	<i>Fragilaria vaucheriae</i>	0	0	24	22	84	26	34	15
Bacillariophyceae	Pennales	<i>Fragilaria</i> spp.	384	322	48	87	84	185	156	70
Bacillariophyceae	Pennales	<i>Frustulia rhomboides</i>	64	0	0	22	84	34	38	17
Bacillariophyceae	Pennales	<i>Gomphonema geminata</i>	64	0	24	22	0	22	26	12
Bacillariophyceae	Pennales	<i>Gomphonema</i> spp.	641	215	338	173	1169	507	413	185
Bacillariophyceae	Pennales	<i>Meridion circulare</i>	128	0	24	22	84	52	53	24
Bacillariophyceae	Pennales	<i>Navicula</i> spp.	0	54	0	22	167	48	70	31
Bacillariophyceae	Pennales	<i>Nitzschia</i> spp.	64	27	0	43	0	27	28	12
Bacillariophyceae	Pennales	<i>Pinnularia</i> spp.	0	27	24	22	84	31	31	14
Bacillariophyceae	Pennales	<i>Rhopalodia gibba</i>	0	0	24	0	0	5	11	5
Bacillariophyceae	Pennales	<i>Synedra acus</i>	256	161	0	130	0	109	110	49
Bacillariophyceae	Pennales	<i>Synedra ulna</i>	0	54	48	22	84	41	32	14
Bacillariophyceae	Pennales	<i>Synedra</i> spp.	0	27	0	22	0	10	13	6
Chlorophyta	Chaetophorales	<i>Stigeoclonium</i> poss.	64	27	0	0	835	185	364	163
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	0	0	22	0	4	10	4
Chlorophyta	Chlorococcales	<i>Pediastrum tetras</i>	64	27	0	22	0	23	26	12
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	0	27	0	0	0	5	12	5
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	64	0	0	0	0	13	29	13
Chlorophyta	Ulothricales	<i>Geminella</i>	64	27	0	22	0	23	26	12
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	897	27	24	22	84	211	384	172
Chlorophyta	Ulothricales	<i>Ulothrix</i>	0	0	0	22	84	21	36	16
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	0	27	0	0	0	5	12	5
Chlorophyta	Zygnematales	<i>Cosmarium</i>	0	0	0	0	84	17	37	17
Chlorophyta	Zygnematales	<i>Euastrum</i>	64	0	0	0	0	13	29	13
Chlorophyta	Zygnematales	<i>Mougeotia</i>	64	27	0	0	0	18	28	13
Chlorophyta	Zygnematales	<i>Spirogyra</i>	64	27	24	22	0	27	23	10
Chrysophyta	Ochromonadales	<i>Mallomonas</i> sp.	0	27	0	0	0	5	12	5
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon</i> poss.	2562	2954	3381	2425	5344	3333	1184	530
Cyanophyta	Chamaesiphonales	<i>Clastidium setiferum</i>	128	215	24	43	835	249	336	150
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	0	0	24	22	84	26	34	15
Cyanophyta	Nostocales	<i>Anabaena</i>	512	27	0	0	84	125	219	98
Cyanophyta	Nostocales	<i>Calothrix</i> poss.	64	27	290	996	84	292	407	182
Cyanophyta	Nostocales	<i>Nostoc</i>	0	27	24	0	0	10	14	6
Cyanophyta	Nostocales	<i>Tolypothrix</i>	0	0	0	0	84	17	37	17
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	25492	17990	12317	27712	52605	27223	15451	6910
Cyanophyta	Oscillatoriales	<i>Oscillatoria tenuis</i>	57389	4833	193	1386	24215	17603	24268	10853
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	0	27	1208	22	1002	452	601	269
Cyanophyta	Oscillatoriales	<i>Phormidium</i> poss.	0	0	24	0	0	5	11	5
Pyrrophyta	Dinokontae	<i>Ceratium hirundinella</i>	64	0	0	22	0	17	28	12
Rhodophyta	Nemalionales	<i>Audouinella</i>	64	107	24	0	84	56	44	20

Appendix Table F5-3: Periphyton data (cells/cm²) and summary statistics, mean standard deviation, and standard error, collected from five replicate samples from two habitats, pool and riffle, at W11 and W12 in Beece Creek.

Site Name: Beece Creek W11 Pool										
Sampling Date: August 20, 1997		Site Number	434	435	436	437	438			
		Area Sampled (cm ²)	134	116	138	148	148			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W11 434	W11 435	W11 436	W11 437	W11 438	mean	stdev	SE
Bacillariophyta	Centrales	<i>Melosira</i>	670	0	0	0	985	331	466	209
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	8203	7824	9626	113126	126016	52959	60982	27272
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	0	206	0	2020	1969	839	1058	473
Bacillariophyta	Pennales	<i>Ceratoneis arcus</i>	167	618	419	2020	985	842	723	323
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	0	103	0	0	0	21	46	21
Bacillariophyta	Pennales	<i>Cocconeis</i>	0	0	209	0	0	42	94	42
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	103	0	2020	0	425	893	399
Bacillariophyta	Pennales	<i>Cymbella turgida</i>	0	0	0	1010	1969	596	883	395
Bacillariophyta	Pennales	<i>Cymbella</i> spp.	335	412	419	6060	1969	1839	2457	1099
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	84	0	419	2020	1969	898	1013	453
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	0	103	419	1010	0	306	429	192
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	335	412	837	0	985	514	398	178
Bacillariophyta	Pennales	<i>Fragilaria</i> spp.	502	206	837	12121	3938	3521	5036	2252
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	0	0	0	1010	985	399	546	244
Bacillariophyta	Pennales	<i>Gomphonema geminata</i>	84	103	209	2020	985	680	836	374
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	502	1647	1256	6060	7876	3468	3285	1469
Bacillariophyta	Pennales	<i>Meridion circulare</i>	84	0	209	2020	0	463	875	391
Bacillariophyta	Pennales	<i>Navicula</i> spp.	335	206	419	1010	1969	788	729	326
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	167	0	419	2020	1969	915	997	446
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	0	0	0	1010	985	399	546	244
Bacillariophyta	Pennales	<i>Synedra ulna</i>	167	412	209	1010	985	557	413	185
Bacillariophyta	Pennales	<i>Synedra</i> spp.	0	103	0	2020	1969	818	1075	481
Chlorophyta	Chaetophorales	<i>Stigeoclonium</i> poss.	84	0	0	0	985	214	432	193
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	670	103	209	34342	17721	10609	15257	6823
Chlorophyta	Ulothricales	<i>Ulothrix</i>	0	103	209	1010	0	264	426	190
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	0	0	209	0	0	42	94	42
Chlorophyta	Zygnematales	<i>Cosmarium</i>	84	0	0	0	0	17	37	17
Chlorophyta	Zygnematales	<i>Mougeotia</i>	0	0	0	1010	0	202	452	202
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon</i> poss.	1674	6177	40595	80804	0	25850	34918	15616
Cyanophyta	Chroococcales	<i>Anacystis dispersus</i> var. <i>minor</i>	4018	0	16740	64643	63008	29682	31781	14213
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	84	412	209	1010	27566	5856	12141	5430
Cyanophyta	Nostocales	<i>Calothrix</i> poss.	84	103	14648	12121	9845	7360	6848	3062
Cyanophyta	Nostocales	<i>Tolypothrix</i>	84	103	0	0	0	37	52	23
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	89559	105009	173678	333317	236280	187568	100287	44850
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	5859	21620	70727	337357	250063	137125	148180	66268
Cyanophyta	Oscillatoriales	<i>Oscillatoria tenuis</i>	11885	0	5022	24241	0	8230	10192	4558
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	84	2265	0	1010	17721	4216	7605	3401
Cyanophyta	Oscillatoriales	<i>Phormidium</i> poss.	0	0	8789	0	0	1758	3930	1758
Cyanophyta	Oscillatoriales	<i>Phormidium</i> / <i>Schizothrix</i>	1339	8648	0	125246	92543	45555	59057	26411
Rhodophyta	Nemalionales	<i>Audouinella</i>	5022	1030	209	0	985	1449	2049	916

Appendix Table F5-3: Periphyton data (cells/cm²) and summary statistics, mean standard deviation, and standard error, collected from five replicate samples from two habitats, pool and riffle, at W11 and W12 in Beece Creek.

Site Name: Beece Creek W12 Riffle										
Sampling Date: August 20, 1997		Site Number	459	460	461	462	463			
		Area Sampled (cm ²)	140	112	116	129	122			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W12 459	W12 460	W12 461	W12 462	W12 463	mean	stdev	SE
Bacillariophyta	Centrales	<i>Melosira</i>	64	0	40	0	0	21	30	13
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	1795	27234	6478	4283	819	8122	10910	4879
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	64	58	0	0	0	24	33	15
Bacillariophyta	Pennales	<i>Amphipleura</i>	0	58	0	0	0	12	26	12
Bacillariophyta	Pennales	<i>Amphora sp.</i>	64	58	40	0	0	32	31	14
Bacillariophyta	Pennales	<i>Ceratoneis arcus</i>	192	462	395	598	364	402	148	66
Bacillariophyta	Pennales	<i>Cocconeis</i>	0	0	0	0	46	9	20	9
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	64	58	0	0	0	24	33	15
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	256	1385	395	199	91	465	526	235
Bacillariophyta	Pennales	<i>Diatoma anceps</i>	64	0	0	0	0	13	29	13
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	0	0	0	0	46	9	20	9
Bacillariophyta	Pennales	<i>Diatoma</i>	0	58	40	0	0	19	27	12
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	64	58	40	50	46	51	10	4
Bacillariophyta	Pennales	<i>Fragilaria vaucheriae</i>	128	0	237	100	91	111	85	38
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	256	115	237	199	0	162	105	47
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	0	0	0	0	46	9	20	9
Bacillariophyta	Pennales	<i>Gomphonema geminata</i>	64	462	79	50	0	131	187	84
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	192	462	237	50	46	197	170	76
Bacillariophyta	Pennales	<i>Meridion circulare</i>	0	231	40	0	0	54	100	45
Bacillariophyta	Pennales	<i>Navicula spp.</i>	128	115	316	50	91	140	103	46
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	64	115	79	100	46	81	28	12
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	64	115	40	0	46	53	42	19
Bacillariophyta	Pennales	<i>Synedra ulna</i>	64	58	40	50	46	51	10	4
Chlorophyta	Chaetophorales	<i>Stigeoclonium poss.</i>	0	58	0	0	0	12	26	12
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	1026	58		50	46	295	487	218
Chlorophyta	Ulothricales	<i>Ulothrix</i>	192	346	40	0	0	116	151	68
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	0	0	0	50	46	19	26	12
Chlorophyta	Zygnematales	<i>Cosmarium</i>	64	58	40	0	0	32	31	14
Chlorophyta	Zygnematales	<i>Cylindrocystis</i>	0	58	0	0	0	12	26	12
Chlorophyta	Zygnematales	<i>Mougeotia</i>	64	0	0	50	0	23	32	14
Chlorophyta	Zygnematales	<i>Spirogyra</i>	64	0	0	0	0	13	29	13
Chrysophyta	Ochromonadales	<i>Mallomonas sp.</i>	0	0	0	0	46	9	20	9
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	0	0	0	50	455	101	199	89
Cyanophyta	Nostocales	<i>Anabaena</i>	385	0	40	498	46	194	230	103
Cyanophyta	Nostocales	<i>Calothrix poss.</i>	64	2885	40	797	46	766	1228	549
Cyanophyta	Nostocales	<i>Tolypothrix</i>	1026	0	40	0	0	213	455	203
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	28845	31158	24095	68126	103558	51156	34147	15271
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	3205	0	0	0	0	641	1433	641
Cyanophyta	Oscillatoriales	<i>Oscillatoria tenuis</i>	0	58	8453	996	5369	2975	3775	1688
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	21666	0	40	0	0	4341	9685	4331
Rhodophyta	Nemalionales	<i>Audouinella</i>	192	346	632	1394	182	549	506	226
Rhodophyta	Nemalionales	<i>Batrachospermum</i>	0	58	0	0	0	12	26	12

Appendix Table F5-3: Periphyton data (cells/cm²) and summary statistics, mean standard deviation, and standard error, collected from five replicate samples from two habitats, pool and riffle, at W11 and W12 in Beece Creek.

Site Name: Beece Creek W12 Pool										
Sampling Date: August 20, 1997		Site Number	464	465	466	467	468			
		Area Sampled (cm ²)	116	129	98	100	140			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W12 464	W12 465	W12 466	W12 467	W12 468	mean	stdev	SE
Bacillariophyta	Centrales	<i>Melosira</i>	1110	969	1450	0	210	748	617	276
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	151460	87695	364675	152274	116985	174618	109584	49007
Bacillariophyta	Pennales	<i>Achnanthes</i> spp.	1664	1938	5075	3257	1258	2639	1554	695
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	277	0	0	0	0	55	124	55
Bacillariophyta	Pennales	<i>Ceratoneis arcus</i>	4993	969	2175	1629	1258	2205	1623	726
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	555	0	0	0	210	153	242	108
Bacillariophyta	Pennales	<i>Cymbella turgida</i>	1664	0	363	814	210	610	661	296
Bacillariophyta	Pennales	<i>Cymbella</i> spp.	3884	1938	5075	2443	2097	3087	1351	604
Bacillariophyta	Pennales	<i>Diatoma anceps</i>	277	242	0	0	0	104	143	64
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	555	969	2175	407	210	863	785	351
Bacillariophyta	Pennales	<i>Diploneis</i>	0	0	0	0	210	42	94	42
Bacillariophyta	Pennales	<i>Eunotia</i> sp.	555	485	725	0	419	437	269	120
Bacillariophyta	Pennales	<i>Fragilaria</i> spp.	2774	3392	5800	8143	2516	4525	2403	1075
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	277	485	363	407	210	348	108	48
Bacillariophyta	Pennales	<i>Frustulia</i> sp.	555	0	0	0	0	111	248	111
Bacillariophyta	Pennales	<i>Gomphonema geminata</i>	1664	485	3625	814	419	1402	1338	598
Bacillariophyta	Pennales	<i>Gomphonema</i> spp.	2774	2423	5800	1629	1677	2860	1714	767
Bacillariophyta	Pennales	<i>Meridion circulare</i>	277	242	363	407	210	300	83	37
Bacillariophyta	Pennales	<i>Navicula</i> spp.	2219	969	2175	1629	1258	1650	552	247
Bacillariophyta	Pennales	<i>Neidium</i> spp.	0	0	363	0	0	73	162	73
Bacillariophyta	Pennales	<i>Nitzschia</i> spp.	1664	1938	2175	814	1677	1654	514	230
Bacillariophyta	Pennales	<i>Pinnularia</i> spp.	0	485	363	407	210	293	192	86
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	277	0	0	0	0	55	124	55
Bacillariophyta	Pennales	<i>Rhopalodia gibberula</i>	0	0	0	0	210	42	94	42
Bacillariophyta	Pennales	<i>Suriella</i> spp.	277	242	0	407	0	185	180	81
Bacillariophyta	Pennales	<i>Synedra rumpens</i>	0	242	0	0	0	48	108	48
Bacillariophyta	Pennales	<i>Synedra ulna</i>	555	242	2900	407	210	863	1147	513
Bacillariophyta	Pennales	<i>Synedra</i> spp.	0	0	363	407	210	196	193	86
Bacillariophyta	Pennales	<i>Tabellaria</i>	0	0	363	0	0	73	162	73
Chlorophyta	Chaetophorales	<i>Thamniochaete</i> poss.	277	242	363	0	419	260	161	72
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	277	969	363	0	0	322	397	177
Chlorophyta	Ulothricales	<i>Ulothrix zonata</i>	277	242	10875	4886	2097	3675	4448	1989
Chlorophyta	Ulothricales	<i>Ulothrix</i>	277	0	363	4886	210	1147	2094	937
Chlorophyta	Zygnematales	<i>Closterium</i> spp.	277	0	0	407	0	137	193	86
Chlorophyta	Zygnematales	<i>Cosmarium</i>	277	0	0	0	0	55	124	55
Chlorophyta	Zygnematales	<i>Cylindrocystis</i>	0	0	363	0	0	73	162	73
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon</i> poss.	0	0	0	0	839	168	375	168
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon incrustans</i>	555	0	0	0	0	111	248	111
Cyanophyta	Chroococcales	<i>Anacystis dispersus</i> var. <i>minor</i>	15534	19380	60900	65144	3354	32863	28200	12611
Cyanophyta	Chroococcales	<i>Anacystis</i> spp.	0	969	0	0	0	194	433	194
Cyanophyta	Nostocales	<i>Anabaena</i>	277	0	0	0	0	55	124	55
Cyanophyta	Nostocales	<i>Calothrix</i> poss.	0	242	0	407	210	172	174	78
Cyanophyta	Nostocales	<i>Nostoc verrucosum</i>	0	0	0	0	8386	1677	3750	1677
Cyanophyta	Nostocales	<i>Nostoc</i>	277	0	0	0	0	55	124	55
Cyanophyta	Nostocales	<i>Pseudanabaena</i> sp.	0	242	0	0	0	48	108	48
Cyanophyta	Nostocales	<i>Tolypothrix</i>	6658	242	0	407	5032	2468	3139	1404
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	143693	46028	19575	20358	36479	53226	51791	23162
Cyanophyta	Oscillatoriales	<i>Lyngbya</i> spp.	0	242	0	407	1677	465	699	313
Cyanophyta	Oscillatoriales	<i>Oscillatoria tenuis</i>	277	0	0	0	4612	978	2035	910
Cyanophyta	Oscillatoriales	<i>Oscillatoria</i> spp.	277	0	363	8143	210	1799	3549	1587
Rhodophyta	Nemalionales	<i>Audouinella</i>	1110	2907	363	407	210	999	1122	502

Appendix Table F5-4: Periphyton data (cells/cm²) and summary statistics, mean, std. deviation and std. error, collected from five replicate samples from pool and riffle habitats at W17 and pool habitat in W18 in Tete Angela Creek.

Site Name: Tête Angela Creek W17 Riffle										
Sampling Date: August 17, 1997		Site Number	321	322	323	324	325			
		Area Sampled (cm ²)	129	129	129	129	129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W17 321	W17 322	W17 323	W17 324	W17 325	mean	stdev	SE
Bacillariophyta	Centrales	Melosira	1238	244	2292	0	0	755	999	447
Bacillariophyta	Pennales	Achnanthes lanceolata	7425	488	2292	2283	168	2531	2992	1338
Bacillariophyta	Pennales	Achnanthes minutissima	4950	0	2292	4565	1008	2563	2166	969
Bacillariophyta	Pennales	Achnanthes spp.	4950	0	1146	1141	1344	1716	1884	843
Bacillariophyta	Pennales	Amphipleura pellucida	1238	0	1146	0	168	510	627	280
Bacillariophyta	Pennales	Amphora sp.	1238	0	0	571	168	395	525	235
Bacillariophyta	Pennales	Cocconeis placentula	103954	11229	197095	125543	16805	90925	78239	34990
Bacillariophyta	Pennales	Cymbella lata	1238	244	0	0	0	296	537	240
Bacillariophyta	Pennales	Cymbella mexicana	1238	0	0	571	0	362	548	245
Bacillariophyta	Pennales	Cymbella minuta	2475	0	2292	571	168	1101	1191	532
Bacillariophyta	Pennales	Cymbella muelleri	0	0	0	0	0	0	0	0
Bacillariophyta	Pennales	Cymbella sinuata	1238	0	0	0	168	281	540	241
Bacillariophyta	Pennales	Cymbella spp.	0	488	0	0	0	98	218	98
Bacillariophyta	Pennales	Diatoma heimale	2475	0	0	0	168	529	1091	488
Bacillariophyta	Pennales	Diploneis	1238	244	1146	0	168	559	585	262
Bacillariophyta	Pennales	Epithemia sorex	1238	244	2292	2283	672	1346	929	415
Bacillariophyta	Pennales	Epithemia turgida	22276	976	29793	11413	2353	13362	12529	5603
Bacillariophyta	Pennales	Fragilaria crotonensis	0	244	0	0	0	49	109	49
Bacillariophyta	Pennales	Fragilaria spp.	12376	488	2292	4565	1344	4213	4810	2151
Bacillariophyta	Pennales	Frustulia rhomboides	1238	0	0	0	0	248	553	248
Bacillariophyta	Pennales	Gomphonema constrictum	0	0	1146	571	168	377	489	219
Bacillariophyta	Pennales	Gomphonema spp.	4950	488	4584	2283	168	2495	2229	997
Bacillariophyta	Pennales	Meridion circulare	1238	0	1146	0	168	510	627	280
Bacillariophyta	Pennales	Navicula aurora	2475	488	1146	0	0	822	1037	464
Bacillariophyta	Pennales	Navicula cryptocephala	39602	4394	0	29674	8403	16414	17260	7719
Bacillariophyta	Pennales	Navicula microcephala	0	0	50420	0	0	10084	22548	10084
Bacillariophyta	Pennales	Navicula radiosa	1238	244	1146	571	168	673	498	223
Bacillariophyta	Pennales	Navicula spp.	12376	244	4584	2283	1344	4166	4860	2173
Bacillariophyta	Pennales	Neidium spp.	0	0	1146	0	0	229	512	229
Bacillariophyta	Pennales	Nitzschia acicularis	0	244	0	1141	168	311	476	213
Bacillariophyta	Pennales	Nitzschia palea	1238	0	0	0	0	248	553	248
Bacillariophyta	Pennales	Nitzschia spp.	19801	488	4584	5707	2353	6586	7657	3424
Bacillariophyta	Pennales	Pinnularia spp.	2475	244	0	571	0	658	1042	466
Bacillariophyta	Pennales	Rhoicosphenia curvata	2475	0	1146	1141	336	1020	956	428
Bacillariophyta	Pennales	Rhopalodia gibba	2475	244	2292	571	168	1150	1138	509
Bacillariophyta	Pennales	Stauroneis sp.	1238	244	0	0	0	296	537	240
Bacillariophyta	Pennales	Surirella spp.	1238	0	1146	0	168	510	627	280
Bacillariophyta	Pennales	Synedra ulna	2475	488	1146	3424	2689	2044	1197	535
Bacillariophyta	Pennales	Synedra spp.	0	244	0	0	168	82	116	52
Bacillariophyta	Pennales	Tabellaria fenestrata	0	244	0	571	0	163	251	112
Bacillariophyta	Pennales	Tabellaria focculosa	0	0	0	0	168	34	75	34
Chlorophyta	Chaetophorales	Chaetophora	297012	21969	91672	187173	11764	121918	120369	53831
Chlorophyta	Chaetophorales	Draparnaldia	0	0	0	0	0	0	0	0
Chlorophyta	Chaetophorales	Protoderma	0	0	18334	0	1008	3869	8098	3622
Chlorophyta	Chlorococcales	Ankistrodesmus falcatus	4950	976	9167	2283	1008	3677	3469	1551
Chlorophyta	Chlorococcales	Ankistrodesmus fractus	0	0	0	571	0	114	255	114
Chlorophyta	Chlorococcales	Ankistrodesmus spiralis	1238	0	1146	571	168	624	559	250
Chlorophyta	Chlorococcales	Crucigenia quadrata	0	0	0	571	0	114	255	114
Chlorophyta	Chlorococcales	Scenedesmus spp.	1238	0	0	0	168	281	540	241
Chlorophyta	Chlorococcales	Schroederia	0	0	0	0	168	34	75	34
Chlorophyta	Chlorococcales	Tetraedron	0	0	0	0	168	34	75	34
Chlorophyta	Chlorococcales	UID	0	0	0	0	168	34	75	34
Chlorophyta	Cladophorales	Rhizoclonium	0	0	0	0	168	34	75	34
Chlorophyta	Oedogoniales	`	0	0	0	571	0	114	255	114
Chlorophyta	Tetrasporales	Gloeocystis	0	244	0	0	0	49	109	49
Chlorophyta	Ulothricales	Microspora	12376	0	9167	571	1344	4692	5685	2542
Chlorophyta	Zygnematales	Closterium spp.	1238	244	1146	2283	336	1049	825	369
Chlorophyta	Zygnematales	Cosmarium	1238	244	2292	571	336	936	852	381
Chlorophyta	Zygnematales	Mougeotia	1238	0	1146	0	168	510	627	280
Chlorophyta	Zygnematales	Spirogyra	0	0	0	0	168	34	75	34
Chlorophyta	Zygnematales	Staurastrum	1238	244	1146	1141	336	821	487	218
Chlorophyta	Zygnematales	Zygnema	0	0	0	571	168	148	247	111
Cyanophyta	Chamaesiphonales	Chamaesiphon poss.	0	0	1146	0	0	229	512	229
Cyanophyta	Chroococcales	Agmenellum tenuissima	1589014	82018	1035894	661954	21510	678078	660391	295336
Cyanophyta	Chroococcales	Anacystis spp.	0	0	4584	0	0	917	2050	917
Cyanophyta	Chroococcales	Gomphosphaeria sp.	0	244	0	0	0	49	109	49
Cyanophyta	Nostocales	Anabaena	29701	106916	77921	107282	15797	67523	42857	19166
Cyanophyta	Nostocales	Calothrix poss.	0	0	16043	571	0	3323	7115	3182
Cyanophyta	Nostocales	Gloeotrichia poss.	0	0	45836	571	0	9281	20436	9139
Cyanophyta	Nostocales	Nostoc verrucosum	0	65907	0	0	0	13181	29475	13181
Cyanophyta	Nostocales	Nostoc	495020	0	366688	199728	36971	219681	211816	94727
Cyanophyta	Nostocales	Tolypothrix	0	0	0	571	2353	585	1019	456
Cyanophyta	Nostocales	UID	9900	0	0	0	0	1980	4428	1980
Cyanophyta	Oscillatoriales	Lyngbya limnetica	0	39056	300226	57065	8739	81017	124674	55756
Cyanophyta	Oscillatoriales	Lyngbya spp.	0	244	1146	0	0	278	497	222
Cyanophyta	Oscillatoriales	Oscillatoria tenuis	0	0	0	571	9747	2064	4302	1924
Cyanophyta	Oscillatoriales	Oscillatoria spp.	9900	5370	13751	571	5714	7061	4990	2232
Rhodophyta	Nemalionales	Audouinella	1238	244	1146	571	168	673	498	223

Appendix Table F5-4: Periphyton data (cells/cm²) and summary statistics, mean, std. deviation and std. error, collected from five replicate samples from pool and riffle habitats at W17 and pool habitat in W18 in Tete Angela Creek.

Site Name: Tête Angela Creek W17 Pool Sampling Date: August 17, 1997		Site Number Area Sampled (cm ²)	316 129	317 129	318 129	319 129	320 129			
			Cell Density (cells/cm ²)							
Phylum	Order	Genera and Species	W17 316	W17 317	W17 318	W17 319	W17 320	mean	stdev	SE
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	1192	0	0	0	0	238	533	238
Bacillariophyta	Centrales	<i>Melosira ambigua</i>	1192	1146	0	0	4193	1306	1716	768
Bacillariophyta	Centrales	<i>Melosira varians</i>	0	0	0	1164	1048	443	607	272
Bacillariophyta	Centrales	<i>Melosira</i>	0	4584	0	1164	0	1150	1985	888
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	4767	1146	0	0	0	1183	2064	923
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	1192	6875	0	1164	2096	2266	2682	1200
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	1192	1146	2466	1164	4193	2032	1332	596
Bacillariophyta	Pennales	<i>Amphora sp.</i>	0	0	0	1164	1048	443	607	272
Bacillariophyta	Pennales	<i>Caloneis</i>	0	0	1233	1164	0	479	657	294
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	28602	27502	34524	23285	27252	28233	4053	1812
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	1192	1146	0	1164	1048	910	512	229
Bacillariophyta	Pennales	<i>Cymbella lanceolata</i>	0	2292	0	0	0	458	1025	458
Bacillariophyta	Pennales	<i>Cymbella lata</i>	1192	1146	2466	0	0	961	1025	458
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	2384	1146	1233	1164	1048	1395	557	249
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	9534	18334	14796	4657	1048	9674	7086	3169
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	0	1146	0	0	0	229	512	229
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	2384	2292	0	0	0	935	1281	573
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	0	1146	1233	1164	1048	918	518	231
Bacillariophyta	Pennales	<i>Diploneis elliptica</i>	0	0	1233	0	0	247	551	247
Bacillariophyta	Pennales	<i>Diploneis</i>	1192	1146	0	1164	1048	910	512	229
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	78656	75629	49320	37256	35637	55300	20656	9238
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	114408	100839	39456	44242	46119	69013	35655	15945
Bacillariophyta	Pennales	<i>Fragilaria crotonensis</i>	0	0	1233	0	0	247	551	247
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	4763	6875	12330	11643	4193	7961	3816	1707
Bacillariophyta	Pennales	<i>Frustulia rhomboides</i>	0	1146	0	0	0	229	512	229
Bacillariophyta	Pennales	<i>Gomphonema constrictum</i>	1192	1146	7398	2329	6289	3671	2961	1324
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	11918	4584	4932	4657	1048	5428	3964	1773
Bacillariophyta	Pennales	<i>Hantzschia amphioxys</i>	1192	0	0	1164	0	471	645	289
Bacillariophyta	Pennales	<i>Meridion circulare</i>	2384	0	0	0	0	477	1066	477
Bacillariophyta	Pennales	<i>Navicula aurora</i>	1192	1146	1233	2329	1048	1389	529	237
Bacillariophyta	Pennales	<i>Navicula capitata</i>	0	0	1233	0	0	247	551	247
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	1192	1146	2466	4657	2096	2311	1430	640
Bacillariophyta	Pennales	<i>Navicula spp.</i>	19068	13751	24660	16300	27252	20206	5650	2527
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	4767	2292	0	0	1048	1621	1996	892
Bacillariophyta	Pennales	<i>Nitzschia filiformis</i>	0	1146	0	0	0	229	512	229
Bacillariophyta	Pennales	<i>Nitzschia linearis</i>	1192	0	0	0	0	238	533	238
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	0	0	1233	1164	0	479	657	294
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	1192	4584	7398	9314	6289	5755	3076	1376
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	0	1146	2466	1164	1048	1165	875	391
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	2384	2292	2466	0	4193	2267	1492	667
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	16685	4584	7398	2329	10482	8295	5598	2503
Bacillariophyta	Pennales	<i>Surirella robusta</i>	0	1146	0	0	0	229	512	229
Bacillariophyta	Pennales	<i>Surirella spp.</i>	0	0	1233	0	1048	456	628	281
Bacillariophyta	Pennales	<i>Synedra ulna</i>	2384	1146	9864	4657	4193	4449	3339	1493
Bacillariophyta	Pennales	<i>Synedra spp.</i>	1192	0	0	1164	0	471	645	289
Bacillariophyta	Pennales	<i>Tabellaria fenestrata</i>	0	0	0	1164	0	233	521	233
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	1192	1146	1233	1164	0	947	530	237
Chlorophyta	Chaetophorales	<i>Protoderma</i>	135860	50420	0	0	16770	40610	57086	25530
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	4767	2292	14796	6986	8385	7445	4713	2108
Chlorophyta	Chlorococcales	<i>Ankistrodesmus fractus</i>	1192	0	0	0	0	238	533	238
Chlorophyta	Chlorococcales	<i>Ankistrodesmus spiralis</i>	1192	11459	17262	11643	1048	8521	7147	3196
Chlorophyta	Chlorococcales	<i>Crucigenia quadrata</i>	1192	0	0	0	0	238	533	238
Chlorophyta	Chlorococcales	<i>Euastropsis richteri</i>	1192	1146	0	0	1048	677	620	277
Chlorophyta	Chlorococcales	<i>Pediastrum Boryanum</i>	0	0	1233	0	0	247	551	247
Chlorophyta	Chlorococcales	<i>Pediastrum duplex</i>	0	0	1233	1164	0	479	657	294
Chlorophyta	Chlorococcales	<i>Pediastrum tetras</i>	0	0	1233	1164	0	479	657	294
Chlorophyta	Chlorococcales	<i>Scenedesmus spp.</i>	1192	0	1233	1164	8385	2395	3389	1515
Chlorophyta	Chlorococcales	<i>Schroederia</i>	1192	0	0	0	0	238	533	238
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	1192	1146	1233	1164	1048	1157	69	31
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	0	0	1233	1164	0	479	657	294
Chlorophyta	Ulothricales	<i>Microspora</i>	1192	1146	9864	1164	1048	2883	3903	1745
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	0	0	0	0	1048	210	469	210
Chlorophyta	Zygnematales	<i>Closterium spp.</i>	2384	1146	1233	1164	1048	1395	557	249
Chlorophyta	Zygnematales	<i>Cosmarium</i>	1192	1146	1233	0	1048	924	521	233
Chlorophyta	Zygnematales	<i>Euastrum</i>	0	1146	0	0	0	229	512	229
Chlorophyta	Zygnematales	<i>Mougeotia</i>	4767	1146	2466	1164	1048	2118	1592	712
Chlorophyta	Zygnematales	<i>Spirogyra</i>	1192	1146	1233	1164	1048	1157	69	31
Chlorophyta	Zygnematales	<i>Staurastrum</i>	1192	2292	0	1164	1048	1139	812	363
Cyanophyta	UID		214515	0	0	0	0	42903	95934	42903
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	386127	394190	670752	451729	423453	465250	117761	52664
Cyanophyta	Chroococcales	<i>Anacystis delicatissima</i>	0	1146	0	0	0	229	512	229
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	76272	13751	9864	69855	8385	35625	34307	15343
Cyanophyta	Chroococcales	<i>Dactylococcopsis</i>	2384	1146	0	0	0	706	1061	474
Cyanophyta	Chroococcales	<i>Gomphosphaeria lacustris</i>	0	0	0	1164	1048	443	607	272
Cyanophyta	Chroococcales	<i>Gomphosphaeria sp.</i>	0	0	0	1164	0	233	521	233
Cyanophyta	Nostocales	<i>Anabaena</i>	409962	233764	268794	256135	121585	258048	102967	46048
Cyanophyta	Nostocales	<i>Calothrix poss.</i>	1192	43544	36990	16300	41926	27990	18520	8282
Cyanophyta	Nostocales	<i>Gloeotrichia poss.</i>	634011	242931	76446	1164	157223	222355	247154	110531
Cyanophyta	Nostocales	<i>Nostoc verrucosum</i>	0	0	0	0	257845	51569	115312	51569
Cyanophyta	Nostocales	<i>Nostoc</i>	2002140	2864750	246600	174638	1572225	1372071	1158196	517961
Cyanophyta	Nostocales	<i>Rivularia</i>	154928	80213	61650	0	62889	71936	55494	24818
Cyanophyta	Nostocales	<i>Tolypothrix robusta poss.</i>	0	43544	665820	644995	236882	318248	320521	143341
Cyanophyta	Nostocales	<i>Tolypothrix</i>	102491	0	0	0	0	20498	45835	20498
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	176379	666914	160290	477343	343793	364944	213135	95317
Cyanophyta	Oscillatoriales	<i>Lyngbya spp.</i>	0	0	0	1164	0	233	521	233
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	19068	27502	1233	58213	35637	28330	21018	9400
Rhodophyta	Nemalionales	<i>Audouinella</i>	1192	1146	1233	0	1048	924	521	233

Appendix Table F5-4: Periphyton data (cells/cm²) and summary statistics, mean, std. deviation and std. error, collected from five replicate samples from pool and riffle habitats at W17 and pool habitat in W18 in Tete Angela Creek.

Site Name: Tête Angela Creek W18 Pool Sampling Date: August 17, 1997			Site Number	286	287	288	289	290			
		Area Sampled (cm ²)		129	129	129	129	129			
			Cell Density (cells/cm ²)								
Phylum	Order	Genera and Species	W18 286	W18 287	W18 288	W18 289	W18 290	mean	stdev	SE	
Bacillariophyta	Centrales	<i>Cyclotella glomerata</i>	1838	1123	19636	1146	0	4749	8348	3734	
Bacillariophyta	Centrales	<i>Cyclotella meneghiniana</i>	1838	1123	2182	1146	0	1258	837	374	
Bacillariophyta	Centrales	<i>Melosira</i>	7352	0	0	0	292	1529	3258	1457	
Bacillariophyta	Centrales	<i>Melosira ambigua</i>	14704	0	6545	1146	292	4537	6275	2806	
Bacillariophyta	Centrales	<i>Melosira distans</i>	7352	4492	4364	1146	1753	3821	2482	1110	
Bacillariophyta	Centrales	<i>Melosira varians</i>	0	0	1091	2292	0	677	1019	456	
Bacillariophyta	Centrales	<i>Stephanodiscus</i>	1838	0	0	0	0	368	822	368	
Bacillariophyta	Pennales	<i>Achnanthes lanceolata</i>	7352	15722	10909	4584	292	7772	5902	2639	
Bacillariophyta	Pennales	<i>Achnanthes minutissima</i>	1838	1123	6545	4584	0	2818	2683	1200	
Bacillariophyta	Pennales	<i>Achnanthes spp.</i>	3676	2246	6545	16043	584	5819	6120	2737	
Bacillariophyta	Pennales	<i>Amphipleura pellucida</i>	0	2246	1091	1146	0	897	939	420	
Bacillariophyta	Pennales	<i>Amphiprora ornata</i>	1838	1123	0	0	0	592	849	380	
Bacillariophyta	Pennales	<i>Amphora ovalis</i>	7352	0	0	2292	584	2046	3111	1391	
Bacillariophyta	Pennales	<i>Amphora sp.</i>	0	2246	6545	2292	0	2217	2673	1195	
Bacillariophyta	Pennales	<i>Caloneis ventricosa</i>	1838	0	0	0	0	368	822	368	
Bacillariophyta	Pennales	<i>Cocconeis placentula</i>	11028	8984	6545	6875	1169	6920	3686	1649	
Bacillariophyta	Pennales	<i>Cymatopleura solea</i>	1838	1123	0	1146	0	821	803	359	
Bacillariophyta	Pennales	<i>Cymbella cistula</i>	1838	0	0	0	0	368	822	368	
Bacillariophyta	Pennales	<i>Cymbella cuspidata</i>	1838	1123	1091	0	584	927	684	306	
Bacillariophyta	Pennales	<i>Cymbella mexicana</i>	3676	6738	2182	1146	292	2807	2534	1133	
Bacillariophyta	Pennales	<i>Cymbella minuta</i>	1838	6738	4364	2292	292	3105	2498	1117	
Bacillariophyta	Pennales	<i>Cymbella sinuata</i>	1838	0	1091	1146	0	815	800	358	
Bacillariophyta	Pennales	<i>Cymbella spp.</i>	3676	0	0	0	0	735	1644	735	
Bacillariophyta	Pennales	<i>Diatoma heimale</i>	1838	0	0	0	0	368	822	368	
Bacillariophyta	Pennales	<i>Diatomella</i>	0	0	0	1146	0	229	512	229	
Bacillariophyta	Pennales	<i>Diploneis elliptica</i>	3676	2246	2182	2292	584	2196	1095	490	
Bacillariophyta	Pennales	<i>Diploneis oblongella</i>	1838	0	0	0	584	484	798	357	
Bacillariophyta	Pennales	<i>Epithemia sorex</i>	3676	2246	2182	2292	9935	4066	3339	1493	
Bacillariophyta	Pennales	<i>Epithemia turgida</i>	7352	8984	4364	6875	2922	6099	2429	1086	
Bacillariophyta	Pennales	<i>Eunotia sp.</i>	3676	2246	1091	1146	292	1690	1310	586	
Bacillariophyta	Pennales	<i>Fragilaria capucina</i>	0	0	0	2292	0	458	1025	458	
Bacillariophyta	Pennales	<i>Fragilaria construens</i>	161740	161712	150544	222305	54349	150130	60523	27067	
Bacillariophyta	Pennales	<i>Fragilaria inflata</i>	0	1123	1091	0	0	443	606	271	
Bacillariophyta	Pennales	<i>Fragilaria leptostauron</i>	44111	2246	1091	2292	292	10006	19083	8534	
Bacillariophyta	Pennales	<i>Fragilaria pinnata</i>	14704	2246	2182	22918	4091	9228	9249	4136	
Bacillariophyta	Pennales	<i>Fragilaria spp.</i>	11028	24706	19636	20626	584	15316	9623	4304	
Bacillariophyta	Pennales	<i>Gomphonema affinis</i>	0	1123	0	0	0	225	502	225	
Bacillariophyta	Pennales	<i>Gomphonema spp.</i>	7352	4492	15273	4584	1753	6691	5190	2321	
Bacillariophyta	Pennales	<i>Hantzschia amphioxys</i>	0	0	1091	0	0	218	488	218	
Bacillariophyta	Pennales	<i>Hantzschia sp.</i>	1838	1123	0	0	0	592	849	380	
Bacillariophyta	Pennales	<i>Meridion circulare</i>	3676	2246	2182	2292	1753	2430	729	326	
Bacillariophyta	Pennales	<i>Navicula angelica</i>	0	1123	1091	0	292	501	566	253	
Bacillariophyta	Pennales	<i>Navicula aurora</i>	0	0	1091	1146	0	447	613	274	
Bacillariophyta	Pennales	<i>Navicula capitata</i>	3676	1123	1091	1146	292	1466	1287	575	
Bacillariophyta	Pennales	<i>Navicula cryptocephala</i>	7352	4492	4364	6875	584	4733	2686	1201	
Bacillariophyta	Pennales	<i>Navicula cuspidata</i>	0	0	0	0	292	58	131	58	
Bacillariophyta	Pennales	<i>Navicula elginensis</i>	1838	4492	2182	6875	292	3136	2574	1151	
Bacillariophyta	Pennales	<i>Navicula radiosa</i>	3676	4492	1091	0	292	1910	2045	914	
Bacillariophyta	Pennales	<i>Navicula rhyconcephala</i>	3676	4492	1091	1146	292	2139	1830	818	
Bacillariophyta	Pennales	<i>Navicula spp.</i>	18380	15722	28363	18334	5844	17329	8037	3594	
Bacillariophyta	Pennales	<i>Neidium spp.</i>	1838	2246	4364	0	292	1748	1752	783	
Bacillariophyta	Pennales	<i>Nitzschia acicularis</i>	11028	1123	2182	4584	0	3783	4390	1963	
Bacillariophyta	Pennales	<i>Nitzschia amphibia</i>	1838	0	0	4584	292	1343	1966	879	
Bacillariophyta	Pennales	<i>Nitzschia dissipata</i>	7352	2246	2182	1146	0	2585	2817	1260	
Bacillariophyta	Pennales	<i>Nitzschia filiformis</i>	1838	2246	0	2292	292	1334	1103	493	
Bacillariophyta	Pennales	<i>Nitzschia holsatica</i>	110277	20214	15273	34377	5844	37197	42133	18842	
Bacillariophyta	Pennales	<i>Nitzschia palea</i>	14704	1123	0	1146	0	3395	6347	2839	
Bacillariophyta	Pennales	<i>Nitzschia spp.</i>	22055	26952	24000	20626	6428	20012	7955	3558	
Bacillariophyta	Pennales	<i>Pinnularia spp.</i>	11028	1123	8727	11459	1169	6701	5176	2315	
Bacillariophyta	Pennales	<i>Rhoicosphenia curvata</i>	18380	62888	39272	16043	7597	28836	22319	9981	
Bacillariophyta	Pennales	<i>Rhopalodia gibba</i>	11028	13476	65454	9167	1168	20059	25793	11535	
Bacillariophyta	Pennales	<i>Rhopalodia gibberula</i>	1838	0	0	0	0	368	822	368	
Bacillariophyta	Pennales	<i>Stauroneis sp.</i>	1838	0	1091	1146	292	873	734	328	
Bacillariophyta	Pennales	<i>Surirella angusta</i>	0	2246	1091	1146	292	955	876	392	
Bacillariophyta	Pennales	<i>Surirella spp.</i>	7352	1123	1091	0	292	1972	3048	1363	
Bacillariophyta	Pennales	<i>Synedra spp.</i>	9190	2246	2182	6875	0	4099	3793	1696	
Bacillariophyta	Pennales	<i>Synedra ulna</i>	11028	2246	2182	2292	1753	3900	3990	1784	
Bacillariophyta	Pennales	<i>Tabellaria fenestrata</i>	0	1123	0	0	0	225	502	225	
Chlorophyta	Chaetophorales	<i>Chaetophora</i>	36759	309948	87272	192511	44414	134181	116239	51984	
Chlorophyta	Chaetophorales	<i>Protoderma</i>	0	1123	6545	0	0	1534	2844	1272	
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	3676	1123	2182	1146	0	1625	1382	618	
Chlorophyta	Chlorococcales	<i>Ankistrodesmus spiralis</i>	1838	1123	0	1146	0	821	803	359	
Chlorophyta	Chlorococcales	<i>Scenedesmus spp.</i>	1838	1123	1091	9167	292	2702	3655	1635	
Chlorophyta	Euglenales	<i>Phacus spp.</i>	1838	0	6545	2292	584	2252	2572	1150	
Chlorophyta	Euglenales	<i>Trachelomonas spp.</i>	3676	4492	8727	18334	2338	7513	6504	2909	
Chlorophyta	Oedogoniales	<i>Oedogonium</i>	0	1123	0	1146	0	454	621	278	
Chlorophyta	Tetrasporales	<i>Gloeocystis</i>	0	1123	1091	0	292	501	566	253	
Chlorophyta	Volvocales	<i>Chlamydomonas</i>	0	1123	1091	1146	292	730	544	243	
Cyanophyta	Chroococcales	<i>Agmenellum tenuissima</i>	88222	71872	52363	1146	7013	44123	38752	17330	
Cyanophyta	Chroococcales	<i>Anacystis spp.</i>	1838	1123	0	0	292	651	807	361	
Cyanophyta	Chroococcales	<i>Coccochloris clathrata poss.</i>	0	0	17454	0	0	3491	7806	3491	
Cyanophyta	Chroococcales	<i>Gomphosphaeria lacustris</i>	1838	0	0	1146	292	655	811	363	
Cyanophyta	Chroococcales	<i>Gomphosphaeria sp.</i>	0	0	1091	0	0	218	488	218	
Cyanophyta	Nostocales	<i>Anabaena</i>	1838	8984	1091	1146	292	2670	3572	1597	
Cyanophyta	Nostocales	<i>Calothrix poss.</i>	0	47166	0	50420	4091	20335	26057	11653	
Cyanophyta	Nostocales	<i>Gloeotrichia poss.</i>	1838	1123	0	0	292	651	807	361	
Cyanophyta	Nostocales	<i>Nostoc verrucosum</i>	1838	1123	163635	1146	292	33607	72690	32508	
Cyanophyta	Nostocales	<i>Rivularia</i>	0	1123	246543	1146	292	49821	109972	49181	
Cyanophyta	Nostocales	<i>Tolypothrix</i>	1838	0	43636	0	292	9153	19292	8627	
Cyanophyta	Oscillatoriales	<i>Lyngbya limnetica</i>	294072	26952	176726	332311	74803	180973	132954	59459	
Cyanophyta	Oscillatoriales	<i>Oscillatoria spp.</i>	47787	1123	13091	1146	292	12688	20327	9090	
Pyrrophyta	Cryptomonadales	<i>Cryptomonas sp.</i>	0	1123	0	1146	292	512	580	260	
Rhodophyta	Nemalionales	<i>Audouinella</i>	0	0							

Appendix F6 Periphyton composition 2006

Table 1: 2006 Fish Creek Periphyton Composition

Table 2: 2006 Taseko River Periphyton Composition

Table 3: 2006 Tête Angela Periphyton Composition

Appendix Table F6-1: Periphyton data (cells/cm²) collected from five replicate samples at four sites in Fish Creek, August 2006

Site Name: Fish Creek W1
Date: August 15, 2006

		Sample Number	060774	060775	060776	060777	060778
		Area Sampled (cm ²)	72.4	72.4	72.4	72.4	72.4
Cell Densities (cells/cm ²)							
Phylum	Order	Genera and Species	W2-P1	W2-P2	W2-P3	W2-P4	W2-P5
Bacillariophyceae	Centrales	<i>Melosira italica</i>	0	0	43.2	<23.6	<11.4
		<i>Melosira varians</i>	33.8	57.2	280.8	0	<11.4
	Pennales	<i>Achnanthes lanceolata</i>	223.8	331.5	585.2	0	705.6
		<i>Achnanthes minutissima</i>	10,762.5	2,320.5	1,086.8	94.4	8,821.8
		<i>Achnanthes</i> spp.	861.0	663.0	585.2	0	678.6
		<i>Amphipleura pellucida</i>	57.6	0	<10.8	0	<11.4
		<i>Amphiprora ornata</i>	<14.4	0	0	0	<11.4
		<i>Amphiprora</i> sp.	0	0	<10.8	0	0
		<i>Amphora ovalis</i>	<14.4	<14.3	21.6	<23.6	68.4
		<i>Amphora</i> sp.	223.8	1,105.0	668.8	94.4	6,446.7
		<i>Asterionella formosa</i>	0	0	0	0	264.6
		<i>Caloneis ventricosa</i>	0	0	<10.8	0	0
		<i>Caloneis</i> sp.	<14.4	0	<10.8	<23.6	0
		<i>Caloneis</i> sp. ?	0	0	0	0	<11.4
		<i>Campylodiscus</i> sp.	0	0	21.6	0	<11.4
		<i>Cocconeis diminuta</i>	<14.4	0	0	0	0
		<i>Cocconeis placentula</i>	518.4	663.0	1,086.8	188.8	441.0
		<i>Cymatopleura elliptica</i>	0	0	21.6	0	11.4
		<i>Cymatopleura solea</i>	<14.4	0	43.2	0	<11.4
		<i>Cymatopleura</i> sp.	0	0	<10.8	0	<11.4
		<i>Cymbella affinis</i>	3,874.5	143.0	43.2	<23.6	0
		<i>Cymbella aspera</i> / <i>lanceolata</i> sp.	<14.4	0	<10.8	0	0
		<i>Cymbella cistula</i>	144.0	<14.3	172.8	<23.6	<11.4
		<i>Cymbella cymbiformis</i>	115.2	0	0	0	0
		<i>Cymbella mexicana</i>	28.8	28.6	108.0	0	<11.4
		<i>Cymbella minuta</i>	20,664.0	1,878.5	3,537.6	1,096.2	4,410.9
		<i>Cymbella muelleri</i>	<14.4	<14.3	<10.8	0	0
		<i>Cymbella sinuata</i>	223.8	110.5	250.8	0	0
		<i>Cymbella</i> spp.	0	0	<10.8	0	<11.4
		<i>Denticula</i> sp.	28.8	<14.3	0	0	0
		<i>Diploneis elliptica</i>	<14.4	0	<10.8	<23.6	0
		<i>Diploneis oblongella</i>	0	0	<10.8	0	0
		<i>Epithemia sorex</i>	201.6	143.0	64.8	283.2	<11.4
		<i>Epithemia turgida</i>	691.2	743.6	10.8	141.6	<11.4
		<i>Epithemia</i> sp.	172.8	28.6	<10.8	23.6	0
		<i>Eunotia</i> spp.	0	0	<10.8	<23.6	0
		<i>Fragilaria capucina</i>	201.6	57.2	0	0	114.0
		<i>Fragilaria construens</i>	4,587.9	2,652.0	19,296.0	1,644.3	6,526.8
		<i>Fragilaria inflata</i>	<14.4	0	0	0	0
		<i>Fragilaria leptostauron</i>	<14.4	0	501.6	0	<11.4
		<i>Fragilaria pinnata</i>	447.6	773.5	668.8	0	176.4
		<i>Fragilaria vaucheriae</i>	223.8	110.5	250.8	141.6	<11.4
		<i>Fragilaria</i> spp.	0	<14.3	0	0	0
		<i>Gomphoneis herculeana</i>	<14.4	<14.3	0	0	<11.4
		<i>Gomphonema acuminatum</i>	57.6	<14.3	43.2	<23.6	0
		<i>Gomphonema constrictum</i>	<14.4	28.6	<10.8	0	<11.4
		<i>Gomphonema gracile</i>	0	<14.3	43.2	<23.6	<11.4
		<i>Gomphonema parvulum</i>	86.4	0	21.6	<23.6	176.4
		<i>Gomphonema sphaerosporum</i>	<14.4	0	<10.8	0	0
		<i>Gomphonema subclavatum</i>	<14.4	0	0	0	<11.4
		<i>Gomphonema</i> spp.*	4,305.0	1,436.5	501.6	1,461.6	705.6
		<i>Navicula aurora</i>	0	0	<10.8	0	0
		<i>Navicula cryptocephala</i>	86.4	28.6	250.8	<23.6	264.6
		<i>Navicula cryptonella</i>	3,013.5	442.0	836.0	94.4	970.2
		<i>Navicula cuspidata</i>	0	0	<10.8	0	<11.4
		<i>Navicula elginensis</i>	0	<14.3	<10.8	0	<11.4
		<i>Navicula pupula</i>	<14.4	0	<10.8	0	<11.4
		<i>Navicula radiosa</i>	28.8	14.3	43.2	<23.6	<11.4
		<i>Navicula rhyconcephala</i>	57.6	<14.3	64.8	0	22.8
		<i>Navicula salinarum</i>	<14.4	0	21.6	0	0
		<i>Navicula</i> spp.	1,291.5	1,215.5	919.6	94.4	4,410.9
		<i>Neidium</i> spp.	0	0	<10.8	0	0
		<i>Nitzschia acicularis</i>	28.8	0	0	0	0
		<i>Nitzschia angustata</i>	<14.4	0	0	0	<11.4
		<i>Nitzschia dissipata</i>	861.0	110.5	250.8	<23.6	45.6
		<i>Nitzschia filiformis</i>	144.0	28.6	108.0	0	0
		<i>Nizschia</i> cf. <i>fonticola</i>	335.7	221.0	43.2	0	176.4
		<i>Nitzschia linearis</i>	<14.4	0	0	0	0
		<i>Nitzschia palea</i>	<14.4	110.5	0	0	0
		<i>Nitzschia sigmoidea</i>	0	0	0	0	<11.4
		<i>Nitzschia</i> spp.	3,444.0	2,652.0	5,467.2	548.1	4,750.2
		<i>Opephora Martyi</i>	28.8	57.2	501.6	47.2	0
		<i>Pinnularia</i> spp.	<14.4	0	0	0	<11.4
		<i>Pleurosigma</i> / <i>Gyrosigma</i> sp.	0	0	0	0	<11.4
		<i>Rhoicosphenia curvata</i>	57.6	114.4	86.4	47.2	11,536.2
		<i>Rhopalodia gibba</i>	86.4	228.8	561.6	<23.6	0

Appendix Table F6-1: Periphyton data (cells/cm²) collected from five replicate samples at four sites in Fish Creek, August 2006

Site Name: Fish Creek W1
Date: August 15, 2006

		Sample Number	060774	060775	060776	060777	060778
		Area Sampled (cm ²)	72.4	72.4	72.4	72.4	72.4
Cell Densities (cells/cm ²)							
Phylum	Order	Genera and Species	W2-P1	W2-P2	W2-P3	W2-P4	W2-P5
		<i>Stauroneis sp.</i>	0	<14.3	<10.8	<23.6	<11.4
		<i>Surirella angusta</i>	<14.4	0	10.8	0	<11.4
		<i>Surirella spp.</i>	<14.4	0	43.2	0	11.4
		<i>Synedra cyclopum</i>	0	0	<10.8	<23.6	22.8
		<i>Synedra incisa</i>	0	0	21.6	0	0
		<i>Synedra ulna</i>	<14.4	<14.3	43.2	0	22.8
		<i>Synedra spp.</i>	28.8	0	<10.8	0	0
		UID	0	221.0	83.6	0	0
Chlorophyta	Chaetophorales	<i>Chaetophora incrassata</i>	6,266.4	6,188.0	3,344.0	0	0
		<i>Chaetophora sp.</i>	0	0	0	236.0	0
		<i>Gongrosira sp. ?</i>	0	457.6	0	9,842.0	0
		<i>Protoderma sp.</i>	748.8	543.4	0	0	0
		<i>Protoderma sp. ?</i>	0	0	0	9,842.0	0
		<i>Stigeoclonium cf. nanum</i>	432.0	0	0	0	0
		UID Chaetophorales	32,718.0	86,720.4	334.4	78,736.0	2,028.6
	Chlorococcales	<i>Botryococcus Braunii</i>	0	0	<10.8	0	<11.4
		<i>Characium sp.</i>	<14.4	0	<10.8	0	0
		<i>Coelastrum sp.</i>	<14.4	0	0	0	0
		<i>Crucigenia rectangularis</i>	0	0	668.8	0	0
		<i>Oocystis spp.</i>	0	28.6	0	0	0
		<i>Pediastrum Boryanum</i>	86.4	<14.3	777.6	<23.6	<11.4
		<i>Pediastrum sp.</i>	0	0	345.6	0	<11.4
		<i>Quadrigula sp.</i>	<14.4	0	0	0	0
		<i>Scenedesmus spp.</i>	12,054.0	9,282.0	13,828.8	2,192.4	1,764.0
		<i>Schroederia sp.</i>	<14.4	<14.3	21.6	0	0
		<i>Sphaerocystis sp.</i>	86.4	<14.3	129.6	0	0
		<i>Tetradesmus winsconsinenses</i>	<14.4	0	259.2	0	0
	Euglenales	<i>Trachelomonas spp.</i>	0	28.6	0	0	0
		UID Euglenales	0	<14.3	0	0	0
	Oedogoniales	<i>Oedogonium spp.</i>	<14.4	171.6	<10.8	0	<11.4
	Zygnematales	<i>Closterium spp.</i>	<14.4	0	<10.8	0	<11.4
		<i>Mougeotia spp</i>	0	0	<10.8	0	0
		<i>Spirogyra spp.</i>	<14.4	<14.3	<10.8	0	0
Chlorophyta		UID colonial	895.2	1,215.5	1,337.6	<23.6	0
		UID filamentous	671.4	0	216.0	0	0
		UID unicellular	<14.4	3,825.9	2,572.8	548.1	352.8
Chrysophyta	Ochromonadales	Ochromonadales flagellate	<14.4	0	0	0	0
Chrysophyta		UID colonial	0	171.6	0	0	0
		UID cyst	111.9	110.5	250.8	365.4	264.6
		UID unicellular	<14.4	331.5	0	0	0
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon spp.</i>	27,982.5	10,627.5	3,537.6	0	0
		<i>Clastidium setigerum</i>	335.7	<14.3	83.6	0	0
	Chroococcales	<i>Aphanocapsa spp.</i>	1,036.8	3,536.0	8,025.6	<23.6	<11.4
		<i>Aphanothece spp.</i>	0	1,768.0	0	25,308.0	0
		<i>Chroococcus spp.</i>	0	171.6	0	188.8	0
		<i>Gomphosphaeria lacustris</i>	<14.4	0	0	0	0
		<i>Gomphosphaeria Naegelianum</i>	0	0	<10.8	0	0
		<i>Merismopedia spp.</i>	0	0	<10.8	188.8	0
		UID Chroococcales	0	3,400.8	1,608.0	0	1,017.9
	Nostocales	<i>Anabaena spp.</i>	201.6	<14.3	0	0	<11.4
		<i>Anabaena / Nostoc sp.</i>	<14.4	0	<10.8	0	0
		<i>Aphanizomenon flos-aquae</i>	<14.4	0	<10.8	0	0
		<i>Calothrix sp.?</i>	3,468.9	3,204.5	<10.8	0	0
		<i>Dichothrix sp.</i>	0	0	0	<23.6	0
		<i>Gloeotrichia sp.</i>	0	<14.3	0	0	0
		<i>Nostoc spp.</i>	<14.4	1,658.8	<10.8	0	0
		<i>Rivularia spp.</i>	3,916.5	5,635.5	0	497,724.0	<11.4
		<i>Tolypothrix spp.</i>	0	0	3,369.6	0	<11.4
		UID Nostocales	1,566.6	9,724.0	0	53,428.0	205.2
	Oscillatoriales	<i>Lyngbya spp.</i>	<14.4	2,210.0	0	<23.6	<11.4
		<i>Homoeothrix varians</i>	157,563.0	218,501.4	6,753.6	188,404.0	2,205.0
		<i>Oscillatoria spp.</i>	4,923.6	5,635.5	4,263.6	1,557.6	2,205.0
		<i>Phormidium sp. ?</i>	0	0	0	1,019,350.0	0
		<i>Pseudanabaena catenata</i>	259.2	994.5	585.2	0	0
		<i>Pseudanabaena sp.</i>	<14.4	<14.3	2,842.4	<23.6	1,587.6
		<i>Schizothrix sp. ?</i>	0	0	0	5,298.3	0
		<i>Spirulina sp.</i>	0	0	<10.8	0	0
		UID Oscillatoriales	0	1,326.0	0	0	0
Rhodophyta	Nemalionales	<i>Audouinella sp.</i>	<14.4	0	<10.8	0	0
Unidentified		UID colonial	559.5	8,502.0	1,003.2	0	<11.4
		UID cysts	<14.4	0	0	0	0
		UID flagellate	0	110.5	0	47.2	0
		UID unicellular	3,444.0	8,076.9	3,537.6	5,624.0	2,714.4
		Zoospores	0	0	643.2	0	0

Appendix Table F6-1: Periphyton data (cells/cm²) collected from five replicate samples at four sites in Fish Creek, August 2006

Site Name: Fish Creek W3
Date: August 15, 2006

		Sample Number	060779	060780	060781	060782	060783
		Area Sampled (cm ²)	72.4	72.4	72.4	72.4	72.4
Cell Densities (cells/cm ²)							
Phylum	Order	Genera and Species	W3-P1	W3-P2	W3-P3	W3-P4	W3-P5
Bacillariophyceae	Pennales	<i>Achnanthes lanceolata</i>	<12.7	0	0	0	0
		<i>Achnanthes minutissima</i>	25.4	0	79.2	0	<26.3
		<i>Achnanthes spp.</i>	76.2	0	<13.2	0	0
		<i>Caloneis sp.</i>	0	0	0	0	<26.3
		<i>Cocconeis placentula</i>	50.8	12.9	52.8	73.2	105.2
		<i>Cymbella cistula</i>	0	0	0	<24.2	<26.3
		<i>Cymbella mexicana</i>	<12.7	0	0	0	0
		<i>Cymbella minuta</i>	0	<12.9	0	0	<26.3
		<i>Cymbella sinuata</i>	<12.7	0	<13.2	0	0
		<i>Epithemia turgida</i>	0	<12.9	0	0	0
		<i>Gomphonema acuminatum</i>	0	0	<13.2	0	0
		<i>Gomphonema spp.*</i>	0	<12.9	<13.2	<24.2	<26.3
		<i>Navicula cryptocephala</i>	<12.7	0	0	0	0
		<i>Navicula tripunctata</i>	<12.7	<12.9	<13.2	0	<26.3
		<i>Navicula spp.</i>	<12.7	0	<13.2	0	<26.3
		<i>Nitzschia acicularis</i>	0	0	0	<24.2	0
		<i>Nitzschia dissipata</i>	0	<12.9	0	0	0
		<i>Rhoicosphenia curvata</i>	<12.7	0	0	0	0
		<i>Rhopalodia gibba</i>	0	<12.9	0	0	0
		<i>Surirella spp.</i>	<12.7	0	0	0	0
		UID	0	0	<13.2	0	<26.3
Chlorophyta	Chaetophorales	<i>Chaetophora / Stigeoclonium sp.</i>	<12.7	<12.9	0	0	0
	Oedogoniales	<i>Oedogonium spp.</i>	<12.7	0	0	0	0
Chlorophyta		UID colonial	<12.7	0	0	0	0
		UID filamentous	<12.7	0	0	0	0
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon spp.</i>	19,005.0	3,457.8	3,139.2	2,546.6	110,656.8
	Chroococcales	<i>Chroococcus spp.</i>	<12.7	0	26.4	0	0
		<i>Entophysalis / Chlorogloea sp ?</i>	410,508.0	258,182.4	166,770.0	263,364.2	22,366.8
		UID Chroococcales	203.2	0	0	0	0
	Nostocales	<i>Rivularia spp.</i>	0	0	<13.2	0	0
		UID Nostocales	0	0	<13.2	0	<26.3
	Oscillatoriales	<i>Homoeothrix varians</i>	4,446.0	954.6	8,058.0	3,496.5	269,971.2
		<i>Oscillatoria spp.</i>	88.9	0	2,448.0	0	0
		<i>Pseudanabaena sp.</i>	0	0	<13.2	0	0
		UID Oscillatoriales	0	0	580.8	<24.2	<26.3
Rhodophyta	Nemalionales	<i>Audouinella sp.</i>	0	0	<13.2	0	0
Unidentified		UID psuedoparenchymatous	65,377.2	76,071.6	73,378.8	53,842.4	12,556.8
		UID unicellular	25.4	199.6	0	0	0

Appendix Table F6-1: Periphyton data (cells/cm²) collected from five replicate samples at four sites in Fish Creek, August 2006

Site Name: Fish Creek W8
Date: September 16, 2006

		Sample Number	060784	060785	060786	060787	060788
		Area Sampled (cm ²)	48.2	48.2	48.2	48.2	48.2
Cell Density (cells / cm2)							
Phylum	Order	Genera and Species	W8-P1	W8-P2	W8-P3	W8-P4	W8-P5
Bacillariophyceae	Centrales	<i>Cyclotella Meneghiniana</i>	<19.8	0	0	132.0	222.0
		<i>Melosira varians</i>	0	0	0	<22.0	0
	Pennales	<i>Achnanthes lanceolata</i>	<19.8	0	0	44.0	44.4
		<i>Achnanthes minutissima</i>	39.6	155.2	16.9	170.7	44.4
		<i>Achnanthes spp.</i>	0	0	0	44.0	0
		<i>Amphipleura pellucida</i>	0	0	0	<22.0	<22.2
		<i>Amphora ovalis</i>	<19.8	<19.4	0	88.0	<22.2
		<i>Amphora sp.</i>	0	0	0	0	<22.2
		<i>Caloneis sp.</i>	0	0	0	<22.0	0
		<i>Cocconeis pediculus</i>	0	0	0	<22.0	0
		<i>Cocconeis placentula</i>	<19.8	0	16.9	853.5	177.6
		<i>Cymatopleura sp.</i>	0	0	0	<22.0	0
		<i>Cymbella aspera / lanceolata sp.</i>	0	0	0	0	<22.2
		<i>Cymbella cystula</i>	0	<19.4	<16.9	44.0	<22.2
		<i>Cymbella cuspidata</i>	<19.8	0	0	0	0
		<i>Cymbella mexicana</i>	0	0	0	<22.0	0
		<i>Cymbella minuta</i>	<19.8	<19.4	0	<22.0	<22.2
		<i>Cymbella sinuata</i>	0	0	0	341.4	0
		<i>Cymbella spp.</i>	<19.8	0	0	<22.0	<22.2
		<i>Epithemia sorex</i>	<19.8	0	0	10,510.4	88.8
		<i>Epithemia turgida</i>	19.8	38.8	0	1,024.2	488.4
		<i>Epithemia sp.</i>	<19.8	<19.4	0	308.0	133.2
		<i>Eunotia spp.</i>	<19.8	0	0	<22.0	0
		<i>Fragilaria capucina</i>	<19.8	<19.4	0	<22.0	0
		<i>Fragilaria construens</i>	158.4	77.6	<16.9	2,048.4	266.4
		<i>Fragilaria crotonensis</i>	0	0	0	<22.0	0
		<i>Fragilaria leptostauron</i>	<19.8	0	0	<22.0	0
		<i>Fragilaria pinnata</i>	<19.8	0	<16.9	341.4	0
		<i>Fragilaria vaucheriae</i>	0	19.4	<16.9	44.0	0
		<i>Fragilaria spp.</i>	0	0	0	0	<22.2
		<i>Frustulia rhomboides</i>	0	<19.4	<16.9	<22.0	<22.2
		<i>Gomphonema acuminatum</i>	0	0	0	88.0	0
		<i>Gomphonema constrictum</i>	<19.8	0	<16.9	22.0	44.4
		<i>Gomphonema parvulum</i>	39.6	<19.4	0	132.0	44.4
		<i>Gomphonema spp.*</i>	118.8	0	<16.9	170.7	133.2
		<i>Meridion circulare</i>	<19.8	0	0	0	0
		<i>Navicula capitata</i>	<19.8	0	0	<22.0	0
		<i>Navicula cryptocephala</i>	39.6	19.4	0	44.0	<22.2
		<i>Navicula cryptonella</i>	0	0	<16.9	88.0	44.4
		<i>Navicula elginensis</i>	<19.8	<19.4	0	<22.0	<22.2
		<i>Navicula pupula</i>	<19.8	<19.4	0	<22.0	<22.2
		<i>Navicula radiosa</i>	39.6	<19.4	0	<22.0	0

Appendix Table F6-1: Periphyton data (cells/cm²) collected from five replicate samples at four sites in Fish Creek, August 2006

Site Name: Fish Creek W8
Date: September 16, 2006

		Sample Number	060784	060785	060786	060787	060788
		Area Sampled (cm ²)	48.2	48.2	48.2	48.2	48.2
Cell Density (cells / cm2)							
Phylum	Order	Genera and Species	W8-P1	W8-P2	W8-P3	W8-P4	W8-P5
		<i>Navicula rhyconcephala</i>	39.6	<19.4	0	44.0	44.4
		<i>Navicula salinarum</i>	0	0	0	<22.0	0
		<i>Navicula spp.</i>	158.4	38.8	0	341.4	44.4
		<i>Neidium dubium</i>	0	0	0	0	<22.2
		<i>Neidium spp.</i>	<19.8	0	0	0	0
		<i>Nitzschia acicularis</i>	0	0	0	0	344.6
		<i>Nitzschia dissipata</i>	39.6	0	<16.9	0	172.3
		<i>Nitzschia filiformis</i>	0	<19.4	0	0	0
		<i>Nitzschia sigmoidea</i>	<19.8	0	0	0	0
		<i>Nitzschia spp.</i>	919.2	194.0	0	1,024.2	516.9
		<i>Rhoicosphenia curvata</i>	<19.8	0	50.7	1,536.3	133.2
		<i>Rhopalodia gibba</i>	<19.8	77.6	<16.9	176.0	<22.2
		<i>Stauroneis sp.</i>	<19.8	0	0	0	0
		<i>Surirella angusta</i>	<19.8	0	0	<22.0	0
		<i>Surirella spp.</i>	0	0	0	<22.0	0
		<i>Synedra ulna</i>	0	0	0	22.0	<22.2
		<i>Synedra spp.</i>	1,991.6	38.8	0	682.8	1,033.8
		UID	0	<19.4	<16.9	0	<22.2
Chlorophyta	Chaetophorales	<i>Chaetophora sp.</i>	9,038.8	1,784.8	<16.9	5,462.4	21,537.5
		<i>Chaetophaeridium sp.</i>	0	3,150.0	0	0	689.2
		<i>Gongrosira sp. ?</i>	0	0	0	0	1,723.0
		<i>Microthamnion sp.</i>	277.2	582.0	0	0	0
		<i>Stigeoclonium cf. nanum</i>	0	0	0	1,024.2	0
		UID Chaetophorales	117,728.4	7,502.3	0	122,183.4	49,069.4
	Chlorococcales	<i>Ankistrodesmus falcatus</i>	158.4	77.6	0	44.0	133.2
		<i>Ankistrodesmus fractus</i>	0	0	0	<22.0	0
		<i>Ankistrodesmus spiralis</i>	<19.8	<19.4	0	<22.0	0
		<i>Ankistrodesmus sp.</i>	0	<19.4	0	0	44.4
		<i>Characium sp.</i>	0	38.8	0	0	0
		<i>Coelastrum sp.</i>	0	0	0	<22.0	0
		<i>Pediastrum Boryanum</i>	0	0	0	<22.0	0
		<i>Pediastrum tetras</i>	0	0	0	<22.0	0
		<i>Scenedesmus spp.</i>	1,225.6	465.6	0	836.0	1,723.0
		<i>Selanastrum sp.</i>	0	<19.4	0	44.0	44.4
		<i>Tetraedron sp.</i>	0	0	0	44.0	0
		UID Chlorococcales	<19.8	0	0	0	0
	Euglenales	<i>Phacus spp.</i>	0	0	0	<22.0	<22.2
		UID Euglenales	0	0	0	44.0	88.8
	Oedogoniales	<i>Oedogonium spp.</i>	0	<19.4	<16.9	88.0	<22.2
	Ulothricales	<i>Microspora sp.</i>	28,495.2	1,047.6	<16.9	0	0
	Volvocales Zygnematales	<i>Chlamydomonas sp.?</i>	0	0	0	44.0	0
		<i>Closterium spp.</i>	0	0	0	0	<22.2
		<i>Staurastrum sp.</i>	0	0	0	0	<22.2
Chlorophyta		UID colonial	79.2	<19.4	0	176.0	0
		UID filamentous	633.6	465.6	<16.9	0	0
		UID unicellular	459.6	2,308.4	0	170.7	0
Chrysophyta	Chromulinales	<i>Chrysococcus sp.</i>	0	38.8	0	0	0
	Mischococcales	<i>Ophiocytium sp.</i>	612.8	600.0	0	0	133.2
	Ochromonadales	<i>Pseudokephyrion sp.</i>	0	<19.4	0	0	0
	Tribonematales	<i>Tribonema sp.</i>	594.0	1,800.0	0	176.0	<22.2
	Chrysophyta	UID colonial	0	4,200.0	0	0	0
		UID cyst	<19.8	<19.4	0	170.7	44.4
Cyanophyta	Chamaesiphonales Chroococcales	<i>Chamaesiphon spp.</i>	0	0	0	512.1	172.3
		<i>Aphanocapsa spp.</i>	<19.8	0	0	0	0
		<i>Aphanothece spp.</i>	0	0	0	0	710.4
		<i>Gomphosphaeria sp.</i>	0	0	0	<22.0	0
		<i>Merismopedia spp.</i>	0	0	0	<22.0	0
	Nostocales	<i>Gloeotrichia sp.</i>	0	<19.4	0	0	0
		<i>Nostoc spp.</i>	<19.8	<19.4	<16.9	<22.0	0
		<i>Rivularia spp.</i>	544,782.4	311,634.0	<16.9	308,743.0	899,163.6
		<i>Tolypothrix spp.</i>	1,069.2	407,432.6	5,171.4	0	0
		UID Nostocales	0	0	0	0	1,198.8
	Oscillatoriales	<i>Lyngbya spp.</i>	1,991.6	9,900.0	0	0	57,026.6
		<i>Homoeothrix varians</i>	71,560.4	72,137.5	405.6	246,994.4	403,164.8
		<i>Oscillatoria spp.</i>	24,815.3	10,387.8	0	0	12,233.3
		<i>Pseudanabaena sp.</i>	1,991.6	<19.4	0	0	0
		UID Oscillatoriales	<19.8	1,319.2	<16.9	<22.0	0
Pyrrophyta Rhodophyta	Dinokontae	<i>Peridinium / Glenodinium sp.</i>	0	0	0	44.0	0
	Nemalionales	<i>Audouinella sp.</i>	<19.8	0	<16.9	1,365.6	88.8
			0	0	0	0	0
Unidentified		UID colonial	237.6	900.0	0	0	399.6
		UID flagellate	39.6	<19.4	0	341.4	0
		UID psuedoparenchymatous	0	<19.4	0	0	0
		UID unicellular	2,308.4	2,308.4	0	1,313.8	3,978.6

Appendix Table F6-2: Periphyton data (cells/cm²) collected from five replicate samples at three sites in Taseko River, September 2006.

Site Name: Taseko River W6
Date: September 5, 2006

Sample Number			060794	060795	060796	060797	060798
Area Sampled (cm ²)			48.2	48.2	48.2	48.2	48.2
			Cell Densities (cells/cm ²)				
Phylum	Order	Genera and Species	W6-P1	W6-P2	W6-P3	W6-P4	W6-P5
Bacillariophyceae	Centrales	<i>Cyclotella sp.</i>	0	0	0	<18.5	0
	Pennales	<i>Achnanthes flexella</i>	2,578.4	3,404.5	3,159.0	1,436.0	1,851.0
		<i>Achnanthes minutissima</i>	302,608.8	235,837.8	391,455.4	138,150.0	219,357.6
		<i>Achnanthes spp.</i>	2,480.4	4,764.4	8,909.9	8,841.6	9,970.8
		<i>Amphipleura pellucida</i>	41.6	39.9	40.8	18.5	<23.9
		<i>Anomoeoneis vitrea</i>	5,156.8	1,547.5	5,370.3	2,154.0	1,295.7
		<i>Caloneis ventricosa</i>	<41.6	<39.9	0	0	0
		<i>Caloneis sp.</i>	<41.6	0	0	0	<23.9
		<i>Caloneis sp. ?</i>	0	159.6	0	0	0
		<i>Ceratoneis arcus</i>	0	<39.9	<40.8	0	0
		<i>Cocconeis placentula</i>	<41.6	<39.9	<40.8	<18.5	<23.9
		<i>Cymbella affinis</i>	<41.6	0	244.8	1,005.2	239.0
		<i>Cymbella cesatii</i>	416.0	159.6	163.2	111.0	286.8
		<i>Cymbella cistula</i>	166.4	39.9	163.2	18.5	23.9
		<i>Cymbella cymbiformis</i>	0	0	163.2	0	95.6
		<i>Cymbella minuta</i>	4,512.2	4,952.0	5,370.3	2,154.0	2,776.5
		<i>Cymbella muelleri</i>	83.2	<39.9	81.6	<18.5	<23.9
		<i>Cymbella sinuata</i>	0	0	<40.8	0	<23.9
		<i>Cymbella spp.</i>	915.2	1,197.0	816.0	2,010.4	382.4
		<i>Diatoma elongatum</i>	3,545.3	2,785.5	3,790.8	3,015.6	2,221.2
		<i>Diatoma heimale</i> var. <i>mesodon</i>	0	<39.9	0	<18.5	0
		<i>Diatomella sp.</i>	<41.6	0	0	0	0
		<i>Didymosphenia geminata</i>	1,248.0	239.4	1,060.8	111.0	286.8
		<i>Epithemia sorex</i>	<41.6	0	0	0	0
		<i>Eunotia spp.</i>	<41.6	<39.9	<40.8	0	0
		<i>Fragilaria leptostauron</i>	0	<39.9	0	0	0
		<i>Fragilaria pinnata</i>	0	0	<40.8	0	0
		<i>Fragilaria vaucheriae</i>	23,563.8	28,586.4	65,647.8	16,578.0	31,336.8
		<i>Fragilaria spp.</i>	<41.6	0	0	0	0
		<i>Frustulia rhomboides</i>	<41.6	0	<40.8	0	<23.9
		<i>Gomphonema olivaceum</i>	<41.6	928.5	947.7	718.0	925.5
		<i>Gomphonema parvulum</i>	0	<39.9	0	0	0
		<i>Gomphonema spp.*</i>	5,801.4	4,333.0	9,161.1	6,749.2	5,182.8
		<i>Navicula cryptonella</i>	1,289.2	1,238.0	1,579.5	718.0	191.2
		<i>Navicula lanceolata</i>	<41.6	239.4	163.2	74.0	47.8
		<i>Nitzschia angustata</i>	0	<39.9	0	<18.5	0
		<i>Nitzschia dissipata</i>	0	79.8	0	0	0
		<i>Nitzschia palea</i>	0	79.8	315.9	37.0	0
		<i>Nitzschia spp.</i>	966.9	619.0	631.8	143.6	370.2
		<i>Pinnularia spp.</i>	<41.6	<39.9	<40.8	<18.5	0
		<i>Rhoicosphenia curvata</i>	0	0	0	<18.5	0
		<i>Surirella spp.</i>	<41.6	0	0	0	0
		<i>Synedra acus</i>	0	<39.9	<40.8	<18.5	<23.9
		<i>Synedra cf. filiformis</i>	7,441.2	11,911.0	14,588.4	17,683.2	12,819.6
		<i>Synedra rumpens</i>	0	<39.9	0	0	0
		<i>Synedra ulna</i>	332.8	159.6	571.2	<18.5	47.8
		<i>Synedra spp.</i>	6,201.0	5,955.5	6,078.5	2,210.4	4,985.4
		<i>Tabellaria flocculosa</i>	<41.6	<39.9	0	0	<23.9
		UID	0	0	0	143.6	0
Chlorophyta	Chaetophorales	<i>Draparnaldia sp.</i>	<41.6	0	571.2	<18.5	0
		<i>Stigeoclonium sp.</i>	0	0	<40.8	0	0
		UID Chaetophorales	<41.6	0	0	0	<23.9
	Chlorococcales	<i>Ankistrodesmus fractus</i>	0	0	0	<18.5	0
		<i>Pediastrum Boryanum</i>	0	0	<40.8	0	0
	Oedogoniales	<i>Bulbochaete sp.</i>	832.0	159.6	652.8	<18.5	0
		<i>Oedogonium spp.</i>	166.4	<39.9	734.4	<18.5	0
	Ulothricales Zygnematales	<i>Ulothrix zonata</i>	416.0	<39.9	<40.8	<18.5	<23.9
		<i>Closterium spp.</i>	0	0	<40.8	0	0
		<i>Cosmarium spp.</i>	0	79.8	244.8	111.0	95.6
		<i>Mougeotia spp</i>	0	<39.9	<40.8	444.0	<23.9
		<i>Spirogyra spp.</i>	<41.6	0	0	<18.5	0
		<i>Staurostrum sp.</i>	<41.6	0	0	0	0
		<i>Zygnema sp.</i>	0	<39.9	<40.8	<18.5	0
Chlorophyta		UID colonial	0	0	<40.8	<18.5	0
		UID filamentous	0	0	0	<18.5	0
		UID unicellular	0	0	315.9	0	<23.9
			0	0	0	0	0
Chrysophyta Chrysophyta	Mischococcales	<i>Ophiocytium sp.</i>	0	0	<40.8	0	0
		UID cyst	0	<39.9	81.6	0	0
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon spp.</i>	65,730.6	26,204.2	92,393.2	33,708.6	38,458.8
		<i>Clastidium setigerum</i>	9,921.6	8,337.7	4,862.8	1,657.8	3,561.0
	Chroococcales	<i>Aphanocapsa spp.</i>	0	0	0	0	573.6
		UID Chroococcales	0	<39.9	0	0	4,273.2
	Nostocales	<i>Rivularia / Calothrix spp.</i>	0	0	1,142.4	0	0
		UID Nostocales	4,512.2	5,571.0	1,579.5	<18.5	0
	Oscillatoriales	<i>Homoeothrix varians</i>	61,881.6	18,570.0	20,217.6	69,627.6	2,414.8
		<i>Homoeothrix sp.</i>	0	0	3,019.2	0	0
		<i>Hydrocoleum sp.</i>	0	0	0	19,816.8	0
		<i>Pseudanabaena sp.</i>	15,792.7	<39.9	2,211.3	1,005.2	0
		<i>Schizothrix spp.</i>	1,331.2	32,497.5	99,687.4	109,414.8	89,737.2
		UID Oscillatoriales	0	0	1,713.6	0	0
Rhodophyta	Nemalionales	<i>Audouinella sp.</i>	<41.6	<39.9	<40.8	148.0	0
		<i>Lemanea sp.</i>	<41.6	11,172.0	5,712.0	7,400.0	<23.9
Unidentified		UID colonial	0	0	0	<18.5	0
		UID unicellular	8,681.4	0	6,078.5	4,420.8	2,136.6

Appendix Table F6-2: Periphyton data (cells/cm²) collected from five replicate samples at three sites in Taseko River, September 2006.

Site Name: Taseko River W5
Date: September 5, 2006

		Sample Number	060799	060800	060801	060802	060803
		Area Sampled (cm ²)	48.2	48.2	48.2	48.2	48.2
			Cell Densities (cells/cm ²)				
Phylum	Order	Genera and Species	W5-P1	W5-P2	W5-P3	W5-P4	W5-P5
Bacillariophyceae	Centrales	<i>Stephanodiscus sp.</i>	<39.5	0	0	<36.6	0
	Pennales	<i>Achnanthes flexella</i>	1,106.0	143.2	3,118.8	329.4	2,667.6
		<i>Achnanthes minutissima</i>	209,826.3	11,218.2	235,898.8	57,918.4	191,266.2
		<i>Achnanthes spp.</i>	18,860.8	1,602.6	6,262.8	5,464.0	9,725.4
		<i>Amphipleura pellucida</i>	<39.5	0	<35.0	0	<36.2
		<i>Amphora ovalis</i>	0	0	0	0	<36.2
		<i>Anomoeoneis vitrea</i>	316.0	<35.8	1,762.8	852.0	10,265.7
		<i>Caloneis ventricosa</i>	0	0	0	0	<36.2
		<i>Caloneis sp.</i>	0	<35.8	0	0	0
		<i>Ceratoneis arcus</i>	<39.5	<35.8	<35.0	0	<36.2
		<i>Cocconeis placentula</i>	<39.5	<35.8	<35.0	0	0
		<i>Cymbella affinis</i>	<39.5	<35.8	245.0	36.6	108.6
		<i>Cymbella cesatii</i>	79.0	<35.8	105.0	109.8	144.8
		<i>Cymbella cistula</i>	0	<35.8	0	0	<36.2
		<i>Cymbella cymbiformis</i>	<39.5	0	<35.0	<36.6	0
		<i>Cymbella minuta</i>	4,424.0	971.6	5,740.9	852.0	2,246.4
		<i>Cymbella muelleri</i>	79.0	0	<35.0	0	<36.2
		<i>Cymbella sinuata</i>	0	<35.8	0	0	<36.2
		<i>Cymbella spp.</i>	3,369.3	35.8	1,084.8	549.0	289.6
		<i>Diatoma elongatum</i>	158.0	429.6	1,898.4	1,988.0	2,246.4
		<i>Diatoma heimale</i> var. <i>mesodon</i>	0	<35.8	0	0	0
		<i>Didymosphenia geminata</i>	3,476.0	<35.8	175.0	0	108.6
		<i>Eunotia spp.</i>	<39.5	0	<35.0	<36.6	<36.2
		<i>Fragilaria vaucheriae</i>	384,288.8	5,876.2	28,182.6	10,381.6	29,716.5
		<i>Fragilaria spp.</i>	158.0	1,068.4	0	546.4	0
		<i>Gomphonema olivaceum</i>	158.0	250.6	949.2	5,464.0	2,701.5
		<i>Gomphonema spp.*</i>	158.0	393.8	7,051.2	91,795.2	21,071.7
		<i>Navicula cryptonella</i>	237.0	0	245.0	0	253.4
		<i>Navicula lanceolata</i>	<39.5	<35.8	35.0	0	36.2
		<i>Navicula radiosa</i>	<39.5	0	0	0	0
		<i>Navicula tripunctata</i>	0	<35.8	0	0	0
		<i>Navicula spp.</i>	0	<35.8	0	0	0
		<i>Nitzschia angustata</i>	0	0	0	0	<36.2
		<i>Nitzschia spp.</i>	79.0	0	<35.0	<36.6	280.8
		<i>Pinnularia spp.</i>	<39.5	0	0	0	0
		<i>Synedra acus</i>	0	0	<35.0	0	0
		<i>Synedra cf. filiformis</i>	10,609.2	11,218.2	14,613.2	4,917.6	7,564.2
		<i>Synedra ulna</i>	39.5	0	140.0	<36.6	72.4
		<i>Synedra spp.</i>	2,357.6	3,739.4	4,175.2	6,010.4	2,701.5
		<i>Tabellaria flocculosa</i>	<39.5	0	<35.0	<36.6	<36.2
		UID	<39.5	0	0	<36.6	140.4
Chlorophyta	Chaetophorales	UID Chaetophorales	<39.5	<35.8	<35.0	768.6	<36.2
	Oedogoniales	<i>Bulbochaete sp.</i>	0	0	<35.0	109.8	0
		<i>Oedogonium spp.</i>	<39.5	0	<35.0	0	<36.2
	Ulothricales	<i>Ulothrix zonata</i>	0	0	<35.0	0	<36.2
	Zygnematales	<i>Closterium spp.</i>	0	0	0	<36.6	0
		<i>Cosmarium spp.</i>	79.0	0	70.0	0	36.2
		<i>Mougeotia spp</i>	<39.5	<35.8	<35.0	<36.6	0
Chlorophyta		UID colonial	0	0	0	<36.6	0
Cyanophyta	Chamaesiphonales	<i>Chamaesiphon spp.</i>	24,754.8	1,665.6	5,740.9	2,185.6	5,403.0
		<i>Clastidium setigerum</i>	12,966.8	416.4	15,135.1	10,928.0	15,668.7
	Chroococcales	<i>Aphanothece spp.</i>	0	0	<35.0	0	0
		<i>Merismopedia spp.</i>	0	0	<35.0	0	0
		UID Chroococcales	3,536.4	416.4	<35.0	0	4,862.7
	Nostocales	<i>Rivularia spp.</i>	<39.5	966.6	<35.0	<36.6	543.0
		UID Nostocales	0	<35.8	0	292.8	0
	Oscillatoriales	<i>Lyngbya spp.</i>	0	0	0	0	<36.2
		<i>Homoeothrix varians</i>	3,476.0	0	0	0	1,303.2
		<i>Homoeothrix sp.</i>	0	2,470.2	980.0	2,556.0	0
		<i>Hydrocoleum sp.</i>	4,977.0	2,040.6	0	0	13,057.2
		<i>Pseudanabaena sp.</i>	<39.5	0	0	0	0
		<i>Schizothrix spp.</i>	10,720.5	12,553.7	44,361.5	63,928.8	28,220.4
Rhodophyta	Nemalionales	<i>Audouinella sp.</i>	<39.5	0	<35.0	<36.6	<36.2
Unidentified		UID colonial	<39.5	<35.8	0	0	0
		UID unicellular	948.0	555.2	4,175.2	2,185.6	3,782.1

Appendix Table F6-2: Periphyton data (cells/cm²) collected from five replicate samples at three sites in Taseko River, September 2006.

Site Name: Taseko River W14							
Date: September 5, 2006							
Sample Number Area Sampled (cm ²)			060804	060805	060806	060807	060808
			48.2	48.2	48.2	48.2	48.2
			Cell Densities (cells/cm ²)				
Phylum	Order	Genera and Species	W14-P1	W14-P2	W14-P3	W14-P4	W14-P5
Bacillariophyceae	Centrales	Melosira varians	<46.5	<42.0	0	0	0
		Melosira sp.	0	0	<41.6	0	0
		Stephanodiscus sp.	<46.5	0	0	0	0
	Pennales	Achnanthes flexella	11,178.6	7,486.5	4,512.2	7,037.1	7,633.6
		Achnanthes minutissima	288,620.8	172,845.0	151,304.4	154,716.0	160,417.4
		Achnanthes spp.	16,651.2	10,020.0	7,441.2	7,735.8	5,648.5
		Amphipleura pellucida	<46.5	<42.0	0	<43.2	<37.8
		Amphora ovalis	<46.5	0	0	0	0
		Amphora sp.	0	0	0	<43.2	<37.8
		Anomoeoneis vitrea	1,803.0	2,278.5	2,578.4	2,345.7	587.2
		Caloneis sp.	0	<42.0	0	0	<37.8
		Cocconeis placentula	<46.5	0	0	0	0
		Cymbella affinis	0	0	166.4	259.2	151.6
		Cymbella cesatii	1,023.0	1,953.0	1,289.2	2,010.6	880.8
		Cymbella cf. microcephala	721.2	0	<41.6	335.1	587.2
		Cymbella cistula	93.0	168.0	<41.6	<43.2	<37.8
		Cymbella minuta	15,263.6	7,161.0	3,223.0	4,021.2	3,816.8
		Cymbella muelleri	93.0	<42.0	<41.6	86.4	75.8
		Cymbella sinuata	<46.5	0	0	0	0
		Cymbella spp.	279.0	<42.0	249.6	518.4	227.4
		Diatoma elongatum	6,130.2	3,255.0	2,256.1	3,015.9	3,816.8
		Didymosphenia geminata	930.0	1,008.0	416.0	172.8	303.2
		Diploneis sp.	<46.5	0	0	0	0
		Eunotia spp.	<46.5	<42.0	<41.6	<43.2	0
		Fragilaria vaucheriae	313,597.6	177,855.0	106,657.2	113,458.4	137,823.4
		Fragilaria spp.	0	<42.0	0	0	0
		Frustulia rhomboides	0	0	<41.6	<43.2	<37.8
		Gomphonema olivaceum	0	651.0	166.4	0	75.8
		Gomphonema spp.*	5,769.6	8,788.5	10,313.6	9,047.7	6,165.6
		Navicula cryptonella	<46.5	84.0	0	<43.2	151.6
		Navicula lanceolata	465.0	168.0	41.6	86.4	227.4
		Navicula spp.	0	0	166.4	0	75.8
		Nitzschia angustata	0	<42.0	0	0	0
		Nitzschia spp.	360.6	0	322.3	<43.2	151.6
		Pinnularia spp.	<46.5	0	0	0	0
		Synedra acus	186.0	84.0	0	86.4	151.6
		Synedra cf. filiformis	23,589.2	15,030.0	16,122.6	15,471.6	16,945.5
		Synedra ulna	3,534.0	924.0	249.6	432.0	606.4
		Synedra spp.	11,100.8	3,757.5	6,201.0	6,446.5	9,037.6
		Tabellaria flocculosa	837.0	588.0	<41.6	172.8	151.6
		UID	0	0	322.3	0	75.8
Chlorophyta	Chaetophorales	Stigeoclonium sp.	465.0	4,704.0	0	0	5,533.4
		UID Chaetophorales	0	0	748.8	<43.2	0
	Oedogoniales	Bulbochaete sp.	<46.5	<42.0	166.4	<43.2	0
		Oedogonium spp.	372.0	420.0	416.0	<43.2	<37.8
	Ulothricales	Geminella sp.	<46.5	252.0	<41.6	<43.2	151.6
		Ulothrix zonata	<46.5	<42.0	0	<43.2	<37.8
	Zygnematales	Closterium spp.	0	0	0	0	<37.8
		Cosmarium spp.	279.0	252.0	249.6	432.0	303.2
		Mougeotia spp	<46.5	0	<41.6	<43.2	<37.8
		Spirogyra spp.	<46.5	<42.0	<41.6	<43.2	379.0
		Staurostrum sp.	0	<42.0	0	0	0
		Zygnema sp.	<46.5	0	<41.6	<43.2	0
Chlorophyta		UID colonial	0	0	<41.6	0	<37.8
		UID unicellular	360.0	0	1,240.2	335.1	0
Chrysophyta		UID cyst	0	84.0	0	0	0
		UID unicellular	0	0	0	0	<37.8
Cyanophyta	Chamaesiphonales	Chamaesiphon spp.	11,100.8	127,755.0	54,568.8	135,376.5	16,945.5
		Clastidium setigerum	30,527.2	32,565.0	6,201.0	18,050.2	3,389.1
	Chroococcales	Merismopedia spp.	0	0	<41.6	0	0
		UID Chroococcales	0	0	0	670.2	0
	Nostocales	Rivularia spp.	0	<42.0	0	3,110.4	0
		Rivularia / Calothrix spp.	0	0	1,331.2	0	0
		Tolypothrix spp.	0	0	<41.6	<43.2	0
		UID Nostocales	0	<42.0	0	<43.2	0
	Oscillatoriales	Lyngbya spp.	49,762.8	25,063.5	0	0	<37.8
		Homoeothrix sp.	0	3,696.0	0	0	0
		Pseudanabaena catenata	0	672.0	0	0	0
		Pseudanabaena sp.	9,375.6	0	2,900.7	2,345.7	4,404.0
		Schizothrix spp.	14,063.4	15,949.5	166,186.8	199,841.5	66,652.3
		UID Oscillatoriales	1,081.8	3,580.5	2,900.7	9,717.9	16,945.5
Unidentified		UID flagellate	0	0	0	0	293.6
		UID psuedoparenchymatous	0	0	0	0	0
		UID unicellular	12,488.4	3,757.5	3,720.6	5,157.2	4,518.8

Appendix Table F6-3: Periphyton data (cells/cm²) collected from five replicate samples at Tête Angela Creek, August 2006

Site Name: Taseko River WC
Date: August 16, 2006

			Sample Number	060789	060790	060791	060792	060793
			Area Sampled (cm ²)	96.5	72.4	96.5	96.5	96.5
			Cell Densities (cells/cm ²)					
Phylum	Order	Genera and Species	WC-P1	WC-P2	WC-P3	WC-P4	WC-P5	
Bacillariophyceae	Pennales	<i>Achnanthes lanceolata</i>	<5.0	0	0	<9.6	0	
		<i>Achnanthes minutissima</i>	0	0	0	<9.6	0	
		<i>Amphora</i> sp.	0	0	0	<9.6	0	
		<i>Caloneis ventricosa</i>	0	0	0	<9.6	0	
		<i>Caloneis</i> sp.	0	0	<4.5	0	0	
		<i>Cocconeis pediculus</i>	40.0	27.6	9.0	134.4	<8.2	
		<i>Cocconeis placentula</i>	387.0	303.6	456.3	1,630.2	318.0	
		<i>Cymatopleura</i> sp.	0	0	<4.5	0	0	
		<i>Cymbella aspera</i> / <i>lanceolata</i> sp.	0	0	<4.5	<9.6	0	
		<i>Cymbella cistula</i>	0	0	0	<9.6	0	
		<i>Cymbella mexicana</i>	0	0	<4.5	9.6	0	
		<i>Cymbella minuta</i>	<5.0	0	0	0	0	
		<i>Cymbella sinuata</i>	0	<13.8	9.0	0	0	
		<i>Diploneis elliptica</i>	0	0	<4.5	0	0	
		<i>Diploneis</i> sp.	0	0	<4.5	<9.6	0	
		<i>Epithemia sorex</i>	<5.0	<13.8	18.0	963.3	<8.2	
		<i>Epithemia turgida</i>	<5.0	27.6	54.0	1,778.4	0	
		<i>Epithemia</i> sp.	<5.0	0	<4.5	0	0	
		<i>Fragilaria capucina</i>	<5.0	0	0	0	0	
		<i>Fragilaria vaucheriae</i>	<5.0	0	0	0	0	
		<i>Gomphonema acuminatum</i>	<5.0	<13.8	0	0	0	
		<i>Gomphonema constrictum</i>	0	0	9.0	0	0	
		<i>Gomphonema</i> spp.*	90.0	276.0	807.3	5,418.8	190.8	
		<i>Meridion circulare</i>	0	0	0	<9.6	0	
		<i>Navicula cryptonella</i>	<5.0	0	175.5	741.0	32.8	
		<i>Navicula radiosa</i>	0	0	<4.5	0	0	
		<i>Navicula tripunctata</i>	5.0	<13.8	72.0	326.4	8.2	
		<i>Navicula</i> spp.	0	0	70.2	0	0	
		<i>Nitzschia angustata</i>	0	0	4.5	0	0	
		<i>Nitzschia dissipata</i>	<5.0	0	0	0	0	
		<i>Nitzschia</i> spp.	5.0	0	19.0	<9.6	0	
		<i>Pleurosigma</i> / <i>Gyrosigma</i> sp.	0	0	<4.5	0	0	
		<i>Rhoicosphenia curvata</i>	70.0	248.4	421.2	592.8	32.8	
		<i>Rhopalodia gibba</i>	<5.0	0	9.0	76.8	0	
Chlorophyta	Chaetophorales	<i>Chaetophora</i> sp.	<5.0	0	0	0	0	
		<i>Gongrosira</i> sp. ?	503.1	8,875.2	0	0	190.8	
		UID Chaetophorales	50.0	0	<4.5	2,964.0	49.2	
	Chlorococcales	<i>Scenedesmus</i> spp.	30.0	0	0	0	0	
	Oedogoniales	<i>Oedogonium</i> spp.	<5.0	<13.8	0	<9.6	0	

Appendix Table F6

Notes:

UID = unidentified

cf. = (confertim = close together) = possibly for species

? = possibly for genus

* = samples 060802, 060803 and 060806 had a small amount (10% or less) of deformed *Gomphonema* spp.

Note: *Homoeothrix varians* was previously called *Lyngbya limnetica*

Synonyms:

Aphanocapsa = *Anacystis*

Aphanothece = *Coccochloris*

Chroococcus = *Anacystis*

Merismopedia = *Agmenellum*

Microcystis = *Anacystis*

Didymosphenia geminata = *Gomphonema geminata*

Gomphonema acuminatum = *Gomphonema brebissonii*

Gomphonema constrictum = *Gomphonema truncatum*

Gomphoneis herculeana = *Gomphonema herculeanum*

Navicula lanceolata = *Navicula pseudolanceolata*

Appendix G Phytoplankton

Contents

Appendix G1	Fraser Environmental Procedures and QA/QC
Appendix G2	1994 to 2006 Chlorophyll a concentrations (µg/L) in lakes of the Prosperity Project
Appendix G3	1994–1995 Phytoplankton Composition in Fish Lake
Appendix G4	2006 Phytoplankton Composition in Fish Lake

Appendix G1 Fraser Environmnetal Procedures and QA/QC

Appendix Table G1 Chlorophyll *a* concentrations (µg/L) in lakes of the Prosperity Project (1994 to 2006)

Table 1. Chlorophyll *a* Values, Late August 1994 or Late July 1995

Lake	Year	Depth (m)	Mean (µg/L)	SE	No. replicates
Slim	1994	surface	0.26	NA	1
Wasp Lake	1994	surface	0.51	0.032	3
Wasp Lake	1995	1.0	1.19	NA	1
Little Fish	1994	surface	0.87	NA	1
Vick	1994	surface	1.39	NA	1
Big Onion	1994	surface	1.97	NA	1
Fish	1994	surface	0.70	NA	1
Fish	1995	1.0	1.45	NA	1
Fish	1995	7.0	4.96	NA	1

Data from CB Research International Corp. Appendix J. October, 1995.

Table 2. Chlorophyll *a* concentrations, August 12 - September 2, 1997

Lake	Depth	Replicates (ug/L)								
		1	2	3	4	5	Mean	SD	SE	C.V.
Wasp	0.25 m	1.31	1.06	1.12	0.80	1.2	1.10	0.19	0.09	17%
Wasp	3 m	0.79	1.69	1.87	1.62	1.33	1.46	0.42	0.19	29%
Little Fish	0.25 m	1.02	1.03	0.82	1.14	1.41	1.08	0.22	0.10	20%
Little Fish	3 m	14.0	11.6	2.00	7.54	12	9.43	4.77	2.13	51%
Vick	0.25 m	7.83	10.3	12.2	9.42	10.9	10.13	1.64	0.73	16%
Vick	3 m	10.1	9.87	11.7	9.67	10.2	10.31	0.80	0.36	8%
Slim	0.25 m	1.10	1.27	0.97	1.03	1.04	1.08	0.11	0.05	11%
Slim	3 m	0.97	0.90	1.16	1.22	1.34	1.12	0.18	0.08	16%
Fish	0.25 m	3.68	2.58	2.8	2.23	3.21	2.90	0.56	0.25	19%
Fish	5 m	5.13	3.73	4.47	2.70	3.35	3.88	0.95	0.42	24%
Taseko	0.25 m	2.68	2.06	2.39	2.90	3.17	2.64	0.43	0.19	16%
Taseko	3 m	2.44	2.30	1.45	1.41	2.51	2.02	0.55	0.24	27%
Big Lake	0.25 m	2.83	3.48	3.15	3.38	3.08	3.18	0.26	0.11	8%
Big Lake	3 m	3.86	4.12	3.49	3.30	3.49	3.65	0.33	0.15	9%
Big Onion	0.25 m	6.99	5.73	5.04	5.55	7.38	6.14	1.00	0.45	16%
Big Onion	5 n	6.20	5.73	7.64	6.13	5.06	6.15	0.95	0.42	15%

Data from Triton Environmental Ltd.

Table 3. Chlorophyll 'a' concentrations (µg/L) in Fish Lake, 2006

Date	Depth	1	2	Mean	SD
23-May-06	1	1.43	1.46	1.45	0.02
	5	2.73	2.84	2.79	0.08
	10	2.14	1.37	1.76	0.54
4-Jul-06	1	0.375	0.776	0.58	0.28
	5	0.947	1.25	1.10	0.21
	10	0.719	0.626	0.67	0.07
1-Oct-06	1	7.61	2.44	5.03	3.66
	5	0.976	1.3	1.14	0.23
	10	2	1.38	1.69	0.44

**Appendix G2 1994 to 2006 Chlorophyll a concentrations (µg/L) in lakes of the
Prosperity Project**

FRASER ENVIRONMENTAL SERVICES

METHODS MANUAL **JANUARY 1994**

By Linde Looy, R.P.Bio.

**Fraser Environmental Services
9358 Cinnamon Drive
Surrey, B.C., V3V 1V2
Telephone and Fax (604) 588-9738
FRASER ENVIRONMENTAL SERVICES**

METHODS MANUAL

Details of the analytical methods used by Fraser Environmental Services are described here. Our firm employs similar standard techniques to ensure consistency over time. The QA/QC procedures employed can be found in the QA/QC Manual.

Phytoplankton Identification and Enumeration

Scope :

This method describes the identification and enumeration of phytoplankton.

Summary :

The sample is settled overnight and the slide is examined. Using the appropriate keys and procedures, phytoplankton can then be identified and subsequently enumerated.

Apparatus :

1. Utermohl-type settling chambers
2. Inverted microscope
3. Compound microscope
4. Appropriate taxonomic keys

Reagents :

Lugol's Solution : prepared as outlined in **Standard Methods for the Examination of Water and Wastewater**.

Procedure :

1. Calibrate the microscope using stage and ocular micrometers (see Section 1, page 8 for procedure).
2. Confirm that the sample is appropriately preserved.
3. Settle out an appropriate sample volume randomly removed depending on the density of organisms (usually 100 mL) for approximately 24 hours. Use smaller or diluted volumes for densely populated samples or concentrate sparsely populated samples by centrifugation or by sedimentation.
4. Scan the entire slide at increasing powers of magnification to determine which species/genera are present. Identify the organisms observed to the requested level if possible.
5. Once the identifications are made, do the counts. Count at least 10 random fields, continue counting until you get a total count of at least 100 for the dominant species. Statistical tests for randomness will be performed.
6. Enumerate the data by a total cell count (cells/mL). Calculate the per mL total for each species or genera by multiplying the actual count by the factor F as defined

below :

$$F = \frac{A}{V} \pi r^2 N$$

where A= the area of the settling chamber

r= the radius of the field

N= the number of fields counted

V= the volume settled

Taxonomic Keys :

1. Bourrelly, P. (1966)
2. Cleve-Euler, A. (1951)
3. Cleve-Euler, A. (1968)
4. Contant, H. (1978)
5. Dodd, J. (1947)
6. Germain, H. (1981)
7. Hustedt, F. (1930)
8. Hustedt, F. (1985)
9. Patrick, R. (1966)
10. Patrick, R. (1975)
11. Pennak, R. (1953)
12. Prescott, G. (1978)
13. Prescott, G. (1982)
14. Stein, J. (1975)
15. Ward, H.B. (1959)
16. Webber, C. (1966)

Note : Other taxonomic keys may be used but they will be cited in the data summary.

References :

Bourrelly P. 1966. **Les Algues D'Eau Douce. Initiation a la systematique. Tome 1. Les Algues Vertes.**

Cleve-Euler, Astrid. 1951. **Die Diatomeen Von Schweden Und Finnland.** Bibliotheca Phycologica, Band 2.

Cleve-Euler, Astrid. 1968. **Die Diatomeen Von Schweden Und Finnland.** Bibliotheca Phycologica, Band 5.

Contant, Helene and Duthie, Hamish C. 1978. **The Phytoplankton of Lac St-Jean, Quebec.** Bibliotheca Phycologica, Band 40.

Dodd, John Jeffrey. 1947. **Diatoms : The Illustrated Flora of Illinois.**

Germain, Henry. 1981. **Flore Des Diatomees eaux douces et saumâtres.**

Hustedt, Friedrich. 1930. **The Bacillariophyta.**

Hustedt, Friedrich. 1985. **The Pennate Diatoms.**

Patrick, Ruth and Reimer, Charles W. 1966. **The Diatoms of the United States : Exclusive of Alaska and Hawaii : Volume 1.**

Patrick, Ruth and Reimer, Charles W. 1975. **The Diatoms of the United States : Exclusive of Alaska and Hawaii : Volume 2, Part 1.**

Pennak, Robert W. 1953. **Fresh-Water Invertebrates of the United States.**

Prescott, G.W. 1978. **How to Know the Freshwater Algae, 3rd edition.**

Prescott, G.W. 1982. **Algae of the Western Great Lakes Area, revised edition.**

Stein, Janet R. 1975. Freshwater algae of British Columbia : the Lower Fraser Valley. **Syesis**, Vol.8, 1975.

Ward, H.B. and Whipple, G.C. 1959. **Freshwater Biology, 2nd edition.**

Weber, Cornelius I. 1966. **A Guide to the Common Diatoms at Water Pollution Surveillance System Stations.** U.S. Environmental Protection Agency, National Environmental Research Center, Analytical Quality Control Laboratory, Cincinnati, Ohio 45268. Reprint 1971.

Appendix G3

1994–1995 Phytoplankton Composition in Fish Lake

APPENDIX D: PHYTOPLANKTON DATA

On 25 August 1994, Hallam Knight Piésold collected three samples of phytoplankton to identify for species composition. Grab sample 1 from Fish Lake was taken from a very extensive bloom of black algal filaments, covering about 3 ha, near the southeast shore of Fish Lake (See Photo 94-5-7, 94-5-8). A 1000-ml sample of this floating algal mat was collected and preserved with Lugol's solution, then kept cool and shaded. Karen Munro of Munro Environmental Consulting identified this bloom of floating black material to be *Lyngbya aestuarii*, a filamentous bluegreen alga. It formed mats of tangled coarse filaments.

Grab sample 2 was a dense growth of long filamentous algae, collected from the south end of Fish Lake, near the inlet, in 1 m of water. The algal filaments grew in dense mats, smothering submergent vascular plants such as hornwort (*Ceratophyllum demersum*) and Richardson pondweed (*Potamogeton richardsonii*). A grab sample was collected and preserved in the same way as the previous one. The dense mats of pale green growth smothering these aquatic plants was found to consist of *Lyngbya aestuarii*. Another *Lyngbya* sp. was epiphytic on *L. aestuarii* (Karen Munro, pers. comm. to D. Karasiuk).

Grab Sample No. 3 was taken from the south end of the lake, in 1 m of water near the inlet, where there was a conspicuous bloom of *Aphanizomenon flos-aquae*. The sample, containing 1000 ml of water, was preserved with Lugol's solution and kept cool and dark. The sample was sent to Munro Environmental Consulting Ltd. for analysis. There, the sample was collected on millipore filters and preserved. Material was scraped off the filter and re-suspended in a small amount of liquid. Each sample was examined qualitatively to assess predominant and common species.

Munro Environmental Consulting (pers. comm. to D. Karasiuk) provided the following qualitative assessment of the species composition of this sample:

predominant	<i>Aphanizomenon flos-aquae</i> (bluegreen)
common	<i>Chroococcus</i> spp. (bluegreen)
present	<i>Gomphosphaeria lacustris</i> (bluegreen) <i>Botryococcus braunii</i> (green) <i>Eudorina elegans</i> (green) <i>Nephrocytium limneticum</i> (green) <i>Cyclotella bodanica</i> (diatom) <i>Fragilaria capucina</i> v. <i>mesolepta</i> (diatom)

APPENDIX D: PHYTOPLANKTON

On 29 August 1994, Hallam Knight Piésold collected a grab sample of phytoplankton from Little Fish Lake, to be identified for species composition. The sample came from the centre of the lake, at the surface, over a water depth of 4 m. The sample, containing 1000 ml of water, was preserved with Lugol's solution and kept cool and dark. The sample was sent to Munro Environmental Consulting Ltd. for analysis. There, the sample was collected on millipore filters and preserved. Material was scraped off the filter and re-suspended in a small amount of liquid. Each sample was examined qualitatively to assess predominant and common species.

Munro Environmental Consulting (Karen Munro, pers. comm. to D. Karasiuk) provided the following qualitative assessment of the species composition of this sample from Little Fish Lake:

predominant	<i>Chlorococcum</i> sp. (green) <i>Asterionella formosa</i> (diatom)
common	<i>Fragilaria crotonensis</i> (diatom) <i>Melosira</i> sp. (diatom) <i>Peridinium</i> sp. (dinoflagellate)
present	<i>Anabaena</i> sp. (bluegreen) <i>Chroococcus</i> sp. (bluegreen) <i>Botryococcus braunii</i> (green) <i>Cosmarium</i> sp. (green) <i>Crucigenia</i> sp. (green) <i>Elakatothrix gelatinosa</i> (green) <i>Eudorina elegans</i> (green) <i>Oocystis</i> spp. (green) <i>Pediastrum</i> sp. (green) <i>Scenedesmus</i> spp. (green) <i>Sphaerocystis Schroeterii</i> (green) <i>Staurastrum</i> sp. (green) <i>Tetraedron</i> sp. (green) <i>Dinobryon cylindricum</i> (chrysophyte) <i>Epithemia turgida</i> (diatom) <i>Fragilaria</i> sp.

APPENDIX D: PHYTOPLANKTON

On 28 August 1994, Hallam Knight Piésold collected a grab sample of phytoplankton from Wasp Lake, to be identified for species composition. The sample came from the centre of the east bay of the lake, at the surface, over a water depth of 3.5 m. The sample, containing 1000 ml of water, was preserved with Lugol's solution and kept cool and dark. The sample was sent to Munro Environmental Consulting Ltd. for analysis. There, the sample was collected on millipore filters and preserved. Material was scraped off the filter and re-suspended in a small amount of liquid. Each sample was examined qualitatively to assess predominant and common species.

Munro Environmental Consulting (Karen Munro, pers. comm. to D. Karasiuk) provided the following qualitative assessment of the species composition of the sample from Wasp Lake:

predominant	none
common	<i>Oocystis</i> sp. (green) <i>Scenedesmus</i> spp. (green) <i>Sphaerocystis schroeterii</i> (green) <i>Cyclotella</i> sp. (diatom) <i>Synedra radians</i> (diatom)
present	<i>Anabaena</i> sp. (bluegreen) <i>Chroococcus</i> sp. (bluegreen) <i>Ankistrodesmus falcatus</i> (green) <i>Botryococcus braunii</i> (green) <i>Chlorococcum</i> sp. (green) <i>Coelastrum</i> sp. (green) <i>Elakatothrix gelatinosa</i> (green) <i>Pediastrum</i> sp. (green) <i>Quadrigula chodatii</i> (green) <i>Spondylosium</i> sp. (green) <i>Tetraedron</i> sp. (green) <i>Peridinium</i> sp. (dinoflagellate)

Similar grab samples were taken from Fish Lake, Little Fish Lake and Big Onion Lake. Samples from all four lakes seem to show fairly enriched conditions, particularly the *Aphanizomenon* bloom in Fish Lake. The assortment of bluegreen, green and diatom species found in the other lakes reflects higher species diversity and, perhaps, less eutrophic conditions (Karen Munro, pers. comm. to D. Karasiuk).

APPENDIX 4-B: PHYTOPLANKTON

On 27 August 1994, Hallam Knight Piésold collected a grab sample of phytoplankton from Big Onion Lake, to be identified for species composition. The sample came from the centre of the lake's north end, at the surface, over a water depth of 8 m. The lake was notably turbid at the time of sampling, and well-mixed due to strong winds. The sample, containing 1000 ml of water, was preserved with Lugol's solution and kept cool and dark. The sample was sent to Munro Environmental Consulting Ltd. for analysis. There, the sample was collected on millipore filters and preserved. Material was scraped off the filter and re-suspended in a small amount of liquid. Each sample was examined qualitatively to assess predominant and common species.

Munro Environmental Consulting (Karen Munro, pers. comm. to D. Karasiuk) provided the following qualitative assessment of the species composition of this phytoplankton sample from Big Onion Lake:

predominant	<i>Aphanothece</i> sp. (bluegreen) <i>Oocystis</i> spp. (green)
common	<i>Crucigenia</i> sp. (green) <i>Scenedesmus</i> sp. (green)
present	<i>Anabaena</i> sp. (bluegreen) <i>Gomphosphaeria lacustris</i> (bluegreen) <i>Ankistrodesmus</i> sp. (green) <i>Botryococcus braunii</i> (green) <i>Chlorococcum</i> sp. (green) <i>Elakatothrix gelatinosa</i> (green) <i>Pediastrum</i> sp. (green) <i>Kirchneriella contorta</i> (green) <i>Staurastrum</i> sp. (green) <i>Tetraedron</i> sp. (green) <i>Cyclotella</i> sp. (diatom) <i>Synedra acus</i> (diatom) <i>Ceratium hirudinella</i> (dinoflagellate)

Similar grab samples were taken from Wasp Lake, Fish Lake and Little Fish Lake. Samples from all four lakes seem to show fairly enriched conditions, particularly the *Aphanizomenon* bloom in Fish Lake. The assortment of bluegreen, green and diatom species found in the other lakes reflects higher species diversity and, perhaps, less eutrophic conditions (Karen Munro, pers. comm. to D. Karasiuk).

Appendix G4

2006 Phytoplankton Composition in Fish Lake

Appendix Table G4-1 Fish Lake Phytoplankton (cells/mL), May 2006

Sampling Date			May 23, 2006					
Sampling Depth			0.5 m	5 m	10 m	0.5 m	5 m	10 m
			Abundance (cells/mL)					
Phylum	Order	Genera and Species	U1-1	U1-2	U1-3	U2-1	U2-2	U2-3
Bacillariophyceae	Centrales	<i>Cyclotella</i> sp.	P	P	P	2.8	P	P
	Pennales	<i>Achnanthes minutissima</i>	2.8	2.8	P	2.8	P	P
		<i>Achnanthes</i> spp.		P				
		<i>Amphora ovalis</i>	P	P	P			P
		<i>Amphora</i> sp.	P					
		<i>Asterionella formosa</i>	14.0	P	P	P	33.6	P
		<i>Ceratoneis arcus</i>	P	2.8	P	2.8	P	
		<i>Cocconeis</i> sp.				P	P	
		<i>Cocconeis pediculus</i>	P	P				
		<i>Cocconeis placentula</i>	P	P	P		P	P
		<i>Cymbella minuta</i>	P	P	P		P	P
		<i>Cymbella</i> spp.	P	P	P	P	P	2.8
		<i>Diatoma elongatum</i>	P	P			P	P
		<i>Diatoma</i>				P		2.8
		<i>Diatoma</i> sp.	P		P			
		<i>Epithemia turgida</i>			P			P
		<i>Eunotia</i>				P		
		<i>Eunotia</i> sp.	P	P				
		<i>Fragilaria crotonensis</i>	53.2	25.3	2.8	56.0	53.2	8.4
		<i>Fragilaria</i> spp.	14.0	30.8	8.4	2.8	28.0	5.6
		<i>Frustulia</i> sp.?				P		
		<i>Gomphonema acuminatum</i>	P	P				
		<i>Gomphonema olivaceum</i>	P	P		P	P	
		<i>Gomphonema</i> spp.	P	5.6	P	P	P	P
		<i>Navicula radiosa</i>	P	P				
		<i>Navicula</i> spp.	P	P	P	2.8	P	P
		<i>Nitzshia</i> spp.	8.4	8.4	11.2	5.6	8.4	P
		<i>Pinnularia</i> sp.	P				P	
		<i>Pleurosigma</i> / <i>Gyrosigma</i>	P	P	P	P	P	P
		<i>Rhoicosphenia curvata</i>					P	
		<i>Surirella</i> sp.?	P					
		<i>Synedra acus</i>	P	P		P	P	P
		<i>Synedra ulna</i>	P	P	P	P	5.6	P
		<i>Synedra</i> spp.	P	P	P	P	2.8	P
		<i>Tabellaria fenestrata</i>						P
		UID	2.8	5.6	P	2.8	5.6	P
	Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	P	P	16.8	P	P
			<i>Ankistrodesmus</i> sp.	P	5.6	P	2.8	P
			<i>Botryococcus braunii</i>	P	P			P
			<i>Closteriopsis</i> sp.					P
			<i>Closteriopsis</i> sp. ?	P	P		P	
			<i>Coelastrum microporum</i>		P			
			<i>Coelastrum</i> sp.					P
			<i>Crucigenia quadrata</i>	P	P		P	P
			<i>Dictyosphaerium pulchellum</i>	P	P	P	P	44.8
			<i>Elakatothrix gelatinosa</i>	P	5.6			P
			<i>Nephrocytium</i> sp. ?	P		P		
			<i>Pediastrum</i> cf. <i>Boryanum</i>	P	P		P	
			<i>Pediastrum</i> sp.	P	P			
			<i>Quadrigula lacustris</i>	P	P			P
			<i>Scenedesmus</i> cf. <i>denticulatus</i>	P	P		P	
			<i>Scenedesmus quadricauda</i>	P	P		P	P
			<i>Scenedesmus</i> sp.		P	P	P	P
			<i>Schroederia setigera</i>	8.4	P	P	5.6	8.4
			<i>Selenastrum minutum</i>				P	
			<i>Sphaerocystis schroeteri</i>	P	P		P	P
			<i>Tetraedron caudatum</i>	P				
			<i>Tetraedron minimum</i>	P	11.2		P	P
			<i>Tetraedron</i> sp.	P		P	P	
		Oedogoniales	<i>Oedogonium</i> ?	P			P	
		Tetrasporales	<i>Gloeocystis ampla</i> ?	P				
			<i>Gloeocystis</i> ?					P
		Volvocales	<i>Chlamydomonas</i> sp.	P	P		P	
			<i>Chlamydomonas</i> sp.?			P		
			<i>Eudorina elegans</i>				P	
		Zygnematales	UID	22.4	11.2		P	P
			<i>Mougeotia</i> ?					P
			<i>Staurostrum</i> sp.				P	
			UID		P		P	
	Chrysophyta	Ochromonadales	<i>Chrysosphaerella</i> sp.? *	P				P
			<i>Dinobryon</i> cf. <i>bavaricum</i>	P	P	P	P	P
			<i>Dinobryon divergens</i>	148.4	84.0	22.4	58.8	103.6
			<i>Dinobryon elegantissimum</i>		P		P	5.6
			<i>Dinobryon sertularia</i>	P	P	P	7.8	5.6
			<i>Dinobryon</i> spp.	148.4	184.8	11.2	263.2	327.6
			<i>Mallomonas akrokomos</i>	P	P		11.2	5.6
			<i>Synura uvella</i>	11.2	56.0		19.6	16.8
	Cryptophyta	Cryptomonadales	<i>Chroomonas acuta</i>	1,542.8	1,548.4	42.0	1,646.4	1,909.6
			<i>Cryptomonas ovata</i> / <i>erosa</i>	184.8	170.8	36.4	86.8	89.6
			<i>Cryptomonas</i> sp.	8.4	28.0	42.0	16.8	28.0
		Chamaesiphonales	<i>Chamaesiphon</i> ?					
			<i>Agmenellum tenuissima</i>				P	P
			<i>Anacystis aeruginosa</i>	P				
			<i>Anacystis</i> sp.	P		P		P
			<i>Botryococcus braunii</i>					P
			<i>Gomphosphaeria</i> sp.	P				
			<i>Marssoniella elegans</i>					P
			<i>Scenedesmus dimorphus</i>					P
	Cyanophyta	Nostocales	<i>Anabaena</i> cf. <i>flos-aquae</i>	P	P			
			<i>Anabaena</i> cf. <i>spiroides</i>	P				

Appendix Table G4-1 Fish Lake Phytoplankton (cells/mL), May 2006

Phylum	Order	Genera and Species	U1-1	U1-2	U1-3	U2-1	U2-2	U2-3
Euglenophyta	Oscillatoriales	<i>Anabaena spp.</i>	P	P	P	P	P	P
		<i>Aphanizomenon flos-aquae</i>	P	148.4	P	P	P	P
		<i>Nostoc ?</i>		P	P		P	
		<i>Lyngbya limnetica</i>				P	P	
		<i>Lyngbya sp.</i>	P					
		<i>Lyngbya</i>				P	P	
		<i>Lyngbya ?</i>			1,548.4	P		1,758.4
		<i>Oscillatoria cf tenuis</i>	28.0					P
		<i>Oscillatoria sp.</i>	P	P		P	P	P
		<i>Oscillatoria sp.?</i>		P				
	Euglenales	<i>Euglena spp.</i>	P	P	P	P	P	P
		<i>Phacus sp.</i>	P	P	P		P	P
		<i>Trachelomonas sp.</i>			P			P
		UID		P				
Pyrrhophyta	Dinokontae	<i>Gymnodinium sp. ?</i>	P	P	P	P	P	P
		<i>Peridinium / Glenodinium</i>	P	P	P	P	P	P
		UID	P	2.8	P			
UID colonial algae			P	P	P	P	P	
UID filamentous algae			P	P	P	P	P	
UID flagellates			263.2	310.8	50.4	336.0	411.6	95.2

UID = unidentified due to lack of size and / or missing morphological characters.
*Note: Cells not in colonial form therefore id. tentative
** Note : Sample appears significantly different from Rep. 1 and Rep. 2

Appendix Table G4 Fish Lake Phytoplankton, July 2006

Sampling Date Sampling Depth			July 4, 2006					
			0.5 m	5 m	10 m	0.5 m	5 m	10 m
			Abundance (cells/mL)					
Phylum	Order	Genera and Species	U1-1	U1-2	U1-3	U2-1	U2-2	U2-3
Bacillariophyceae	Centrales	<i>Cyclotella</i> sp.						
	Pennales	<i>Achnanthes minutissima</i>				P		1.4
		<i>Achnanthes</i> spp.						
		<i>Amphora ovalis</i>						
		<i>Amphora</i> sp.						
		<i>Asterionella formosa</i>		P			P	P
		<i>Ceratoneis arcus</i>	P	11.2	P	P	2.8	1.4
		<i>Cocconeis</i> sp.	P			P	P	
		<i>Cocconeis pediculus</i>						
		<i>Cocconeis placentula</i>		P		P	P	
		<i>Cymbella minuta</i>						
		<i>Cymbella</i> sp.			P			
		<i>Cymbella</i> spp.		2.8		P	P	
		<i>Diatoma elongatum</i>					P	
		<i>Diatoma</i>						
		<i>Diatoma</i> sp.						P
		<i>Epithemia turgida</i>						
		<i>Eunotia</i>						
		<i>Eunotia</i> sp.						
		<i>Fragilaria crotonensis</i>		P			P	P
		<i>Fragilaria</i> sp.		P				P
		<i>Fragilaria</i> spp.	P		P	P	1.4	
		<i>Frustulia</i> sp.?						
		<i>Gomphonema acuminatum</i>						
		<i>Gomphonema olivaceum</i>	P		P		P	
		<i>Gomphonema</i> spp.	P	P		P	P	P
		<i>Navicula radiosa</i>						
		<i>Navicula</i> spp.	P	2.8	P		P	
		<i>Nitzschia</i> sp.	P	P	P	P	P	
		<i>Nitzschia</i> spp.						P
		<i>Pinnularia</i> sp.						
		<i>Pleurosigma</i> / <i>Gyrosigma</i>						
		<i>Rhoicosphenia curvata</i>						
		<i>Stauroneis</i> sp.	P					
		<i>Surirella</i> sp.?						
		<i>Synedra acus</i>						
		<i>Synedra ulna</i>						
		<i>Synedra</i> sp.			P			
		<i>Synedra</i> spp.					P	
		<i>Tabellaria fenestrata</i>						
		UID	P	P		P	1.4	
Chlorophyta	Chlorococcales	<i>Ankistrodesmus falcatus</i>	P					
		<i>Ankistrodesmus</i> sp.	5.6	P	1.4	8.4	19.6	1.4
		<i>Botryococcus braunii</i>	16.8	P		P	P	
		<i>Closteriopsis</i> sp.		P			P	
		<i>Closteriopsis</i> sp. ?	16.8					
		<i>Coelastrum microporum</i>						
		<i>Coelastrum</i> sp.						
		<i>Crucigenia quadrata</i>						
		<i>Dictyosphaerium pulchellum</i>						
		<i>Elakatothrix gelatinosa</i>		2.8	P	2.8		P
		<i>Nephrocytium</i> sp. ?						
		<i>Oocystis</i> sp.		P				
		<i>Pediastrum</i> cf. <i>Boryanum</i>						
		<i>Pediastrum</i> sp.						
		<i>Quadrigula lacustris</i>				P		11.2
		<i>Quadrigula</i> spp.	11.2					
		<i>Scenedesmus</i> cf. <i>denticulatus</i>						P
		<i>Scenedesmus quadricauda</i>						
		<i>Scenedesmus</i> sp.						
		<i>Schroederia setigera</i>	42.0	57.4	P	30.8	9.8	P
		<i>Schroederia</i> sp.		P		P	P	
		<i>Schroederia</i> spp.	P					
		<i>Selenastrum minutum</i>						
		<i>Sphaerocystis schroeteri</i>	P	P	P	89.6	56.0	33.6
		<i>Tetraedron caudatum</i>						
		<i>Tetraedron minimum</i>						
		<i>Tetraedron</i> sp.						
	Oedogoniales	<i>Oedogonium</i> ?			P			
	Tetrasporales	<i>Gloeocystis ampla</i> ?						
		<i>Gloeocystis</i> ?						
	Volvocales	<i>Chlamydomonas</i> sp.						
		<i>Chlamydomonas</i> sp.?						
		<i>Eudorina elegans</i>						
		<i>Volvox</i> sp.						
	Zygnematales	UID						
		<i>Mougeotia</i> ?						
		<i>Staurostrum</i> sp.						
Chrysophyta	Ochromonadales	UID						
		<i>Chrysosphaerella</i> sp.?						
		<i>Dinobryon</i> cf. <i>bavaricum</i>				2.8		
		<i>Dinobryon divergens</i>						
		<i>Dinobryon elegantissimum</i>						
		<i>Dinobryon sertularia</i>						
		<i>Dinobryon</i> sp.			1.4			1.4
		<i>Dinobryon</i> spp.						
		<i>Mallomonas akrokomos</i>		4.2			5.6	
		<i>Synura uvella</i>						
Cryptophyta	Cryptomonadales	<i>Chroomonas acuta</i>	744.8	154.0	P	596.4	138.6	1.4
		<i>Cryptomonas ovata</i> / <i>erosa</i>	16.8	56.0		11.2	39.2	

Appendix Table G4 Fish Lake Phytoplankton, July 2006

Phylum	Order	Genera and Species	U1-1	U1-2	U1-3	U2-1	U2-2	U2-3
Cyanophyta	Chamaesiphonales Chroococcales	<i>Cryptomonas</i> sp.	2.8	4.2		P	8.4	
		UID			P			
		<i>Chamaesiphon</i> ?						
		<i>Agmenellum tenuissima</i>			P			
		<i>Anacystis aeruginosa</i>	P	P		P		
		<i>Anacystis cf limneticus</i>	67.2					
		<i>Anacystis</i> sp.	P	P	P	11.2	5.6	P
		<i>Gomphosphaeria</i> sp.?	P					
		<i>Gomphosphaeria</i> sp.		P		P		
		<i>Marssoniella elegans</i>						
	Nostocales	<i>Anabaena cf flos-aquae</i>				P	P	
		<i>Anabaena cf. spiroides</i>						
		<i>Anabaena</i> spp.	P	P	P	P	P	
		<i>Aphanizomenon flos-aquae</i> ?	P	P	P	P	42.0	
		<i>Aphanizomenon flos-aquae</i>						
		<i>Gloeotrichia echinulata</i>	P			P		
		<i>Nostoc</i> ?	P	P	P	P	133.0	P
		<i>Lyngbya limnetica</i>		P	29.4	P	21.0	28.0
		<i>Lyngbya</i> sp.			71.4	P	P	22.4
		<i>Lyngbya</i>						
	Oscillatoriales	<i>Lyngbya</i> ?						
		<i>Lyngbya</i> sp.						
		<i>Oscillatoria cf tenuis</i>						
		<i>Oscillatoria</i> sp.				P		
		<i>Oscillatoria</i> sp.?						P
		<i>Phormidium mucicola</i>				P		
	Euglenales	<i>Euglena</i> spp.						P
		<i>Euglena</i> sp.?			P			
		<i>Phacus</i> sp.						
		<i>Trachelomonas</i> sp.			P			P
		UID						
Pyrrhophyta	Dinokontae	<i>Ceratium hirundinella</i>	P			P		P
		<i>Gymnodinium</i> sp. ?						
		<i>Peridinium</i> / <i>Glenodinium</i>						
		UID						
UID colonial algae			P		P	P		11.2
UID filamentous algae					P	P	P	P
Note: fungal growth observed UID = unidentified due to lack of size and / or missing morphological characters. P = present								

Sampling Date Appendix Table G4 Fish Lake Phytoplankton, October 2006			October 4, 2006					
Sampling Depth			0.5 m	5 m	10 m	0.5 m	5 m	10 m
			Abundance (cells/mL)					
Phylum	Order	Genera and Species	U1-1	U1-2	U1-3	U2-1	U2-2	U2-3
Bacillariophyceae	Pennales	<i>Achnanthes</i> sp.					<2.8	
		<i>Asterionella formosa</i>		<2.8	<1.4		<2.8	
		<i>Ceratoneis arcus</i>	5.6	<2.8	<1.4	2.8	<2.8	<2.8
		<i>Ceratoneis</i> sp.		<2.8		<2.8	<2.8	
		<i>Cocconeis</i> sp.		<2.8				
		<i>Cocconeis pediculus</i>		<2.8				
		<i>Cocconeis placentula</i>	<2.8	<2.8				
		<i>Cymbella</i> sp.			<1.4		<2.8	
		<i>Cymbella</i> spp.						<2.8
		<i>Diatoma elongatum</i>		<2.8				
		<i>Diploneis</i> sp.		<2.8				
		<i>Epithemia</i> sp.						<2.8
		<i>Fragilaria crotonensis</i>					<2.8	
		<i>Fragilaria</i> sp.		<2.8			<2.8	<2.8
		<i>Frustulia</i> sp.						<2.8
		<i>Gomphonema constrictum</i>						<2.8
		<i>Gomphonema olivaceum</i>						<2.8
		<i>Gomphonema</i> spp.			<1.4	<2.8		<2.8
		<i>Navicula</i> spp.	<2.8	<2.8	<1.4	<2.8	<2.8	<2.8
		<i>Pinnularia</i> sp.				<2.8		
		<i>Pleurosigma</i> / <i>Gyrosigma</i>		<2.8				
		<i>Rhopalodia gibba</i>						<2.8
		<i>Stauroneis</i> sp.		<2.8				
		<i>Synedra</i> sp.	<2.8	<2.8		<2.8	<2.8	
		<i>Synedra</i> spp.		<2.8				
		UID	2.8	<2.8	<1.4	2.8	<2.8	<2.8
Chlorophyta	Chlorococcales	<i>Ankistrodesmus</i> sp.				<2.8		
		<i>Botryococcus braunii</i>	<2.8	<2.8	<1.4	<2.8	<2.8	<2.8
		<i>Closteriopsis</i> sp.		<2.8		<2.8	<2.8	<2.8
		<i>Closteriopsis</i> sp. ?			<1.4			
		<i>Elakatothrix gelatinosa</i>	<2.8	<2.8			<2.8	
		<i>Nephrocytium</i> sp. ?						<2.8
		<i>Pediastrum</i> cf. <i>Boryanum</i>			<1.4			
		<i>Pediastrum</i> sp.				<2.8		
		<i>Scenedesmus</i> cf. <i>denticulatus</i>				<2.8		
		<i>Scenedesmus</i> sp.					<2.8	
		<i>Schroederia setigera</i>	14.0	11.2	5.6	22.4	16.8	2.8
		<i>Schroederia</i> sp.	<2.8	<2.8	<1.4	<2.8	<2.8	
		<i>Selenastrum minutum</i>						<2.8
		<i>Sphaerocystis schroeteri</i>	<2.8	<2.8		<2.8	<2.8	<2.8
	Tetrasporales	<i>Gloeocystis</i> sp.?			<1.4			
	Volvocales	<i>Eudorina elegans</i>				<2.8		<2.8
		UID		<2.8	<1.4	44.8	44.8	<2.8
Chrysophyta	Ochromonadales	<i>Mallomonas akrokomos</i>				<2.8		
Cryptophyta	Cryptomonadales	<i>Chroomonas acuta</i>	170.8	92.4	8.4	179.2	84.0	
		<i>Cryptomonas ovata</i> / <i>erosa</i>	<2.8	<2.8	<1.4	2.8	5.6	<2.8
		<i>Cryptomonas</i> sp.	<2.8	5.6	<1.4	<2.8	<2.8	<2.8
		UID			<1.4			
Cyanophyta	Chroococcales	<i>Anacystis aeruginosa</i>				<2.8		
		<i>Anacystis</i> sp.				56.0	<2.8	
		<i>Gomphosphaeria Naegelianum</i>	<2.8	<2.8	616.0	<2.8	<2.8	840.0
		<i>Gomphosphaeria</i> sp.		<2.8				<2.8
		<i>Gomphosphaeria</i> sp. ?		<2.8				
	Nostocales	<i>Anabaena</i> sp.				56.0	<2.8	<2.8
		<i>Anabaena</i> spp.	<2.8	<2.8				
		<i>Aphanizomenon flos-aquae</i> ?			266.0			<2.8
		<i>Aphanizomenon flos-aquae</i>	1,738.0	677.6	<1.4	2,153.2	506.8	184.8
		<i>Nostoc</i> ?	<2.8	126.0	<1.4	<2.8	<2.8	8.4
	Oscillatoriales	<i>Lyngbya limnetica</i>	<2.8	<2.8	103.6	<2.8	28.0	28.0
		<i>Lyngbya</i> sp.			<1.4			
		<i>Lyngbya</i> ?		<2.8				
		<i>Oscillatoria</i> sp.						<2.8
		<i>Phormidium mucicola</i>		<2.8		<2.8		
Euglenophyta	Euglenales	<i>Euglena</i> spp.						<2.8
		<i>Euglena</i> sp.?	<2.8		<1.4			
		<i>Trachelomonas</i> sp.			5.6	<2.8		19.6
		<i>Trachelomonas</i> sp. ?		<2.8			8.4	8.4
Pyrrhophyta	Dinokontae	UID		<2.8				
UID colonial algae						<2.8		

UID flagellates observed, but not counted.
UID = unidentified due to lack of size and / or missing morphological characters.

Appendix H Benthos

Contents

Appendix H1	2006 Sampling Site Characteristics
Appendix H2	1997 Methods and List of Taxonomic Keys
Appendix H3	2006 Methods and List of Taxonomic Keys
Appendix H4	1997 Stream Benthic Invertebrate Taxonomy/Abundance
Appendix H5	2006 Stream Benthic Invertebrate Taxonomy/Abundance
Appendix H6	Pre-PRS Lake Benthic Invertebrate Taxonomy/Abundance
Appendix H7	1997 Lake Benthic Invertebrate Taxonomy/Abundance

Appendix H1 2006 Sampling Site Characteristics

APPENDIX H1: 2006 Benthic Invertebrate Sampling Site Characteristics

Benthic Invertebrate Sampling Summary in 2006

Date	Site	N	Comments
08/15/2006	W2 – Fish Creek	5	Samples collected at water depths between 10 and 15 cm. Sampled upstream end of pond habitat and downstream end of riffle habitat. Predominantly fines and small gravel substrates, with some cobbles. Low water conditions.
08/15/2006	W3 – Fish Creek	5	Substrate predominantly gravels deposited from eroding bank; some cobbles. Very few to no fines or organics.
08/16/2006	W8 – Fish Creek	5	Habitat consists of riffle/pool morphology; however, riffles are few and far between. Substrates varied but consisted mainly of gravels, with some fines and few cobbles. Low flow conditions; water depths ~10 cm.
08/14/2006	WC – Tete Angela Creek	5	Very low water flow conditions. Sampled riffle and pool habitats. Some fines and gravels present; however, mainly cobble and boulder substrates. Filamentous green algae present.
09/05/2006	W5 – Taseko River	5	Light tan and green-coloured algae mats present; samples full of algae. All samples collected from immediate foreshore of river. Large and small cobble substrates present with some large gravels. Run morphology. Water depth ranged from 20 to 30 cm. <5% gradient at site.
09/05/2006	W6 – Taseko River	5	Abundance of light tan-coloured algae mats; samples full of algae. All samples collected from immediate foreshore of river. Large cobble substrates present. Run morphology. Water depth ranged from 15 to 40 cm. <5% gradient at site.
09/05/2006	WA – Taseko River	5	Abundance of light tan-coloured algae mats; samples full of algae. All samples collected from immediate foreshore of river, upstream of riffle habitat. Large and small cobble substrates present. Run morphology. Water depth ranged from 15 to 40 cm. <5% gradient at site.

Appendix H2

1997 Methods and List of Taxonomic Keys

APPENDIX H2: 1997 BENTHIC INVERTEBRATE IDENTIFICATION AND ENUMERATION (PROVIDED BY FRASER ENVIRONMENTAL SERVICES)

1. Scope

This method describes the identification and enumeration of benthic invertebrates.

2. Summary

The sample was fractionated into various sizes. Invertebrates were removed, sorted, identified and enumerated using appropriate procedures and taxonomic keys.

3. Apparatus

1. Nested screens of various sizes 1 - 0.001 mm.
2. Dissecting microscope.
3. Subsampling equipment (splitter, Stemple pipette, or gridded petri dish).
4. Compound microscope equipped with phase contrast.

4. Reagents

1. Ethanol.
2. Mounting media (CMPC, Euparal).
3. KOH.

5. Procedure

1. Animals and detritus were washed and decanted from sediments and preservative.
2. Animals and detritus were sieved through nested screens. Size classes were similar to Cummins et al. 1973.
3. Benthic invertebrates were sorted by microscope and removed from detritus. Individuals were identified to appropriate taxa.
4. Identified taxa were sorted in 70% ethanol in glass vials.
5. If a sample unit contained a very large number of individuals in a given taxon, it was necessary to subsample to obtain an estimate because the time required to count was prohibitive (Merritt and Cummins 1984). If subsampling was required, size fraction and subsample volumes were based on the nature of the sample, especially the density of benthic invertebrates. For example, size fractions were made up to a constant volume (500-1000 mL) and 1 - 3 subsamples (40 mL) were randomly removed (Merritt and Cummins 1984). Statistical tests for randomness were performed according to Elliot (1977). Subsamples were identified as in procedure 3.

6. If permanent microscope slides were required to be made in order to identify benthic invertebrates to a particular level, the following two procedures were used: a) direct slide mounting from water or ethanol if CMC or Euparal was used, or b) opaque tissues were cleared by heating in 5-10% KOH solution until transparent, then transferred to distilled water and 95% ethanol for 1 minute, then mounting media was used.

6. Taxonomic Keys

- Brinkhurst, R.O. and B.G.M. Jamieson. 1971. Aquatic Oligochaeta of the world. Univ. Toronto Press, Toronto.
- Burch, J.B. 1972. Freshwater sphaeriacean clams (Mollusca : Pelecypoda) of North America. Biota of freshwater ecosystems, U.S.E.P.A., Ident. Man. No. 3. Wash., D.C. p.31.
- Burch, J.B. 1973. Freshwater uninacean clams (Mollusca : Pelecypoda) of North America. Biota of freshwater ecosystems, U.S.E.P.A., Ident. Man. No. 11. Wash., D.C. p. 176.
- Clarke, A.H. 1973. The freshwater mollusks of the Canadian interior basin. Malacologia 13. p.509.
- Curtis, L.C. 1967. The mosquitoes of British Columbia. Occ. Pap. British Columbia Prov. Mus. 15:1-90.
- Edmunds, G.F. Jr., Jensen, S.L. and Berner, L. 1976. The mayflies of North and Central America. Univ. Minn. Press, Minneapolis. p.300.
- Ferris, V.R., Ferris, J.M. and Tjepkema, J.P. 1973. Genera of freshwater nematodes (Nematoda) of eastern North America. Biota of freshwater ecosystems, U.S.E.P.A., Ident. Man. No. 10. Wash., D.C. p.38.
- Forrest, H. 1963. Taxonomic studies on the hydras of North America. VIII. Description of two new species, with records and a key to North American hydras. Trans. Amer. Micr. Soc. 82:6-17.
- Johannsen, O.A. 1969. Aquatic Diptera. Entomological Reprint Specialists. Michigan. p.80.
- Kenk, R. 1972. Freshwater planarians (Tubellaria) of North America. Biota of freshwater ecosystems, U.S.E.P.A., Ident. Man. No. 8. Wash., D.C. p.53.

- Klemm, D.J. 1972. Freshwater leeches (Annelida : Hirundinea) of North America. Biota of freshwater ecosystems, U.S.E.P.A., Ident. Man. No. 8. Wash., D.C. p.53.
- McAlpine, J.F., B.V. Peterson, G.E. Shewell, Teskey, H.J. Vockeroth, J.R., and D.M. Wood. Manual of Nearctic Diptera. 1981. Re. Branch. Agric. Can. Monogr. 27. Ottawa. p.674.
- Merrit, R.W. and Cummins, K.W. An introduction to the aquatic insects of North America, 2nd edition. 1984. Kendall/Hunt Publishing Company. Iowa. p.722.
- Nimmo, A.P. and G.G.E. Scudder. 1978. An annotated checklist of the Tricoptera (Insecta) of British Columbia. Syesis. 11 : 117-134.
- Pennak, R.W. Fresh-water invertebrates of the United States, Protozoa to Mollusca, 3rd edition. 1989. John Wiley and Sons, Inc. Toronto. p.628.
- Richards, W.R. Generic Classification, Evolution, and Biogeography of the Smithuridae of the World (Collembola). Memoirs of the Entomological Society of Canada - No. 53.
- Scudder, G.E., Cannings, R.A., and K.M. Stuart. 1976. An annotated checklist of Odonata (Insecta) of British Columbia. Syesis. 9 : 143-162.
- Wiggins, G.B. Larvae of the North American Caddisfly Genera (Trichoptera). 1977. University of Toronto Press. p.401.
- Usinger, R.L. Aquatic Insects of California with keys to North American Genera and California species. 1963. University of California Press. Berkley. p.508.

Appendix H3

2006 Methods and List of Taxonomic Keys

APPENDIX H3: 2006 FRASER ENVIRONMENTAL METHODOLOGY

Report of Analysis of 35 Benthic Samples Jacques Whitford Project # 1014430

December 6, 2006

Invertebrate analysis by:
Sue Salter R.P.Bio.
Fraser Environmental Services

Method

Each sample was sieved through 2 nested sieves (0.5 mm and 0.250mm). The 0.250 mm fraction was archived. The 0.5 mm fraction was sorted without subsampling unless the sample was judged to have more than 600 organisms per sample. The subsampling method employed for these samples was to divide the entire sample by area, within the sieve. If subsampling was used a minimum number goal for the subsample was 300 organisms. If fewer than 300 organisms were found in the subsample (i.e. in a quarter of the sample) another portion of the subsample was sorted (i.e. another quarter). The portion of the subsample which was not sorted has been preserved and archived. The sorted portion of the samples have been retained for QA/QC. General guidance for analysis of these samples is found in

http://www.ec.gc.ca/eem/English/Publications/web_publication/Sub_Sampling/default.cfm

All numbers reported are for the whole sample. Sorting and identification was done using a Nikon SMZ800 binocular microscope with help of the following keys:

Clifford, Hugh F. 1991. Aquatic Invertebrates of Alberta. University of Alberta Press
Edmonton, Alberta.

Epler, John. 2001. The Larval Chironomids of North and South Carolina.
<http://home.earthlink.net/~johnepler/>

Epler, John. Identification Manual for the Water Beetles of Florida.
<http://home.earthlink.net/~johnepler/>

Epler, John. Identification Manual for the Aquatic and Semi-aquatic Heteroptera of
Florida. <http://home.earthlink.net/~johnepler/>

- Jacobus, Luke and Pat Randolph. 2005. Northwest Ephemeroptera Nymphs. Manual from Northwest Biological Assessment Working Group. Moscow Idaho 2005. Not Published.
- Kathman, R.D., R.O. Brinkhurst. 1999. Guide to the Freshwater Oligochaetes of North America. Aquatic Resources Center, College Grove, Tennessee.
- Larson, D.J., Y. Alarie, R.E. Roughly. 2005. Predaceous Diving Beetles (Coleoptera: Dytiscidae) of the Nearctic Region. NRC-CNRC Research Press. Ottawa.
- Merritt, R.W., K.W. Cummins (eds.). 1996. An introduction to the aquatic insects of North America, 3rd. Kendall/Hunt, Dubuque, IA.
- Needham, James, M. May, M. Westfall Jr. 2000. Dragonflies of North America. Scientific Publishers. Gainesville FL.
- Westfall, Minter J. Jr. and May, Michael L. 1996. Damselflies of North America. Scientific Publishers, Gainesville, FL.
- Needham, K. 1996. An Identification Guide to the Nymphal Mayflies of British Columbia. Publication #046 Resource Inventory Committee, Government of British Columbia.
- Oliver, Donald R. and Mary E. Roussel. 1983. The Insects and Arachnids of Canada Part 11. The Genera of larval midges of Canada. Biosystematics Research Institute. Ottawa, Ontario. Research Branch, Agriculture Canada. Publication 1746.
- Proctor, H. The 'Top 18' Water Mite Families in Alberta. Zoology 351.
- Stewart, Kenneth W. and Bill Stark. 2002. The Nymphs of North American Stonefly Genera (Plecoptera). The Caddis Press. Columbus Ohio.
- Wiggins, Glenn B. 1998. Larvae of the North American Caddisfly Genera (Trichoptera) 2nd ed. University of Toronto Press. Toronto Ontario.

Appendix H4

1997 Stream Benthic Invertebrate Taxonomy/Abundance

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W12

System: Beece Creek

Habitat Type: Pool

Sampling Date: Aug. 20/97

Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
	Diptera								
		Chironomidae	129	129	32	172	43	101	27.1
		Chironomini	0	11	0	0	0	2	2.2
		Orthoclaadiinae	22	140	22	97	22	60	24.7
		<i>Corynoneura sp.</i>	22	11	0	0	0	6	4.3
		<i>Orthocladus sp.</i>	22	129	43	0	43	47	22.0
		<i>Eukiefferiella sp.</i>	65	377	22	43	0	101	69.7
		<i>Pseudodiamesa sp.</i>	0	11	0	0	0	2	2.2
		Tanytarsini							
		<i>Stempellinella sp.</i>	22	22	11	0	22	15	4.3
		<i>Tanytarsus sp.</i>	75	75	0	0	0	30	18.5
		Ceratopogonidae							
		<i>Bezzia sp.</i>	0	11	11	0	0	4	2.6
		Empididae							
		<i>Chelifera sp.</i>	0	0	0	0	22	4	4.3
		<i>Clinocera sp.</i>	0	11	0	11	0	4	2.6
		Simuliidae							
		<i>Prosimulium sp.</i>	0	11	0	0	0	2	2.2
		Tipulidae							
		<i>Dicranota sp.</i>	0	0	0	0	11	2	2.2
		Ephemeroptera							
		Baetidae							
		<i>Baetis bicaudatus</i>	22	65	22	97	65	54	14.4
		Ephemerellidae	75	32	11	32	43	39	10.5
		<i>Ephemerella coloradensis</i>	11	0	0	0	11	4	2.6
		<i>Drunella doddsi</i>	0	0	0	11	22	6	4.3
		Heptageniidae	11	0	0	0	0	2	2.2
		<i>Cinygmula sp.</i>	0	0	11	43	0	11	8.3
		<i>Epeorus deceptivus</i>	0	0	0	0	11	2	2.2
		Ameletidae							
		<i>Ameletus sp.</i>	65	43	0	43	11	32	11.8
		Plecoptera	11	0	0	0	0	2	2.2
		Chloroperlidae							
		<i>Sweltsa complex</i>	22	0	0	0	0	4	4.3
		Perlodidae							
		<i>Kogotus sp.</i>	22	0	0	0	0	4	4.3
		Capniidae							
		<i>Despaxia sp.</i>	0	0	0	0	11	2	2.2
		Nemouridae							
		<i>Zapada sp.</i>	97	22	54	11	0	37	17.6
		Trichoptera	11	11	0	0	0	4	2.6
		Limnephilidae	0	0	0	22	32	11	6.8
		Rhyacophililidae	0	11	0	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W12

System: Beece Creek

Habitat Type: Pool

Sampling Date: Aug. 20/97

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
W12 - pool Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
				<i>Rhyacophila vao</i> (possibly)	54	0	22	11	0	17	10.0
	Hemiptera				11	0	11	11	11	9	2.2
	Coleoptera										
		Staphylinidae			11	0	0	0	0	2	2.2
	Acarina (subphylum Chelicerata)										
	Hydracarina				0	0	0	22	0	4	4.3
				<i>Sperchon sp.</i>	65	75	11	108	11	54	19.0
Annelida											
	Oligochaeta				22	65	0	11	0	19	12.0
				<i>Eclipidrilus lacustris</i>	11	22	86	11	0	26	15.4
Nematoda					108	151	43	54	11	73	24.9
Platyhelminthes					75	0	0	0	11	17	14.7
Turbellaria											

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W12										
System: Beece Creek										
Habitat Type: Riffle										
Sampling Date: Aug. 20/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae		108	452	75	32	183	170	74.7
			Orthocladiinae	65	194	86	54	161	112	27.8
			<i>Chaetocladius sp.</i>	0	0	0	0	11	2	2.2
			<i>Corynoneura sp.</i>	11	11	0	0	43	13	7.9
			<i>Orthocladius sp.</i>	0	11	0	0	0	2	2.2
			<i>Eukiefferiella sp.</i>	205	431	97	54	97	177	68.2
			<i>Psectrocladius sp.</i>	11	0	0	0	0	2	2.2
			Tanytarsini							
			<i>Stempellinella sp.</i>	11	0	0	0	0	2	2.2
			<i>Tanytarsus sp.</i>	22	86	11	22	43	37	13.4
		Ceratopogonidae								
			<i>Bezzia sp.</i>	0	0	0	0	11	2	2.2
		Empididae								
			<i>Chelifera sp.</i>	0	0	11	0	0	2	2.2
			<i>Clinocera sp.</i>	11	22	0	0	22	11	4.8
		Ephydriidae		0	0	11	0	0	2	2.2
		Simuliidae								
			<i>Prosimulium sp.</i>	0	32	0	0	11	9	6.3
		Tipulidae		0	0	0	11	0	2	2.2
			<i>Hexatoma sp.</i>	0	11	0	0	65	15	12.6
	Ephemeroptera									
		Baetidae		11	151	65	0	0	45	29.0
			<i>Baetis bicaudatus</i>	86	32	86	54	172	86	23.8
		Ephemerellidae		0	0	11	11	11	6	2.6
			<i>Ephemerella aurivilli</i>	0	0	0	0	22	4	4.3
			<i>Ephemerella coloradensis</i>	0	86	54	22	43	41	14.6
			<i>Drunella doddsi</i>	129	161	108	161	172	146	12.1
		Heptageniidae		0	43	0	0	75	24	15.4
			<i>Cinygmula sp.</i>	86	54	65	129	280	123	41.4
			<i>Epeorus albertae</i>	140	237	65	183	75	140	32.5
			<i>Epeorus deceptivus</i>	0	22	0	0	11	6	4.3
			<i>Rhithrogena sp.</i>	22	0	0	0	0	4	4.3
		Ameletidae								
			<i>Ameletus sp.</i>	0	0	0	0	22	4	4.3
	Plecoptera			65	108	0	0	65	47	20.9
		Perlodidae		0	0	11	0	0	2	2.2
			<i>Skwala sp.</i>	0	0	0	11	0	2	2.2
		Capniidae								

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W12										
System: Beece Creek										
Habitat Type: Riffle										
Sampling Date: Aug. 20/97										
Identified Taxa				Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E.
			<i>Capnia sp.</i>	11	0	0	0	0	2	2.2
			Nemouridae	0	0	0	0	11	2	2.2
			<i>Zapada sp.</i>	75	549	11	97	183	183	95.6
			Taeniopterygidae							
			<i>Taenionema sp.</i>	0	0	0	11	22	6	4.3
			Trichoptera							
			Glossomatidae							
			<i>Glossosoma sp.</i>	11	86	75	86	161	84	23.9
			Hydropsychidae							
			<i>Parapsyche</i>	43	65	11	22	22	32	9.6
			Limnephilidae							
			<i>Psychoglypha sp.</i>	0	0	0	0	22	4	4.3
W12 – riffle Identified Taxa				Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E.
			Rhyacophilidae	0	118	11	43	54	45	20.8
			<i>Rhyacophila acropedes</i>	0	0	0	0	11	2	2.2
			<i>Rhyacophila angelita</i>	11	22	0	22	11	13	4.0
			<i>Rhyacophila bifila</i>	0	11	0	0	0	2	2.2
			<i>Rhyacophila vagrita</i>	0	11	0	0	0	2	2.2
			<i>Rhyacophila vao</i> (possibly)	129	151	11	22	54	73	28.4
			Hemiptera							
			Aphididae	11	43	0	32	11	19	7.9
			Ostracoda (subphylum Crustacea)	11	0	0	0	0	2	2.2
			Acarina (subphylum Chelicerata)							
			Hydracarina	11	22	0	11	22	13	4.0
			<i>Sperchon sp.</i>	11	129	32	43	86	60	21.1
Annelida										
			Oligochaeta	32	32	0	0	11	15	7.3
			Tubificidae	0	11	0	0	0	2	2.2
Nematoda				22	75	32	0	43	34	12.5
Platyhelminthes										
			Turbellaria	22	65	22	0	86	39	15.8

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W11									
System: Beece Creek									
Habitat Type: Pool									
Sampling Date: Aug 20/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
	Diptera								
		Chironomidae	11	398	22	11	151	118	74.8
		Orthoclaadiinae	11	32	86	0	75	41	17.2
		<i>Corynoneura sp.</i>	0	11	0	0	0	2	2.2
		<i>Orthocladus sp.</i>	11	0	0	0	0	2	2.2
		<i>Eukiefferiella sp.</i>	22	215	54	0	32	65	38.7
		<i>Paraphaenocladus sp.</i>	0	0	0	11	0	2	2.2
		Tanytarsini	0	11	0	0	11	4	2.6
		<i>Stempellinella sp.</i>	0	0	11	0	0	2	2.2
		Tanypodinae	0	11	0	0	0	2	2.2
		Ceratopogonidae							
		<i>Bezzia sp.</i>	0	0	0	0	11	2	2.2
		Empididae							
		<i>Chelifera sp.</i>	11	0	11	11	0	6	2.6
		Tipulidae							
		<i>Dicranota sp.</i>	32	11	0	0	11	11	5.9
		<i>Ormosia sp.</i>	0	0	43	0	11	11	8.3
		Nymphomyiidae							
		<i>Nymphomyia sp.</i>	0	0	0	0	11	2	2.2
	Ephemeroptera		11	0	0	0	0	2	2.2
		Baetidae	0	11	0	11	0	4	2.6
		<i>Baetis bicaudatus</i>	22	0	22	0	0	9	5.3
		Ephemerellidae	0	43	22	0	65	26	12.6
		<i>Ephemerella aurivilli</i>	0	22	22	11	11	13	4.0
		<i>Drunella doddsi</i>	65	11	11	32	32	30	9.9
		Heptageniidae	323	54	22	32	108	108	55.8
		<i>Cinygmula sp.</i>	54	11	65	0	140	54	24.8
		<i>Epeorus albertae</i>	11	0	0	0	54	13	10.4
		<i>Epeorus sp.</i>	11	22	0	0	0	6	4.3
		<i>Rhithrogena sp.</i>	54	11	22	11	22	24	7.9
		Ameletidae							
		<i>Ameletus sp.</i>	140	129	323	0	22	123	57.3
	Plecoptera		0	65	0	0	11	15	12.6
		Chloroperlidae							
		<i>Suwallia</i>	0	32	11	0	0	9	6.3
		Perlodidae	11	22	0	0	0	6	4.3
		<i>Skwala sp.</i>	0	0	11	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

W11- pool Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
			Capniidae							
			<i>Despaxia sp.</i>	0	54	11	0	0	13	10.4
			Nemouridae							
			<i>Zapada sp.</i>	11	54	0	11	32	22	9.6
			Trichoptera	0	0	0	43	0	9	8.6
			Hydropsychidae							
			<i>Parapsyche</i>	0	11	0	0	0	2	2.2
			Limnephilidae	269	32	0	0	75	75	50.4
			<i>Dicosmoecus sp.</i>	0	11	0	0	0	2	2.2
			Rhyacophililidae	11	0	0	0	0	2	2.2
			<i>Rhyacophila angelita</i>	0	11	0	0	11	4	2.6
			<i>Rhyacophila vagrita</i>	0	0	0	0	11	2	2.2
			<i>Rhyacophila vao</i> (possibly)	22	0	11	0	22	11	4.8
			Hemiptera							
			Aphididae	11	11	22	11	11	13	2.2
			Ostracoda (subphylum Crustacea)							
			<i>Candona sp.</i>	22	0	32	11	0	13	6.3
			Acarina (subphylum Chelicerata)							
			Hydracarina	0	11	0	0	11	4	2.6
			<i>Sperchon sp.</i>	22	11	54	0	75	32	14.0
			Annelida							
			Oligochaeta	0	22	0	0	0	4	4.3
			Nematoda	22	0	43	0	11	15	8.1
			Platyhelminthes							
			Turbellaria	11	54	54	32	75	45	11.0

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W11										
System: Beece Creek										
Habitat Type: Riffle										
Sampling Date: Aug. 20/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
Diptera										
Chironomidae				183	0	151	86	32	90	34.5
Orthoclaadiinae				11	0	43	54	11	24	10.4
<i>Corynoneura sp.</i>				0	0	11	11	11	6	2.6
<i>Orthocladus sp.</i>				43	0	86	0	11	28	16.5
<i>Eukiefferiella sp.</i>				11	11	0	0	11	6	2.6
Tanytarsini				0	0	11	11	0	4	2.6
<i>Tanytarsus sp.</i>				0	0	11	0	0	2	2.2
Empididae										
<i>Chelifera sp.</i>				0	0	0	11	0	2	2.2
Tipulidae										
<i>Dicranota sp.</i>				0	0	0	22	0	4	4.3
<i>Hexatoma sp.</i>				0	0	0	0	11	2	2.2
Ephemeroptera				43	22	22	0	0	17	8.1
Baetidae				0	0	54	11	0	13	10.4
<i>Baetis tricaudatus</i>				0	0	11	0	0	2	2.2
Ephemerellidae				11	0	0	11	11	6	2.6
<i>Ephemerella aurivilli</i>				0	0	11	22	32	13	6.3
<i>Drunella doddsi</i>				32	0	32	22	32	24	6.3
Heptageniidae				65	43	54	108	65	67	11.0
<i>Cinygmula sp.</i>				108	22	22	22	32	41	16.8
<i>Epeorus albertae</i>				54	0	43	75	54	45	12.5
<i>Epeorus deceptivus</i>				0	0	43	54	32	26	11.1
<i>Epeorus longimanus</i>				0	0	11	0	0	2	2.2
<i>Epeorus sp.</i>				0	32	65	22	0	24	12.0
<i>Rhithrogena sp.</i>				54	269	161	43	22	110	46.6
Plecoptera				0	0	0	32	0	6	6.5
Chloroperlidae				0	0	11	0	0	2	2.2
<i>Suwallia</i>				0	0	22	32	22	15	6.5
<i>Sweltsa complex</i>				11	0	0	0	0	2	2.2
Perlodidae										
<i>Megarcys sp.</i>				0	11	0	0	0	2	2.2
Capniidae										
<i>Despaxia sp.</i>				11	11	11	22	11	13	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

W11- riffle Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
		Nemouridae									
				<i>Zapada sp.</i>	11	11	32	65	22	28	10.0
	Trichoptera				11	0	0	11	54	15	10.0
		Glossomatidae									
				<i>Glossosoma sp.</i>	0	0	11	11	11	6	2.6
		Rhyacophililidae			0	0	11	0	0	2	2.2
				<i>Rhyacophila vao</i> (possibly)	0	0	11	0	11	4	2.6
	Hemiptera										
		Aphididae			0	0	0	22	0	4	4.3
	Acarina (subphylum Chelicerata)										
	Hydracarina				0	0	0	11	0	2	2.2
				<i>Sperchon sp.</i>	22	0	0	11	43	15	8.1
Nematoda					11	0	11	0	0	4	2.6
Platyhelminthes											
Turbellaria					11	11	0	11	43	15	7.3

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W1									
System: Fish Creek									
Habitat Type: Pool									
Sampling Date: Aug. 21/97									
Identified Taxa		Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
Arthropoda									
	Diptera								
	Chironomidae	9150	1625	1001	8482	11518	6355	2121.6	
	Chironomini	323	0	0	0	0	65	64.6	
	<i>Demicryptochironomus</i>	0	0	0	0	11	2	2.2	
	<i>Microtendipes sp.</i>	11	0	0	0	0	2	2.2	
	<i>Phaenopsectra sp.</i>	0	108	97	65	11	56	21.9	
	Orthocladiinae	0	0	11	11	0	4	2.6	
	<i>Corynoneura sp.</i>	0	0	0	0	108	22	21.5	
	<i>Eukiefferiella sp.</i>	22	0	0	0	22	9	5.3	
	<i>Psectrocladius sp.</i>	0	0	0	11	0	2	2.2	
	Diamesinae								
	<i>Monodiamesa sp.</i>	0	0	0	0	11	2	2.2	
	<i>Prodiamesa sp.</i>	0	0	0	0	11	2	2.2	
	Tanytarsini	2583	538	108	915	538	936	431.1	
	<i>Micropsectra sp.</i>	0	0	22	11	0	6	4.3	
	<i>Rheotanyatrsus</i>	0	11	54	65	0	26	13.9	
	<i>Tanytarsus sp.</i>	2594	0	118	215	86	603	499.0	
	Tanypodinae	108	0	215	0	0	65	43.1	
	<i>Paramerina sp.</i>	0	0	0	11	0	2	2.2	
	<i>Procladius sp.</i>	1184	441	775	700	969	814	125.4	
	Ceratopogonidae								
	<i>Bezzia sp.</i>	0	0	0	11	11	4	2.6	
	Ephemeroptera								
	Ephemerellidae								
	<i>Ephemerella inermis</i>	0	0	0	0	11	2	2.2	
	Leptophlebiidae								
	<i>Paraleptophlebia debilis</i>	108	11	108	86	22	67	21.1	
	Trichoptera								
	Limnephilidae								
	<i>Dicosmoecus sp.</i>	11	0	0	0	0	2	2.2	
	<i>Psychoglypha sp.</i>	0	0	0	0	32	6	6.5	
	Hemiptera								
	Aphididae	0	0	0	0	108	22	21.5	
	Coleoptera								
	<i>Agabus sp.</i>	0	0	0	0	11	2	2.2	
	Amphipoda (subphylum Crustacea)								

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

W1 pool Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
			<i>Gammarus lacustris</i>	65	11	11	194	172	90	39.2
			Ostracoda (subphylum Crustacea)							
			Candoniidae							
			<i>Candona sp.</i>	1184	538	226	269	1292	702	225.9
			Cyprididae							
			<i>Cyclocypris sp.</i>	431	215	431	807	215	420	108.2
			<i>Cypris sp.</i>	108	0	0	0	0	22	21.5
			Acarina (subphylum Chelicerata)							
			Hydracarina	0	0	0	431	0	86	86.1
			<i>Sperchon sp.</i>	969	11	11	22	0	202	191.6
			<i>Torrenticola sp.</i>	108	0	0	0	0	22	21.5
			<i>Unionicola</i>	1184	753	11	538	538	605	189.7
			Annelida							
			Hirudinea							
			<i>Dina parva</i>	11	0	0	11	11	6	2.6
			<i>Helobdella stagnalis</i>	54	54	65	43	172	78	23.9
			Oligochaeta	215	0	0	0	0	43	43.1
			Enchytraeidae	108	431	0	0	0	108	83.4
			Lumbriculidae	215	0	0	0	0	43	43.1
			<i>Stylaria lacustris</i>	0	11	0	0	11	4	2.6
			Tubificidae	2368	538	140	248	323	723	416.3
			Coelenterata							
			<i>Hydra sp.</i>	323	22	0	0	0	69	63.6
			Nematoda	108	0	0	11	108	45	25.6
			Mollusca							
			Valvatidae							
			<i>Valvata sincera sincera</i>	463	75	172	334	280	265	66.6
			Sphaeriidae	0	0	323	753	0	215	148.4
			<i>Pisidium</i>	0	377	1518	872	431	639	259.5
			<i>Sphaerium</i>	32	441	1066	1044	1399	797	245.7

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W1									
System: Fish Creek									
Habitat Type: Riffle									
Sampling Date: Aug. 21/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
Diptera									
Chironomidae			13348	13563	7966	18084	2562	11104	2670.4
Chironomini			538	108	215	0	32	179	97.2
<i>Microtendipes sp.</i>			0	11	323	22	0	71	63.1
<i>Phaenopsectra sp.</i>			11	22	0	0	0	6	4.3
Orthocladiinae			334	431	323	764	398	450	81.1
<i>Corynoneura sp.</i>			0	215	108	215	22	112	45.9
<i>Orthocladius sp.</i>			0	969	323	764	237	459	177.7
<i>Eukiefferiella sp.</i>			323	0	22	32	11	78	61.6
<i>Psectrocladius sp.</i>			215	54	11	0	0	56	41.0
<i>Synorthocladius sp.</i>			0	32	32	54	11	26	9.4
Diamesinae									
<i>Potthastia sp.</i>			215	22	215	108	11	114	44.6
<i>Prodiamesa sp.</i>			22	0	0	0	0	4	4.3
Tanytarsini			5920	3767	4521	5705	344	4052	1006.7
<i>Micropsectra sp.</i>			0	0	0	22	0	4	4.3
<i>Paratanytarsus sp.</i>			0	0	108	0	0	22	21.5
<i>Rheotanytarsus</i>			0	11	0	0	0	2	2.2
<i>Tanytarsus sp.</i>			215	538	872	97	65	357	153.5
Tanypodinae			0	0	108	753	32	179	145.0
<i>Paramerina sp.</i>			0	22	0	54	22	19	9.9
<i>Procladius sp.</i>			1399	969	22	183	65	527	277.8
Ceratopogonidae									
<i>Bezzia sp.</i>			11	22	0	0	0	6	4.3
Tipulidae									
<i>Ormosia sp.</i>			0	0	0	0	11	2	2.2
Ephemeroptera									
Baetidae			32	323	108	108	11	116	55.2
Ephemerellidae									
<i>Ephemerella inermis</i>			32	0	0	0	0	6	6.5
Leptophlebiidae									
<i>Paraleptophlebia debilis</i>			32	172	161	646	205	243	104.8
Plecoptera									
Capniidae									
<i>Capnia sp.</i>			108	0	0	108	0	43	26.4
Trichoptera			0	0	0	0	32	6	6.5
Limnephilidae			0	0	0	0	11	2	2.2
<i>Psychoglypha sp.</i>			0	32	32	32	0	19	7.9
Hydroptilidae			0	0	0	0	32	6	6.5

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

W1 – riffle Identified Taxa					Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
	Hemiptera										
		Aphididae			0	11	0	0	0	2	2.2
		Corixidae									
				<i>Corisella sp.</i>	0	0	11	11	0	4	2.6
		Salididae			0	0	0	0	11	2	2.2
	Coleoptera										
		Dytiscidae									
				<i>Agabus sp.</i>	0	0	0	11	0	2	2.2
				<i>Hydroporus sp.</i>	0	0	11	22	22	11	4.8
	Thysanoptera				0	0	0	0	11	2	2.2
	Amphipoda (subphylum Crustacea)										
		Gammaridae									
				<i>Gammarus lacustris</i>	108	86	151	958	43	269	173.1
	Ostracoda (subphylum Crustacea)										
		Candoniidae									
				<i>Candona sp.</i>	538	538	753	753	194	555	102.4
		Cyprididae									
				<i>Cyclocypris sp.</i>	323	215	323	753	140	351	106.4
				<i>Cypris sp.</i>	323	215	108	108	0	151	54.9
		Limnocytheridae									
				<i>Limnocythere</i>	0	0	0	0	11	2	2.2
	Acarina (subphylum Chelicerata)										
	Hydracarina										
		Sperchonidae									
				<i>Sperchon sp.</i>	0	1615	753	0	129	499	311.8
		Thyasidae									
				<i>Unionicola</i>	1399	538	108	969	32	609	259.1
	Orbatida										
		Orbatidae			0	215	0	0	0	43	43.1
Annelida											
Hirudinea											
				<i>Dina parva</i>	43	11	11	11	0	15	7.3
				<i>Helobdella stagnalis</i>	118	108	151	215	54	129	26.6
Oligochaeta					0	538	215	215	11	196	97.6
		Tubificidae			538	1507	2368	646	97	1031	404.9
Coelenterata											
				<i>Hydra sp.</i>	0	215	43	108	118	97	36.7
Nematoda					0	215	108	0	32	71	41.1
Mollusca											
		Valvatidae									
				<i>Valvata sincera sincera</i>	11	312	75	527	495	284	105.6
		Physidae									
				<i>Physa sp.</i>	0	11	0	43	54	22	11.3
		Sphaeriidae									
				<i>Pisidium</i>	0	11	11	0	11	6	2.6
				<i>Sphaerium</i>	11	65	32	108	0	43	19.6

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W2										
System: Fish Creek										
Habitat Type: Pool										
Sampling Date: Aug. 15/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera			323	258	118	0	0	140	66.0
	Chironomidae									
	Chironomini			0	0	0	0	65	13	12.9
			<i>Glyptotendipes</i> sp. (possibly)	0	0	0	43	0	9	8.6
			<i>Microtendipes</i> sp.	474	344	0	0	0	164	102.3
			<i>Parachironomus</i> sp.	0	517	32	43	0	118	99.9
	Orthoclaadiinae			0	3552	0	0	0	710	710.4
			<i>Cricotopus</i> spp.	65	0	0	0	0	13	12.9
			<i>Eukiefferiella</i> sp.	0	538	140	0	0	136	104.2
			<i>Synorthocladus</i> sp.	86	172	0	0	0	52	34.4
	Tanytarsini			0	215	0	0	0	43	43.1
			<i>Tanytarsus</i> sp.	0	0	32	0	0	6	6.5
	Tanypodinae			0	215	0	0	22	47	42.2
			<i>Ablabesmyia</i> sp.	0	0	32	0	0	6	6.5
			<i>Procladius</i> sp.	0	0	32	0	0	6	6.5
			<i>Thienemannimyia</i> group	0	0	0	129	0	26	25.8
	Ceratopogonidae			0	32	0	0	0	6	6.5
	Chaoboridae			22	0	0	11	0	6	4.3
	Empididae			0	11	0	0	0	2	2.2
	Simuliidae			0	0	0	11	0	2	2.2
			<i>Simulium</i> sp.	0	893	420	0	0	263	177.4
Ephemeroptera										
		Baetidae		108	0	0	22	11	28	20.3
		Caenidae		0	0	0	0	22	4	4.3
		Ephemerellidae		22	140	11	0	0	34	26.7
		Leptophlebiidae		0	0	0	0	108	22	21.5
			<i>Paraleptophlebia</i> sp.	721	883	280	65	0	390	176.4
Trichoptera				11	11	0	0	0	4	2.6
		Lepidostomatidae		22	11	0	0	0	6	4.3
		Brachycentridae		0	0	0	22	11	6	4.3
		Hydropsychidae		0	0	65	0	0	13	12.9
		Rhyacophililidae		0	11	0	0	0	2	2.2
Hemiptera										
		Aphididae		11	11	0	0	0	4	2.6
Coleoptera										
		Dytiscidae		0	0	0	32	0	6	6.5
Neuroptera										
		Sisyridae		11	0	0	0	0	2	2.2
Ostracoda (subphylum Crustacea)				32	517	22	22	75	133	96.3
Acarina (subphylum Chelicerata)										
	Hydracarina			807	463	1625	205	108	642	274.2
Annelida										
Hirudinea				0	75	43	32	11	32	13.2
W2 pool Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Oligochaeta				194	32	237	65	32	112	43.1
Nematoda				118	97	0	0	0	43	26.6
Platyhelminthes										
Turbellaria				0	0	11	0	0	2	2.2
Mollusca										

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W2									
System: Fish Creek									
Habitat Type: Pool									
Sampling Date: Aug. 15/97									
Identified Taxa		Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
Gastropoda		990	54	0	0	32	215	194.0	
Pelecypoda		398	22	0	807	54	256	155.8	

Site Name: W2									
System: Fish Creek									
Habitat Type: Riffle									
Sample Date: Aug. 15/97									
Identified Taxa		Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
Arthropoda									
Diptera		969	4521	301	388	108	1257	828.5	
Chironomidae		5059	0	0	431	3767	1851	1068.5	
Chironomini									
Microtendipes sp.		215	0	0	958	0	235	185.6	
Parachironomus sp.		0	1442	1389	0	0	566	346.8	
Paracladopelma spp.		0	0	0	883	0	177	176.5	
Phaenopsectra sp.		0	1442	0	0	0	288	288.5	
Orthoclaadiinae									
Orthocladus sp.		0	0	463	0	0	93	92.6	
Eukiefferiella sp.		5597	11572	151	108	0	3485	2286.1	
Tanytarsini		0	0	0	108	0	22	21.5	
Micropsectra sp.		753	2713	0	0	0	693	525.5	
Tanypodinae									
Thienemannimyia group		1292	2487	0	161	0	788	488.5	
Ceratopogonidae		0	0	0	22	0	4	4.3	
Chaoboridae		108	0	32	301	215	131	56.4	
Empididae		215	0	0	0	0	43	43.1	
Simuliidae		0	0	97	129	0	45	28.2	
Simulium sp.		60065	145576	0	0	40581	49244	26760.0	
Tipulidae		0	0	0	22	108	26	20.9	
Ephemeroptera									
Baetidae		538	226	0	0	861	325	166.4	
Ephemereillidae		0	0	97	205	0	60	40.6	
Leptophlebiidae		0	904	0	0	1830	547	365.5	
Paraleptophlebia sp.		2153	0	2917	5350	0	2084	1001.3	
Trichoptera		0	226	43	0	215	97	51.2	
Lepidostomatidae		0	0	0	75	0	15	15.1	
Hydropsychidae		1076	7460	43	495	646	1944	1388.8	
Phryganeidae		108	0	0	0	0	22	21.5	
Hemiptera									
Aphididae		0	0	0	22	0	4	4.3	
Cicadellidae		0	0	11	0	0	2	2.2	
Corixidae		0	0	0	0	11	2	2.2	
Coleoptera		0	0	11	0	0	2	2.2	
Ostracoda (subphylum Crustacea)		0	0	0	0	1076	215	215.3	
Acarina (subphylum Chelicerata)									
Hydracarina		2153	6329	355	1356	2153	2469	1020.0	
Annelida									
Hirudinea		0	0	118	65	43	45	22.2	
Oligochaeta		0	0	43	97	0	28	19.1	
Nematoda		323	0	22	215	215	155	62.2	

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W2									
System: Fish Creek									
Habitat Type: Riffle									
Sample Date: Aug. 15/97									
Identified Taxa			Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E.
Mollusca									
Gastropoda			0	0	22	86	1938	409	382.5
Pelecypoda			0	0	0	97	108	41	25.1

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W8										
System: Fish Creek										
Habitat Type: Pool										
Sampling Date: Aug. 22/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera			32	22	0	0	0	11	6.8
		Chironomidae		13132	11	19376	2540	20484	11109	4224.5
			Chironomini							
			<i>Microtendipes sp.</i>	689	1076	323	11	614	543	179.2
			<i>Paracladopelma spp.</i>	0	0	54	0	22	15	10.5
			Orthoclaadiinae	0	1830	323	0	0	431	355.4
			Diamesinae	0	0	0	0	11	2	2.2
			<i>Pagastia sp. (possibly)</i>	0	0	0	11	11	4	2.6
			Tanytarsini	0	0	0	0	1475	295	294.9
			<i>Tanytarsus sp.</i>	34058	4252	21313	0	86	11942	6779.6
			Tanypodinae	0	0	0	129	764	179	148.5
			<i>Paramerina sp.</i>	603	538	592	0	0	347	141.9
			<i>Procladius sp.</i>	0	140	1292	0	592	405	246.9
			<i>Thienemannimyia group</i>	0	0	0	0	43	9	8.6
			Empididae	0	0	0	0	11	2	2.2
			<i>Oreogeton sp.</i>	0	32	32	0	22	17	7.3
			Simuliidae	0	0	0	11	11	4	2.6
			<i>Simulium sp.</i>	32	22	32	0	11	19	6.3
			Tipulidae							
			<i>Antocha sp.</i>	11	0	0	0	0	2	2.2
			<i>Dicranota sp.</i>	0	0	0	22	0	4	4.3
			<i>Hexatoma sp.</i>	0	0	0	0	269	54	53.8
			<i>Limnophila sp.</i>	0	0	22	0	0	4	4.3
			UID (Family Tipulidae)	0	0	0	0	11	2	2.2
			Psychodidae							
			<i>Pericoma sp.</i>	0	0	11	0	32	9	6.3
Ephemeroptera										
		Baetidae								
			<i>Baetis sp.</i>	22	11	0	0	0	6	4.3
Ephemerellidae										
			<i>Drunella sp.</i>	11	0	0	0	0	2	2.2
Leptophlebiidae				0	0	0	11	0	2	2.2
			<i>Paraleptophlebia sp.</i>	0	22	0	11	11	9	4.0

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
	Megaloptera								
		Sialidae							
		<i>Sialis sp.</i>	0	0	0	0	22	4	4.3
	Plecoptera		11	0	22	0	11	9	4.0
		Perlodidae							
		<i>Skwala sp.</i>	0	0	11	0	0	2	2.2
		Taeniopterygidae							
		<i>Taenionema sp.</i>	22	0	0	0	43	13	8.6
	Trichoptera		108	571	32	65	377	230	104.6
		Glossomatidae	0	65	22	0	0	17	12.6
		Hydropsychidae	0	0	0	0	22	4	4.3
		Limnephilidae	0	0	32	0	0	6	6.5
		<i>Psychoglypha sp.</i>	0	0	0	0	11	2	2.2
		Hydroptilidae	97	205	205	11	183	140	37.9
		<i>Hydroptila sp.</i>	0	0	0	0	11	2	2.2
		<i>Oxyethira sp.</i>	0	0	0	97	0	19	19.4
	Hemiptera		0	0	0	0	11	2	2.2
	Coleoptera		0	11	0	0	0	2	2.2
		Dytiscidae	0	0	0	54	161	43	31.4
		Gyrinidae	22	11	22	0	0	11	4.8
	Amphipoda (subphylum Crustacea)								
		<i>Gammarus lacustris</i>	0	0	0	22	140	32	27.2
		<i>Gammarus sp.</i>	0	0	97	0	0	19	19.4
		<i>Hyalella azteca</i>	32	140	54	0	0	45	25.8
	Ostracoda (subphylum Crustacea)		205	872	678	0	312	413	158.9
	Acarina (subphylum Chelicerata)		0	43	0	0	0	9	8.6
	Hydracarina		904	893	743	97	710	670	148.4
	Orbatei (terrestrial)		0	0	0	0	11	2	2.2
	Annelida								
	Hirudinea								
		<i>Helobdella sp.</i>	0	0	0	22	0	4	4.3
	Oligochaeta		129	22	43	0	0	39	24.0
		Tubificidae	0	11	0	0	0	2	2.2
	Coelenterata								
		<i>Hydra sp.</i>	280	635	54	54	140	233	108.8
	Nematoda		420	97	323	0	108	189	78.1
	Platyhelminthes								
	Turbellaria		54	11	0	0	11	15	10.0
	Tardigrada								
		<i>Tardigrada</i>	0	0	0	0	11	2	2.2
	Mollusca								
		Valvatidae							
		<i>Valvata sincera sincera</i>	0	0	11	0	0	2	2.2
	Pelecypoda		0	11	0	0	0	4	2.6
		Sphaeriidae	11	86	20883	0	11184	6433	4208.8

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W8									
System: Fish Creek									
Habitat Type: Riffle									
Sampling Date: Aug. 22/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
Diptera			43	291	409	32	118	179	73.8
Chironomidae			3671	5048	32799	27040	3498	14411	6401.9
Chironomini									
Microtendipes sp.			0	129	0	0	0	26	25.8
Orthoclaadiinae			183	6674	441	5005	0	2461	1406.2
Cricotopus spp.			398	0	635	355	764	431	131.4
Cricotopus/Orthocladus			215	0	32	54	226	105	47.8
Eukiefferiella sp.			710	0	129	108	344	258	126.1
Thienemaniella sp.			0	0	603	0	0	121	120.6
Diamesinae									
Pagastia sp. (possibly)			388	1292	753	2271	151	971	377.8
Tanytarsini									
Tanytarsus sp.			883	3703	4349	4532	743	2842	840.0
Tanypodinae									
Paramerina sp.			0	484	215	334	0	207	94.5
Thienemannimyia group			65	0	258	0	43	73	47.9
Ceratopogonidae									
Bezzia / Palpomyia sp.			11	11	11	0	0	6	2.6
Empididae									
Chelifera sp.			0	0	11	0	0	2	2.2
Oreogeton sp.			0	0	0	22	11	6	4.3
Simuliidae			0	0	0	2174	0	435	434.9
Simulium sp.			2196	1604	1130	0	1475	1281	363.5
Tipulidae									
Dicranota sp.			11	32	54	108	22	45	17.2
UID (Family Tipulidae)			0	0	0	11	0	2	2.2
Psychodidae									
Pericoma sp.			32	75	65	75	0	50	14.7
Ephemeroptera									
Baetidae									
Baetis sp.			786	474	614	506	205	517	95.2
Ephemerellidae									
Drunella sp.			0	183	248	205	0	127	52.9
Drunella grandis			118	0	0	0	22	28	23.0
Heptageniidae									
UID (Family Heptageniidae)			65	65	22	65	86	60	10.5
Leptophlebiidae			0	0	97	0	0	19	19.4
Paraleptophlebia sp.			97	334	86	97	43	131	51.6
Ameletidae									
Ameletus sp.			0	11	0	0	0	2	2.2
Plecoptera			0	86	65	65	22	47	15.8
Chloroperlidae			0	0	22	0	0	4	4.3
Sweltsa complex			54	32	0	118	118	65	23.6
Perlodidae			0	0	0	11	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa					Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
				<i>Skwala sp.</i>	43	75	22	65	22	45	11.0
				Nemouridae	0	54	0	0	0	11	10.8
				<i>Zapada sp.</i>	32	97	172	97	0	80	29.8
				Taeniopterygidae							
				<i>Taenionema sp.</i>	0	0	0	0	11	2	2.2
				Trichoptera	129	97	183	86	22	103	26.5
				Brachycentridae	0	0	11	0	0	2	2.2
				<i>Brachycentrus sp.</i>	0	0	0	0	11	2	2.2
				Glossomatidae	0	97	0	0	0	19	19.4
				Hydropsychidae	0	0	86	32	0	24	16.8
				Leptoceridae							
				<i>Ceraclea sp.</i>	11	0	0	11	0	4	2.6
				Limnephilidae	11	11	11	0	0	6	2.6
				Rhyacophilidae							
				<i>Rhyacophila spp.</i>	0	0	0	0	32	6	6.5
				Hydroptilidae	11	172	32	11	0	45	32.2
				<i>Hydroptila sp.</i>	11	0	0	0	0	2	2.2
				<i>Oxyethira sp.</i>	0	0	0	0	22	4	4.3
				Hemiptera	0	11	22	0	0	6	4.3
				Coleoptera							
				Dytiscidae	54	0	0	0	43	19	12.0
				Gyrinidae	0	11	0	0	0	2	2.2
				Amphipoda (subphylum Crustacea)							
				<i>Gammarus lacustris</i>	11	0	0	0	0	2	2.2
				<i>Hyalella azteca</i>	0	43	0	0	0	9	8.6
				Ostracoda (subphylum Crustacea)	0	43	32	43	0	24	9.9
				Acarina (subphylum Chelicerata)	11	0	0	0	0	2	2.2
				Hydracarina	183	840	850	431	118	484	156.2
				Annelida							
				Hirundinea							
				<i>Helobdella sp.</i>	11	0	22	0	0	6	4.3
				Oligochaeta	0	11	0	11	54	15	10.0
				Coelenterata							
				<i>Hydra sp.</i>	0	248	86	0	32	73	46.3
				Nematoda	11	11	22	11	11	13	2.2
				Mollusca							
				Gastropoda	11	11	0	11	0	6	2.6
				Pelecypoda							
				Sphaeriidae	65	0	108	54	75	60	17.6

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W3										
System: Fish Creek										
Habitat Type: Pool										
Sampling Date: Aug. 16/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera			0	398	140	54	43	127	71.5
		Chironomidae		495	280	0	237	22	207	91.2
			Orthocladiinae							
			<i>Cardiocladius sp.</i>	11	0	0	0	0	2	2.2
			<i>Eukiefferiella sp.</i>	0	54	0	0	0	11	10.8
			<i>Rheocricotopus sp.</i>	97	194	0	0	0	58	38.8
			Tanytarsini	11	22	54	0	0	17	10.0
			<i>Paramerina sp.</i>	0	129	0	0	0	26	25.8
			<i>Thienemannimyia group</i>	108	0	0	0	0	22	21.5
		Empididae		161	151	32	54	11	82	31.1
		Simuliidae		0	0	0	11	0	2	2.2
		Tipulidae		0	0	0	11	0	2	2.2
			UID (Family Tipulidae)	0	22	0	0	0	4	4.3
		Psychodidae		43	86	0	0	0	26	17.2
	Ephemeroptera			0	194	11	43	0	50	36.9
		Baetidae								
				161	409	129	215	140	211	51.7
		Ephemerellidae		0	75	11	0	0	17	14.7
		Heptageniidae		0	0	11	0	11	4	2.6
			<i>Cinygmula sp.</i>	54	269	0	172	0	99	52.9
		Leptophlebiidae								
			<i>Paraleptophlebia sp.</i>	312	312	65	334	140	233	54.6
	Plecoptera			22	65	22	22	0	26	10.5
		Chloroperlidae		54	97	0	22	0	34	18.5
		Capniidae		0	151	22	54	0	45	28.2
		Nemouridae		54	11	0	22	22	22	9.0
		Taeniopterygidae		11	0	0	0	0	2	2.2
	Trichoptera			0	11	11	11	0	6	2.6
		Glossomatidae		11	22	0	11	0	9	4.0
		Polycentropodidae		0	11	0	0	0	2	2.2
		Rhyacophililidae		22	0	11	22	0	11	4.8
	Hemiptera									

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
		Aphididae		43	65	0	43	0	30	12.9
		Coleoptera								
		Elmidae		161	151	11	75	22	84	31.5
		Ostracoda (subphylum Crustacea)		97	118	11	129	32	78	23.7
		Acarina (subphylum Chelicerata)		11	22	0	0	0	6	4.3
		Hydracarina		54	65	32	65	11	45	10.4
Annelida										
		Oligochaeta		65	54	22	161	75	75	23.3
Platyhelminthes										
		Turbellaria		140	54	32	65	22	62	20.8
Mollusca										
		Pelecypoda		0	11	0	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W3										
System: Fish Creek										
Habitat Type: Riffle										
Sampling Date: Aug. 16/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera			398	441	97	538	183	332	82.6
		Chironomidae		248	581	248	398	140	323	76.6
		Ceratopogonidae		0	11	22	54	11	19	9.3
		Empididae		86	0	129	183	65	93	30.7
			<i>Chelifera sp.</i>	0	183	0	0	0	37	36.6
			<i>Clinocera sp.</i>	0	86	0	0	0	17	17.2
		Simuliidae		0	0	0	32	11	9	6.3
		Tipulidae		0	32	0	97	11	28	18.2
		Psychodidae		0	22	32	75	43	34	12.5
	Ephemeroptera			904	1173	226	1216	592	822	186.2
		Baetidae								
			<i>Baetis sp.</i>	571	883	581	1313	753	820	136.2
		Ephemerellidae		86	54	22	32	54	50	11.1
		Heptageniidae								
			<i>Cinygmula sp.</i>	398	678	226	646	764	543	99.8
		Leptophlebiidae		118	129	0	22	0	54	28.9
			<i>Paraleptophlebia sp.</i>	0	0	151	0	0	30	30.1
	Plecoptera			54	140	129	215	151	138	25.8
		Chloroperlidae		22	0	0	86	0	22	16.7
		Perlodidae		118	43	11	0	0	34	22.4
		Capniidae		463	194	43	97	75	174	76.4
		Nemouridae		161	75	54	22	32	69	24.9
		Taeniopterygidae		0	32	22	0	0	11	6.8
	Trichoptera			194	452	11	1841	1141	728	338.0
		Glossomatidae		0	43	0	129	54	45	23.7
			<i>Glossosoma sp.</i>	205	0	0	0	0	41	40.9
		Rhyacophilidae		0	65	11	129	140	69	29.0
			<i>Rhyacophila spp.</i>	161	0	0	0	0	32	32.3
	Hemiptera									
		Aphididae		205	65	54	581	108	202	98.4
	Coleoptera			0	0	11	75	0	17	14.7

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
		Elmidae		269	32	129	0	54	97	48.0
			<i>Optioservus sp.</i>	0	635	0	506	538	336	138.7
	Ostracoda (subphylum Crustacea)			226	258	129	129	32	155	40.1
	Acarina (subphylum Chelicerata)			11	0	0	0	0	2	2.2
	Hydracarina			269	388	129	592	420	360	77.4
Annelida										
Oligochaeta				75	22	129	75	0	60	22.7
Nematoda				0	11	0	0	0	2	2.2
Platyhelminthes										
Turbellaria				183	43	215	312	151	181	43.8

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W4									
System: Taseko River									
Habitat Type: Run									
Sampling Date: Aug. 16/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
	Diptera								
		Chironomidae	43	431	183	646	194	299	106.7
		Chironomini	0	0	0	11	0	2	2.2
		<i>Demicryptochironomus</i>	11	22	0	0	0	6	4.3
		<i>Polypedilum sp.</i>	11	0	0	0	0	2	2.2
		Orthoclaadiinae	11	0	11	22	11	11	3.4
		<i>Orthocladus sp.</i>	86	43	86	205	183	121	31.1
		<i>Eukiefferiella sp.</i>	0	0	0	11	22	6	4.3
		<i>Krenosmittia</i>	0	0	0	11	0	2	2.2
		<i>Psectrocladius sp.</i>	11	0	0	11	11	6	2.6
		Tanytarsini	11	108	0	0	32	30	20.3
		<i>Tanytarsus sp.</i>	0	0	11	11	11	6	2.6
		Simuliidae	0	0	215	11	11	47	42.0
		Tipulidae							
		<i>Hexatoma sp.</i>	11	0	0	0	0	2	2.2
		<i>Tipula sp.</i>	54	32	54	65	43	50	5.5
	Ephemeroptera		129	215	183	377	151	211	43.9
		Ephemerellidae							
		<i>Ephemerella inermis</i>	0	0	0	0	11	2	2.2
		Heptageniidae	0	0	22	108	0	26	20.9
		Ameletidae	11	11	0	11	0	6	2.6
	Plecoptera		65	0	0	0	11	15	12.6
		Chloroperlidae	140	323	452	151	248	263	58.0
		<i>Sweltsa complex</i>	0	11	0	0	11	4	2.6
		Capniidae							
		<i>Capnia sp.</i>	54	22	11	75	11	34	12.9
	Trichoptera								
		Hydropsychidae	0	0	0	0	11	2	2.2
		Rhyacophililidae							
		<i>Rhyacophila acropedes</i>	11	0	0	0	0	2	2.2
	Symphyta		11	0	0	0	0	2	2.2
	Amphipoda (subphylum Crustacea)								
		<i>Gammarus lacustris</i>	0	0	0	11	0	2	2.2
		<i>Cyclops scutifer</i>	0	0	0	0	22	4	4.3
	Ostracoda (subphylum Crustacea)		11	0	0	0	0	2	2.2
Annelida									
	Oligochaeta		215	377	161	538	108	280	78.7
		Enchytraeidae	43	22	0	11	0	15	8.1
		Lumbriculidae	11	0	0	0	0	2	2.2
		Naididae							
		<i>Nais sp.</i>	1830	1453	646	538	108	915	315.7
		Tubificidae	54	161	861	2314	969	872	404.0
Nematoda			54	65	0	22	22	32	11.8

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W4										
System: Taseko River										
Habitat Type:		Run								
Sampling Date: Aug. 22/97										
Identified Taxa				Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E
Arthropoda										
	Diptera			0	0	32	22	11	13	6.3
		Chironomidae		129	32	65	75	172	95	24.9
		Orthoclaadiinae		0	0	0	215	0	43	43.1
		<i>Cricotopus spp.</i>		0	32	0	0	0	6	6.5
		Tanytarsini		11	0	0	22	0	6	4.3
		Simuliidae		0	11	0	0	0	2	2.2
		Tipulidae		0	0	11	0	0	2	2.2
		<i>Pedicia sp.</i>		0	11	0	0	0	2	2.2
		<i>Tipula sp.</i>		11	22	0	11	22	13	4.0
	Ephemeroptera									
		Baetidae								
		<i>Baetis sp.</i>		0	11	65	0	0	15	12.6
		Ephemerellidae		323	0	0	65	11	80	62.0
		<i>Attenella (possibly)</i>		0	0	97	0	0	19	19.4
		Heptageniidae		65	0	0	0	0	13	12.9
		UID (Family Heptageniidae)		0	11	0	0	0	2	2.2
		Ameletidae								
		<i>Ameletus sp.</i>		22	0	0	0	0	4	4.3
	Plecoptera			43	0	0	0	0	9	8.6
		Chloroperlidae		0	0	32	0	0	6	6.5
		<i>Sweltsa complex</i>		11	0	0	0	0	2	2.2
		Perlodidae								
		<i>Skwala sp.</i>		97	0	0	22	108	45	23.7
		Taeniopterygidae								
		<i>Taenionema sp.</i>		0	0	97	0	0	19	19.4
	Hemiptera									
	Homoptera			0	0	0	11	0	2	2.2
	Thysanoptera			0	0	0	11	0	2	2.2
	Amphipoda (subphylum Crustacea)									
		<i>Gammarus lacustris</i>		22	0	0	0	0	4	4.3
	Acarina (subphylum Chelicerata)									
	Hydracarina			0	0	0	0	11	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W4										
System: Taseko River										
Habitat Type:	Run									
Sampling Date: Aug. 22/97										
Identified Taxa			Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E	
Annelida										
Oligochaeta			2078	32	872	129	312	685	377.4	
		Naididae	151	0	0	140	75	73	32.5	

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W4										
System: Taseko River										
Habitat Type: Run										
Sampling Date: Sept. 02/97										
Identified Taxa				Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E.
Arthropoda										
	Diptera			11	0	43	0	11	13	7.9
		Chironomidae		194	366	129	140	1044	375	172.7
			Orthoclaadiinae	43	140	0	43	280	101	50.2
			<i>Cricotopus</i> <i>spp.</i>	22	0	0	0	0	4	4.3
			Tanytarsini	248	0	0	237	226	142	58.1
			Tanypodinae	0	0	11	0	0	2	2.2
		Tipulidae		11	0	0	0	0	2	2.2
			<i>Dicranota</i> sp.	0	11	0	0	0	2	2.2
			<i>Tipula</i> sp.	32	11	0	11	22	15	5.5
	Ephemeroptera									
		Baetidae								
			<i>Baetis</i> sp.	22	0	0	0	0	4	4.3
		Ephemerellidae		97	452	118	97	183	189	67.5
		Heptageniidae		22	118	43	22	32	47	18.2
		Ameletidae								
			<i>Ameletus</i> sp.	22	151	11	32	0	43	27.4
	Plecoptera			0	32	0	11	11	11	5.9
		Chloroperlidae		22	32	0	11	11	15	5.5
		Perlodidae		22	0	0	0	54	15	10.5
			<i>Skwala</i> sp.	22	237	205	129	43	127	42.6
		Nemouridae								
			<i>Nemoura</i> sp.	0	0	0	0	11	2	2.2
		Taeniopterygidae		0	0	0	0	11	2	2.2
	Trichoptera			0	22	11	0	0	6	4.3
		Hydropsychidae		0	54	0	0	22	15	10.5
			<i>Hydropsyche</i> sp.	22	0	0	0	0	4	4.3
		Limnephilidae		0	0	0	0	11	2	2.2
				14						
	Hemiptera			0	11	0	0	0	2	2.2
	Homoptera			0	11	0	0	0	2	2.2
	Thysanoptera			0	0	11	0	0	2	2.2
	Amphipoda (subphylum Crustacea)									
			<i>Gammarus</i> <i>lacustris</i>	0	11	0	0	0	2	2.2
	Acarina (subphylum Chelicerata)									
	Hydracarina			22	0	0	183	32	47	34.5
Annelida										
	Hirudinea									
		Piscicolidae		0	65	22	32	11	26	11.1
	Oligochaeta			32	764	258	786	990	566	179.9
		Naididae		22	355	0	463	495	267	107.2
Nematoda				0	0	0	0	11	2	2.2
Nematomorpha				0	22	0	0	11	6	4.3

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W4									
System: Taseko River									
Habitat Type: Run									
Sampling Date: Sept. 24/97									
Identified Taxa			Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E
Arthropoda									
	Diptera		0	0	11	11	0	4	2.6
		Chironomidae	118	129	172	140	344	181	41.9
		Orthoclaadiinae	0	0	0	0	11	2	2.2
		<i>Brillia sp.</i>	0	0	11	0	0	2	2.2
		<i>Cricotopus spp.</i>	43	43	22	32	0	28	8.1
		Tanytarsini	0	0	11	0	161	34	31.8
		Tanypodinae	0	0	0	0	22	4	4.3
		Simuliidae	0	0	0	0	11	2	2.2
		Tipulidae							
		<i>Tipula sp.</i>	0	11	0	0	0	2	2.2
	Ephemeroptera								
		Ephemerellidae	97	43	22	22	22	41	14.6
		<i>Serratella sp.</i>	0	0	0	0	65	13	12.9
		Heptageniidae	32	11	0	11	11	13	5.3
	Plecoptera		0	0	0	32	11	9	6.3
		Chloroperlidae	0	32	0	0	43	15	9.4
		<i>Kathroperla sp.</i>	32	11	0	0	0	9	6.3
		<i>Sweltsa complex</i>	11	0	0	0	0	2	2.2
		Perlidae							
		<i>Hesperoperla sp.</i>	0	11	0	0	0	2	2.2
		Perlodidae	11	32	11	11	0	13	5.3
		<i>Skwala sp.</i>	118	54	22	32	65	58	16.9
		Nemouridae							
		<i>Zapada sp.</i>	0	11	0	0	0	2	2.2
	Trichoptera								
		Hydropsychidae							
		<i>Arctopsyche sp.</i>	22	0	0	0	0	4	4.3
		<i>Hydropsyche sp.</i>	43	32	22	11	0	22	7.6
	Amphipoda (subphylum Crustacea)								
		<i>Gammarus lacustris</i>	32	0	0	0	0	6	6.5
	Acarina (subphylum Chelicerata)								
		Hydracarina	0	0	11	0	22	6	4.3
Annelida									
	Oligochaeta		0	0	0	0	43	9	8.6
		Naididae	0	11	0	0	0	2	2.2
Nematomorpha									
		<i>Gordus sp.</i> (possibly)	0	0	0	0	22	4	4.3

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W5									
System: Taseko River									
Habitat Type: Pool									
Sampling Date: Aug. 19/97									
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²) S.E
Arthropoda									
	Diptera								
		Chironomidae		65	11	215	97	11	80 37.7
		Chironomini		0	0	11	75	0	17 14.7
		<i>Paracladopelma spp.</i>		0	0	32	75	0	22 14.8
		<i>Phaenopsectra sp.</i>		0	0	0	0	11	2 2.2
		<i>Polypedilum sp.</i>		75	22	215	0	22	67 39.2
		Orthoclaadiinae		43	0	0	215	0	52 41.7
		<i>Brillia sp.</i>		0	0	0	0	65	13 12.9
		<i>Diplocladius sp.</i>		0	0	0	11	11	4 2.6
		<i>Corynoneura sp.</i>		0	0	0	11	0	2 2.2
		<i>Cricotopus spp.</i>		0	43	108	11	22	37 19.1
		<i>Cricotopus/Orthocladus</i>		0	0	0	43	0	9 8.6
		<i>Eukiefferiella sp.</i>		172	65	32	54	11	67 27.9
		<i>Euryhapsis sp.</i>		0	0	0	0	11	2 2.2
		<i>Heterotrissocladius sp.</i>		0	0	22	0	0	4 4.3
		<i>Rheocricotopus sp.</i>		108	11	22	65	22	45 18.1
		<i>Thienemaniella sp.</i>		0	0	0	11	22	6 4.3
		Tanytarsini							
		<i>Tanytarsus sp.</i>		22	11	54	32	11	26 8.1
		Tanypodinae							
		<i>Thienemannimyia group</i>		0	0	11	0	0	2 2.2
		Deuterophlebiidae							
		<i>Deuterophlebia sp.</i>		0	11	0	0	0	2 2.2
		Tipulidae							
		<i>Dicranota sp.</i>		11	0	0	0	0	2 2.2
	Ephemeroptera								
	Baetidae								
		<i>Baetis sp.</i>		11	0	11	11	11	9 2.2
	Ephemerellidae								
		<i>Ephemerella sp.</i>		22	0	0	0	11	6 4.3
		<i>Drunella sp.</i>		11	22	0	0	32	13 6.3
		<i>Drunella doddsi</i>		0	0	11	0	0	2 2.2
		<i>Serratella sp.</i>		11	0	0	0	0	2 2.2
		UID (Family Ephemerellidae)		301	75	65	129	344	183 58.6
	Heptageniidae								
		UID (Family Heptageniidae)		22	0	0	0	0	4 4.3
	Ameletidae								
		<i>Ameletus sp.</i>		11	0	22	0	0	6 4.3
	Plecoptera			22	11	0	22	0	11 4.8
	Chloroperlidae								
		<i>Sweltsa complex</i>		11	11	11	0	0	6 2.6
	Perlodidae			0	0	0	0	11	2 2.2
	Nemouridae			0	22	0	11	0	6 4.3
	Pteronarcyidae								

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W5											
System: Taseko River											
Habitat Type: Pool											
Sampling Date: Aug. 19/97											
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E	
			<i>Pteronarcella sp.</i>	0	0	0	0	11	2	2.2	
	Trichoptera										
	Limnephilidae			22	0	11	32	11	15	5.5	
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E	
			<i>Ecclisomyia sp.</i>	75	0	0	0	0	15	15.1	
	Hemiptera										
	Homoptera			0	0	0	11	0	2	2.2	
	Coleoptera			0	0	0	0	11	2	2.2	
	Dytiscidae			32	11	0	11	22	15	5.5	
	Ostracoda (subphylum Crustacea)			280	22	129	248	140	164	46.1	
	Acarina (subphylum Chelicerata)										
	Hydracarina			11	0	0	0	0	2	2.2	
Annelida											
Oligochaeta				3175	743	2756	3175	2422	2454	450.6	
	Lumbricidae			11	0	0	0	0	2	2.2	
	Tubificidae			0	0	0	0	75	15	15.1	
Nematoda				22	0	32	11	0	13	6.3	
Platyhelminthes											
Turbellaria				22	0	0	0	11	6	4.3	

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W5										
System: Taseko River										
Habitat Type: Riffle										
Sampling Date: Aug. 19/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
Arthropoda										
	Diptera			22	43	11	54	32	32	7.6
		Chironomidae		129	377	194	97	22	164	60.1
			Chironomini							
			<i>Polypedilum sp.</i>	11	0	32	0	0	9	6.3
			Orthoclaadiinae	0	0	0	140	0	28	28.0
			<i>Brillia sp.</i>	0	22	0	0	0	4	4.3
			<i>Cricotopus spp.</i>	86	291	118	0	11	101	52.4
			<i>Cricotopus/Orthocladus</i>	32	0	0	11	0	9	6.3
			<i>Eukiefferiella sp.</i>	323	22	0	65	22	86	60.1
			<i>Psectrocladius sp.</i>	0	0	11	0	0	2	2.2
			<i>Rheocricotopus sp.</i>	0	0	22	11	0	6	4.3
			<i>Synorthocladus sp.</i>	0	11	388	0	0	80	77.0
			<i>Thienemaniella sp.</i>	11	0	22	0	0	6	4.3
			Diamesinae	0	0	11	0	0	2	2.2
			<i>Pagastia sp. (possibly)</i>	0	0	11	11	0	4	2.6
			Tanytarsini							
			<i>Tanytarsus sp.</i>	549	215	194	32	11	200	96.4
			Tanypodinae							
			<i>Thienemannimyia group</i>	43	11	22	0	0	15	8.1
			Empididae							
			<i>Clinocera sp.</i>	0	22	22	0	11	11	4.8
			Simuliidae	0	0	11	11	0	4	2.6
		Ephemeroptera		22	11	0	0	0	6	4.3
			Baetidae							
			<i>Baetis sp.</i>	194	140	11	355	108	161	56.9
			Ephemerellidae							
			<i>Ephemerella sp.</i>	75	32	11	32	11	32	11.8
			<i>Drunella sp.</i>	43	65	32	0	0	28	12.6
			<i>Drunella doddsi</i>	43	0	0	614	280	187	118.6
			<i>Serratella sp.</i>	183	151	43	291	86	151	42.7
			UID (Family Ephemerellidae)	291	700	764	280	32	413	138.4

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
			Heptageniidae							
			<i>Cinygmula sp.</i>	11	11	0	75	32	26	13.4
			<i>Epeorus sp.</i>	0	0	0	11	43	11	8.3
			<i>Rhithrogena sp.</i>	0	183	43	194	172	118	40.3
			UID (Family Heptageniidae)	54	215	75	129	32	101	32.8
			Leptophlebiidae	0	0	22	11	0	6	4.3
			Ameletidae							
			<i>Ameletus sp.</i>	32	22	43	22	0	24	7.1
			Plecoptera	11	22	0	11	0	9	4.0
			Chloroperlidae	86	11	0	0	0	19	16.8
			<i>Cascadoperla sp.</i>	11	0	0	0	22	6	4.3
			<i>Sweltsa complex</i>	54	108	43	22	129	71	20.3
			Perlidae	22	11	0	0	0	6	4.3
			<i>Hesperoperla sp.</i>	0	0	0	0	11	2	2.2
			Perlodidae	11	22	11	22	11	15	2.6
			<i>Skwala sp.</i>	0	11	0	0	0	2	2.2
			Nemouridae	0	0	11	11	0	4	2.6
			<i>Zapada sp.</i>	86	43	32	11	22	39	13.0
			Pteronarcyidae							
			<i>Pteronarcella sp.</i>	0	0	11	22	0	6	4.3
			Trichoptera	0	11	0	0	0	2	2.2
			Hydropsychidae	0	0	0	0	11	2	2.2
			<i>Hydropsyche sp.</i>	0	11	0	0	0	2	2.2
			Limnephilidae	22	0	65	0	0	17	12.6
			<i>Ecclisomyia sp.</i>	11	11	22	0	0	9	4.0
			Rhyacophilidae							
			<i>Rhyacophila spp.</i>	0	0	0	11	0	2	2.2
			Hemiptera	22	0	0	22	43	17	8.1
			Ostracoda (subphylum Crustacea)	1012	323	323	323	151	426	150.1
			Acarina (subphylum Chelicerata)							
			Hydracarina	269	43	54	11	0	75	49.4
			Annelida							
			Oligochaeta	11	65	280	786	129	254	140.4
			Naididae	0	0	11	0	0	2	2.2
			Nematoda	0	0	43	0	0	9	8.6
			Platyhelminthes							
			Turbellaria	11	32	0	43	11	19	7.9

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W6										
System: Taseko River										
Habitat Type: Riffle										
Sampling Date: Aug. 19/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
Arthropoda										
	Diptera			22	75	11	0	22	26	13.0
		Chironomidae		11	0	32	11	54	22	9.6
		Orthoclaadiinae		11	0	11	0	22	9	4.0
		<i>Brillia sp.</i>		0	11	0	0	0	2	2.2
		<i>Cricotopus spp.</i>		118	161	32	65	22	80	26.5
		<i>Eukiefferiella sp.</i>		11	0	32	0	22	13	6.3
		<i>Rheocricotopus sp.</i>		0	0	0	11	11	4	2.6
		Tanytarsini								
		<i>Paratanytarsus sp.</i>		11	0	0	0	0	2	2.2
		<i>Tanytarsus sp.</i>		0	22	0	0	54	15	10.5
		Tanypodinae								
		<i>Thienemannimyia group</i>		11	0	0	0	0	2	2.2
		Simuliidae		11	11	11	0	0	6	2.6
		Tipulidae								
		<i>Dicranota sp.</i>		0	0	0	11	0	2	2.2
	Ephemeroptera									
		Baetidae								
		<i>Baetis sp.</i>		86	129	366	151	237	194	49.6
		Ephemerellidae								
		<i>Caudatella sp.</i>		0	11	0	0	0	2	2.2
		<i>Ephemerella sp.</i>		0	0	11	0	0	2	2.2
		<i>Drunella sp.</i>		0	54	0	0	0	11	10.8
		<i>Drunella doddsi</i>		43	0	86	11	65	41	16.1
		<i>Serratella sp.</i>		32	65	22	43	108	54	15.2
		UID (Family Ephemerellidae)		54	22	0	0	0	15	10.5
		Heptageniidae								
		<i>Cinygmula sp.</i>		0	11	11	0	0	4	2.6
		<i>Epeorus sp.</i>		54	43	75	22	22	43	10.2
		<i>Rhithrogena sp.</i>		86	226	86	11	86	99	34.9
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
		UID (Family Heptageniidae)		54	65	54	97	194	93	26.5
	Plecoptera			11	0	0	0	0	2	2.2
		Chloroperlidae								
		<i>Sweltsa complex</i>		86	118	22	86	86	80	15.8
		Perlidae								
		<i>Hesperoperla sp.</i>		0	11	0	0	11	4	2.6
		Nemouridae		11	0	0	0	0	2	2.2
	Trichoptera									
		Hydropsychidae								
		<i>Hydropsyche sp.</i>		0	11	0	0	0	2	2.2
	Hemiptera			54	22	11	0	0	17	10.0
	Homoptera			54	0	11	0	11	15	10.0
	Ostracoda (subphylum Crustacea)			11	11	0	0	11	6	2.6
	Arachnoidea			11	0	0	11	0	4	2.6
	Hydracarina			0	0	0	11	0	2	2.2
Annelida										
	Oligochaeta			54	11	11	54	0	26	11.6
		Lumbricidae		11	0	0	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W6									
System: Taseko River									
Habitat Type: Riffle									
Sampling Date: Aug. 19/97									
Identified Taxa			Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Rep 4 (#/m²)	Rep 5 (#/m²)	Mean (#/m²)	S.E
Platyhelminthes									
Turbellaria			0	0	0	11	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W19										
System: Taseko River										
Habitat Type: Pool										
Sampling Date: Aug. 22/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
Arthropoda										
	Diptera			32	0	0	0	0	6	6.5
		Chironomidae		11	11	22	0	291	67	56.1
		Chironomini		0	0	0	11	54	13	10.4
			<i>Paracladopelma</i> <i>spp.</i>	0	0	11	0	0	2	2.2
			Orthoclaadiinae	0	11	0	32	624	133	122.9
			<i>Cricotopus</i> <i>spp.</i>	22	0	43	0	0	13	8.6
			<i>Eukiefferiella</i> <i>sp.</i>	65	0	0	0	0	13	12.9
			<i>Heterotrissocladius</i> <i>sp.</i>	0	11	0	0	0	2	2.2
			<i>Rheocricotopus</i> <i>sp.</i>	0	0	11	0	0	2	2.2
			Tanytarsini	0	0	0	0	657	131	131.3
			<i>Tanytarsus</i> <i>sp.</i>	0	11	22	22	0	11	4.8
			Tanypodinae							
			<i>Paramerina</i> <i>sp.</i>	0	0	11	0	0	2	2.2
		Empididae								
			<i>Clinocera</i> <i>sp.</i>	0	0	11	0	0	2	2.2
		Tipulidae								
			<i>Dicranota</i> <i>sp.</i>	0	11	0	0	0	2	2.2
			<i>Pedicia</i> <i>sp.</i>	11	0	0	0	0	2	2.2
	Ephemeroptera									
		Baetidae								
			<i>Baetis</i> <i>sp.</i>	54	11	75	0	0	28	15.4
		Ephemerellidae		0	0	0	32	183	43	35.5
			<i>Ephemerella</i> <i>sp.</i>	11	0	0	0	0	2	2.2
			<i>Drunella</i> <i>sp.</i>	54	0	22	0	0	15	10.5
			<i>Serratella</i> <i>sp.</i>	43	0	54	11	0	22	11.3
		Heptageniidae		0	0	0	22	0	4	4.3
			<i>Cinygmula</i> <i>sp.</i>	0	0	0	22	0	4	4.3
			<i>Rhithrogena</i> <i>sp.</i>	54	22	11	86	0	34	15.7
			UID (Family Heptageniidae)	11	11	11	0	0	6	2.6
		Ameletidae								
			<i>Ameletus</i> <i>sp.</i>	22	11	22	11	0	13	4.0
	Plecoptera			0	0	11	0	0	2	2.2
		Chloroperlidae								
			<i>Sweltsa</i> <i>complex</i>	11	11	0	11	0	6	2.6
		Perlidae								

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
			<i>Hesperoperla sp.</i>	11	0	0	0	0	2	2.2
		Perlodidae		0	0	22	11	0	6	4.3
			<i>Skwala sp.</i>	0	32	65	0	0	19	12.9
		Nemouridae		0	0	11	0	0	2	2.2
			<i>Zapada sp.</i>	0	0	11	0	0	2	2.2
		Pteronarcyidae								
			<i>Pteronarcella sp.</i>	0	0	11	0	0	2	2.2
	Trichoptera			0	11	0	0	0	2	2.2
		Limnephilidae		11	0	0	0	0	2	2.2
			<i>Psychoglypha sp.</i>	0	0	11	0	0	2	2.2
		Rhyacophililidae								
			<i>Rhyacophila spp.</i>	0	11	0	0	0	2	2.2
	Hemiptera			11	11	0	11	0	6	2.6
	Homoptera			0	0	0	0	11	2	2.2
	Coleoptera									
		Dytiscidae		0	11	0	0	32	9	6.3
	Ostracoda (subphylum Crustacea)			11	11	11	0	0	6	2.6
	Acarina (subphylum Chelicerata)									
	Hydracarina			11	22	11	11	0	11	3.4
Annelida										
	Oligochaeta			0	0	32	22	97	30	17.8
		Naididae		0	11	11	11	0	6	2.6
Nematomorpha				0	0	0	0	22	4	4.3

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W19										
System: Taseko River										
Habitat Type: Riffle										
Sampling Date: Aug. 22/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
Arthropoda										
	Diptera			22	0	0	0	32	11	6.8
		Chironomidae		0	183	0	11	65	52	34.9
		Chironomini								
			<i>Microtendipes sp.</i>	22	0	0	0	0	4	4.3
		Orthocladiinae								
			<i>Cricotopus/Orthocladius</i>	0	0	11	0	0	2	2.2
			<i>Eukiefferiella sp.</i>	22	0	0	0	0	4	4.3
			<i>Rheocricotopus sp.</i>	22	0	0	0	0	4	4.3
			<i>Synorthocladius sp.</i>	0	0	11	11	0	4	2.6
		Tanytarsini		0	97	0	0	0	19	19.4
			<i>Tanytarsus sp.</i>	97	0	0	11	75	37	20.6
		Tanypodinae		0	11	0	0	11	4	2.6
			<i>Thienemannimyia group</i>	11	0	0	0	0	2	2.2
		Empididae								
			<i>Chelifera sp.</i>	11	0	0	0	0	2	2.2
	Ephemeroptera									
		Baetidae								
			<i>Baetis sp.</i>	0	54	54	11	11	26	11.6
		Ephemerellidae		0	129	0	0	43	34	25.1
			<i>Drunella sp.</i>	22	0	0	0	11	6	4.3
			<i>Serratella sp.</i>	11	22	32	22	0	17	5.5
			UID (Family Ephemerellidae)	151	0	32	75	0	52	28.4
		Heptageniidae		0	86	0	0	11	19	16.8
			<i>Cinygmula sp.</i>	0	32	11	0	11	11	5.9
			<i>Rhithrogena sp.</i>	258	614	538	377	431	443	62.0
			UID (Family Heptageniidae)	161	0	108	129	0	80	33.6
		Ameletidae								
			<i>Ameletus sp.</i>	0	11	0	32	22	13	6.3
	Plecoptera			0	0	11	0	0	2	2.2
		Chloroperlidae		0	0	0	0	11	2	2.2
		NA	<i>Sweltsa complex</i>	0	0	0	0	22	4	4.3
		Perlodidae		32	0	0	0	22	11	6.8
			<i>Rickera sp. (possibly)</i>	0	0	11	22	0	6	4.3
		Nemouridae								
			<i>Zapada sp.</i>	0	0	0	0	11	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa					Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
		Pteronarcyidae									
				<i>Pteronarcella sp.</i>	11	0	11	11	0	6	2.6
	Trichoptera										
		Rhyacophililidae									
				<i>Rhyacophila spp.</i>	0	0	11	0	0	2	2.2
	Hemiptera				0	22	11	0	0	6	4.3
	Homoptera				0	11	0	0	0	2	2.2
	Acarina (subphylum Chelicerata)										
	Hydracarina				32	32	11	0	11	17	6.5
Annelida											
Oligochaeta					32	11	0	11	22	15	5.5
		Naididae			0	0	0	0	11	2	2.2
Nematoda					11	0	0	0	0	2	2.2
Nematomorpha											
				<i>Gordus sp. (possibly)</i>	0	0	0	0	11	2	2.2
Mollusca											
		Sphaeriidae			11	0	0	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W20									
System: Taseko River									
Habitat Type: Pool									
Sampling Date: Sept. 23/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E
Arthropoda									
	Diptera		0	32	172	140	75	84	32.2
		Chironomidae	54	0	3875	5404	904	2047	1097.2
		Orthocladiinae							
		<i>Cricotopus/Orthocladus</i>	0	0	1141	883	172	439	239.4
		<i>Epoicocladus (possibly)</i>	0	0	0	0	11	2	2.2
		<i>Eukiefferiella sp.</i>	0	0	291	0	0	58	58.1
		Tanypodinae							
		<i>Thienemannimyia group</i>	0	0	22	11	0	6	4.3
		Tipulidae	0	0	11	65	0	15	12.6
	Ephemeroptera		0	0	11	0	0	2	2.2
		Baetidae	0	0	54	86	0	28	17.9
		<i>Baetis sp.</i>	0	0	0	0	43	9	8.6
		Ephemerellidae	0	43	635	0	0	136	125.1
		<i>Attenella (possibly)</i>	0	0	0	0	258	52	51.7
		<i>Drunella sp.</i>	22	0	140	75	11	50	26.1
		Heptageniidae	0	22	183	603	0	161	115.5
		<i>Cinygmula sp.</i>	0	0	0	0	721	144	144.2
		<i>Rhithrogena sp.</i>	0	0	32	43	172	50	31.9
	Plecoptera		0	11	54	0	32	19	10.4
		Chloroperlidae	0	11	0	43	0	11	8.3
		<i>Sweltsa complex</i>	0	0	65	43	118	45	22.2
		Perlodidae	0	0	11	0	0	2	2.2
		<i>Diploperla (possibly)</i>	0	0	0	32	0	6	6.5
		Nemouridae	0	0	0	0	11	2	2.2
		Pteronarcyidae							
		<i>Pteronarcella sp.</i>	0	0	22	0	11	6	4.3
	Trichoptera		0	11	0	32	43	17	8.7
		Hydropsychidae	0	0	0	11	0	2	2.2
		<i>Arctopsyche sp.</i>	0	0	0	0	32	6	6.5
		Limnephilidae							
		<i>Ecclisomyia sp.</i>	0	0	11	0	0	2	2.2
		Rhyacophilidae							
		<i>Rhyacophila spp.</i>	0	0	11	0	22	6	4.3
	Coleoptera								
		Elmidae	0	0	22	54	32	22	10.2
	Acarina (subphylum Chelicerata)								
	Hydracarina		0	0	86	151	172	82	36.3
Annelida									
	Oligochaeta		0	11	129	32	0	34	24.4

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W20										
System: Taseko River										
Habitat Type: Riffle										
Sampling Date: Sept. 23/97										
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E	
Arthropoda										
	Diptera		22	0	11	11	11	11	3.4	
		Chironomidae	248	65	1884	129	226	510	345.0	
		Orthocladiinae								
		<i>Cricotopus spp.</i>	0	0	43	0	0	9	8.6	
		<i>Cricotopus/Orthocladius</i>	54	0	97	0	0	30	19.7	
		Diamesinae	0	0	22	0	0	4	4.3	
		Tipulidae	11	0	11	0	0	4	2.6	
	Ephemeroptera									
		Baetidae								
		<i>Baetis sp.</i>	43	11	11	0	0	13	7.9	
		Ephemerellidae	0	108	65	0	0	34	22.2	
		<i>Attenella (possibly)</i>	0	0	0	75	0	15	15.1	
		<i>Drunella sp.</i>	65	43	86	11	11	43	14.8	
		<i>Serratella sp.</i>	11	11	0	0	108	26	20.6	
		Heptageniidae	0	248	560	484	431	344	100.3	
		<i>Cinygmula sp.</i>	183	0	0	0	0	37	36.6	
		<i>Macdunnoa (possibly)</i>	0	11	0	0	0	2	2.2	
		<i>Rhithrogena sp.</i>	75	43	43	11	43	43	10.2	
	Plecoptera		11	11	22	0	0	9	4.0	
		Chloroperlidae	0	0	22	0	0	4	4.3	
		<i>Sweltsa complex</i>	22	86	129	22	54	62	20.5	
		Perlodidae								
		<i>Diploperla (possibly)</i>	0	0	0	11	0	2	2.2	
		Nemouridae	0	0	32	22	0	11	6.8	
	Trichoptera		22	0	11	22	11	13	4.0	
		Brachycentridae								
		<i>Brachycentrus sp.</i>	0	11	0	0	0	2	2.2	
		Hydropsychidae								
		<i>Arctopsyche sp.</i>	0	0	32	0	0	6	6.5	
		Limnephilidae	0	11	0	0	0	2	2.2	
		<i>Goera (possibly)</i>	0	0	0	11	0	2	2.2	
		<i>Limnephilus sp.</i>	0	11	0	0	0	2	2.2	
		Rhyacophilidae	11	0	0	11	0	4	2.6	
		<i>Rhyacophila spp.</i>	0	0	0	0	22	4	4.3	
		Hydroptilidae	0	11	0	0	0	2	2.2	
	Acarina (subphylum Chelicerata)									
	Hydracarina		43	11	97	32	54	47	14.3	
Annelida										
	Oligochaeta		75	0	32	11	11	26	13.4	

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W17									
System: Tete Angela Creek									
Habitat Type: Riffle									
Sampling Date: Aug. 17/97									
Identified Taxa			Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda									
	Diptera								
		Chironomidae	5404	3229	2422	4521	5070	4129	565.1
		Orthocladiinae	1625	215	1399	969	549	952	260.7
		<i>Corynoneura sp.</i>	215	269	484	22	344	267	76.2
		<i>Eukiefferiella sp.</i>	1399	1346	1184	1023	753	1141	117.2
		<i>Monodiamesa sp.</i>	11	0	0	43	22	15	8.1
		<i>Potthastia sp.</i>	0	0	0	32	0	6	6.5
		Tanytarsini	0	54	54	323	538	194	103.0
		<i>Micropsectra sp.</i>	0	54	0	129	108	58	26.7
		<i>Stempellinella sp.</i>	0	0	108	129	215	90	41.1
		Tanypodinae	0	54	0	0	0	11	10.8
		<i>Paramerina sp.</i>	0	0	0	22	0	4	4.3
		Ceratopogonidae							
		<i>Bezzia sp.</i>	32	22	108	22	11	39	17.6
		Empididae							
		<i>Chelifera sp.</i>	0	0	75	0	22	19	14.6
		<i>Hemerodromia sp.</i>	0	11	0	0	0	2	2.2
		Simuliidae	97	22	54	0	32	41	16.5
		<i>Simulium sp.</i>	11	11	11	11	0	9	2.2
		<i>Cnephia sp.</i>	13994	807	2045	452	129	3485	2647.0
		Tipulidae							
		<i>Antocha sp.</i>	0	0	0	11	0	2	2.2
		<i>Hexatoma sp.</i>	11	54	65	108	140	75	22.3
		Psychodidae							
		<i>Pericoma sp.</i>	0	22	11	43	75	30	13.4
	Ephemeroptera		872	0	54	108	0	207	167.5
	Baetidae		969	161	0	0	0	226	188.3
		<i>Baetis bicaudatus</i>	248	312	484	323	280	329	40.9
	Ephemerellidae		11	22	0	11	11	11	3.4
		<i>Ephemerella aurivilli</i>	0	0	0	11	0	2	2.2
		<i>Ephemerella coloradensis</i>	32	0	32	0	32	19	7.9
		<i>Drunella doddsi</i>	54	226	269	215	108	174	40.2
		<i>Drunella grandis</i>	32	0	32	54	97	43	16.0
	Heptageniidae		484	592	377	861	753	614	87.8
		<i>Cinygmula sp.</i>	172	161	323	172	215	209	30.0
		<i>Epeorus longimanus</i>	0	0	0	0	11	2	2.2
	Leptophlebiidae								
		<i>Paraleptophlebia temporalis</i>	0	32	269	75	118	99	47.0
		<i>Simyra</i>	0	11	0	0	0	2	2.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa					Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
	Plecoptera				538	215	0	226	108	217	90.1	
		Chloroperlidae			0	11	54	11	0	15	10.0	
				<i>Suwallia</i>	0	32	172	129	32	73	32.9	
				<i>Sweltsa complex</i>	0	0	11	0	0	2	2.2	
		Perlidae										
				<i>Hesperoperla sp.</i>	75	43	108	22	32	56	15.7	
		Perlodidae			11	22	11	43	75	32	12.3	
		Capniidae										
				<i>Despaxia sp.</i>	0	0	11	22	11	9	4.0	
		Nemouridae										
				<i>Zapada sp.</i>	172	248	151	97	248	183	29.1	
	Psocoptera				0	0	11	0	0	2	2.2	
	Trichoptera				108	108	108	0	0	65	26.4	
		Glossomatidae										
				<i>Glossosoma sp.</i>	11	0	0	0	129	28	25.4	
		Hydropsychidae										
				<i>Parapsyche</i>	54	194	215	11	86	112	39.8	
		Limnephilidae			0	0	0	32	108	28	20.9	
				<i>Ecclisocosmoecus</i>	0	0	0	11	0	2	2.2	
				<i>Moselyana</i>	0	0	0	22	0	4	4.3	
		Rhyacophililidae			0	0	0	11	0	2	2.2	
				<i>Rhyacophila acropedes</i>	54	43	22	65	54	47	7.3	
				<i>Rhyacophila vepulsa</i>	248	65	269	86	118	157	42.3	
	Hemiptera											
		Aphididae			0	43	75	22	0	28	14.3	
		Salididae			0	0	22	0	11	6	4.3	
	Coleoptera											
				<i>Optioservus sp.</i>	22	118	65	22	11	47	20.0	
	Ostracoda (subphylum Crustacea)											
				<i>Candona sp.</i>	323	54	0	0	0	75	62.8	
	Acarina (subphylum Chelicerata)											
	Hydracarina					226	54	108	108	108	121	28.4
				<i>Wandesia</i>	11	0	0	0	0	2	2.2	
				<i>Sperchon sp.</i>	0	54	0	65	108	45	20.5	
				<i>Torrenticola sp.</i>	0	54	0	0	0	11	10.8	
	Orbatida											
		Orbatidae				0	0	54	0	0	11	10.8
Araneae (class Arachnida)					0	22	11	11	0	9	4.0	
Annelida												
		Tubificidae			108	43	0	0	0	30	21.1	
Coelenterata												
				<i>Hydra sp.</i>	0	0	0	108	108	43	26.4	
Nematoda						43	0	54	0	0	19	12.0
Mollusca												
			<i>Valvata sincera sincera</i>		11	0	0	0	0	2	2.2	

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W17										
System: Tete Angela Creek										
Habitat Type: Pool										
Sampling Date: Aug. 17/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae		13972	27352	26060	78579	6136	30420	12664.9
			Chironomini	0	323	0	323	969	323	176.9
			Phaenopsectra sp.	0	97	0	151	861	222	162.5
			Polypedilum sp.	0	0	0	0	108	22	21.5
			Orthoclaadiinae	205	753	646	431	215	450	111.0
			Corynoneura sp.	108	0	323	215	0	129	62.8
			Orthocladius sp.	0	11	0	0	0	2	2.2
			Eukiefferiella sp.	54	11	22	65	969	224	186.5
			Psectrocladius sp.	22	0	11	22	431	97	83.5
			Monodiamesa sp.	0	11	0	22	22	11	4.8
			Potthastia sp.	0	0	0	0	11	2	2.2
			Pseudodiamesa sp.	0	0	0	11	0	2	2.2
			Tanytarsini	4198	6674	9042	22605	6351	9774	3298.4
			Micropsectra sp.	0	129	11	291	646	215	119.7
			Stempellinella sp.	11	11	215	0	0	47	42.0
			Tanytarsus sp.	0	11	0	226	0	47	44.7
			Tanypodinae	215	215	538	861	646	495	125.5
			Paramerina sp.	11	32	22	22	43	26	5.5
			Ceratopogonidae							
			Bezzia sp.	161	11	323	22	0	103	62.3
			Empididae							
			Chelifera sp.	22	0	11	0	0	6	4.3
			Simuliidae	11	11	11	108	0	28	20.0
			Prosimulium sp.	0	0	0	0	108	22	21.5
			Tipulidae							
			Dicranota sp.	0	22	22	0	0	9	5.3
			Hexatoma sp.	140	0	54	11	0	41	26.7
			Tipula sp.	0	32	75	32	0	28	13.9
			Psychodidae							
			Pericoma sp.	75	323	646	323	0	273	113.5
	Ephemeroptera									
	Baetidae									
			Baetis tricaudatus	75	22	0	75	32	41	15.0

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
		Ephemerelellidae								
			<i>Ephemerella inermis</i>	0	22	0	11	0	6	4.3
		Heptageniidae								
			<i>Cinygmula sp.</i>	11	0	0	0	0	2	2.2
		Leptophlebiidae		0	0	11	22	11	9	4.0
	Megaloptera									
		Sialidae								
			<i>Sialis sp.</i>	0	0	0	11	32	9	6.3
	Plecoptera									
		Chloroperlidae								
			<i>Kathroperla sp.</i>	11	0	11	0	0	4	2.6
			<i>Suwallia</i>	65	11	151	0	0	45	29.0
		Capniidae								
			<i>Capnia sp.</i>	258	65	22	237	215	159	48.4
		Nemouridae		0	0	11	0	0	2	2.2
	Trichoptera									
		Limnephilidae		0	11	11	22	0	9	4.0
			<i>Psychoglypha sp.</i>	0	0	0	11	0	2	2.2
		Polycentropodidae		22	22	11	0	0	11	4.8
		Rhyacophililidae								
			<i>Rhyacophila acropedes</i>	22	0	0	11	0	6	4.3
		Hydroptilidae		0	0	431	0	0	86	86.1
	Coleoptera									
		Curculionidae		0	0	0	11	0	2	2.2
		Dytiscidae								
			<i>Hydroporus sp.</i>	22	65	32	118	0	47	20.6
		Elmidae								
			<i>Optioservus sp.</i>	140	0	0	0	0	28	28.0
	Thysanoptera			0	0	0	0	11	2	2.2
	Ostracoda (subphylum Crustacea)			22	11	22	388	22	93	73.8
		Candoniidae								
			<i>Candona sp.</i>	22	11	22	388	22	93	73.8
		Cyprididae								
			<i>Cyclocypris sp.</i>	0	108	0	0	0	22	21.5
	Acarina (subphylum Chelicerata)									
	Hydracarina									
			<i>Wandesia</i>	11	108	215	0	0	67	42.3
			<i>Sperchon sp.</i>	129	237	323	431	538	332	71.6
			<i>Torrenticola sp.</i>	11	108	215	0	0	67	42.3
	Orbatida									
	Orbatidae			0	0	323	0	0	65	64.6
Annelida										
Oligochaeta				431	215	323	2368	323	732	410.5
		Tubificidae		11	43	0	108	861	205	165.2

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Site Name: W18											
System: Tete Angela Creek											
Habitat Type: Pool											
Sampling Date: Aug. 17/97											
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
Arthropoda											
	Diptera				0	0	11	0	0	2.2	
		Chironomidae			2260	409	2207	1399	646	1384	383.4
			Chironomini								
			Phaenopsectra sp.		1399	22	441	43	108	403	260.4
			Orthoclaadiinae		0	54	0	43	11	22	11.3
			Corynoneura sp.		11	22	108	11	86	47	20.6
			Eukiefferiella sp.		22	0	0	32	22	15	6.5
			Psectrocladius sp.		0	32	0	32	0	13	7.9
			Potthastia sp.		0	11	11	11	0	6	2.6
			Prodiamesa sp.		215	11	22	43	97	78	37.5
			Protanypus sp.		32	0	11	0	22	13	6.3
			Tanytarsini		215	86	0	108	22	86	37.9
			Micropsectra sp.		75	11	0	11	11	22	13.6
			Stempellinella sp.		0	11	0	0	0	2	2.2
			Tanypodinae		0	32	108	75	129	69	23.7
			Paramerina sp.		0	0	43	32	11	17	8.7
			Procladius sp.		129	22	172	140	258	144	38.1
			Culicidae								
			Anopheles		0	0	11	0	0	2	2.2
			Dolichopodidae		0	11	0	0	0	2	2.2
			Dixidae								
			Dixa sp.		22	0	65	11	43	28	11.6
			Muscidae		11	0	0	0	0	2	2.2
	Ephemeroptera										
		Baetidae			11	0	0	0	0	2	2.2
			Baetis tricaudatus		0	0	32	11	11	11	5.9
		Leptophlebiidae			0	22	11	312	183	105	61.6
	Trichoptera										
		Limnephilidae			0	11	65	65	65	41	14.6
			Psychoglypha sp.		0	0	0	32	22	11	6.8
	Hemiptera										
		Aphididae			11	22	0	0	0	6	4.3
		Corixidae									
			Corisella sp.		0	0	11	0	54	13	10.4
		Salididae			0	22	0	0	0	4	4.3
	Coleoptera										
		Dytiscidae									
			Agabus sp.		0	0	22	11	11	9	4.0
			Hydroporus sp.		11	11	0	0	0	4	2.6
		Haliplidae									
			Halipus sp.		0	0	0	0	11	2	2.2
	Amphipoda (subphylum Crustacea)										

APPENDIX H4: 1997 STREAM BENTHIC INVERTEBRATE TAXONOMY/ABUNDANCE

Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.	
		Gammaridae									
				<i>Gammarus lacustris</i>	0	0	22	11	0	6	4.3
Ostracoda (subphylum Crustacea)											
		Candoniidae									
				<i>Candona sp.</i>	3025	194	2992	797	2842	1970	610.3
		Cyprididae									
				<i>Cyclocypris sp.</i>	0	0	32	11	280	65	54.1
				<i>Cypris sp.</i>	323	22	549	108	291	258	91.8
Acarina (subphylum Chelicerata)											
		Hydracarina		11	0	0	0	0	2	2.2	
				<i>Sperchon sp.</i>	86	194	549	108	237	235	83.3
		Thyasidae		0	0	108	0	0	22	21.5	
Araneae (class Arachnida)				0	11	0	0	0	2	2.2	
Annelida											
Hirudinea											
				<i>Helobdella stagnalis</i>	11	0	11	32	0	11	5.9
Oligochaeta					108	0	215	11	0	67	42.3
		Lumbriculidae									
				<i>Eclipidrilus lacustris</i>	0	0	0	0	22	4	4.3
		Tubificidae		32	194	226	226	420	220	61.6	
Coelenterata											
				<i>Hydra sp.</i>	108	0	32	54	11	41	19.1
Nematoda					0	11	0	54	11	15	10.0
Mollusca											
		Valvatidae									
				<i>Valvata sincera sincera</i>	571	129	194	1012	624	506	160.2
		Planorbidae									
				<i>Gyraulus sp.</i>	0	0	0	11	11	4	2.6
		Sphaeriidae		527	0	11	43	43	125	101.0	

Appendix H5

2006 Stream Benthic Invertebrate Taxonomy/Abundance

Site Number		W3-1	W3-2	W3-3	W3-4	W3-5	WC-1	WC-2	WC-3	WC-4	WC-5	W2-1	W2-2	W2-3	W2-4	W2-5	W8-1	W8-2	W8-3	W8-4	W8-5	W5-B1	W5-B2	W5-B3	W5-B4	W5-B5	W6-B1	W6-B2	W6-B3	
units = total organisms/sample																														
Order : Ephemeroptera	larvae																													
Family : Heptageniidae	larvae																													
<i>Rhithrogena</i>	larvae					1																4	8	4	2		2			
<i>Cinygmula</i>	larvae		14	28	52	17	6		33	8														2						
<i>Heptagenia</i>	larvae								3																					
UID-1st instars	larvae	4	34				18			6	6											212	60	38	64	72	62	21		
Family : Ephemerellidae	larvae																													
<i>Drunella doddsi</i>	larvae															8														
<i>Drunella spinifera</i>	larvae	2		4					3		3							8					2	2	2					
<i>Ephemerella</i>	larvae																					140	180	136	54	216	16	358	732	
<i>Seratella A</i>	larvae	2																		3										
UID-1st instars	larvae	224	22	52	140	15		3																						
Family : Baetidae	larvae																													
<i>Baetis</i>	larvae	170	40	156	140	98	9		6	4										144		16			2	6	2			
<i>Callibaetis</i>	larvae											12	24																	
<i>Acentrella</i>	larvae					48														9										
UID	larvae														12															
Family : Leptophlebiidae	larvae																													
<i>Paraleptophlebia</i>	larvae	134	38	44	44	37	33	13	63	36	132	6	18	18	72	512	87	16	3	90	128									
Family : Ameletidae	larvae																													
<i>Ameletus</i>	larvae	210	78	92	116	41	87	46	48	54	198	42	36	6	24	8		4				8		2			2	12	20	
Order : Plecoptera	larvae																													
Family : Chloroperlidae	larvae																													
<i>Sweltza group</i>	larvae	6	62	4	8	1	63	30	63	22	75						12	28	24	15	32	24	2	2		8	3	8	9	8
UID	juvenile								9																8	3				
Family : Perlidae	larvae																													
<i>Hesperoperla</i>	larvae								3		3											4								
Family : Perlodidae	larvae																													
<i>Skwala</i>	larvae						18		3	2										6	8						2		4	
<i>Isoperla</i>	larvae	28				10																								
UID	juvenile			12	20																			4	6					
Family : Nemouridae	larvae																													
<i>Zapada</i>	larvae	18		24	12	4	3			8															4		8	12		
Family : Leuctridae	larvae																													
<i>Perlomyia / Despaxia</i>	larvae	36	136	100	104	17											3			3		4	2	2				3		
Family : Capniidae	larvae																6	8	15										48	
UID	larvae	154	46	192	176	20	12	32	15	8										6	32	76					12	36		
Family : Taeniopterigidae	larvae																													
UID	larvae																									3				
Order : Trichoptera	larvae																													
Family : Rhyacophilidae	larvae																													
<i>Rhyacophila</i>	larvae	2	12	4	8	6			3																					
Family : Hydropsychidae	larvae																													
<i>Arctopsyche</i>	larvae																													
Family : Leptoceridae	larvae																													
<i>Ceraclea</i>	larvae												6																	
Family : Limnephilidae	larvae																													
<i>Psychoglypha</i>	larvae							1	3																					
<i>Ecclisomyia</i>	larvae				4						3																			
<i>Eocosmoecus</i>	larvae																				8									
<i>Onocosmoecus</i>	larvae															16														
Family : Apataniidae	larvae																													
<i>Apatania</i>	larvae														12															
Order : Diptera	larvae																													
Family : Simuliidae	larvae																													
<i>Simulium</i>	larvae						3													15										
Family : Empididae	larvae																													
<i>Chelifera</i>	larvae		22	36	20		30	20	57	14																		3	4	
<i>Clinocera</i>	larvae					22																								
<i>Oreogeton</i>	larvae		6	8																										
Family : Psychodidae	larvae																													

Site Number		W3-1	W3-2	W3-3	W3-4	W3-5	WC-1	WC-2	WC-3	WC-4	WC-5	W2-1	W2-2	W2-3	W2-4	W2-5	W8-1	W8-2	W8-3	W8-4	W8-5	W5-B1	W5-B2	W5-B3	W5-B4	W5-B5	W6-B1	W6-B2	W6-B3
units = total organisms/sample																													
Site Number		W3-1	W3-2	W3-3	W3-4	W3-5	WC-1	WC-2	WC-3	WC-4	WC-5	W2-1	W2-2	W2-3	W2-4	W2-5	W8-1	W8-2	W8-3	W8-4	W8-5	W5-B1	W5-B2	W5-B3	W5-B4	W5-B5	W6-B1	W6-B2	W6-B3
Family : Stratiomyidae	larvae																												
UID	larvae																	4			8								
Family : Tabanidae	larvae																												
<i>Crysops</i>	larvae																	4											
Family : Chironomidae	larvae	186	36	212	116	30	111	60	165	134	228	24	42	282	108	112	960	156	213	225	536	72	46	12	30	21		27	52
Family : Chironomidae	pupae			32	20			5	18																	6			
Order : Coleoptera	larvae																												
Family : Elmidae	larvae																												
<i>Heterlimnius</i>	larvae	20	14	12	12	4	12	18	45	14	18																		
<i>Heterlimnius</i>	adult					1				4																			
Family : Dytiscidae	larvae																												
<i>Liodessus</i>	larvae									2																			
<i>Liodessus</i>	adult							5		4	3									3									
UID	adult																				16								
Order : Megaloptera																													
Family : Sialididae																													
<i>Sialis</i>								11		6																			
Phylum : Mollusca																													
Class : Pelecypoda (=Bivalvia)																													
Family : Sphaeriidae																													
<i>Pisidium</i>								8				12	150	204						27									
Class : Gastropoda																													
Family : Physidae																													
<i>Physa / Physella</i>												6																	
Family : Planorbidae																													
<i>Menetus cooperi</i>												6	36			48													
Order : Amphipoda																													
Family : Gammaridae																													
<i>Hyalella</i>											3																		
<i>Gammarus</i>												216	750	2250	108	192	126		9	60	200								
Class : Arachnida																													
Group : Hydracarina																													
Family : Hygrobatidae			6	12	32	6	9																						
Family : Lebertiidae																													
UID								10	12	10	15								4										
Family : Sperchonidae																													
UID						3																							
<i>Sprechon</i>		6	6	16	20		15				27								16	6	9	24	4		2	8	15		
Family : Torrtenticolidae																													
Sub-family : Testudacarus				12																									
Sub-family :Torrenticola		2	10	20		1		2			6					8				3		4				3			
Family : Protziidae																													
Sub-family : Wandezia																							2						
Phylum : Platyhelminthes																													
Class : Turbellaria																													
Family : Planariidae																													
<i>Polycelis</i>			6	8	12																								
Class : Hirudinea																													
Family : Glossophoniidae																			3										
<i>Helobdella</i>												30	42	18	24					3									
Order : Haplotaxida																													

Site Number		W6-B4	W6-B5	W14-B1	W14-B2	W14-B3	W14-B4	W14-B5
units = total organisms/sample								
Order : Ephemeroptera	larvae							
Family : Heptageniidae	larvae							
<u>Rhithrogena</u>	larvae							
<u>Cinygmula</u>	larvae							
<u>Heptagenia</u>	larvae							
UID-1st instars	larvae	237	88	144	40		36	304
Family : Ephemerellidae	larvae							
<u>Drunella doddsi</u>	larvae							
<u>Drunella spinifera</u>	larvae	3						
<u>Ephemerella</u>	larvae	555	864	1056	808	896	436	648
<u>Seratella A</u>	larvae							
UID-1st instars	larvae							
Family : Baetidae	larvae							
<u>Baetis</u>	larvae	9					4	
<u>Callibaetis</u>	larvae							
<u>Acentrella</u>	larvae							
UID	larvae							
Family : Leptophlebiidae	larvae							
<u>Paraleptophlebia</u>	larvae							
Family : Ameletidae	larvae							
<u>Ameletus</u>	larvae			8	16	16	12	8
Order : Plecoptera	larvae							
Family : Chloroperlidae	larvae							
<u>Sweltza group</u>	larvae	15			8	8	4	16
UID	juvenile							
Family : Perlidae	larvae							
<u>Hesperoperla</u>	larvae			8	8	16	4	8
Family : Perlodidae	larvae							
<u>Skwala</u>	larvae				8			
<u>Isoperla</u>	larvae	12		8			4	
UID	juvenile		16	24		48	12	16
Family : Nemouridae	larvae							
<u>Zapada</u>	larvae	18		16	16	8		8
Family : Leuctridae	larvae							
<u>Perlomyia / Despaxia</u>	larvae	3						
Family : Capniidae	larvae	39						
UID	larvae							
Family : Taeniopterigidae	larvae							
UID	larvae							
Order : Trichoptera	larvae							
Family : Rhyacophilidae	larvae							
<u>Rhyacophila</u>	larvae							
Family : Hydropsychidae	larvae							
<u>Arctopsyche</u>	larvae				8			
Family : Leptoceridae	larvae							
<u>Ceraclea</u>	larvae							
Family : Limnephilidae	larvae							
<u>Psychoglypha</u>	larvae							
<u>Ecclisomyia</u>	larvae							
<u>Eocosmoecus</u>	larvae							
<u>Onocosmoecus</u>	larvae							
Family : Apataniidae	larvae							
<u>Apatania</u>	larvae							
Order : Diptera	larvae							
Family : Simuliidae	larvae							
<u>Simulium</u>	larvae							
Family : Empididae	larvae							
<u>Chelifera</u>	larvae							
<u>Clinochera</u>	larvae		8					
<u>Oreogeton</u>	larvae							
Family : Psychodidae	larvae							
<u>Pericoma</u>	larvae							
Family : Ceratopogonidae	larvae							
<u>Bezzia / Probezzia</u>	larvae							
Family : Tipulidae	larvae							
<u>Dicranota</u>	larvae							
<u>Dicranota</u>	larvae							
<u>Hexatoma</u>	larvae							
<u>Limnophila</u>	larvae							
<u>Rhabdomastix</u>	larvae							
Family : Dixidae	larvae							
<u>Dixa</u>	larvae							

Site Number		W6-B4	W6-B5	W14-B1	W14-B2	W14-B3	W14-B4	W14-B5
units = total organisms/sample								
Site Number		W6-B4	W6-B5	W14-B1	W14-B2	W14-B3	W14-B4	W14-B5
Family : Stratiomyidae	larvae							
UID	larvae							
Family : Tabanidae	larvae							
<i>Crysops</i>	larvae							
Family : Chironomidae	larvae	57	48	376	160	352	216	160
Family : Chironomidae	pupae							8
Order : Coleoptera	larvae							
Family : Elmidae	larvae							
<i>Heterlimnius</i>	larvae							
<i>Heterlimnius</i>	adult							
Family : Dytiscidae	larvae							
<i>Liodessus</i>	larvae							
<i>Liodessus</i>	adult					8		
UID	adult							
Order : Megaloptera								
Family : Sialididae								
<i>Sialis</i>								
Phylum : Mollusca								
Class : Pelecypoda (=Bivalvia)								
Family : Sphaeriidae								
<i>Pisidium</i>								
Class : Gastropoda								
Family : Physidae								
<i>Physa / Physella</i>								
Family : Planorbidae								
<i>Menetus cooperi</i>								
Order : Amphipoda								
Family : Gammaridae								
<i>Hyalella</i>								
<i>Gammarus</i>								
Class : Arachnida								
Group : Hydracarina								
Family : Hygrobatidae								
Family : Lebertiidae								
UID		6			8			
Family : Sperchonidae								
UID								
<i>Sprechon</i>					8			
Family : Torrenticolidae								
Sub-family : Testudacarus								
Sub-family : Torrenticola								
Family : Protziidae								
Sub-family : Wandezia								
Phylum : Platyhelminthes								
Class : Turbellaria								
Family : Planariidae								
<i>Polycelis</i>								
Class : Hirudinea								
Family : Glossophoniidae								
<i>Helobdella</i>								
Order : Haplotaxida								
Family : Naididae								
UID		6	80			56	4	32
Order : Lumbriculida								
Family : Lumbriculidae								
Sub-family : Lumbriculus like								
Order : Haplotaxida								
Family : Tubificidae								
UID								
Family : Lumbricidae								
<i>Eiseniella</i>								
Family : Enchytraeidae								
UID								
Sub-class : Ostracoda								
UID								

Appendix H6

Pre-PRS Lake Benthic Invertebrate Taxonomy/Abundance

TASEKO MINES LIMITED – FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM LITTLE FISH LAKE
30 AUGUST 1993

Replicates	Estimated Number of Organisms per Square Metre						Pooled	
	1	2	3	4	5		6 Samples	
Diptera, Chironomidae								
Chironomidae L unid J/D					40		40	
Chironomidae adult			40				40	
Tanypodinae								
Tanytus sp	3520	3680	280	120	2040	680	10320	
Chironominae								
Chironomus sp	840	2800	840	280	1280	1080	7120	
Polypedilum (Polypedilum) sp	40						40	
Chaobrinae								
Chaoborus sp	1280	3240	2800	600	3040	3160	14120	
Copepoda, Calanoida, unid D								
Cyclopoida								
Cyclops (bicolor)	20000	100000	80000	80000	180000	84000	544000	
Cladocera								
Daphnia sp				40			40	
Oligochaeta								
Tubificidae, unid J/D	240						240	
Nematoda								
	24000	600	3880	400	920	680	30480	
Total individuals	49920	110320	87840	81440	187320	89640	606480	
Total number of sp.	8	6	7	7	7	7	12	
Shannon – Wiener Diversity Index	1.100	0.428	0.399	0.113	0.216	0.310	0.413	

TASEKO MINES LIMITED – FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM FISH LAKE
31 AUGUST 1993

Replicates	Estimated Number of Organisms per Square Metre						Pooled 6 Samples
	1	2	3	4	5		
Hydracharina							
Sperchon sp					40		40
Limnesia sp					40		40
Diptera, Chironomidae							
Tanypodinae							
Procladius sp	80				280		360
Chironominae							
Chironomus sp	1120	1280	760	320	80	520	4080
Chaobrinae							
Chaoborus sp	880	1480	360	680	80	200	3680
Copepoda: Cyclopoida							
Cyclops (bicolor)	40000	20000	4000	4000	4000	8000	80000
Ostracoda							
					40		40
Mollusca, Bivalvia							
Pisidium (ferrugineum)	40	40	40		800		920
Oligochaeta							
Lumbricidae (terrestrial)	40						40
Tubificidae, unid J/D	440	80	80		160	40	800
Tubifex sp ?	40	80	80	40	200	40	480
Limnodrilus sp?	40	40					80
Naididae							
Vejdovskyella comata					160		160
Nematoda							
					200		200
Total individuals							
	42680	23000	5320	5040	6080	8800	90920
Total number of sp.	9	7	6	4	12	5	14
Shannon–Wiener Diversity Index	0.321	0.520	0.838	0.667	1.313	0.389	0.564

TASEKO MINES LIMITED - FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM WASP LAKE
30 AUGUST 1993

Replicates	Estimated Number of Organisms per Square Metre						Pooled 6 Samples
	1	2	3	4	5		
Trichoptera							
(Clostoea sp?)					40		40
Hydracharina							
Sperchon sp					40		40
Kawamuracarus sp		120					120
Arrenurus sp		80					80
Diptera, Chironomidae							
Chironomidae L unid J/D	200	680	440	40	280		1640
Chironomidae pupae	40						40
Procladius sp		880	1480	120	600	40	3120
Thienemannimyia sp	120	520	80	120	120		960
Chironomus sp	40	80	40	40			200
Cryptochironomus sp				40			40
Dicrotendipes sp	440	2480	1840	520	3080		8360
Microtendipes sp	120	160	120	120	560		1080
Paratanytarsus sp	2160	4480	5240	1280	5200		18360
Polypedilum (Polypedilum) sp	40	200	120	40	1480		1880
Tanytarsus sp	200	480	600	80	640		2000
Orthocladinae							
Corynoneura sp	80	80	40		40		240
Cricotopus sp	1160	1760	440	520	2320	40	6240
Eukiefferiella sp					40		40
Cyclopoida							
Cyclops (bicolor)		40	8320		40	80	8480
Cyclops (vernalis)			80				80
Eucyclops agilis			1080		40		1120
Cyclopoida unid.			40				40
Ostracoda							
	80	440	1560	160	840	40	3120
Cladocera							
Alona (setulosa)			160				160
Gammaridea							
Hyalella azteca	160	2320	5960	800	2520		11760
Crangonyx sp		200	720	240	1280		2440
Mollusca, Bivalvia							
Pisidium (ferrugineum)	880	3400	2760	1600	3080	160	11880
Gastropoda							
Valvata sincera			120				120
Heliosoma trivolvis					120		120
Hirudinea							
Theromyzon sp		80	40	40	320		480
Batrachobdella (picta)		40	120		360		520
Batrachobdella (phalera)		40			80		120
Oligochaeta							
Tubificidae, unid J/D		40	240	80	40	360	760
Lumbriculus variegatus		40			80		120
Naididae							
Nais (communis)		200	320		80	640	1240
Stylaria lacustris		120	440		40	1560	2160
Vejdovskyella comata		80	1400	440	160	960	3040
Chaetogaster sp			760	480	80	80	1400
Slavina appendiculata						40	40
Turbellaria							
(Macrostomum sp?)		680	2920	2920	200	2960	9680
Nematoda							
	80	240	280		40	480	1120
Porifera							
Spongilla lacustris		40	40	40	40	40	200
Total individuals	5800	20000	37800	9720	23880	7480	104680
Total number of sp.	15	29	31	21	32	14	42
Shannon - Wiener Diversity Index	1.943	2.471	2.559	2.269	2.532	1.809	2.787

TASEKO MINES LIMITED – FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM BIG ONION LAKE
27 AUGUST 1994

Replicates	Estimated Number of Organisms Per Square Metre						6 Pooled Sample
	1	2	3	4	5		
Depth of sample	8.5 m	8.5 m	8.5 m	8.2 m	8.2 m	8.2 m	
Chironomidae, unid	200	200					400
S.F. Chironominae							
Endochironomus sp					200		200
S.F. Orthoclaudiinae							
Brillia sp	200						200
S.F. Tanypodinae							
Thienemannimyia sp	200						200
Gammaridea							
Hyaella azteca						200	200
Gammarus lacustris		200					200
Ostracoda							
Candona s						1000	1000
Cypria sp						200	200
Cladocera							
Alona sp					200		200
Bosmina longirostris		200					200
Sida crystalina	400	400			200		1000
Copepoda							
Diaptomus leptopus		200					200
Cyclops (bicuspidatus)	4200	600		400	1400		6600
Harpacticoida			200			200	400
Nematoda	800		200		200	200	1400
Oligochaeta: Tubificidae	600	400		1200	200		2400
Total Individuals	6600	2200	400	1600	2400	1800	15000
Total Species	7	7	2	3	6	5	16
Shannon–Wiener Diversity Index	1.249	1.846	0.693	0.562	1.35	1.303	1.948

TASEKO MINES LIMITED – FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM SLIM LAKE
23 AUGUST 1994

Replicates	Estimated Number of Organisms Per Square Metre						
	1	2	3	4	5	6 Pooled Sample	
Depth of sample	13.0 m	13.0 m	13.5 m	7.2 m	2.8 m	8.2 m	
Chironomidae, unid.	0	200				200	
S.F. Chironominae							
Chironomus sp		400				400	
Glyptotendipes sp		2400	200			2600	
Rheotanytarsus sp		1200				1200	
S.F. Tanypodinae							
Procladius sp		800				800	
Gammaridea							
Hyaella azteca	200	3400	400			4000	
Gammarus lacustris		200				200	
Ostracoda							
Candona s		11800				11800	
Cypria sp	400	32000				32400	
Cladocera							
Ilyocryptus sordidus		200				200	
Copepoda: Cyclopoida							
Cyclops (bicuspidatus)	57000	14000	34600	116000	11800	20000	253400
Hirudinea: Erpobdella sp		200					200
Bivalvia: Sphaerium sp		4400					4400
Nematoda	2400	16000	11400	16000		1800	47600
Coelenterata: Hydra sp		200					200
Oligochaeta							
Enchytraeidae		3000	200			3200	
Tubificidae		1400	800		200	2400	
Total Individuals	60000	91800	47600	132000	12000	21800	365200
Total Species	5	17	6	2	2	2	17
Shannon–Wiener Diversity Index	0.23	1.949	0.729	0.369	0.085	0.285	1.118

TASEKO MINES LIMITED – FISH LAKE PROJECT
ECKMANN DREDGE SAMPLES FROM VICK LAKE
25 AUGUST 1994

		Estimated Number of Organisms Per Square Metre						
Replicates		1	2	3	4	5	6 Pooled Sample	
Depth of sample		3.4 m	3.4 m	3.4 m	3.9 m	3.9 m	3.9 m	
Chironomidae, unid.			200	400				600
S.F. Chironominae								
Constempelina sp					400	200		600
Polypedilum (Polypedilum) sp						200		200
Tanytarsus sp				800	1200	600		2600
S.F. Tanypodinae								
Procladius sp				200	600		200	1000
Thienemannimyia sp				400				400
Hydracarina unid J			200					200
Gammaridea								
Gammarus lacustris			400					400
Ostracoda								
Candona s		600	6200	14600	8800	1600		31800
Cypria sp			4000	400	200			4600
Cladocera								
Daphnia schodleri		200						200
Copepoda: Cyclopoida unid.		200			200	200		600
Cyclops (bicolor)		200			200	400	200	1000
Cyclops (bicuspidatus)		200			800			1000
Eucyclops agilis					200	200		400
Oligochaeta, Naididae								
Chaetogaster sp				400				400
Mollusca: Gastropoda unid							200	200
Menetus cooperi		800		2200	1000	1400	600	6000
Valvata sincera							200	200
Nematoda		4600	3800	8000	16800	16800	2000	52000
Coelenterata: Hydra sp			200	200				400
Porifera: Spongilla lacustris		200	200	200	200			800
Oligochaeta: Tubificidae				400	200	400		1000
Total Individuals		7000	15200	28200	30800	22000	3400	106600
Total Species		8	8	12	14	10	6	23
Shannon–Wiener Diversity Index		1.242	1.387	1.405	1.35	0.987	1.285	1.652

Appendix H7 1997 Lake Benthic Invertebrate Taxonomy/Abundance

APPENDIX H7: BENTHOS LAKES 1997

Site Name: Big Lake										
Sampling Date: Aug. 13/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae								
			Chironomini							
			<i>Chironomus sp.</i>	1244	711	133	178	133	480	220.2
			Orthocladiinae							
			<i>Nanocladius sp. (possibly)</i>	44	0	0	0	0	9	8.9
Annelida										
Oligochaeta				0	0	0	44	0	9	8.9
		Naididae		44	0	0	44	0	18	10.9
		Tubificidae		44	178	356	133	267	196	53.7

Site Name: Big Onion Lake										
Sampling Date: Sept. 2/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae								
			Chironomini	0	0	0	0	178	36	35.6
			<i>Chironomus sp.</i>	0	89	0	0	0	18	17.8
		Simuliidae		0	44	0	0	0	9	8.9
	Amphipoda			0	44	44	0	0	18	10.9
		Gammaridae		0	0	0	0	44	9	8.9
Annelida										
Oligochaeta				0	0	44	89	89	44	19.9
Nematoda				89	89	0	44	0	44	19.9
Mollusca										
Pelecypoda				178	800	44	0	622	329	161.2
		Sphaeriidae		0	0	0	844	0	169	168.9

Appendix H7: Benthos Lakes 1997

Site Name: Fish Lake										
Sampling Date: Aug. 21/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae								
			Chironomini							
			<i>Chironomus sp.</i>	44	0	133	89	89	71	23
Total				44	0	133	89	89		
Mean									71	
S.E.										51

Site Name: Little Fish Lake										
Sampling Date: Aug. 13/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera			44	0	0	0	0	9	8.9
		Chironomidae								
			Chironomini							
			<i>Chironomus sp.</i>	489	533	0	489	222	347	102.7
			Tanypodinae							
			<i>Tanypus sp.</i>	0	0	0	0	311	62	62.2
	Hemiptera			0	44	0	0	0	9	8.9
Annelida										
Oligochaeta				0	0	0	0	89	18	17.78

Appendix H7: Benthos Lakes 1997

Site Name: Taseko Lake							
Sampling Date: Aug. 18/97							
Identified Taxa			Rep 1 (#/m²)	Rep 2 (#/m²)	Rep 3 (#/m²)	Mean (#/m²)	S.E.
Arthropoda							
	Diptera						
		Chironomidae	1378	0	0	459	459.3
		Chironomini					
		<i>Phaenopsectra sp.</i>	222	0	0	74	74.1
		<i>Polypedilum sp.</i>	222	0	0	74	74.1
		Orthoclaadiinae	0	44	0	15	14.8
		<i>Eukiefferiella sp.</i>	0	0	89	30	29.6
		<i>Heterotrissocladius sp.</i>	622	133	0	252	189.1
		Diamesinae	44	0	0	15	14.8
		Tanytarsini					
		<i>Tanytarsus sp.</i>	89	0	0	30	29.6
		Tanypodinae					
		<i>Procladius sp.</i>	0	0	44	15	14.8
		Empididae					
		<i>Chelifera sp.</i>	89	0	44	44	25.7
		Muscidae	44	0	0	15	14.8
		Diaptomidae	356	0	0	119	118.5
		Ostracoda (subphylum Crustacea)	0	0	44	15	14.8
		Acarina (subphylum Chelicerata)					
		Hydracarina	44	0	0	15	14.8
Annelida							
		Oligochaeta	889	89	133	370	259.6
		Naididae	311	311	44	222	88.9
		Tubificidae	178	133	0	104	53.4
Mollusca							
		Gastropoda					
		Planorbidae	44	0	0	15	14.8
		Pelecypoda					
		Sphaeriidae	222	0	0	74	74.1

Appendix H7: Benthos Lakes 1997

Site Name: Slim Lake										
Sampling Date: Aug. 14/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae								
			Tanytarsini							
			<i>Tanytarsus sp.</i>	0	0	0	44	0	9	8.9
Annelida										
Oligochaeta										
		Naididae		0	0	0	0	89	18	17.8
		Tubificidae		0	222	0	0	0	44	44.4

Site Name: Vick Lake										
Sampling Date: Aug. 14/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae								
			Chironomini							
			<i>Chironomus sp.</i>	0	0	44	0	0	9	8.9
			Tanytarsini							
			<i>Paratanytarsus sp.</i>	44	0	0	0	0	9	8.9
			Tanypodinae				0			
			<i>Procladius sp.</i>	0	0	44	0	0	9	8.9
	Ostracoda (subphylum Crustacea)			0	0	0	44	0	9	8.9
Annelida										
Oligochaeta				89	0	0	0	89	36	21.8
		Naididae		89	578	578	0	133	276	125.2

Appendix H7: Benthos Lakes 1997

Sampling Date: Aug. 12/97										
Identified Taxa				Rep 1 (#/m ²)	Rep 2 (#/m ²)	Rep 3 (#/m ²)	Rep 4 (#/m ²)	Rep 5 (#/m ²)	Mean (#/m ²)	S.E.
Arthropoda										
	Diptera									
		Chironomidae		0	0	0	0	311	62	62.2
			Chironomini							
			<i>Chironomus sp.</i>	0	133	0	0	0	27	26.7
			<i>Dicrotendipes sp.</i>	0	0	0	0	44	9	8.9
			<i>Glyptotendipes sp.</i>	0	0	0	0	1156	231	231.1
			<i>Phaenopsectra sp.</i>	0	0	0	44	0	9	8.9
			Orthoclaadiinae	0	0	0	0	89	18	17.8
			<i>Eukiefferiella sp.</i>	0	0	0	0	89	18	17.8
			Tanytarsini	44	0	0	0	0	9	8.9
			<i>Paratanytarsus sp.</i>	0	0	0	0	44	9	8.9
			<i>Rheotanytarsus sp.</i>	0	44	0	0	0	9	8.9
			<i>Tanytarsus sp.</i>	0	0	44	44	89	36	16.6
			Tanypodinae							
			<i>Procladius sp.</i>	0	0	44	0	133	36	25.9
Amphipoda (subphylum Crustacea)										
		Hyaellidae								
			<i>Hyaella azteca</i>	0	0	0	0	133	27	26.7
Acarina (subphylum Chelicerata)										
Hydracarina				0	0	0	0	89	18	17.8
Annelida										
Hirudinea										
			<i>Alboglossiphonia heteroclita</i>	0	44	0	0	0	9	8.9
			<i>Glossiphonia complanata</i>	0	44	0	0	44	18	10.9
Mollusca										
Pelecypoda				44	0	0	0	0	9	8.9
			<i>Pisidium sp.</i>	0	311	44	0	311	133	73.0

Appendix I1 Taxonomic Keys for Zooplankton

Appendix I2 Zooplankton Abundance and Composition (1997)

Appendix I3 Zooplankton Abundance and Composition (2006)

Appendix I4 Zooplankton Abundance and Composition (1993–1994)

Appendix I1 Taxonomic Keys for Zooplankton

APPENDIX I1: TAXONOMIC KEYS USED FOR ZOOPLANKTON IDENTIFICATION

- Brandlova, J., Z. Brandl, and C.H. Fernando. 1972. The cladocera of Ontario with remarks on some species and distribution. *Can. J. Zool.* 50: 1373-1403.
- Brooks, J.L. 1957. The systematics of North American daphnia. Vol. 13. The Academy. New Haven, Conn. 180 pp.
- Comita, G.W., and S.J. McNett. 1976. The postembryonic developmental instars of *Diaptomus oregonensis* Lilljeborg, 1889 (Copepoda). *Crustaceana* 30: 123-163.
- Deevey, E.S. and G.B. Deevey. 1971. The American species of *Eubosmina seligo* (Crustacea, Cladocera). *Limnol. and Oceanogr.* 16: 201-218.
- Edmondson, W.T. and A.H. Litt. 1982. Daphnia in Lake Washington. *Limnol. and Oceanogr.* 27: 272-293.
- Fulton, J. 1968. A laboratory manual for the identification of British Columbia marine zooplankton. Fisheries Research Board of Canada. Tech. Rep. 55. 141 pp.
- Green, J.D. and T.G. Northcote. 1982. The naupliar instars of *Diaptomus kenai* (Copepoda, Calanoida) and their distinction from those of four other diaptomids. *Can. J. Zool.* 60: 2162-2172.
- Pennak, R.W. 1953. Fresh-water invertebrates of the United States. Ronald Press Co., New York. 769 pp.
- Pinel-Alloul, B. and J. Lamoureux. 1988. Developpment post-embryonnaire du copepode calanoide *Diaptomus* (*Aglaodiaptomus*) *Leptopus* S.A. Forbes, 1882 II phases copepodite et adulte. *Crustaceana* 54: 171-195.
- Pontin, R.M. 1978. A key to British freshwater planktonic rotifera. Freshwater Biological Association. Vol. 38. Ambleside, England. 178 pp.
- Ruttner-Kolisko, A. 1974. Plankton rotifers: biology and taxonomy. Balogh-Scientific Books. Champaign, Illinois.
- Smith, D.L. 1977. A guide to marine coastal plankton and marine invertebrate larvae. Kendall/Hunt Publishing Co. Dubuque, Iowa.
- Ward, H.B. and G.C. Whipple. 1959. Freshwater Biology, 2nd Ed. Wiley. New York. 1248 pp.

Appendix I2 Zooplankton Abundance and Composition (1997)

APPENDIX I2: ZOOPLANKTON ABUNDANCE AND COMPOSITION (1997)

Site Name	Fish Lake							
Bottle Number	520	522	523	524	521			
Volume water filtered (m ³ filtered/sample)	0.226	0.226	0.226	0.226	0.226			
Sample volume (mL)	550	500	283	284	545			
Units	Number of individuals/L		Mean		SD		SE	
Order : Cladocera								
Family : Daphnidae								
<i>Daphnia pulex</i>	1.30	7.37	5.42	3.14	3.62	4.17	2.31	1.03
<i>Daphnia rosea</i>	0.407	3.683	4.79	5.65	0	2.91	2.57	1.15
Immature	0	0	1.88	1.46	2.41	1.15	1.10	0.493
Ephippia	0.203							
Cladocera Total	1.91	11.1	12.1	10.3	6.03	8.27	4.23	1.89
Sub-class : Copepoda								
Nauplii	1.22	0.367	1.67	1.88	1.21	1.27	0.582	0.260
Order : Eucopepoda								
Sub-order : Calanoida								
Family : Diaptomidae	0.203	1.11	1.67	2.30	1.21	1.30	0.772	0.345
Copepodids	0	0	0.208	0	0	0.042	0.093	0.042
Total Calanoids	0.203	1.11	1.87	2.30	1.21	1.34	0.802	0.358
Sub-Order Cyclopoida	0	0	0.208	0.420	0	0.126	0.188	0.084
<i>Diacyclops</i>								
<i>Macrocyclus</i>								
Copopodids	0.809	4.42	3.75	3.35	2.41	2.95	1.40	0.626
Cyclopoid total	0.809	4.42	3.96	3.77	2.41	3.07	1.47	0.658
Copepoda Total	2.23	5.89	7.50	7.95	4.82	5.68	2.30	1.03
Order: Diptera								
Chaoborus sp.	0	0	0	0.210	0	0.042	0.094	0.042
Phylum : Rotifera								
UID	0	0	0.208	0.420	0	0.126	0.188	0.084
<i>Asplanchna</i>	0	0	0	0.420	0	0.084	0.188	0.084
Family : Brachionidae								
<i>Kellicottia longispina</i>	0.809	1.84	1.46	2.09	2.01	1.64	0.525	0.235
<i>Keratella cochlearis</i>	3.24	3.32	5.63	6.28	4.82	4.66	1.36	0.609
<i>Keratella quadrata</i>	0.809	0.738	1.04	1.05	1.60	1.05	0.340	0.152
Family : Filiniidae								
<i>Filinia</i>	0	0	0	0	0.402	0.080	0.180	0.080
Family : Synchaetidae								
<i>Polyarthra</i>	0	2.58	2.50	2.93	0.805	1.76	1.28	0.574
Rotifera Total	4.86	8.475	10.8	13.2	9.64	9.40	3.08	1.38

Appendix I2: Zooplankton Abundance and Composition (1997)

Site Name	Fish Lake							
Bottle Number	520	522	523	524	521			
Volume water filtered (m ³ filtered/sample)	0.226	0.226	0.226	0.226	0.226			
Sample volume (mL)	550	500	283	284	545			
Phylum : Protozoa								
<i>Ceratium hirundinella</i>	32.4	83.3	107	176	104	101	51.6	23.1
Protozoa Total	32.4	83.3	107	176	104	101	51.6	23.1
Zooplankton Total	41.4	109	137	207	125	124	59.5	26.6

Site Name	Little Fish Lake							
Bottle Number	155	156	157	158	159			
Volume water filtered (m ³)	0.372	0.372	0.186	0.279	0.279			
Sample volume (mL)	267	246	270	275	270			
Units	Number of individuals/L		Mean		SD		SE	
Order : Cladocera								
Family : Daphnidae								
<i>Daphnia pulex</i>	0	12.6	38.5	8.06	5.651	13.0	15.0	5.80
<i>Daphnia pulex</i> *	8.86	0	0	0	0	1.77	3.96	0.793
Immature	0.361	0.662	2.18	2.30	0.161	1.13	1.03	0.507
Cladocera	9.34	13.4	40.7	10.4	5.81	15.9	14.1	7.12
Sub-class : Copepoda								
Order : Eucopepoda								
Sub-order : Calanoida								
Family : Diaptomidae								
<i>Leptodiaptomus</i>	0.240	0.662	0.969	0.330	0.484	0.537	0.290	0.240
Calanoida	0.240	0.662	0.969	0.330	0.484	0.537	0.290	0.240
Copepoda	0.240	0.662	0.969	0.330	0.484	0.537	0.290	0.240
Order : Diptera								
Family : Chaoboridae								
<i>Chaoborus sp.</i>	0.361	0.221	0.242	0.165	0.262	0.250	0.072	0.112
Family : Chironomidae	0	0	0	0.004	0	0.001	0.002	0.000
Diptera	0.361	0.221	0.242	0.251	0.262	0.267	0.054	0.120
Phylum : Rotifera								
Family : Brachionidae	0	0	0	0.330	0.484	0.163	0.230	0.073
<i>Keratella cochlearis</i>	0.240	0	0	0.165	0.161	0.113	0.108	0.051
Family : Lecanidae	0	0	0	1.15	0	0.230	0.515	0.103
<i>Lecane</i>								
Rotifera Total	0.240	0	0	1.647	0.646	0.506	0.690	0.226
Zooplankton Total	10.2	14.2	41.9	12.6	7.205	17.2	14.0	6.3

* Some with toothed crest on dorsal margin of head. May be rosea/pulex hybrid.

Appendix I2: Zooplankton Abundance and Composition (1997)

Site Name	Little Onion Lake					
Bottle Number	153	154	192			
Volume water filtered (m ³ filtered/sample)	0.465	0.465	0.465			
Sample volume (mL)	270	270	270			
Units	Number of individuals/L		Mean	SD		SE
Order : Cladocera						
Family : Daphnidae						
<u>Daphnia pulex</u>	2.33	0.388	0.048	0.920	1.23	0.709
<u>Daphnia rosea</u>						
Immature	0.097	0	0	0.032	0.056	0.032
Cladocera Total	2.42	0.388	0.048	0.953	1.28	0.741
Sub-class : Copepoda						
Order : Eucopepoda						
Sub-order : Calanoida						
Family : Diaptomidae	0	0	0.097	0.032	0.056	0.032
<u>Leptodiaptomus</u>						
Calanoida	0	0	0.097	0.032	0.056	0.032
Sub-Order Cyclopoida						
<u>Diacyclops</u>						
<u>Macrocyclops</u>						
Copopodids	0	0	0.097	0.032	0.056	0.032
Cyclopoida	0	0	0.097	0.032	0.056	0.032
Copepoda Total	0	0	0.194	0.065	0.112	0.065
Order : Diptera						
Family : Chaoboridae						
<u>Chaoborus sp.</u>	0.116	0.022	0.097	0.078	0.050	0.029
Diptera Total	0.116	0.022	0.097	0.078	0.050	0.029
Phylum : Rotifera						
Family : Brachionidae						
<u>Kellicottia longispina</u>	0	0	0.097	0.032	0.056	0.032
<u>Keratella cochlearis</u>						
<u>Keratella quadrata</u>						
Rotifera Total	0	0	0.097	0.032	0.056	0.032
Total Zooplankton	2.54	0.409	0.436	1.13	1.22	0.705

Appendix I2: Zooplankton Abundance and Composition (1997)

Site Name	Big Onion Lake							
Bottle Number	1	2	3	4	5			
Volume water filtered (m ³ filtered/sample)	0.136	0.136	0.136	0.136	0.136			
Sample volume (mL)	515	280	488	515	270			
Units	Number of individuals/L		Mean		SD		SE	
Order : Cladocera								
Family : Bosminidae								
<i>Bosmina longirostris</i>	86.7	63.6	74.9	69.6	79.3	74.8	8.84	3.95
Family : Daphnidae	0	0	1.20	0.000	0.000	0.240	0.537	0.240
Family : Sididae								
<i>Sida</i>	5.06	2.41	3.60	0.634	7.30	3.80	2.54	1.14
Immature	0	3.78	0	0	2.65	1.29	1.81	0.808
Cladocera	91.7	69.8	79.7	70.2	89.2	80.1	10.3	4.59
Sub-class : Copepoda								
Nauplii	63.9	25.8	31.8	24.0	12.9	31.7	19.2	8.61
Order : Eucopepoda								
Sub-order : Calanoida								
Family : Diaptomidae	0.634	0.685	0.597	0.634	0.332	0.576	0.140	0.063
Calanoida	0.634	0.685	0.597	0.634	0.332	0.576	0.140	0.063
Sub-Order Cyclopoida	5.70	5.50	4.19	3.16	0.000	3.71	2.32	1.04
<i>Macrocyclops</i>	0	0	0	0	2.32	0.464	1.04	0.464
Copopodids	68.3	44.4	59.9	39.9	63.0	55.1	12.3	5.51
Cyclopoida	74.0	49.9	64.1	43.0	65.3	59.3	12.6	5.61
Copepoda	139	76.3	96.5	67.7	78.6	91.5	28.3	12.6
Family : Brachionidae								
<i>Kellicottia longispina</i>	10.8	10.7	5.99	5.06	8.62	8.22	2.62	1.17
<i>Keratella cochlearis</i>	24.7	11.0	12.0	17.7	13.3	15.7	5.62	2.51
<i>Keratella quadrata</i>	1.90	1.38	0	0.634	0.663	0.915	0.736	0.329
Family : Filiniidae								
<i>Filinia</i>	48.1	17.2	33.0	20.9	23.5	28.5	12.4	5.54
Family : Synchaetidae								
<i>Polyarthra</i>	82.9	93.5	23.4	7.590	10.6	43.6	41.3	18.5
Rotifera	168	134	74.3	51.9	56.7	97.0	51.5	23.0
Phylum : Protozoa								
<i>Ceratium hirundinella</i>	0.634	10.3	12.0	13.9	35.2	14.4	12.7	5.67
Protozoa	0.634	10.3	12.0	13.9	35.2	14.4	12.7	5.67
Total Zooplankton	399	290	263	204	260	283	72.1	32.2

Appendix I2: Zooplankton Abundance and Composition (1997)

Site Name	Slim Lake							
Bottle Number	187	188	189	190	191			
Volume water filtered (m ³ filtered/sample)	0.226	0.226	0.226	0.226	0.226			
Sample volume (mL)	490	270	220	270	245			
Units	Number of individuals/L				Mean	SD	SE	
Order: Cladocera								
Family : Daphnidae	0.252	0.597	0	0	0	0.170	0.262	0.117
<i>Daphnia pulex</i>	0	0	0.323	1.194	0.181	0.340	0.496	0.222
<i>D. pulex</i> Immature	0	0	0.323	0	0.181	0.101	0.147	0.066
Cladocera	0.252	0.597	0.645	1.19	0.363	0.610	0.365	0.163
Sub-class : Copepoda								
Nauplii	0.327	0.796	1.14	0.796	1.80	0.972	0.547	0.245
Order : Eucopepoda								
Sub-order : Calanoida								
Family : Diaptomidae	0.398	0.398	0.486	1.19	1.08	0.712	0.393	0.176
Calanoida	0.398	0.398	0.486	1.19	1.08	0.712	0.393	0.176
Sub-Order Cyclopoida								
<i>Diacyclops</i>	0.071	0.199	0.164	0	0	0.087	0.092	0.041
Copopodids	1.048	0.995	1.78	3.58	1.98	1.88	1.05	0.469
Cyclopoida	1.12	1.19	1.95	3.58	1.98	1.96	0.990	0.443
Copepoda	1.84	2.39	3.57	5.57	4.87	3.65	1.58	0.709
Phylum : Rotifera								
Family : Brachionidae								
<i>Kellicottia longispina</i>	1.48	2.79	1.95	1.99	4.51	2.54	1.197	0.535
<i>Keratella cochlearis</i>	0.287	0	0	0.398	0.181	0.173	0.176	0.079
<i>Keratella quadrata</i>	0.035	0.398	0	0	0	0.087	0.175	0.078
Family : Conochilidae								
<i>Conochilus</i>	3.61	4.38	1.62	1.19	2.35	2.63	1.34	0.599
Family : Synchaetidae								
<i>Polyarthra</i>	3.83	4.18	2.60	0	4.33	2.99	1.80	0.807
Rotifera	9.28	11.7	6.16	3.58	11.4	8.43	3.50	1.57
<i>Ceratium hirundinella</i>	165	77.4	72.0	155	237	141	68.6	30.7
Ciliates UID **	38.6	22.3	0	56.5	0.902	23.6	24.4	10.9
Protozoa	203	99.7	72.0	212	238	165	74.0	33.1
Total Zooplankton	215	114	82.3	222	255	178	74.8	33.4

** UID = unidentified due to lack of size and/or missing morphological characters.

Appendix I2: Zooplankton Abundance and Composition (1997)

Site Name	Vick Lake							
Bottle Number	160	161	162	163	164			
Volume water filtered (m ³ filtered/sample)	0.136	0.136	0.136	0.136	0.136			
Sample volume (mL)	270	263	270	270	275			
Units	Number of individuals/L				Mean	SD	SE	
Sub-class : Copepoda								
Nauplii	0.656	0.774	1.33	0.730	1.49	0.995	0.383	0.171
Order : Eucopepoda								
Sub-order : Calanoida								
Family : Diaptomidae	0.295	0.368	0.265	0.066	0.133	0.225	0.123	0.055
Calanoida	0.295	0.368	0.265	0.066	0.133	0.225	0.123	0.055
Sub-Order Cyclopoida								
Copopodids	0.118	0.133	0.332	0.066	0.206	0.171	0.103	0.046
Cyclopoida	0.118	0.133	0.332	0.066	0.206	0.171	0.103	0.046
Copepoda	0.951	1.14	1.59	0.796	1.62	1.22	0.373	0.167
<i>Chaoborus sp.</i>	0.059	0.730	0	0.033	0.037	0.172	0.313	0.140
Diptera Total	0.059	0.730	0	0.033	0.037	0.172	0.313	0.140
Phylum : Rotifera								
UID	0	0.066	0.066	0.929	0.339	0.280	0.385	0.172
<i>Asplanchna</i>	0.619	0.450	0.133	0.199	0.265	0.333	0.199	0.089
<i>Asplanchnopus possibly</i>	0	0	0	0.398	0.074	0.094	0.173	0.077
Family : Brachionidae								
<i>Kellicottia longispina</i>	1.59	0.228	0.531	0.464	0.206	0.604	0.570	0.255
<i>Keratella cochlearis</i>	53.2	39.8	70.0	72.3	45.3	56.1	14.6	6.51
<i>Keratella quadrata</i>	0.339	0.391	1.33	0.332	0.678	0.613	0.423	0.189
Family : Conochilidae								
<i>Conochilus</i>	0.162	0.228	0.000	0.000	0.612	0.200	0.251	0.112
Family : Filiniidae								
<i>Filinia</i>	0	0.096	0.133	0	0	0.046	0.064	0.029
Family : Lecanidae								
<i>Lecane</i>	0	0	0	0.066	0	0.013	0.030	0.013
Family : Synchaetidae								
<i>Polyarthra</i>	0.560	0.391	0.862	0.332	0.678	0.564	0.216	0.096
Family: Trochosphaeridae								
<i>Trochosphaera</i>	1.19	0.066	1.33	0.663	0.339	0.718	0.540	0.242
Rotifera Total	63.5	49.2	81.2	81.1	55.5	66.1	14.7	6.56
Total Zooplankton	64.5	51.0	82.8	82.0	57.1	67.5	14.4	6.45

Appendix I3 Zooplankton Abundance and Composition (2006)

Appendix I3: Zooplankton Taxa and Abundance (2006)

Site Name	Fish Lake							
Site Number	U1-Z1	U1-Z2	U1-Z3	U1-Z4	U1-Z5			
08/15/06	Total organisms/sample					Mean	SD	SE
Sub-class : Branchiopoda								
<i>Acroperus harpae</i>	0	1.0	1.0	0	0	0.4	0.55	0.24
<i>Acroperus harpae ?</i>	0	0	1.0	0	1.0	0.4	0.55	0.24
<i>Chydorus sphaericus</i>	0	0	0	0	2.0	0.4	0.89	0.40
<i>Chydorus sp.</i>	2.0	0	0	0	1.0	0.6	0.89	0.40
<i>Ceriodaphnia sp.</i>	0.0	0.0	0.0	1.0	0	0.2	0.45	0.20
<i>Daphnia pulicaria</i>	640.0	640.0	520.0	540.0	640.0	596	60.7	27.13
<i>Daphnia rosea</i>	480.0	460.0	180.0	320.0	440.0	376	126	56.36
<i>Daphnia sp.</i>	120.0	0.0	40.0	100.0	60.0	64	47.7	21.35
Branchiopoda Total	1,242	1,101	742.0	961.0	1,144.0	1,038	238	106.3
Sub-class : Copepoda								
Nauplii	200.0	120.0	100.0	120.0	140.0	136	38.5	17.20
Order : Cyclopoida								
<i>Diacyclops thomasi</i>	12.0	25.5	19.5	15.0	15.0	17.4	5.26	2.35
<i>Diacyclops thomasi</i>	152.0	184.0	152.0	142.0	240.0	174	40.1	17.96
<i>Diacyclops sp.</i>	0.0	0.0	0.0	0.0	1.0	0.2	0.45	0.20
<i>Eucyclops agilis</i>	1.0	0.0	1.0	0.0	0	0.4	0.55	0.24
<i>Eucyclops agilis</i>	2.0	0.0	1.0	1.0	1.0	1	0.71	0.32
UID	4.0	4.0	0.0	1.0	0	1.8	2.05	0.92
Copepoda Total	371.0	333.5	273.5	279.0	397.0	330.8	87.6	39.2
Cyclopoida Total	171.0	213.5	173.5	159.0	257.0	194.8	49.2	22.0
Order : Calanoida								
<i>Acanthodiaptomus denticornis</i>	28.5	39.0	13.5	8.0	2.0	18.2	15.2	6.81
<i>Acanthodiaptomus denticornis</i>	0.0	0.0	0.0	0.0	2.0	0.4	0.89	0.40
<i>Diaptomus leptopus</i>	280.0	260.0	200.0	124.0	220.0	217	60.8	27.17
<i>Diaptomus leptopus</i>	24.0	4.0	7.5	7.5	24.0	13.4	9.78	4.37
UID	82.0	104.0	126.0	80.0	140.0	106	26.5	11.86
Calanoida Total	414.5	407.0	347.0	219.5	388.0	355.2	113	50.6
Phylum : Rotifera								
<i>Asplanchna sp.</i>	80.0	120.0	100.0	80.0	40.0	84	29.7	13.27
<i>Conochilus sp.</i>	660.0	1460	920.0	1740	2120.0	1380	594	265.86
<i>Kellicottia longispina</i>	60.0	180.0	260.0	220.0	200.0	184	75.4	33.70
<i>Keratella cochlearis</i>	0.0	4.0	2.0	0.0	4.0	2	2	0.89
<i>Keratella quadrata</i>	40.0	60.0	20.0	40.0	20.0	36	16.7	7.48
<i>Polyarthra sp.</i>	20.0	80.0	20.0	20.0	20.0	32	26.8	12.00
UID	0.0	20.0	0.0	0.0	0	4	8.94	4.00
Rotifera Total	860	1,924	1,322	2,100	2,404	1,722	754	337

Appendix I3: Zooplankton Taxa and Abundance

Site Name	Fish Lake							
Site Number	U1-Z1	U1-Z2	U1-Z3	U1-Z4	U1-Z5			
08/15/06	Total organisms/sample					Mean	SD	SE
Order : Diptera								
Family : Chaoboridae								
<i>Chaoborus sp.</i>	5.0	8.0	3.0	5.0	11.0	6.4	3.13	1.40
Family : Chironomidae								
Chironomid	0.0	0.0	0.0	1.0	0.0	0.2	0.45	0.20
Group : Hydracarina	1.0	2.0	1.0	5.0	2.0	2.2	1.64	0.73
Diptera Total	5	8	3	6	11	11	11	11
Arachnoidea Total	1	3	2	5	2	2	2	2
Total Zooplankton	2,894	3,777	2,690	3,571	4,346.0	3,459	1,206	546.3
UID = unidentified due to lack of size and/or missing morphological characters.								

Appendix I4 Zooplankton Abundance and Composition (1993–1994)

TASEKO MINES LIMITED – FISH LAKE PROJECT
ZOOPLANKTON SAMPLES FROM FISH LAKE
31 AUGUST 1993

Zooplankton Samples (Vertical Hauls)	Fish Lake					Pooled	
	1	2	3	4	5	6	Sample
Chironomus sp			1				1
Microtendipes sp				1			1
Cricotopus sp			1				1
Chaoborinae							
Chaoborus sp	12	3	6	6	11	6	44
Hydracarinae							
Unionicola sp			1	1		1	3
Sperchon	1	3		1	1		6
Ostracoda		1					1
Copepoda							
Calanoida, unid J/D	480	272	304	520	784	432	2792
Diaptomus sp	728	256	520	432	704	520	3160
Epischura nevadensis		8	8	24	32	16	88
Cyclopoida, unid J/D	24	8	24	8	16	32	112
Eucyclops (phaleratus?)	152	242	344	224	216	224	1402
Cyclops (exilis?)	24	120	160	144	144	120	712
Cyclops (bicolor?)			3				3
Cladocera							
Ceriodaphnia sp					1		1
Daphnia pulex	1700	2200	3300	3300	3400	2300	16200
Daphnia rosea	4300	5400	6600	7700	7900	5300	37200
Total individuals	7421	8513	11272	12361	13209	8951	61727
Total species	9	11	13	12	11	10	17
Shannon–Wiener Diversity Index	1.187	1.035	1.106	1.045	1.127	1.159	1.115

TASEKO MINES LIMITED – FISH LAKE PROJECT
ZOOPLANKTON SAMPLES FROM LITTLE FISH LAKE
30 AUGUST 1993

Zooplankton Samples (Vertical Hauls)	Little Fish Lake					Pooled	
	1	2	3	4	5	6	Sample
Orthocladinae							
Procladius sp			1				1
Chaoborinae							
Chaoborus sp	9	7	6	13	33		68
Coleoptera							
Staphylinidae		1					1
Hydracarinae							
Unioncola sp		4			1		5
Ostracoda			1		1		2
Copepoda							
Calanoida, unid J/D	60	80	56	24	56	40	316
Diaptomus sp	320	520	496	256	256	480	2328
Epischura nevadensis	95	64	112	80	88	80	519
Cyclopoida, unid J/D	105	136	16	16	24	8	305
Eucyclops (phaleratus?)	496	920	688	576	328	320	3328
Cyclops (exilis?)		1					1
Cyclops (bicolor?)		2		2	2	8	14
Cladocera unid J/D							
Chydorus sphaericus				1			1
Daphnia pulex	500	600	600	800	1000	600	4100
Daphnia rosea	3000	4600	3100	4600	5800	3400	24500
Mollusca, Bivalvia							
Pisidium sp			1				1
Total individuals	4585	6935	5077	6368	7589	4936	35490
Total species	8	12	11	10	11	9	16
Shannon–Wiener Diversity Index	1.181	1.134	1.217	0.95	0.857	1.044	1.069

TASEKO MINES LIMITED – FISH LAKE PROJECT
ZOOPLANKTON SAMPLES FROM WASP LAKE
30 AUGUST 1993

Zooplankton Samples (Vertical Hauls)	Wasp Lake					Pooled	
	1	2	3	4	5	6	Sample
Hemiptera							
Graptocorixa sp	1	2					3
Chironomidae adult						1	1
Chironominae							
Chironomus sp	5	2					7
Glyptotendipes sp	7	1					8
Microtendipes sp	1	1					2
Tanytarsus sp	5	1	1				7
Orthocladinae							
Cricotopus sp	1						1
Eukeifferiella sp	2						2
Tanypodinae							
Procladius sp	3						3
Thienemanniella sp	5						5
Chaoborinae							
Chaoborus sp	38	30	30	20	10	1	129
Hydracarinae							
Unioncola sp	2				2	1	5
Sperchon	1						1
Gammaridea							
Crangonyx sp	33	5	1	1	3	5	48
Hyaella azteca	2	3	2	1			8
Ostracoda							
	11	2					13
Copepoda							
Calanoida, unid J/D	9	12	6	8	5	32	72
Diaptomus sp	1	6	32	46	11	64	160
Epischura nevadensis		5	6	26	18	43	98
Cyclopoida, unid J/D	5	3	2	1		5	16
Eucyclops (phaleratus?)	6	10	2	1		2	21
Cyclops (exilis?)	61	8			4	1	74
Eucyclops sp	7	1			2	3	13
Acrocyclops albidus	2	1			1		4
Cyclops (bicolor?)	2	3					5
Cladocera unid J/D							
	2		1	2		2	7
Daphnia parvula						2	2
Daphnia pulex	1		1	3		5	10
Daphnia rosea				7	3	4	14
Mollusca, Bivalvia							
Pisidium sp	12	2	1				15
Gastropoda							
Physa gyrina			1				1
Valvata sincera		1	1				2
Oligochaeta, Naididae							
Chaetogaster sp	1						1
Nematoda							
		3					3
Porifera							
Spongilla lacustris		1					1
Total individuals	226	103	87	116	59	171	762
Total species	28	23	14	12	10	15	35
Shannon–Wiener Diversity Index	2.491	2.527	1.723	1.687	1.969	1.774	2.574

Depth of haul	Replicates					6 Pooled Sample	
	1	2	3	4	5		
	8.5 m	8.5 m	8.5 m	8.2 m	8.2 m	8.2 m	
Hemiptera							
Corixidae, <i>Graptocorixa</i> sp	2	1	1		1		5
Gammaridea							
<i>Hyalella azteca</i>	57	44	25	30	99	70	325
Cladocera							
<i>Bosmina longirostris</i>		4	4				8
<i>Daphnia schodleri</i>		16		4	116	48	184
<i>Sida crystalina</i>	11824	8400	7664	1504	7392	12000	48784
Copepoda: Calanoida							
Copepodids	228	192	208	56	144	224	1052
<i>Diaptomus leptopus</i>	1520	1600	1680	312	2608	2000	9720
Copepoda: Cyclopoida							
<i>Cyclops (bicuspidatus)</i>	256	352	352	220	496	832	2508
Total Individuals	13887	10609	9934	2126	10856	15174	62586
Total Species	6	8	7	6	7	6	8
Shannon—Wiener Diversity Index	0.544	0.692	0.719	0.929	0.895	0.717	0.727

TASEKO MINES LIMITED – FISH LAKE PROJECT
ZOOPLANKTON SAMPLES FROM SLIM LAKE
23 AUGUST 1994

Depth of haul	Replicates						6 Pooled Sample
	1	2	3	4	5	6	
	13.0 m	13.0 m	13.5 m	7.2 m	2.8 m	8.2 m	
Chironomidae, unid Juv				4			4
Chaoborinae							
Chaoborus sp	252	234	282	115	12	164	1059
Hemiptera							
Notonectidae, Buenoa sp	1		1				2
Corixidae, Graptocorixa sp						1	1
Gammaridea							
Gammarus lacustris	2	4	3	7		1	17
Cladocera							
Ceriodaphnia (reticulata)	20		12	8		4	44
Daphnia schodleri	424	540	296	1076	376	436	3148
Sida crystalina				16	2	4	22
Copepoda: Calanoida							
Copepodids	156	150	172	140	108	164	890
Diaptomus leptopus	920	1194	1108	2748	474	1404	7848
Diaptomus (trybomi or gracilis)				4			4
Copepoda: Cyclopoida							
Cyclops (bicuspidatus)	8	48	64	108	48	40	316
Total Individuals	1783	2170	1938	4226	1020	2218	13355
Total Species	8	6	8	10	6	9	12
Shannon–Wiener Diversity Index	1.259	1.196	1.26	0.99	1.17	1.097	1.168

TASEKO MINES LIMITED – FISH LAKE PROJECT
ZOOPLANKTON SAMPLES FROM VICK LAKE
25 AUGUST 1994

Depth of haul	Replicates						6 Pooled Sample
	1	2	3	4	5	6	
	3.4 m	3.4 m	3.4 m	3.9 m	3.9 m	3.9 m	
Chaoborus sp	29	59	37	100	1	91	317
Neocorixa sp			1		1	2	4
Hyalella azteca	24	11	14	31	50	33	163
Candona s				1			1
Cypria sp					1		1
Daphnia pulex	776	1512	816	984	366	436	4890
Daphnia schodleri	48						48
Sida crystalina			1				1
Copepodids	92	168	16	172	4	56	508
Diaptomus (trybomi or gracilis)	356	352	124	252	2	114	1200
Cyclops (bicuspidatus)		4					4
Sphaerium sp				2			2
Total Individuals	1325	2106	1009	1542	425	732	7139
Total Species	6	6	7	7	7	6	12
Shannon–Wiener Diversity Index	1.128	0.878	0.689	1.098	0.492	1.21	1.02