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**April 9, 2014**

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Environment Canada  
401 Burrard Street  
Vancouver, British Columbia  
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**Re: Summary of *in situ* and analytical water quality data collected as part of the Burnaby Lake coal recovery program (updated to April 4, 2014)**

## **Introduction**

This letter summarizes *in situ* and analytical water quality data collected between February 28 and April 4, 2014<sup>1</sup> as part of the Burnaby Lake coal recovery program, following a CP train derailment involving three cars of metallurgical coal which occurred at mile 122.7 of CN's Yale Subdivision on January 11, 2014. Coal recovery was completed the afternoon of April 1, 2014, with demobilization beginning the following day. The final water quality sampling was completed on the morning of April 4, 2014. Water quality data collected on the day of the derailment (January 11, 2014) and during the initial emergency response program are provided in Attachment 1 for information purposes. These data were submitted to the Ministry of Forests, Lands and Natural Resources Operations (MFLNRO) on January 23, 2014.

Coal recovery Burnaby Lake and Silver Creek was undertaken by Quantum Murray LP (Quantum) with a vac-truck system. Briefly, the coal/water slurry was vacuumed off the lake / stream bed and discharged into drying bins for product separation. The water was pumped from these bins to a treatment system including (in order of components): 100 micron bag filter, pH adjustment box (#1), 2 chitosan floc belts, four – 5,000 gallon settling tanks, sand filter system (20 micron) additional bag filter (5 microns), two series of carbon vessels (total of four) and pH adjustment box (#2) (Figure 1). The

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<sup>1</sup> *In situ* data collection with Sondes February 28 to April 4, 2014 are included herein. Total and dissolved metals, as well as L/HEPH/PAH data from the April 4, 2014 analytical sampling event are included in this report. The results for the remaining parameters (nutrients, alkalinity, sulphide, etc.) will be available on April 11, 2014.

treated water was discharged into Burnaby Lake approximately 100 m upstream of the Cariboo Dam.

## Sampling locations and strategies

Triton Environmental Consultants (Triton) collected *in situ* and analytical data at multiple locations up and down stream of the coal recovery area. These locations included three (3) fixed stations (YSI Model 556 multi-probe system (MPS) - 6920-V2 Sonde), (including sites up and downstream of coal recovery) as well as locations sampled opportunistically based on specific recovery tasks and / or field observations. A combination of *in situ* and analytical data were collected at the fixed stations (Table 1, Figure 2).

**Table 1. Water quality sampling stations**

Location	Fixed station	Fixed station ID	Periodic monitoring station - during coal recovery	Waterbody name	Up or downstream of coal recovery operation	Up or down stream of derailment site in CN ROW
80 m upstream of the coal recovery area / turtle beach (control)	Y - Feb 28 to Mar 21	Burnaby Lake u/s - Site 3	-	Burnaby Lake	Upstream	Upstream
1 m upstream of working area (control)	-	-	Y	Burnaby Lake	Upstream	Upstream
Inside the coal recovery area ( <i>multiple stations based on tasks and observations</i> )	-	-	Y	Burnaby Lake & Silver Creek	-	Downstream
Water treatment system discharge - sampling port after the carbon vessels	Y	Treated discharge	-	Water treatment system	Downstream	Downstream
5 m downstream of the treated discharge	-	-	Y	Burnaby Lake	Downstream	Downstream
100 m upstream of the Cariboo dam	Y Feb 28 to Apr 4	Burnaby Lake d/s - Site 1	-	Burnaby Lake	Downstream	Downstream
City of Burnaby storm sewer outfall (where Silver Creek daylights)	-	-	Y	Silver Creek	Upstream	Upstream
Cariboo Business Park driveway access	Y - Feb 28 to Mar 21	Silver Creek - Site 2	-	Silver Creek	Upstream	Downstream
Pedestrian Footbridge in Burnaby Lake Park	-	-	Y	Silver Creek	Upstream	Downstream

*In situ* data collection focused on temperature, turbidity, conductivity and pH, although dissolved oxygen (DO), salinity and ORP were also recorded. A combination of Sondes (YSI) Model 556 multi-probe system - 6920-V2 Sonde) and hand-held meters (YSI Professional Plus, Hanna Instruments – Model HI 98129, LaMotte 2020we Turbidimeter) were used. The Sondes collected measurements every 30 minutes (data loggers) and data were downloaded twice weekly<sup>2</sup>. The Sonde data were used to confirm the water treatment system performance. The hand-held meters were used to opportunistically collect data in response to site-specific observations and/or changes in coal recovery methods, success, etc.

Temperature was monitored as part of the Western Painted Turtle (*Chrysemys picta bellii*) and amphibian salvage programs<sup>3</sup>. Turbidity, conductivity and pH were monitored to evaluate treatment system performance. Water quality samples for laboratory analysis were collected from Silver Creek, the water treatment plant discharge and Burnaby Lake, upstream and downstream of the recovery area. Samples were submitted to CARO Analytical in Richmond, BC for analysis. The results from these samples were also used to evaluate treatment system performance and, on a preliminary basis, identify potential effects of the coal spill on water quality in the receiving environment. Analyzed parameters included:

- Alkalinity
- Chloride
- Hardness
- Extractable Petroleum Hydrocarbons
- Nutrients (NH<sub>3</sub>, NO<sub>3</sub>, NO<sub>2</sub>, C)
- pH
- Polycyclic Aromatic Hydrocarbons (PAH)
- Sulphate
- Sulphide
- Total and dissolved metals
- Total dissolved solids (TDS)
- Total suspended solids (TSS)

## Data analysis

The *in situ* and analytical data compiled as part of the coal recovery program were compared with available provincial and federal water quality guidelines as follows:

- BC Approved Water Quality Guidelines (*updated to 2014*)
- Compendium of Working Water Quality Guidelines (*updated to 2006*)
- Canadian Council of Ministers of the Environment (CCME) Water Quality Guidelines – Summary Table (*updated to 2014*)

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<sup>2</sup> The Silver Creek and Burnaby Lake u/s Sondes were onsite between February 28 and March 21, 2014. The Burnaby Lake d/s Sonde remained onsite for the duration of the coal recovery program (removed April 4, 2014).

<sup>3</sup> Temperatures impact turtle activity and amphibian breeding activity (i.e. increased activity at temperatures consistently >5°C)

## ***In situ* data – hand-held meters**

In situ data was collected with the hand held meters through April 1, 2014. The turbidity, pH and DO data collected with these meters generally complied with available provincial and federal water quality guidelines for the protection of freshwater aquatic life. These data indicate onsite mitigation measures (e.g., silt curtain, in-water silt fence isolation and water treatment) largely functioned as intended (Table 2).

### **pH**

Upon the water treatment plant initialization, the pH of the treated water at the carbon vessels (immediately prior to the discharge hose) was 9.68. As a result, the discharge was withheld until system adjustments could be made. Quantum re-circulated the water while system adjustments were made to lower pH. When the discharge of treated water was initiated, water quality was continuously monitored 5 m downstream of the discharge point. During the initial discharge, the highest pH recorded downstream of the treated discharge was 8.65. This measurement was collected at 12:15 p.m. on March 7, 2014. By 12:25 p.m. on the same date the pH dropped to 7.55. A total of three (3) pH measurements <6.5 were collected on March 27, 2014 with the handheld meters in Burnaby Lake d/s: 6.19, 6.40 and 6.41. The remaining pH measurements were ≥6.51.

### **Dissolved Oxygen**

The DO concentrations were above the provincial 5 mg/L minimum in the water column for all life stages (other than buried embryo / alevins) at all stations. Average DO levels in Silver Creek and Burnaby Lake were ≥ 10.41 mg/L; consistent with the CCME's minimum DO concentration of 9.5 mg/L for coldwater biota (early life stages).

### **Turbidity**

Turbidity data indicate elevated particulates in the isolated coal recovery area (up to 253 NTU), with low levels (maximum of 3.13 NTU) in the treated discharge. The maximum turbidity measured downstream of the coal recovery area was 17.8 NTU, compared with a maximum turbidity of 18.3 NTU in Silver Creek (upstream of the recovery area).

Table 2. *In situ* data – interim summary– hand-held meters – February 28 to April 1, 2014

Parameter	Burnaby Lake (u/s)	Silver Creek (u/s)	Inside coal recovery area	Treated discharge	Burnaby Lake (d/s)	BC Approved Water Quality Guidelines	CCME Water Quality Guidelines
pH	Avg 7.42 Min 7.21 Max 7.62	Avg 7.08 Min 6.59 Max 7.69	Avg 6.94 Min 6.43 Max 7.41	Avg 7.89 Min 6.6 Max 9.68	Avg 7.03 Min 6.19 Max 8.65	6.5 to 9 (unrestricted change in range)	6.5 to 9
DO mg/L	Avg 10.94 Min 10.28 Max 12.81	Avg 11.76 Min 10.39 Max 12.9	Avg 9.46 Min 8.07 Max 10.39	Avg 7.9 Min 5.67 Max 10.33	Avg 10.41 Min 7.56 Max 11.9	5 mg/L (minimum) for all life stages other than buried embryo / alevin  9 mg/L (minimum) for buried embryo / alevin	5.5 mg/L for warm water biota: other life stages  6.0 mg/L for warm water biota: early life stages  6.5 mg/L for cold water biota: other life stages  9.5 mg/L for cold water biota: early life stages
Turbidity (NTU)	Avg 3.24 Min 2.84 Max 3.44	Avg 5.9 Min 2.13 Max 18.3	Avg 18.88 Min 3.62 Max 253	Avg 2.58 Min 2.03 Max 3.13	Avg 5.03 Min 1.41 Max 17.8	Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters  Change from background of 10% when background is >50 NTU at any time during high flows or in turbid waters  Change from background of 5 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters	<b>Clear flow:</b> Maximum increase of 8 NTUs from background levels for a short-term exposure (e.g. 24h)  Maximum average increase of 2 NTUs from background levels for a longer term exposure (e.g. 30d).  <b>High flow or turbid waters:</b> Max increase of 8 NTU from background at any time when background levels are between 8 and 80 NTU  Should not increase > 10% of background, when background is > 80 NTU

## ***In situ* data from the Sondes**

The Sondes recorded data between February 28 and March 21 at the Silver Creek and Burnaby Lake u/s stations, and between February 28 and April 4 at the Burnaby Lake d/s station. The data collected from the Sondes also indicated compliance with available BC and CCME guidelines (Table 3).

### **pH**

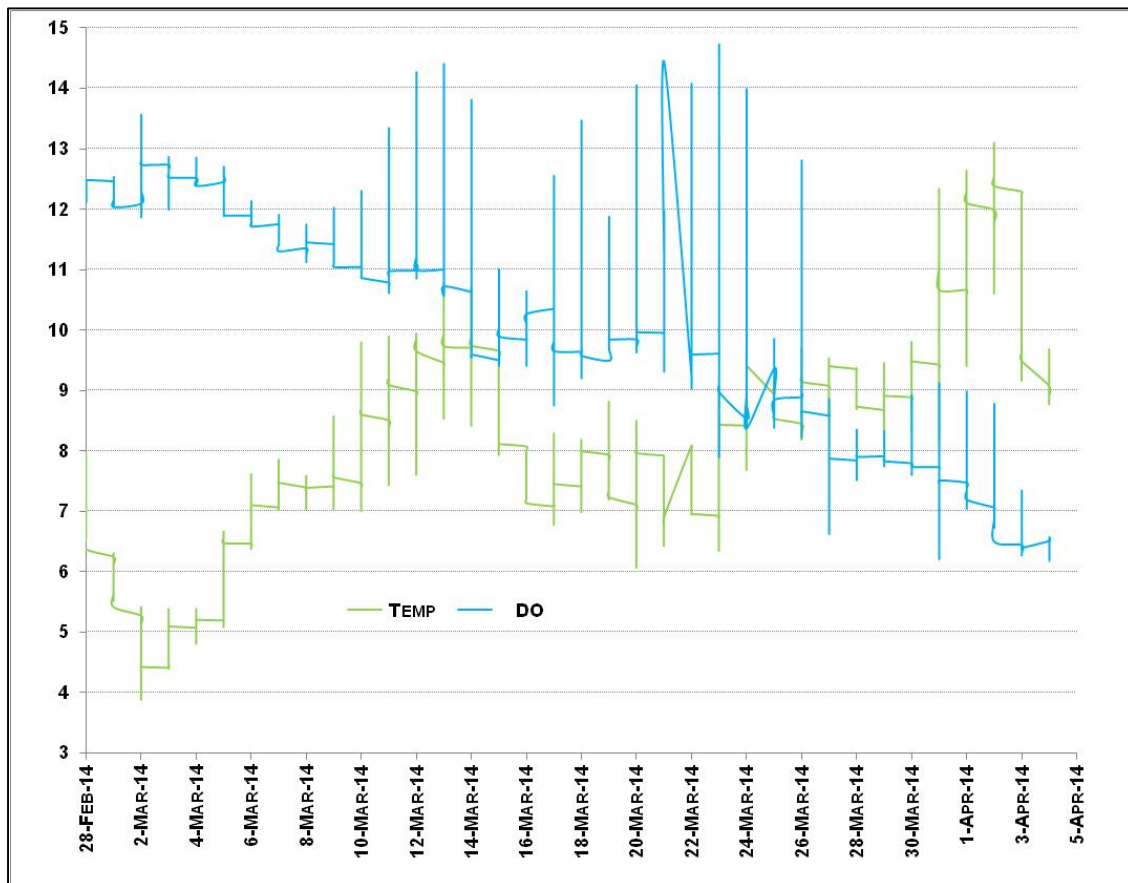
No pH measures  $\geq 9.0$  were recorded in Burnaby Lake and Silver Creek. The lowest pH (6.37) was recorded in Burnaby Lake upstream of the recovery operation, and is slightly below the acceptable CCME pH range of 6.5 to 9.0. A total of 39 pH measurements in the Burnaby Lake u/s dataset were  $<6.5$ , ranging from 6.37 to 6.49. The pH at Burnaby Lake d/s ranged from 6.68 to 7.19, with an average of 6.92. Silver Creek u/s of the recovery operation (but d/s of the derailment site) ranged from 6.82 to 7.24 and averaged 7.04. Burnaby Lake u/s reached a maximum of 7.13 and averaged 6.69.

### **Dissolved Oxygen**

The minimum DO concentration was 6.18 mg/L, recorded at the Burnaby Lake d/s station. This concentration was  $> 5$  mg/L instantaneous minimum for in the water column for all life stages (other than buried embryo/alevin). The Burnaby Lake d/s DO ranged from 6.18 mg/L to 14.67 mg/L and averaged 10.21 mg/L. DO in Silver Creek u/s of the recovery operations ranged from 12.48 mg/L to 15.74 mg/L, and averaged 14.15 mg/L. Finally, Burnaby Lake u/s averaged 12.37 mg/L and ranged from 10.23 mg/L to 18.63 mg/L.

Note the Silver Creek and Burnaby Lake u/s Sondes were removed on March 21, 2014, while the Burnaby Lake d/s station remained onsite into April and the onset of warmer weather. The water temperatures between February 28 and March 21 at these stations ranged from 3.26°C (Silver Creek) to 10.68°C (Burnaby Lake u/s) with average temperatures of 6.89°C and 7.80°C respectively. Between March 22 and April 4, 2014 the water temperatures at the Burnaby Lake d/s station averaged 9.3°C and ranged from 6.35°C to 13.09°C. Predictably, as water temperatures increased at the Burnaby Lake d/s station the DO levels decreased (See Chart 1).

**Chart 1. DO (mg/L) and water temperature at the Burnaby Lake d/s station between February 28 and April 4, 2014**



## Turbidity

The turbidity ranged from 2.5 NTU to 219.4 NTU in Burnaby Lake d/s and averaged 10.5 NTU. Similarly, the turbidity in Burnaby Lake u/s ranged from 3.3 NTU to 525.4 NTU and averaged 11.6 NTU. Finally, the turbidity at Silver Creek u/s of the recovery operations ranged from 1.5 NTU to 85.2 NTU and averaged 8.0 NTU. The induced turbidity >8 NTU during typical coal recovery working hours (08:00 to 17:00) at the Burnaby Lake d/s station, relative to the turbidity in Burnaby Lake u/s, ranged from 8.2 NTU to 38.4 NTU (Appendix 2). These exceedances were temporary and ranged in duration from <0.5 hours to 3 hours, but typically lasted for  $\leq 1$  hour. The maximum turbidity from all datasets (525.4 NTU) was recorded in Burnaby Lake upstream of the coal recovery operation. Ducks were observed foraging in the vicinity of this Sonde on multiple occasions and are the likely cause of this reading. Beaver (*Castor canadensis*), Canada goose (*Branta canadensis*) and painted turtle were also observed in close proximity to the Burnaby Lake d/s Sonde. Finally, the turbidity reached a maximum of 85.20 NTU in Silver Creek upstream of the coal recovery operation.

**Table 3. *In situ* data – collected with Sondes – February 28 to April 4, 2014**

Site ID	Location	Metric	Temp (C)	SpCond (us/cm)	Cond (us/cm)	TDS (g/L)	Sal (ppt)	DO (mg/L)	pH	Orp (mV)	Turbid (NTU)
Site 3 (n=975)	Burnaby Lake ~80 m upstream of confluence with Silver Creek	Avg	7.80	234	154	0.152	0.11	12.37	6.69	313.5	11.6
		Min	4.66	107	72	0.069	0.05	10.23	6.37	137	3.3
		Max	11.68	627	397	0.408	0.3	18.63	7.13	427.4	525.4 (A)
Site 2 (n=990)	Silver Creek maintstem d/s of Cariboo Business Park driveway	Avg	6.89	265	169	0.17	0.13	14.15	7.04	127.1	8.0
		Min	3.26	57	39	0.04	0.03	12.48	6.82	-10.0	1.5
		Max	9.27	7,843 (B)	4,729 (B)	5.10 (B)	4.30 (B)	15.74	7.24	300.8	85.2
Site 1 (n=1,618)	Burnaby Lake - downstream of confluence with Silver Creek + treated discharge	Avg	8.12	200	133	0.13	0.10	10.21	6.92	314.27	10.5
		Min	3.89	100	68	0.065	0.05	6.18	6.68	69.8	2.5
		Max	13.09	844	516	0.549	0.41	14.67	7.19	418.6	219.4 (C)

<sup>A</sup> This value is well above typical levels measured in Burnaby Lake u/s of the coal recovery area (March 16, 2014). This Sonde is located in an area frequented by ducks, which were observed foraging near the Sonde. This turbidity likely results from their foraging activity. Additional elevated turbidity measurements at this station on this date included: 209.7 NTU, 519.1 NTU and 175 NTU, between 09:30:40 and 12:00:40)

<sup>B</sup> These values occurred on March 2 during a 26.8 mm rain event (BURNABY SIMON FRASER U STN ) following a cold snap at the end of February 2014. Concurrent analytical data show elevated levels of chloride (>1,000 ppm) in the Silver Creek discharge, attributed to run off / road salt influences

<sup>C</sup> This value appears to be an anomaly in the dataset. It occurred at 00:00:40 on March 18, and was preceded by a value of 17.5 NTU (23:30:40 on March 17) and followed by a value of 33.6 NTU (00:30:40 on March 18). A beaver was observed in the general area during the night time turtle trap checks and may be the source of this spike. Ducks and geese were also observed foraging near this Sonde during the coal recovery program.

## Analytical data

Analytical data from Silver Creek, Burnaby Lake (u/s and d/s of the coal recovery area) and the treated discharge generally indicate compliance with provincial and/or federal water quality guidelines - with some exceptions shown in Tables 4, 5 and 6.



**Table 4. Exceedances of chloride, cadmium, copper, iron lead and zinc in analytical dataset**

Location	Chloride (mg/L)	Cadmium ug/L	Copper ug/L	Iron-T ug/L	Iron-D ug/L	Lead ug/L	Zinc ug/L
Site 1 – Burnaby Lake, D/S of coal recovery area	-	0.026 / 0.037 / 0.017 / 0.026	3.3 / 4.6 / 2.9 / 3 / 4.4 / 3.3	542 / 518 / 401 / 520 / 580 / 666	358	1.5 / 1.48	-
Site 1 – Burnaby Lake, D/S of coal recovery area – <i>total metals duplicates</i>	-	0.016 / 0.028	3 / 4.4 / 3.3	523 / 582 / 626	-	1.46	-
Site 3 – Burnaby Lake, U/S of coal recovery area	-	0.028 / 0.022	3.6 / 4.5 / 3 / 3.5	564 / 337 / 385 / 602	359	1.09	-
Site 3 – Burnaby Lake, U/S of coal recovery area – <i>total metals duplicate</i>	-	-	3.5	605	-	1.07	-
Site 2- Silver Creek @ Cariboo Business Park Driveway	1,010	0.311 / 0.036	16.3	1,780 / 354	-	7.17	103
Silver Creek @ City of Burnaby Outfall	-	0.018	-	333	-	-	-
Treated discharge	-	0.015	2.6	-	-	4.83	-
Treated discharge - <i>total metals duplicate</i>	-	0.014	-	-	-	4.74	-
<b>BC water quality guidelines</b>	<b>600 (max)</b>	<b>0.010 to 0.023</b>	<b>4.3 to 8.3</b>	<b>1,000</b>	<b>350</b>	<b>13.41 to 49.12</b>	<b>33</b>
<b>CCME water quality guidelines</b>	<b>120 (long term) 640 (short term)</b>	<b>0.09 to 1</b>	<b>2</b>	<b>300</b>	<b>-</b>	<b>≤1 to 1.91</b>	<b>30</b>

Exceedances of provincial and or federal guidelines for chloride and metals are summarized as follows:

- The chloride exceedance in Silver Creek at the Cariboo Business Park driveway occurred on March 2, 2014 during a 26.8 mm rain event after a cold snap at the end of February 2014. This value is assumed to reflect run off / road salt influences on water quality
- Exceedances of the provincial hardness based cadmium guidelines occurred at all stations, up and downstream of coal recovery areas and upstream of the derailment site
  - Cadmium levels at the Burnaby Lake u/s station were greater than or equal to levels at the Burnaby Lake d/s station for two concurrent sampling events

- Cadmium levels were lowest in the samples collected from the treated discharge (<0.002 ug/L to 0.015 ug/L)
- Exceedances of the CCME copper guideline (2 ug/L) occurred at all stations, except the treated discharge and the City's storm sewer outfall
  - One exceedance of the provincial copper guideline of 8.3 ug/L occurred in Silver Creek on March 2 (16.3 ug/L) during the 26.8 mm rain event. All other copper concentrations were below the provincial guideline values
- Exceedances of the CCME iron guideline (300 ug/L) occurred at all stations except the treated discharge
  - Only one exceedance of the provincial total iron guideline of 1,000 ug/L occurred in the analytical dataset in Silver Creek on March 2 (1,780 ug/L). All other iron concentrations were below the provincial guideline value
- Exceedances of the provincial dissolved iron guideline (350 ug/L) occurred in the Burnaby Lake u/s and d/s samples (359 ug/L and 358 ug/L respectively)
- Exceedances of the CCME hardness-based lead guidelines ( $\leq 1$  ug/L to 1.91 ug/L) occurred at all stations except the City storm sewer outfall
  - Silver Creek (7.17 ug/L)
  - Burnaby Lake d/s station (1.5 ug/L; 1.46 ug/L; 1.48 ug/L)
  - Burnaby Lake u/s station (1.09 ug/L and 1.07 ug/L)
  - Treated discharge (4.83 ug/L and 4.74 ug/L)
    - Remaining lead concentrations were <1 ug/L
    - No exceedances of the provincial hardness-based lead guidelines were observed
- Exceedances of both the CCME and provincial zinc guidelines occurred once in Silver Creek on March 2, 2014. Remaining values at all stations were below guideline values ( $\leq 33$  ug/L)

A summary of detected metals concentrations for parameters with federal and / or provincial guideline values is provided in Table 5.

Table 5. pH, hardness and detected in metals in the Silver Creek and Burnaby Lake datasets

Parameter	Burnaby Lake u/s - Site 3 (n=5)			Silver Creek - Site 2 in Cariboo Business Parkand City Storm Sewer Outfall (n=2)			Silver Creek - Site 2 in Cariboo Business Parkand City Storm Sewer Outfall (n=1)	Burnaby Lake d/s - Site 1 (n=9)			BC Approved / Working Water Quality Guidelines	CCME Water Quality Guidelines
	Avg	Min	Max	Avg	Min	Max		Avg	Min	Max		
pH	6.97	6.87	7.06	7.28	7.25	7.30	7.35	7.04	6.90	7.13	6.5 to 9	
Hardness, T CaCO <sub>3</sub>	43.1	30.5	55.9	48	30	67	31	40.0	29.8	55.3	-	-
Aluminum, D (ug/L)	40	29	52	33	21	44	34	34	26	42	100 @ ph >6.5	
Iron, D (ug/L)	271	152	358	189	166	211	210	288	165	358	350	-
Antimony, T (ug/L)	0.40	0.40	0.40	0.5	0.2	0.8	0.10	0.4	0.3	0.4	20	-
Arsenic, T (ug/L)	0.66	0.60	0.72	0.975	0.46	1.49	0.45	0.66	0.52	0.77	5	5
Barium, T (ug/L)	18.3	14.6	27.2	52.6	20.4	84.7	21.9	18.1	15.8	26.7	1,000	-
Beryllium, T (ug/L)	0.01 (detected in 1 of 5 samples)			0.03	0.03	0.03	<i>Not detected</i>	0.01 (detected in 1 of 9 samples)			5.3	-
Boron, T (ug/L)	12	9	14	8	6	9	5	11	7	14	1,200	1,500 to 29,000
Cadmium, T (ug/L)	0.019	0.014	0.028	0.174	0.036	0.311	0.018	0.021	0.013	0.037	0.01 to 0.023	0.09 to 1
Chromium, T (ug/L)	0.5	0.4	0.7	1.4	0.3	2.4	0.2	0.5	0.4	0.7	8.9 (CrIII) / 0.1 (CrVI)	
Cobalt, T (ug/L)	0.15	0.14	0.17	0.37	0.12	0.62	0.1	0.19	0.15	0.28	4 to 110	
Copper, T (ug/L)	3.5	3.0	4.5	9.1	1.9	16.3	1.6	3.6	2.9	4.6	4.3 to 8.3	2
Iron, T (ug/L)	490	337	582	1,067	354	1,780	333	551	401	666	1,000	300
Lead, T (ug/L)	0.91	0.84	0.95	3.77	0.37	7.17	0.27	1.06	0.66	1.50	13.41 to 49.12	≤1 to 1.91
Lithium, T (ug/L)	0.35	0.29	0.47	1.11	0.15	2.07	0.14	0.32	0.26	0.44	11.4 to 870	-
Manganese, T (ug/L)	51.8	31.7	70.4	51.05	31.7	70.4	35.3	56.4	46.3	68.0	807 to 1,279	-
Mercury, T (ug/L)	<i>Not detected</i>			0.02 (detected in 1 of 2 samples)			<i>Not detected</i>	<i>Not detected</i>			0.00125 to 0.02	0.026 (Hg) / 0.004 (MeHg)
Molybdenum, T (ug/L)	0.60	0.39	0.81	2.06	1.57	2.55	2.93	0.75	0.52	1.13	1,000 to 2,000	73
Nickel, T (ug/L)	0.56	0.49	0.62	0.87	0.30	1.44	0.25	0.57	0.50	0.64	25 to 65	25 to 70.58
Potassium, T (ug/L)	1,488	1,140	2,140	1,428	805	2,050	750	1,381	1,160	2,090	373,000 to 432,000	-

**Table 5. pH, hardness and detected in metals in the Silver Creek and Burnaby Lake datasets**

Parameter	Burnaby Lake u/s - Site 3 (n=5)			Silver Creek - Site 2 in Cariboo Business Park and City Storm Sewer Outfall (n=2)			Silver Creek - Site 2 in Cariboo Business Park and City Storm Sewer Outfall (n=1)	Burnaby Lake d/s - Site 1 (n=9)			BC Approved / Working Water Quality Guidelines	CCME Water Quality Guidelines
	Avg	Min	Max	Avg	Min	Max		Avg	Min	Max		
Selenium, T (ug/L)	0.1 (detected in 1 of 5 samples )			0.3 (detected in 1 of 2 samples )			<i>Not detected</i>	0.1 (detected in 2 of 9 samples )			2	1
Thallium, T (ug/L)	<i>Not detected</i>			0.007 (detected in 1 of 2 samples)			<i>Not detected</i>	<i>Not detected</i>			1.7 to 6.3	0.8
Titanium, T (ug/L)	5.0	3.6	7.9	23.45	4.10	42.80	4.50	5.7	3.3	10.6	2,000 to 4,600	-
Uranium, T (ug/L)	0.02	0.02	0.03	0.04	0.01	0.06	0.01	0.02	0.02	0.03	300 to 500	15 to 33
Vanadium, T (ug/L)	0.72	0.60	0.90	1.60	0.50	2.70	0.50	0.74	0.60	1.10	6 to 20	-
Zinc, T (ug/L)	17	9	27	57	11	103	8	13	10	20	33	30

Remaining inorganic parameters were below available guidelines (Appendix 1). EPH were detected once in the Silver Creek dataset at 1,280 ug/L (EPH10-19) and 671 ug/L (EPH19-32) during the March 2 rain event. EPH were also detected in one sample from the Burnaby Lake d/s station, at the detection limit (100 ug/L) on March 28, 2014. Remaining EPH values were below detection (<100 ug/L). PAHs were detected in one sample, collected in Silver Creek on March 2, 2014. PAHs were not detected at the Burnaby Lake stations and were not detected in the treated discharge. The PAH data from the Silver Creek dataset indicate one (1) measured exceedance of provincial and/or CCME guidelines for four (4) PAHs: benzo (a) anthracene, benzo (a) pyrene, fluoranthene and pyrene (Table 6).

**Table 6. PAHs in Silver Creek sample, March 2 2014**

Location	Benzo (a) anthracene	Benzo (a) pyrene	Fluoranthene	Pyrene
Silver Creek @ Cariboo Business Park Driveway	0.02	0.02	0.09	0.12
<b>BC water quality guidelines</b>	<b>0.1</b>	<b>0.01 (chronic)</b>	<b>4 (chronic) 0.1 (phototoxic)</b>	<b>0.02 (phototoxic)</b>
<b>CCME water quality guidelines</b>	<b>0.012</b>	<b>0.015</b>	<b>0.04</b>	<b>0.025</b>

## Conclusions

Overall, *in situ* and analytical data collected to date demonstrate general compliance with BC (provincial) and CCME (federal) water quality guidelines:

- pH > 9.0 was recorded in treated discharge on system initialization, but did not result in pH levels above 9.0 at the Burnaby Lake d/s station
- pH at the Burnaby Lake d/s station was <6.5 on three (3) occasions measured with handheld meters. Remaining values were ≥6.5.
- pH at the Burnaby Lake u/s station was <6.5 on 39 occasions measured with the Sonde, ranging from 6.37 to 6.49. Remaining values were ≥6.5
- Minimum DO levels were > 5 mg/L (instantaneous minimum for life stages other than buried embryo/alevin) at all stations. Similarly, average concentrations >9 mg/L (instantaneous minimum for buried embryo/alevin) occurred at all stations (using the Sonde dataset)
- Total cadmium levels above the provincial hardness-based guidelines occurred at all sampling stations upstream and downstream of coal recovery; indicating periodic, naturally elevated levels (relative to provincial guideline values)
- Total copper levels exceeded the CCME guideline of 2 ug/L at all stations, upstream and downstream of the coal recovery area, indicating periodic, naturally elevated levels (relative to CCME guidelines)
  - One exceedance of the provincial copper guideline occurred in the dataset (at Silver Creek, March 2). No exceedances of provincial copper guidelines were noted in the u/s and d/s Burnaby Lake stations
- Total lead levels exceeded the CCME guidelines at least once in Silver Creek (upstream of the coal recovery area), in Burnaby Lake (u/s and d/s of the recovery area) and in the treated discharge. However, there were no exceedances of the provincial lead guidelines in the analytical dataset. Concentrations of <1 ug/L occurred in at all stations, with values <1 ug/L ranging from 0.17 ug/L in the treated discharge to 0.95 ug/L at the Burnaby Lake d/s station

- One chloride and one zinc guideline exceedance occurred at Silver Creek during the March 2 rain event. Otherwise remaining values for these parameters were below guideline values
- PAH were detected once in the Silver Creek dataset during the March 2, 2014 rain event. Otherwise, no PAH were detected
- EPH were detected once in the Silver Creek dataset at 1,280 ug/L (EPH10-19) and 671 ug/L (EPH19-32) during the March 2 rain event. Otherwise, EPH were not detected in Silver Creek
- EPH were detected once, at the 100 ug/L detection limit, at the Burnaby Lake d/s station (March 28). Otherwise, EPH were not detected at the Burnaby Lake stations

## Closing

If you have any questions, comments or concerns please feel free to contact the undersigned at 250-318-0247, 604-790-6915 or [Karla.Graf@cn.ca](mailto:Karla.Graf@cn.ca)

Yours truly,



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## References and information sources

CCME (2014). Water Quality Guidelines for the Protection of Aquatic Life – Summary Table

<http://st-ts.ccme.ca/?chems=all&chapters=1>

MOE (2006) A Compendium of Working Water Quality Guidelines

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/working.html>

MOE (2001) Water Quality Criteria for Aluminum

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/aluminum/aluminum.html>

MOE (1981) Ambient Water Quality Criteria for Arsenic

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/arsenic/index.html>

MOE (2003) Ambient Water Quality Criteria for Boron

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/boron/boron.html>

MOE (2003) Ambient Water Quality Criteria for Chloride

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/chloride/chloride.html>

MOE (1981) Ambient Water Quality Criteria for Cobalt

[http://www.env.gov.bc.ca/wat/wq/BCguidelines/cobalt/cobalt\\_over.html](http://www.env.gov.bc.ca/wat/wq/BCguidelines/cobalt/cobalt_over.html)

MOE (1997) Water Quality Criteria for Copper – Overview Report

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/copper/copper.html>

MOE (1997) Ambient Water Quality Criteria for Dissolved Oxygen

[http://www.env.gov.bc.ca/wat/wq/BCguidelines/do/do\\_over.html](http://www.env.gov.bc.ca/wat/wq/BCguidelines/do/do_over.html)

MOE (2008) Ambient Aquatic Life Guidelines for Iron

[http://www.env.gov.bc.ca/wat/wq/BCguidelines/iron/iron\\_overview.pdf](http://www.env.gov.bc.ca/wat/wq/BCguidelines/iron/iron_overview.pdf)

MOE (1987) Water Quality Criteria for Criteria for Lead

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/lead/lead.html>

MOE (2001) Ambient Aquatic Life Guidelines for Manganese

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/manganese/manganese.html>

MOE (2001) Ambient Aquatic Life Guidelines for Mercury

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/mercury/mercury.html>

MOE (1986) Water Quality Criteria for Criteria for Molybdenum

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/molybdenum/molybdenum.html>

MOE (2009) Water Quality Guidelines for Nitrogen (Nitrate, Nitrite, and Ammonia)

<http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.do;jsessionid=knxMTzVbYJgYJDS1BxBbHJrdzqyVJ4XXLTGzF93q0T9RTRkN3whz!-270631733?subdocumentId=9021>

MOE (1993) Ambient Water Quality Criteria for Polycyclic Aromatic Hydrocarbons (PAHs) [http://www.env.gov.bc.ca/wat/wq/BCguidelines/pahs/pahs\\_over.html](http://www.env.gov.bc.ca/wat/wq/BCguidelines/pahs/pahs_over.html)

MOE (2001) Ambient Aquatic Life Guidelines for Selenium

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/selenium/selenium.html>

MOE (1996) Ambient Aquatic Life Guidelines for Silver

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/silver/silver.html>

MOE (2013) Ambient Water Quality Guidelines For Sulphate

[http://www.env.gov.bc.ca/wat/wq/wq\\_guidelines.html](http://www.env.gov.bc.ca/wat/wq/wq_guidelines.html)

MOE (2001) Ambient Water Quality Guidelines (Criteria) for Turbidity, Suspended and Benthic Sediments

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/turbidity/turbidity.html>

MOE (1999) Ambient Water Quality Guideline for Zinc

<http://www.env.gov.bc.ca/wat/wq/BCguidelines/zinc/zinc.html>



**Attachment 1: Water Quality data collected during initial coal recovery efforts / emergency response in January 2014 -- Mile 122.7 Derailment – Summary of in situ and analytical water quality data from Silver Creek and the Brunette River-January 11 and 12, 2014 (Triton, January 23, 2014)**

**Table A1. *In situ* data collected on January 11 and 12, 2014**

Date	Site #	Time	Watercourse	Upstream / downstream of derailment	Turbidity NTU	Comments
11-Jan-14	1	14:35	Silver Creek	Upstream	14.30	No work underway
12-Jan-14	1	09:06	Silver Creek	Upstream	7.23	
12-Jan-14	1	09:25	Silver Creek	Upstream	10.16	Remainder of beaver dam being lowered
12-Jan-14	1	09:52	Silver Creek	Upstream	6.49	
12-Jan-14	1	09:54	Silver Creek	Upstream	6.62	
12-Jan-14	1	12:46	Silver Creek	Upstream	6.23	
11-Jan-14	2	14:50	Silver Creek	Downstream	13.40	No work underway
11-Jan-14	2	14:50	Silver Creek	Downstream	13.20	No work underway
12-Jan-14	2	08:55	Silver Creek	Downstream	33.80	
12-Jan-14	2	09:15	Silver Creek	Downstream	24.30	Rock placement in washout area
12-Jan-14	2	10:08	Silver Creek	Downstream	16.50	
12-Jan-14	2	10:10	Silver Creek	Downstream	14.20	
12-Jan-14	2	10:51	Silver Creek	Downstream	14.60	Rock placement in washout area
12-Jan-14	3	06:32	Silver Creek	Downstream	8.89	Remainder of beaver dam being lowered
12-Jan-14	3	07:30	Silver Creek	Downstream	6.82	
12-Jan-14	3	09:00	Silver Creek	Downstream	30.00	
12-Jan-14	3	10:48	Silver Creek	Downstream	8.94	
12-Jan-14	5	13:41	Silver Creek	Downstream	9.15	
12-Jan-14	6	13:20	Brunette River	Downstream	9.16	
12-Jan-14	6	13:26	Brunette River	Downstream	13.80	

*Site 1: Upstream of derailment, Site 2: Downstream of beaver dam at derailment/washout site*

*Site 3: At Cariboo Road whistle sign, roughly 100 m downstream of derailment*

*Site 4: Upstream of culvert at Cariboo Business Park driveway*

*Site 5: Footbridge over Silver Creek upstream of confluence with Burnaby Lake, Site 6: Brunette River downstream of Cariboo Dam*

**Table A2. *In situ* data collected on January 11 and 12, 2014**

Date	Site #	Time	Watercourse	Upstream / downstream of derailment	Temp (°C)	pH	Conductivity (µS)
11-Jan-14	3	15:25	Silver Creek	Downstream	7.1	7.33	60.0
11-Jan-14	4	16:00	Silver Creek	Downstream	7.1	6.79	64.3
11-Jan-14	4	16:35	Silver Creek	Downstream	7.1	6.84	84.7

*Site 3: At Cariboo Road whistle sign, 100m downstream of derailment*

*Site 4: Upstream of culvert at Cariboo Business Park driveway*

**Table A3. Analytical data collected on January 11 and 12, 2014**

Date	Sample ID	Time	Watercourse	Upstream / downstream of derailment	turbidity (NTU)	TSS (mg/L)	Comment
Jan 11/14	KG1	16:40	Silver Cr.	Downstream	26.9	74	Car recovery underway; no access to derailment site or upstream sampling location
Jan 11/14	KG2	16:46	Silver Cr.	Downstream	25.9	40	
Jan 11/14	SCFB1	18:10	Silver Cr. (Footbridge)	Downstream	93.7	253	-
Jan 12/14	u/s 1	09:52	Silver Cr.	Upstream	8.2	23	-
Jan 12/14	u/s 2	09:54	Silver Cr.	Upstream	12.3	17	Duplicate / QA sample of u/s 1
Jan 12/14	d/s 1	10:08	Silver Cr.	Downstream	45.8	97	-
Jan 11/14	FISHWAY1	17:50	Brunette R.	Downstream	210	267	Samples collected from Fishway and Brunette mainstem d/s of the Cariboo dam
Jan 11/14	FISHWAY2	18:20	Brunette R	Downstream	68.3	60	
Jan 11/14	BRM1	17:50	Brunette R	Downstream	80.3	90	
Jan 11/14	BRM2	18:20	Brunette R	Downstream	23.8	25	
Jan 12/14	FISHWAY 1A	13:15	Brunette R	Downstream	21.3	36	-
Jan 12/14	FISHWAY 2A	13:15	Brunette R	Downstream	21.6	38	Duplicate / QA sample collected concurrently with FISHWAY 1A
Jan 12/14	BRMA	13:20	Brunette R	Downstream	36.1	58	-
Jan 12/14	BRMB	13:20	Brunette R	Downstream	48.5	58	Duplicate / QA sample collected concurrently with BRMA

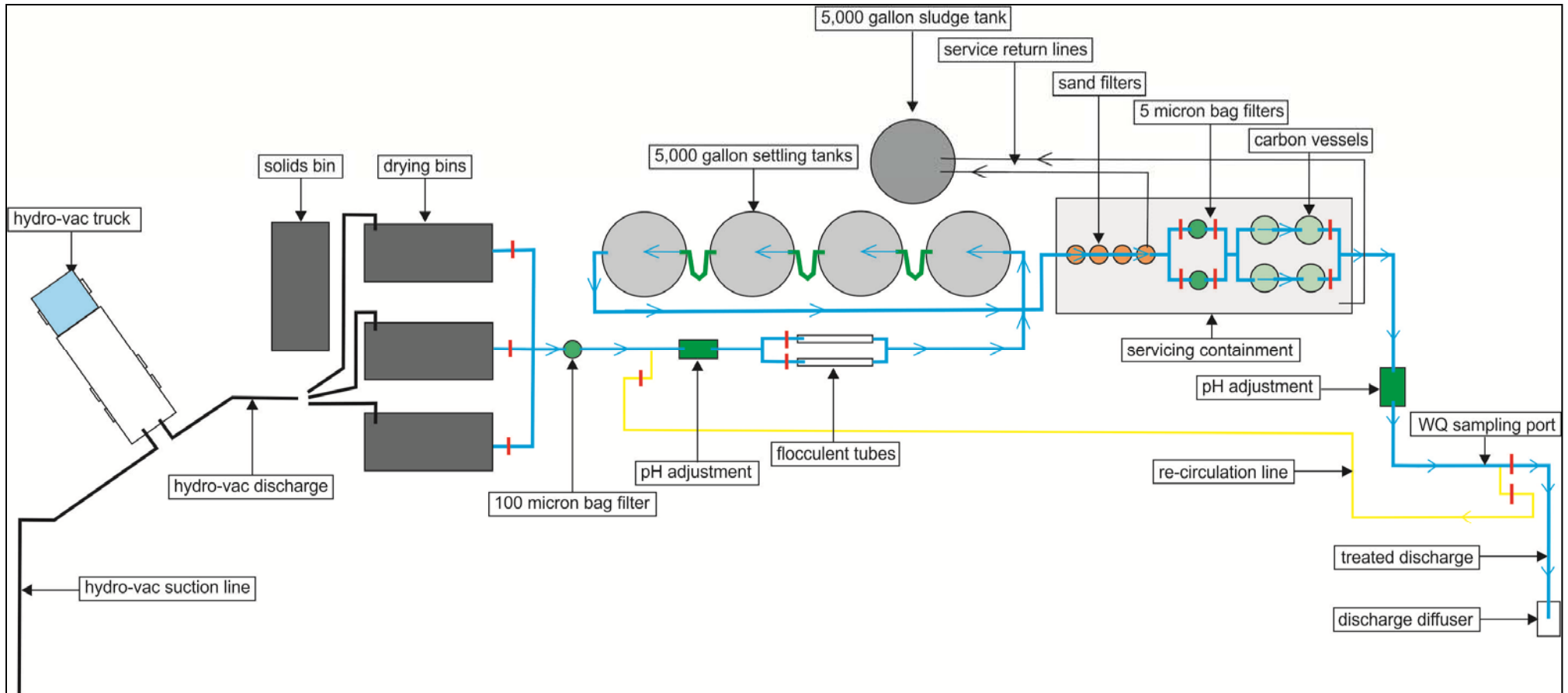
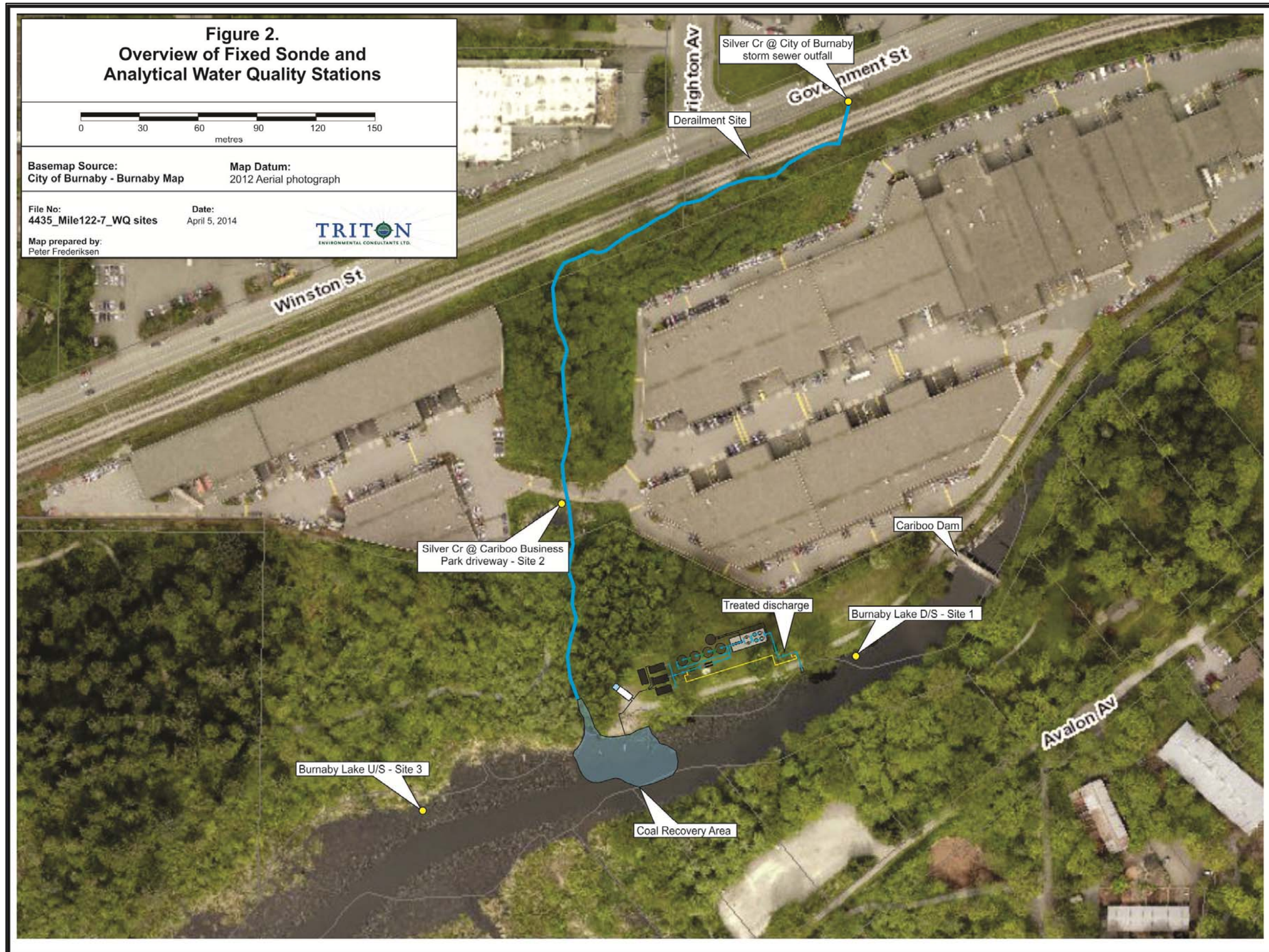


Figure 1. Treatment system schematic



Appendix 1: ANALYTICAL DATA - BURNABY LAKE COAL RECOVERY PROGRAM

Parameter	Units	Detection limits	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ City of Burnaby Outfall - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Treated discharge	Treated discharge - total metals duplicate	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Treated discharge	Site 1 - D/S of coal recovery area	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of confluence with Silver Creek - total metals duplicate	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	Site 3 - U/S of coal recovery area and derailment	Site 3 - U/S of coal recovery area and derailment - total metals duplicate	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	BC Approved Water Quality Guidelines - Aquatic life	BC Working Water Quality Guidelines - Aquatic life	CCME Water Quality Guidelines - Aquatic life
			02-Mar-14	02-Mar-14	02-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	12-Mar-14	12-Mar-14	12-Mar-14	20-Mar-14	20-Mar-14	20-Mar-14	28-Mar-14	28-Mar-14	28-Mar-14	4-Apr-14	4-Apr-14	4-Apr-14	4-Apr-14		
Alkalinity, Total as CaCO3	mg/L	2	43	29	42	29	24	24	66	-	27	33	52	35	34	34	-	39	35	-	-	-	-	-	-	-	-
Alkalinity, Phenolphthalein as CaCO3	mg/L	2	<2	<2	<2	<2	<2	<2	6	-	<2	<2	<2	<2	<2	<2	-	<2	<2	-	-	-	-	-	-	-	
Alkalinity, Bicarbonate as CaCO3	mg/L	2	43	29	42	29	24	24	54	-	27	33	52	35	34	34	-	39	35	-	-	-	-	-	-	-	
Alkalinity, Carbonate as CaCO3	mg/L	2	<2	<2	<2	<2	<2	<2	12	-	<2	<2	<2	<2	<2	<2	-	<2	<2	-	-	-	-	-	-	-	
Alkalinity, Hydroxide as CaCO3	mg/L	2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<2	-	<2	<2	-	-	-	-	-	-	-	
Chloride	mg/L	1	152	1,010	165	23.6	34.8	35	33.6	-	27.7	23.3	18.2	23.3	28.5	21.5	-	26	20.1	-	-	-	-	-	600	-	120 to 640
Nitrogen, Nitrate as N	mg/L	0.01	0.628	0.548	0.623	-	1.25	-	-	-	-	0.624	<0.010	0.61	<0.010	0.582	-	0.085	0.387	-	-	-	-	-	3 to 32.8	-	13 to 550
Nitrogen, Nitrite as N	mg/L	0.01	<0.010	<0.010	<0.010	-	<0.01	-	-	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	<0.010	<0.010	-	-	-	-	-	0.02 to 0.06	-	0.06
Sulfate	mg/L	1	6.5	8.9	6.4	3.9	3.6	3.6	2.2	-	3.9	5	<1.0	4.7	<1.0	4.5	-	4.3	4.1	-	-	-	-	-	218	-	-
Carbon, Total Organic	mg/L	0.5	7	10.2	7.6	6.4	4.1	4.2	0.9	-	6.1	8.9	<0.5	6.7	<0.5	3.3	-	1.2	7.5	-	-	-	-	-	n/a induced measure	-	-
Carbon, Diss Inorganic	mg/L	0.5	8.2	5	8.2	4.8	4	4	-	-	-	7.1	10.3	7.6	6.2	5.9	-	7.2	6.6	-	-	-	-	-	-	-	-
Carbon, Diss Organic	mg/L	0.5	6.5	6	6.6	5.8	3.9	3.9	0.8	-	4.9	8.5	<0.5	6.4	<0.5	3.2	-	1.1	6.2	-	-	-	-	-	-	-	-
Nitrogen, Ammonia as N, Total	mg/L	0.02	0.119	0.38	0.109	0.034	0.167	0.033	0.148	-	0.025	<0.020	0.166	<0.020	0.167	0.066	-	0.049	0.048	-	-	-	-	-	>= 1.26	-	19 (un-ionized) total <10.3
Solids, Total Dissolved	mg/L	10	323	1880	347	94	109	102	138	-	96	78	87	96	97	99	-	92	82	-	-	-	-	-	-	-	-
Solids, Total Susp	mg/L	2	<2	53	2	4	3	<2	<2	-	4	<2	<2	<2	<2	2	-	<2	12	-	-	-	-	-	n/a induced measure	-	-
Sulfide	mg/L	0.01	0.02	0.03	0.02	0.03	0.03	0.02	0.02	-	0.02	0.02	0.02	0.03	0.02	0.03	-	0.02	0.03	-	-	-	-	-	-	-	-
pH	pH units	0.01	7.06	7.3	6.99	6.87	7.35	7.25	9.21	-	7.07	7	8.46	7.13	7.44	7.1	-	7.39	7.03	-	6.9	-	-	6.96	-	6.5 to 9 unrestricted change in this range	6.5 to 9
Hardness, T as CaCO3	mg/L	0.1	55.9	67.1	55.3	30.5	30.5	29.8	24.7	24.2	29.8	40	33.6	39.8	35.4	40.7	38	40.9	36.9	35.7	43	42.8	41.8	41.7	-	-	-
Hardness, D as CaCO3	mg/L	0.1	56	56	55	30	30	29	25	-	29	38	33	39	34	36	-	40	37	-	42	-	42	-	-	-	-
Nitrate+Nitrite as N	mg/L	0.02	0.628	0.548	0.623	0.62	-	1.28	-	-	-	0.624	<0.020	0.61	<0.020	0.582	-	0.085	0.387	-	-	-	-	-	-	-	-
LEPHw	ug/L	100	<100	1280	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	<100	-	-	-	<100	-	-	-	-
HEPHw	ug/L	100	<100	671	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	100	-	-	-	<100	-	-	-	-
Total PAH	ug/L	0.3	<0.30	0.34	<0.30	<0.30	<0.30	<0.30	<0.30	-	<0.30	<0.30	<0.30	<0.30	<0.05	<0.05	-	<0.05	<0.05	-	-	-	<0.05	-	-	-	-
Aluminum, dissolved	ug/L	1	29	21	30	42	34	44	63	-	42	52	23	35	7	34	-	7	26	-	38	-	37	-	100 @pH >6.5	-	100 @pH >6.5
Antimony, dissolved	ug/L	0.05	0.4	0.4	0.4	0.4	0.1	0.2	1.4	-	0.3	0.4	0.5	0.4	0.4	0.3	-	0.4	0.3	-	0.4	-	0.4	-	-	-	-
Arsenic, dissolved	ug/L	0.05	0.5	0.38	0.5	0.56	0.37	0.36	5.67	-	0.5	0.53	1.24	0.54	0.57	0.44	-	0.59	0.56	-	0.61	-	0.6	-	-	-	-
Barium, dissolved	ug/L	0.1	26.2	60.6	26.2	13.6	19.6	19.2	13.9	-	15.8	14.2	21.8	15.4	18.2	16	-	16.6	14.8	-	16.1	-	16.1	-	-	-	-
Beryllium, dissolved	ug/L	0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	0.01	<0.01	0.02	<0.01	-	0.02	<0.01	-	<0.01	-	<0.01	-	-	-	-
Bismuth, dissolved	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	-	-
Boron, dissolved	ug/L	1	13	7	12	9	6	6	1	-	8	11	1	10	1	10	-	1	10	-	12	-	11	-	-	-	-
Cadmium, dissolved	ug/L	0.002	0.02	0.208	0.02	0.016	0.014	0.034	0.004	-	0.019	0.009	<0.002	0.008	0.003	0.013	-	<0.002	0.015	-	0.008	-	0.01	-	-	-	-
Calcium, dissolved	ug/L	40	17700	17800	17400	9450	8920	8780	6930	-	9070	12300	10100	12200	10600	11200	-	12700	11700	-	13400	-	13100	-	-	-	-
Chromium, dissolved	ug/L	0.1	0.3	0.5	0.3	0.5	0.2	0.2	0.2	-	0.4	0.4	<0.1	0.3	<0.1	0.3	-	<0.1	0.4	-	0.3	-	0.3	-	-	-	-
Cobalt, dissolved	ug/L	0.005	0.131	0.179	0.139	0.105	0.07	0.087	0.195	-	0.11	0.099	0.577	0.141	0.332	0.137	-	0.154	0.18	-	0.118	-	0.119	-	-	-	-
Copper, dissolved	ug/L	0.1	2.9	4.8	3.1	3.5	1.1	1.5	0.2	-	2.8	2.6	0.1	2.3	0.3	2.5	-	0.3	2.7	-	2.8	-	2.7	-	-	-	-
Iron, dissolved	ug/L	2	342	166	342	152	210	211	34	-	165	231	2	238	23	312	-	4	312	-	359	-	358	-	350	-	-
Lead, dissolved	ug/L	0.05	0.4	0.32	0.35	0.28	0.07	0.12	0.13	-	0.22	0.45	0.05	0.36	0.06	0.37	-	<0.05	0.44	-	0.52	-	0.48	-	-	-	-
Lithium, dissolved	ug/L	0.05	0.47	1.31	0.45	0.26	0.12	0.14	2.33	-	0.22	0.28	0.58	0.29	0.27	0.24	-	0.27	0.3	-	0.32	-	0.3	-	-	-	-
Magnesium, dissolved	ug/L	5	2830	2890	2810	1530	1790	1690	1760	-	1600	1880	1880	1980	1710	1950	-	2080	1890	-	2180	-	2150	-	-	-	-
Manganese, dissolved	ug/L	0.05	66.3	48.9	63.1	29	30.6	31.9	7.77	-	34.2	31	93.4	39.9	43.2	53.2	-	17.8	55.8	-	50.9	-	52.4	-	-	-	-
Mercury, dissolved	ug/L	0.01	-	1.46	-	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	-	-

Appendix 1: ANALYTICAL DATA - BURNABY LAKE COAL RECOVERY PROGRAM

Parameter	Units	Detection limits	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ City of Burnaby Outfall - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Treated discharge	Treated discharge - total metals duplicate	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Treated discharge	Site 1 - D/S of coal recovery area	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of confluence with Silver Creek - total metals duplicate	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	Site 3 - U/S of coal recovery area and derailment	Site 3 - U/S of coal recovery area and derailment - total metals duplicate	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	BC Approved Water Quality Guidelines - Aquatic life	BC Working Water Quality Guidelines - Aquatic life	CCME Water Quality Guidelines - Aquatic life
			02-Mar-14	02-Mar-14	02-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	12-Mar-14	12-Mar-14	12-Mar-14	20-Mar-14	20-Mar-14	20-Mar-14	28-Mar-14	28-Mar-14	28-Mar-14	4-Apr-14	4-Apr-14	4-Apr-14	4-Apr-14		
Molybdenum, dissolved	ug/L	0.01	0.5	0.57	0.55	0.38	2.9	2.55	0.68	-	1.08	0.44	0.17	0.49	0.04	0.78	-	0.16	0.82	-	0.53	-	0.84	-	-	-	-
Nickel, dissolved	ug/L	0.02	0.55	24	0.52	0.47	0.21	0.22	2.05	-	0.42	0.49	3.49	0.72	1.91	0.37	-	1.34	0.45	-	0.52	-	0.49	-	-	-	-
Phosphorus, dissolved	ug/L	10	<10	24	<10	15	<10	<10	348	-	11	16	69	15	44	14	-	36	18	-	14	-	11	-	-	-	-
Potassium, dissolved	ug/L	10	2110	1680	2060	1220	723	778	22400	-	1170	1420	2330	1550	1730	1230	-	1730	1250	-	1410	-	1360	-	-	-	-
Selenium, dissolved	ug/L	0.1	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	-	<0.1	-	<0.1	-	-	-	-
Silicon, dissolved	ug/L	50	4360	2190	4420	2700	3430	3360	4480	-	2980	3270	3520	3410	3120	3310	-	3130	2870	-	3400	-	3370	-	-	-	-
Silver, dissolved	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	-	-
Sodium, dissolved	ug/L	10	95200	507000	96900	15900	21800	21500	26600	-	18100	15200	18200	16000	15400	14300	-	16000	14000	-	14500	-	14800	-	-	-	-
Strontium, dissolved	ug/L	0.1	109	128	106	56.4	60.8	59.5	67.5	-	57.5	64	67.5	67.6	63.2	69.5	-	69.8	63.5	-	77.8	-	76.9	-	-	-	-
Sulfur, dissolved	ug/L	500	3070	3950	2820	2780	2060	1960	1290	-	1970	1610	508	2340	<500	1440	-	1140	1440	-	1600	-	1640	-	-	-	-
Tellurium, dissolved	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	-	-	-
Thallium, dissolved	ug/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	<0.004	-	<0.004	-	<0.004	-	-	-	-
Thorium, dissolved	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	-	-	-
Tin, dissolved	ug/L	0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	-	<0.05	0.07	-	<0.05	-	<0.05	-	-	-	-
Titanium, dissolved	ug/L	0.2	0.6	0.5	0.7	0.9	0.4	0.9	0.7	-	1	1	<0.2	0.9	<0.2	0.7	-	<0.2	0.6	-	0.9	-	0.8	-	-	-	-
Uranium, dissolved	ug/L	0.001	0.021	0.017	0.021	0.013	0.01	0.009	0.007	-	0.012	0.019	0.001	0.016	<0.001	0.017	-	0.001	0.017	-	0.02	-	0.02	-	-	-	-
Vanadium, dissolved	ug/L	0.2	0.5	0.9	0.5	0.4	0.3	0.3	0.6	-	0.4	0.6	<0.2	0.5	<0.2	0.4	-	<0.2	0.4	-	0.4	-	0.4	-	-	-	-
Zinc, dissolved	ug/L	1	15	41	17	17	5	7	2	-	11	7	3	13	10	11	-	5	10	-	9	-	8	-	-	-	-
Zirconium, dissolved	ug/L	0.01	0.06	0.04	0.06	0.07	0.06	0.07	<0.01	-	0.07	0.07	<0.01	0.05	<0.01	0.04	-	0.01	0.05	-	0.07	-	0.07	-	-	-	-
Aluminum, total	ug/L	1	97	731	86	218	144	132	103	110	303	128	22	107	31	126	129	7	286	220	129	128	124	119	-	-	-
Antimony, total	ug/L	0.05	0.4	0.8	0.4	0.4	0.1	0.2	1.4	1.4	0.4	0.4	0.5	0.3	0.4	0.3	0.3	0.5	0.4	0.4	0.4	0.4	0.4	0.4	20	-	-
Arsenic, total	ug/L	0.05	0.6	1.49	0.58	0.66	0.45	0.46	4.72	4.72	0.74	0.62	1.26	0.59	0.62	0.53	0.52	0.64	0.77	0.75	0.72	0.73	0.72	0.71	5	-	5
Barium, total	ug/L	0.1	27.2	84.7	26.7	14.6	21.9	20.4	15.7	15.6	19.4	15.4	21.7	15.8	18.5	15.8	15.8	17.5	17.3	17.4	17.3	16.9	17.1	17.2	1,000	-	-
Beryllium, total	ug/L	0.01	0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	5.3	-
Bismuth, total	ug/L	0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	-	-	-
Boron, total	ug/L	1	13	9	12	9	5	6	<1	<1	7	11	<1	10	1	11	10	3	11	10	13	13	14	13	1,200	-	1,500 to 29,000
Cadmium, total	ug/L	0.002	0.028	0.311	0.026	0.022	0.018	0.036	0.015	0.014	0.037	0.014	<0.002	0.013	0.006	0.017	0.016	0.002	0.026	0.028	0.012	0.014	0.014	0.015	-	0.01 to 0.023	0.09 to 1
Calcium, total	ug/L	40	17700	21000	17400	9770	9150	9110	7130	6910	9130	12800	10300	12700	11200	13300	12100	12700	11600	11300	13600	13500	13200	13100	-	-	-
Chromium, total	ug/L	0.1	0.4	2.4	0.4	0.7	0.2	0.3	0.2	0.2	0.7	0.4	<0.1	0.4	<0.1	0.4	0.4	<0.1	0.6	0.6	0.5	0.5	0.5	0.4	8.9 (CrIII) / 1 (CrVI)	-	8.9 (CrIII) / 1 (CrVI)
Cobalt, total	ug/L	0.005	0.168	0.62	0.155	0.149	0.113	0.118	0.242	0.252	0.211	0.137	0.597	0.161	0.345	0.157	0.16	0.168	0.28	0.261	0.152	0.153	0.148	0.149	4 to 110	-	-
Copper, total	ug/L	0.1	3.6	16.3	3.3	4.5	1.6	1.9	1	1.3	4.6	3	<0.1	2.9	0.4	3	3	2.6	4.4	4.4	3.5	3.5	3.3	3.3	4.3 to 8.3	-	2
Iron, total	ug/L	2	564	1780	542	337	333	354	89	93	518	385	2	401	76	520	523	10	666	626	602	605	580	582	1,000	-	300
Lead, total	ug/L	0.05	0.84	7.17	0.66	0.93	0.27	0.37	4.83	4.74	1.5	0.89	0.05	0.78	0.17	0.93	0.86	0.38	1.48	1.46	1.09	1.07	0.95	0.94	13.41 to 49.12	-	<=1 to 1.91
Lithium, total	ug/L	0.05	0.47	2.07	0.44	0.29	0.14	0.15	2.26	2.22	0.26	0.32	0.6	0.31	0.29	0.32	0.29	0.29	0.34	0.31	0.33	0.35	0.33	0.32	-	11.4 to 870	-
Magnesium, total	ug/L	5	2850	3570	2850	1470	1850	1720	1680	1680	1700	1930	1910	1980	1780	1830	1850	2210	1920	1840	2210	2200	2170	2170	-	-	-
Manganese, total	ug/L	0.05	70.4	76.8	68	31.7	35.3	35.2	9.89	10	46.3	40.3	92.3	49.2	42.8	50.4	50.7	19.9	62.2	64.1	59.2	58.6	58.3	58.4	806.7 to 1,279.4	-	-
Mercury, total	ug/L	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	0.00125 to 0.02	-	0.026 (Hg) / 0.004 (MeHg)
Molybdenum, total	ug/L	0.01	0.5	1.57	0.54	0.39	2.93	2.55	0.59	0.59	1.13	0.5	0.16	0.52	0.05	0.73	0.73	0.16	0.78	0.73	0.54	0.54	0.79	0.81	1,000 to 2,000	-	73
Nickel, total	ug/L	0.02	0.62	1.44	0.61	0.56	0.25	0.3	2.49	2.6	0.55	0.49	3.4	0.62	2.13	0.53	0.5	1.4	0.64	0.56	0.58	0.59	0.57	0.55	25 to 65	-	25 to 70.58
Phosphorus, total	ug/L	10	30	88	24	18	10	<10	230	230	29	23	72	21	41	16	16	37	63	21	19	22	20	21	-	-	-
Potassium, total	ug/L	10	2,140	2,050	2,090	1,140	750	805	21,300	21,500	1,240	1,410	2,310	1,510	1,810	1,160	1,170	1840	1270	1240	1440	1440	1380	1370	-	373,000 to 432,000	-
Selenium, total	ug/L	0.1	0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	2	-	1

Appendix 1: ANALYTICAL DATA - BURNABY LAKE COAL RECOVERY PROGRAM

Parameter	Units	Detection limits	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Silver Creek @ City of Burnaby Outfall - U/S of coal recovery area and derailment	Silver Creek @ Cariboo Business Park Driveway - u/s of coal recovery area	Treated discharge	Treated discharge - total metals duplicate	Site 1 - D/S of coal recovery area	Site 3 - U/S of coal recovery area and derailment	Treated discharge	Site 1 - D/S of coal recovery area	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of confluence with Silver Creek - total metals duplicate	Treated discharge	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	Site 3 - U/S of coal recovery area and derailment	Site 3 - U/S of coal recovery area and derailment - total metals duplicate	Site 1 - D/S of coal recovery area	Site 1 - D/S of coal recovery area - total metals duplicate	BC Approved Water Quality Guidelines - Aquatic life	BC Working Water Quality Guidelines - Aquatic life	CCME Water Quality Guidelines - Aquatic life
			02-Mar-14	02-Mar-14	02-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	7-Mar-14	12-Mar-14	12-Mar-14	12-Mar-14	20-Mar-14	20-Mar-14	20-Mar-14	28-Mar-14	28-Mar-14	28-Mar-14	4-Apr-14	4-Apr-14	4-Apr-14	4-Apr-14		
Silicon, total	ug/L	50	4,500	4,000	4,500	2,800	3,700	3,500	4,100	4,200	3,700	3,300	3,500	3,400	3,300	3,300	3,300	3300	3300	3200	3600	3600	3600	3600	-	-	-
Silver, total	ug/L	0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	-	0.1
Sodium, total	ug/L	10	95300	626000	97600	15200	22500	22000	26900	27000	18700	15500	18500	15900	15900	13300	13400	16800	13900	13400	14600	14500	14900	14800	-	-	-
Strontium, total	ug/L	0.1	108	150	105	52.9	62.3	58.9	68.2	68.3	59.3	64.2	67	65.9	61.9	61.7	62.2	72.9	64	66.2	78.4	78.5	76.6	76.6	-	-	-
Sulfur, total	ug/L	500	2700	4300	3100	1700	1700	1600	1200	1300	1900	1400	<500	1500	<500	<500	<500	1500	1400	1200	1700	1600	1400	1500	-	-	-
Tellurium, total	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-
Thallium, total	ug/L	0.004	<0.004	0.007	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	1.7 to 6.3	0.8
Thorium, total	ug/L	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-
Tin, total	ug/L	0.05	0.05	0.43	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.06	<0.05	<0.05	<0.05	0.05	0.42	0.09	0.08	<0.05	0.08	0.08	0.05	-	-	-
Titanium, total	ug/L	0.2	3.8	42.8	4.4	7.9	4.5	4.1	2.4	3.2	10.6	5	<0.2	3.3	1.1	4.6	5.9	<0.2	8	5.6	4.5	4.2	3.6	4.6	2,000 to 4,600	-	-
Uranium, total	ug/L	0.001	0.026	0.059	0.022	0.018	0.013	0.013	0.007	0.008	0.024	0.022	0.001	0.021	0.002	0.022	0.021	0.001	0.024	0.023	0.025	0.024	0.023	0.023	-	300 to 500	15 to 33
Vanadium, total	ug/L	0.2	0.6	2.7	0.6	0.7	0.5	0.5	0.6	0.6	1.1	0.9	<0.2	0.7	<0.2	0.6	0.6	<0.2	0.9	0.8	0.7	0.7	0.7	0.7	-	6 to 20	-
Zinc, total	ug/L	1	17	103	20	22	8	11	11	12	16	9	2	11	7	10	12	5	17	14	27	12	10	10	33	-	30
Zirconium, total	ug/L	0.01	0.1	0.97	0.13	0.27	0.09	0.27	0.03	0.03	0.16	0.11	<0.01	0.1	0.01	0.07	0.12	<0.01	0.19	0.31	0.11	0.11	0.13	0.14	-	-	-
EPHw (10-19)	ug/L	100	<100	1280	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	<100	-	<100	-	<100	-	-	-	-
EPHw (19-32)	ug/L	100	<100	671	<100	<100	<100	<100	<100	-	<100	<100	<100	<100	<100	<100	-	<100	100	-	<100	-	<100	-	-	-	-
Acenaphthene	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	6 (chronic)	-	5.8
Acenaphthylene	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Acridine	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	3 (chronic) / 0.05 (phototoxic)	-	4.4
Anthracene	ug/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	4 (chronic) / 0.1 (phototoxic)	-	0.012
Benzo (a) anthracene	ug/L	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	0.1 (chronic)	-	0.018
Benzo (a) pyrene	ug/L	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	-	<0.01	-	<0.01	-	0.01 (chronic)	-	0.015
Benzo (b) fluoranthene	ug/L	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Benzo (g,h,i) perylene	ug/L	0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Benzo (k) fluoranthene	ug/L	0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Chrysene	ug/L	0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Dibenz (a,h) anthracene	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Fluoranthene	ug/L	0.02	<0.02	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	4 (chronic) / 0.2 (phototoxic)	-	0.04
Fluorene	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	12 (chronic)	-	3
Indeno (1,2,3-cd) pyrene	ug/L	0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	-	-	-
Naphthalene	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	1 (chronic)	-	1.1
Phenanthrene	ug/L	0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	0.3 (chronic)	-	0.4
Pyrene	ug/L	0.02	<0.02	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	<0.02	<0.02	-	<0.02	-	<0.02	-	0.02 (phototoxic)	-	0.025
Quinoline	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	-	<0.05	-	<0.05	-	-	3.4	3.4



## Appendix 2. Induced turbidity >8 NTU above background

Location	Date	Sonde time	Turbidity	Location	Turbidity	Turbidity showing induced levels >8 NTU above background	Rainfall levels (mm)	Duration of > 8 NTU exceedance (minutes)
Site1 - Burnaby Lake d/s	2014/03/03	14:30:40	27.2	Site 3 - Burnaby Lake u/s	7.3	11.9	10	<30
Site1 - Burnaby Lake d/s	2014/03/15	11:30:40	22.1	Site 3 - Burnaby Lake u/s	5.5	8.6	29.3	<30
Site1 - Burnaby Lake d/s	2014/03/15	15:00:40	32.4	Site 3 - Burnaby Lake u/s	5.3	19.1		<30
Site1 - Burnaby Lake d/s	2014/03/15	16:00:40	26	Site 3 - Burnaby Lake u/s	6.3	11.7		<30
Site1 - Burnaby Lake d/s	2014/03/17	13:30:40	36.8	Site 3 - Burnaby Lake u/s	5.4	23.4		2.5
Site1 - Burnaby Lake d/s	2014/03/17	14:00:40	33.6	Site 3 - Burnaby Lake u/s	5.2	20.4		
Site1 - Burnaby Lake d/s	2014/03/17	14:30:40	33	Site 3 - Burnaby Lake u/s	5.6	19.4		
Site1 - Burnaby Lake d/s	2014/03/17	15:30:40	27.8	Site 3 - Burnaby Lake u/s	5.3	14.5	30	
Site1 - Burnaby Lake d/s	2014/03/17	16:00:40	25.7	Site 3 - Burnaby Lake u/s	5.1	12.6		
Site1 - Burnaby Lake d/s	2014/03/18	07:30:40	47.9	Site 3 - Burnaby Lake u/s	5	34.9	20.3 (A)	30
Site1 - Burnaby Lake d/s	2014/03/18	08:00:40	29.3	Site 3 - Burnaby Lake u/s	4.7	16.6		
Site1 - Burnaby Lake d/s	2014/03/18	09:00:40	38.3	Site 3 - Burnaby Lake u/s	4.7	25.6		60
Site1 - Burnaby Lake d/s	2014/03/18	09:30:40	43.5	Site 3 - Burnaby Lake u/s	4.8	30.7		
Site1 - Burnaby Lake d/s	2014/03/18	10:00:40	39	Site 3 - Burnaby Lake u/s	4.7	26.3		
Site1 - Burnaby Lake d/s	2014/03/18	11:30:40	51.4	Site 3 - Burnaby Lake u/s	5	38.4		
Site1 - Burnaby Lake d/s	2014/03/18	12:00:40	27.9	Site 3 - Burnaby Lake u/s	4.9	15		60
Site1 - Burnaby Lake d/s	2014/03/18	12:30:40	28.9	Site 3 - Burnaby Lake u/s	4.8	16.1		
Site1 - Burnaby Lake d/s	2014/03/18	14:00:40	22.2	Site 3 - Burnaby Lake u/s	5	9.2		<30
Site1 - Burnaby Lake d/s	2014/03/20	11:00:40	22.7	Site 3 - Burnaby Lake u/s	5.3	9.4		0.4
Site1 - Burnaby Lake d/s	2014/03/20	16:00:40	20.9	Site 3 - Burnaby Lake u/s	4.7	8.2	<30	
Site1 - Burnaby Lake d/s	2014/03/21	07:00:40	45.7	Site 3 - Burnaby Lake u/s	5	32.7	0	180
Site1 - Burnaby Lake d/s	2014/03/21	07:30:40	39.6	Site 3 - Burnaby Lake u/s	5.7	25.9		
Site1 - Burnaby Lake d/s	2014/03/21	08:00:40	43.7	Site 3 - Burnaby Lake u/s	5.3	30.4		
Site1 - Burnaby Lake d/s	2014/03/21	08:30:40	33.5	Site 3 - Burnaby Lake u/s	5.6	19.9		
Site1 - Burnaby Lake d/s	2014/03/21	09:00:40	40.7	Site 3 - Burnaby Lake u/s	5.6	27.1		
Site1 - Burnaby Lake d/s	2014/03/21	09:30:40	30	Site 3 - Burnaby Lake u/s	5.2	16.8		
Site1 - Burnaby Lake d/s	2014/03/21	10:00:40	29.2	Site 3 - Burnaby Lake u/s	5.3	15.9		

(A) Rainfall data from Environment Canada Station - BURNABY SIMON FRASER U STN, except for March 18 (no data available). Rainfall data for March 18 taken from Environment Canada Station - COQUITLAM COMO LAKE AVE

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/02/28	14:30:40	7.62	624	417	0.406	0.3	101.9	12.16	7.02	-25.3	83.4	5.1
Site1	2014/02/28	15:00:40	7.75	598	401	0.389	0.29	103.7	12.33	7	-24.1	88.9	2.8
Site1	2014/02/28	15:30:40	7.94	533	359	0.346	0.26	103.4	12.25	6.95	-21.8	82.9	2.8
Site1	2014/02/28	16:00:40	7.35	547	363	0.356	0.27	101.5	12.19	6.95	-21.9	97.4	3
Site1	2014/02/28	16:30:40	7.78	536	359	0.348	0.26	101.9	12.12	6.94	-21	103.5	2.9
Site1	2014/02/28	17:00:40	7.42	530	352	0.345	0.26	101.1	12.12	6.94	-21.2	103.4	3.6
Site1	2014/02/28	17:30:40	7.5	507	337	0.329	0.25	102.1	12.22	6.95	-21.7	88.7	3.3
Site1	2014/02/28	18:00:40	7.46	505	336	0.328	0.24	102.2	12.25	6.95	-21.8	88.6	3.3
Site1	2014/02/28	18:30:40	7.4	508	337	0.33	0.25	101.6	12.19	6.94	-21.3	94.5	3.1
Site1	2014/02/28	19:00:40	7.32	512	339	0.333	0.25	101.6	12.22	6.94	-21.4	84.7	3.2
Site1	2014/02/28	19:30:40	7.44	519	345	0.338	0.25	102.6	12.3	6.96	-22	93.9	3.4
Site1	2014/02/28	20:00:40	7.38	520	345	0.338	0.25	102.4	12.29	6.95	-21.9	107.2	3.3
Site1	2014/02/28	20:30:40	7.29	520	344	0.338	0.25	102.2	12.29	6.96	-22.2	114.5	3.3
Site1	2014/02/28	21:00:40	7.29	517	342	0.336	0.25	102	12.27	6.95	-21.6	119.6	3.1
Site1	2014/02/28	21:30:40	7.1	503	331	0.327	0.24	102.1	12.34	6.95	-21.7	105.3	3.3
Site1	2014/02/28	22:00:40	6.96	505	331	0.328	0.24	101.2	12.28	6.96	-22	104.1	3.2
Site1	2014/02/28	22:30:40	6.73	498	325	0.324	0.24	101.5	12.38	6.96	-22.3	100.8	3
Site1	2014/02/28	23:00:40	6.59	495	321	0.322	0.24	101.8	12.46	6.96	-22.5	92.8	2.8
Site1	2014/02/28	23:30:40	6.38	493	318	0.321	0.24	101.4	12.48	6.96	-22.5	86.8	2.8
Site1	2014/03/01	00:00:40	6.25	496	318	0.322	0.24	100.9	12.46	6.96	-22.3	90.5	2.8
Site1	2014/03/01	00:30:40	6.12	497	318	0.323	0.24	100.7	12.47	6.96	-22.2	92.9	2.6
Site1	2014/03/01	01:00:40	5.95	496	316	0.323	0.24	99.9	12.43	6.95	-21.9	95.2	2.6
Site1	2014/03/01	01:30:40	6.16	509	326	0.331	0.25	100	12.38	6.95	-21.9	88.3	2.8
Site1	2014/03/01	02:00:40	6.27	521	335	0.339	0.25	99.6	12.29	6.95	-21.7	96.2	3.5
Site1	2014/03/01	02:30:40	6.2	525	337	0.342	0.25	99.1	12.25	6.94	-21.3	104.7	3
Site1	2014/03/01	03:00:40	6.31	528	339	0.343	0.26	98.8	12.19	6.94	-21.4	112.9	3.2
Site1	2014/03/01	03:30:40	6.18	529	339	0.344	0.26	98.4	12.17	6.94	-21.3	119.3	3
Site1	2014/03/01	04:00:40	6.02	526	335	0.342	0.25	97.7	12.14	6.91	-19.6	104.3	3.1
Site1	2014/03/01	04:30:40	5.79	524	332	0.34	0.25	96.9	12.11	6.92	-20.3	111	2.9
Site1	2014/03/01	05:00:40	5.65	522	329	0.34	0.25	97.4	12.21	6.92	-20.4	105.5	2.7
Site1	2014/03/01	05:30:40	5.56	521	327	0.338	0.25	97.1	12.2	6.91	-19.9	104.3	2.7
Site1	2014/03/01	06:00:40	5.54	522	328	0.339	0.25	96.6	12.14	6.91	-19.6	103.2	2.9
Site1	2014/03/01	06:30:40	5.53	524	329	0.341	0.25	96.6	12.15	6.91	-19.8	105	3
Site1	2014/03/01	07:00:40	5.73	526	332	0.342	0.25	97.1	12.15	6.92	-20.5	98.5	3
Site1	2014/03/01	07:30:40	5.86	527	334	0.342	0.26	97.2	12.13	6.92	-20.3	111.1	3.1
Site1	2014/03/01	08:00:40	5.84	530	336	0.345	0.26	97.1	12.12	6.93	-20.7	119.4	3.1
Site1	2014/03/01	08:30:40	5.82	530	336	0.344	0.26	96.9	12.09	6.93	-20.7	123.7	3.2
Site1	2014/03/01	09:00:40	5.84	529	336	0.344	0.26	96.9	12.1	6.91	-20	126	3.2
Site1	2014/03/01	09:30:40	5.83	529	336	0.344	0.26	96.8	12.09	6.92	-20.2	126.8	3
Site1	2014/03/01	10:00:40	5.72	510	322	0.332	0.25	97.8	12.24	6.92	-20.1	103.9	3.1
Site1	2014/03/01	10:30:40	5.54	492	309	0.32	0.24	99.7	12.53	6.94	-21.1	98.6	3.1
Site1	2014/03/01	11:00:40	5.68	493	311	0.321	0.24	99.8	12.51	6.93	-21	91.2	3.7
Site1	2014/03/01	11:30:40	5.87	492	312	0.319	0.24	99.9	12.46	6.93	-20.6	94	3.6
Site1	2014/03/01	12:00:40	5.98	493	314	0.32	0.24	99.3	12.35	6.91	-20	100.7	3.4
Site1	2014/03/01	12:30:40	5.97	494	314	0.321	0.24	99.2	12.34	6.91	-19.7	96.6	3.2
Site1	2014/03/01	13:00:40	6.04	497	317	0.323	0.24	99	12.3	6.92	-20.1	101.7	3.2
Site1	2014/03/01	13:30:40	6.07	501	320	0.326	0.24	98.7	12.24	6.92	-20.5	109.3	3.2
Site1	2014/03/01	14:00:40	6.11	501	320	0.326	0.24	98.3	12.19	6.92	-20.4	120.2	3.1
Site1	2014/03/01	14:30:40	6.08	503	321	0.327	0.24	97.8	12.13	6.92	-20.3	122.4	3
Site1	2014/03/01	15:00:40	6.04	504	321	0.327	0.24	97.8	12.14	6.91	-19.8	123.3	2.9
Site1	2014/03/01	15:30:40	6.02	504	321	0.327	0.24	97.5	12.11	6.9	-19.2	127.3	2.9

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/01	16:00:40	6.03	506	323	0.329	0.24	97.1	12.06	6.9	-19.5	127.9	3
Site1	2014/03/01	16:30:40	5.98	507	323	0.33	0.25	97.2	12.08	6.9	-19.5	126.9	3.1
Site1	2014/03/01	17:00:40	6	507	323	0.329	0.25	97.7	12.14	6.92	-20.1	129	3
Site1	2014/03/01	17:30:40	5.86	493	313	0.32	0.24	98.2	12.25	6.92	-20.4	116.8	3.2
Site1	2014/03/01	18:00:40	5.82	495	314	0.322	0.24	97.4	12.16	6.91	-19.8	122.9	3.1
Site1	2014/03/01	18:30:40	5.72	488	308	0.317	0.24	97.7	12.23	6.92	-20.3	118.2	3.3
Site1	2014/03/01	19:00:40	5.59	487	306	0.316	0.23	97.4	12.23	6.91	-20	113.2	3.1
Site1	2014/03/01	19:30:40	5.53	484	304	0.315	0.23	97.3	12.25	6.91	-20	113.9	3.1
Site1	2014/03/01	20:00:40	5.52	486	305	0.316	0.23	97.2	12.23	6.91	-19.8	95.8	2.9
Site1	2014/03/01	20:30:40	5.6	490	308	0.319	0.24	97.8	12.29	6.93	-20.6	96.1	3.1
Site1	2014/03/01	21:00:40	5.66	503	317	0.327	0.24	97.8	12.26	6.94	-21.3	115.4	2.9
Site1	2014/03/01	21:30:40	5.59	499	314	0.325	0.24	96.8	12.16	6.92	-20.1	125.1	2.9
Site1	2014/03/01	22:00:40	5.64	499	314	0.324	0.24	96.7	12.13	6.91	-20	127.2	3.1
Site1	2014/03/01	22:30:40	5.66	503	317	0.327	0.24	97	12.16	6.93	-20.6	132.7	2.9
Site1	2014/03/01	23:00:40	5.65	505	318	0.328	0.24	97	12.16	6.94	-21.2	135.6	3.1
Site1	2014/03/01	23:30:40	5.42	501	313	0.325	0.24	95.4	12.03	6.89	-19	110	3
Site1	2014/03/02	00:00:40	5.28	494	308	0.321	0.24	95.5	12.09	6.91	-19.8	113.9	2.8
Site1	2014/03/02	00:30:40	5.15	490	304	0.318	0.24	96.7	12.28	6.92	-20.4	104.2	2.8
Site1	2014/03/02	01:00:40	5.17	492	306	0.32	0.24	96.3	12.23	6.92	-20.1	113.5	2.6
Site1	2014/03/02	01:30:40	5.13	495	307	0.321	0.24	96.1	12.21	6.92	-20.3	114.6	2.6
Site1	2014/03/02	02:00:40	5.29	507	316	0.33	0.25	97.6	12.35	6.94	-21.1	99.8	2.8
Site1	2014/03/02	02:30:40	5.42	527	330	0.342	0.25	98.1	12.38	6.95	-21.9	113.4	3.1
Site1	2014/03/02	03:00:40	5.37	528	330	0.343	0.26	97.5	12.31	6.94	-21.4	126.3	2.8
Site1	2014/03/02	03:30:40	5.41	531	332	0.345	0.26	97.8	12.33	6.94	-21.5	129.9	2.9
Site1	2014/03/02	04:00:40	5.29	531	331	0.345	0.26	96.9	12.27	6.94	-21.1	133.6	2.8
Site1	2014/03/02	04:30:40	5.32	532	332	0.346	0.26	97.2	12.29	6.94	-21.1	135.5	3
Site1	2014/03/02	05:00:40	5.25	532	331	0.346	0.26	96.5	12.22	6.93	-20.6	137.9	2.8
Site1	2014/03/02	05:30:40	5.23	532	331	0.346	0.26	96.4	12.22	6.93	-20.8	139.5	2.9
Site1	2014/03/02	06:00:40	4.82	506	311	0.329	0.24	96.2	12.32	6.87	-17.9	92.6	2.6
Site1	2014/03/02	06:30:40	4.69	500	306	0.325	0.24	96.2	12.37	6.92	-20.3	109.4	2.5
Site1	2014/03/02	07:00:40	4.75	505	310	0.328	0.24	96.5	12.38	6.93	-20.7	101.4	2.5
Site1	2014/03/02	07:30:40	4.73	523	320	0.34	0.25	95.3	12.23	6.93	-20.8	107.1	2.9
Site1	2014/03/02	08:00:40	4.69	532	326	0.346	0.26	94.1	12.1	6.92	-20.5	111.3	2.9
Site1	2014/03/02	08:30:40	4.86	576	355	0.375	0.28	94.1	12.03	6.93	-20.6	117.4	3.3
Site1	2014/03/02	09:00:40	4.86	606	373	0.394	0.29	93.8	11.99	6.93	-20.8	113.7	3.4
Site1	2014/03/02	09:30:40	4.83	610	375	0.397	0.3	92.8	11.89	6.92	-20.1	116.9	3.1
Site1	2014/03/02	10:00:40	4.68	610	373	0.396	0.3	92.6	11.91	6.92	-20.1	122.4	3.2
Site1	2014/03/02	10:30:40	4.7	605	371	0.393	0.29	93.2	11.97	6.92	-20.2	129.5	3.2
Site1	2014/03/02	11:00:40	4.72	606	371	0.394	0.29	93.2	11.97	6.92	-20.3	133.4	4.1
Site1	2014/03/02	11:30:40	4.66	590	361	0.384	0.29	92.2	11.86	6.91	-19.6	116.3	6.6
Site1	2014/03/02	12:00:40	4.74	620	380	0.403	0.3	92.8	11.91	6.91	-19.7	115.6	3.7
Site1	2014/03/02	12:30:40	4.71	792	485	0.515	0.39	93.7	12.03	6.93	-20.6	116.5	5.2
Site1	2014/03/02	13:00:40	4.69	731	447	0.475	0.36	93.6	12.02	6.94	-21.1	120.6	4.5
Site1	2014/03/02	13:30:40	4.63	844	516	0.549	0.41	94.1	12.1	6.92	-20.4	120.8	6.1
Site1	2014/03/02	14:00:40	4.6	796	486	0.517	0.39	94.8	12.21	6.95	-21.7	116.6	6.8
Site1	2014/03/02	14:30:40	4.56	774	472	0.503	0.38	95.7	12.33	6.96	-22.1	117.2	7.7
Site1	2014/03/02	15:00:40	4.43	745	452	0.484	0.36	97.3	12.58	6.96	-22.3	115.1	9.1
Site1	2014/03/02	15:30:40	4.31	716	433	0.465	0.35	98	12.71	6.96	-22.5	115.3	9
Site1	2014/03/02	16:00:40	4.02	710	425	0.461	0.35	101	13.2	6.96	-22.5	124.3	10.8
Site1	2014/03/02	16:30:40	3.89	675	403	0.439	0.33	103.3	13.56	6.95	-21.9	105.8	12.3
Site1	2014/03/02	17:00:40	3.94	595	356	0.387	0.29	103.3	13.54	6.97	-22.8	101.1	11.9

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/02	17:30:40	4.11	541	325	0.352	0.26	102	13.31	6.98	-23.4	105.8	10.2
Site1	2014/03/02	18:00:40	4.15	520	313	0.338	0.25	101.7	13.25	6.99	-23.8	110.5	9.8
Site1	2014/03/02	18:30:40	4.21	512	309	0.333	0.25	100.8	13.13	6.98	-23.5	106.6	8.1
Site1	2014/03/02	19:00:40	4.41	519	315	0.337	0.25	99.3	12.86	6.97	-22.9	105.3	6.8
Site1	2014/03/02	19:30:40	4.4	504	305	0.327	0.24	99.7	12.91	6.98	-23.4	105.7	6.5
Site1	2014/03/02	20:00:40	4.3	474	287	0.308	0.23	100.6	13.07	6.98	-23.4	104.9	8.3
Site1	2014/03/02	20:30:40	4.31	466	282	0.303	0.22	100.4	13.04	6.98	-23.4	105.2	6.8
Site1	2014/03/02	21:00:40	4.46	486	295	0.316	0.23	99.5	12.87	7	-24.1	110	7.4
Site1	2014/03/02	21:30:40	4.27	451	272	0.293	0.22	101.2	13.16	7	-24.1	105.5	6.7
Site1	2014/03/02	22:00:40	4.33	457	277	0.297	0.22	100.4	13.03	6.99	-23.9	105.3	5.7
Site1	2014/03/02	22:30:40	4.4	486	295	0.316	0.23	99.6	12.9	6.98	-23.1	109.4	6.5
Site1	2014/03/02	23:00:40	4.45	486	295	0.316	0.23	99	12.8	6.98	-23.1	106.9	5.3
Site1	2014/03/02	23:30:40	4.43	481	292	0.313	0.23	98.4	12.73	6.98	-23.4	107.5	5.4
Site1	2014/03/03	00:00:40	4.42	477	290	0.31	0.23	98.3	12.73	6.97	-22.9	109.3	5.1
Site1	2014/03/03	00:30:40	4.45	472	287	0.307	0.23	97.8	12.66	6.98	-23.3	104.5	6
Site1	2014/03/03	01:00:40	4.4	456	276	0.296	0.22	98.5	12.75	6.97	-22.7	105.3	5.9
Site1	2014/03/03	01:30:40	4.45	463	281	0.301	0.22	97	12.55	6.98	-23.1	108	5.1
Site1	2014/03/03	02:00:40	4.54	479	292	0.312	0.23	95.4	12.31	6.96	-22.4	106	4.4
Site1	2014/03/03	02:30:40	4.46	470	286	0.305	0.23	95.7	12.37	6.96	-22.4	113.1	4.7
Site1	2014/03/03	03:00:40	4.49	469	285	0.305	0.23	96.1	12.42	6.95	-22	119.5	4.7
Site1	2014/03/03	03:30:40	4.47	464	282	0.302	0.22	96.4	12.47	6.95	-21.9	114.1	4.6
Site1	2014/03/03	04:00:40	4.49	461	281	0.3	0.22	97.1	12.55	6.96	-22.3	112.4	4.8
Site1	2014/03/03	04:30:40	4.45	434	264	0.282	0.21	99.4	12.85	6.97	-22.6	105.6	5.7
Site1	2014/03/03	05:00:40	4.43	410	249	0.266	0.2	99.2	12.84	6.96	-22.1	110.5	5.6
Site1	2014/03/03	05:30:40	4.49	404	246	0.262	0.19	98.9	12.78	6.95	-21.7	112.8	4.7
Site1	2014/03/03	06:00:40	4.49	408	248	0.265	0.2	97.8	12.64	6.95	-21.9	118.6	4.2
Site1	2014/03/03	06:30:40	4.54	413	252	0.269	0.2	97.8	12.62	6.96	-22	115.6	4.2
Site1	2014/03/03	07:00:40	4.57	421	257	0.274	0.2	97	12.52	6.95	-21.9	114.5	3.8
Site1	2014/03/03	07:30:40	4.59	426	260	0.277	0.2	96.4	12.43	6.95	-21.6	114.7	4.2
Site1	2014/03/03	08:00:40	4.66	427	261	0.277	0.2	96.6	12.43	6.95	-21.6	112.1	4.5
Site1	2014/03/03	08:30:40	4.65	434	265	0.282	0.21	95.9	12.35	6.96	-22.2	114	3.9
Site1	2014/03/03	09:00:40	4.72	419	257	0.273	0.2	96.9	12.45	6.96	-22.2	110.8	4.1
Site1	2014/03/03	09:30:40	4.8	411	253	0.267	0.2	97.8	12.54	6.96	-22.2	111.6	5.6
Site1	2014/03/03	10:00:40	4.92	390	240	0.253	0.19	99.7	12.75	6.96	-22.2	101.7	8.7
Site1	2014/03/03	10:30:40	5	359	222	0.233	0.17	100.3	12.79	6.95	-22	104.9	13.2
Site1	2014/03/03	11:00:40	5.14	326	203	0.212	0.16	101.1	12.86	6.98	-23.1	112.8	13.9
Site1	2014/03/03	11:30:40	5.22	340	212	0.221	0.16	100.5	12.75	6.96	-22.5	110.7	13.5
Site1	2014/03/03	12:00:40	5.28	347	216	0.225	0.17	100.7	12.76	6.98	-23.5	114.3	12.7
Site1	2014/03/03	12:30:40	5.39	341	213	0.222	0.16	100.9	12.74	6.98	-23.4	116	11.8
Site1	2014/03/03	13:00:40	5.21	415	258	0.27	0.2	98.2	12.46	6.94	-21.1	93.7	14.6
Site1	2014/03/03	13:30:40	5.16	429	267	0.279	0.21	98.7	12.54	6.96	-22.3	89.4	20
Site1	2014/03/03	14:00:40	5.27	404	252	0.262	0.19	100	12.67	6.95	-21.9	98.9	21
Site1	2014/03/03	14:30:40	5.19	423	263	0.275	0.2	98.6	12.52	6.88	-18.4	69.8	27.2
Site1	2014/03/03	15:00:40	5.03	462	286	0.3	0.22	99.1	12.64	6.98	-23.1	106.8	7.6
Site1	2014/03/03	15:30:40	5.12	458	284	0.297	0.22	99.4	12.64	6.97	-22.9	107.5	8.4
Site1	2014/03/03	16:00:40	5.16	450	279	0.292	0.22	99.8	12.68	6.96	-22.3	104	8.2
Site1	2014/03/03	16:30:40	5.28	441	275	0.287	0.21	99.2	12.56	6.94	-21.2	109.8	10.6
Site1	2014/03/03	17:00:40	5.31	438	273	0.285	0.21	99.4	12.58	6.93	-20.8	110.8	8.3
Site1	2014/03/03	17:30:40	5.32	437	273	0.284	0.21	99.4	12.58	6.93	-20.8	119.6	8.1
Site1	2014/03/03	18:00:40	5.36	440	275	0.286	0.21	95.4	12.06	7	-24.4	116.8	8
Site1	2014/03/03	18:30:40	5.33	447	279	0.291	0.22	94.8	11.99	7.19	-33.8	96.4	6.7

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/03	19:00:40	5.29	443	276	0.288	0.21	97	12.28	7.02	-25.2	99.9	6.5
Site1	2014/03/03	19:30:40	5.28	439	273	0.285	0.21	97.7	12.38	6.95	-22	104.9	6.8
Site1	2014/03/03	20:00:40	5.25	430	268	0.279	0.21	98.2	12.44	6.94	-21.2	103.1	6.1
Site1	2014/03/03	20:30:40	5.16	429	267	0.279	0.21	98.3	12.49	6.92	-20.3	108.7	5.9
Site1	2014/03/03	21:00:40	5.16	421	262	0.274	0.2	97.9	12.44	6.9	-19.3	104.6	6.5
Site1	2014/03/03	21:30:40	5.15	411	255	0.267	0.2	98.5	12.51	6.9	-19.3	105.5	6.2
Site1	2014/03/03	22:00:40	5.14	398	247	0.258	0.19	99.1	12.6	6.91	-19.6	103.3	5.9
Site1	2014/03/03	22:30:40	5.13	391	243	0.254	0.19	99.5	12.65	6.92	-20.3	103.4	5.9
Site1	2014/03/03	23:00:40	5.11	386	239	0.251	0.19	99	12.59	6.91	-19.8	107.1	5.6
Site1	2014/03/03	23:30:40	5.1	387	240	0.251	0.19	98.4	12.52	6.91	-19.7	113.5	5.7
Site1	2014/03/04	00:00:40	5.08	386	239	0.251	0.19	98.3	12.51	6.9	-19.2	126.5	5.3
Site1	2014/03/04	00:30:40	5.08	384	238	0.25	0.18	97.5	12.41	6.87	-17.9	129.9	5.2
Site1	2014/03/04	01:00:40	5.05	383	237	0.249	0.18	98	12.48	6.89	-18.7	135.6	5
Site1	2014/03/04	01:30:40	5.04	382	236	0.248	0.18	97.6	12.44	6.89	-18.7	136.1	5.1
Site1	2014/03/04	02:00:40	5.02	380	235	0.247	0.18	97.1	12.38	6.87	-17.9	133.9	5.3
Site1	2014/03/04	02:30:40	5	378	234	0.246	0.18	98.1	12.51	6.9	-19.2	133.1	5.3
Site1	2014/03/04	03:00:40	4.98	375	232	0.244	0.18	97.7	12.47	6.89	-18.6	131.5	5
Site1	2014/03/04	03:30:40	4.97	372	230	0.242	0.18	97.6	12.47	6.88	-18.4	129.3	4.4
Site1	2014/03/04	04:00:40	4.95	370	228	0.241	0.18	97.5	12.45	6.88	-18.2	130.7	4.3
Site1	2014/03/04	04:30:40	4.93	369	227	0.24	0.18	97.7	12.49	6.89	-18.6	129.3	4.3
Site1	2014/03/04	05:00:40	4.92	365	225	0.237	0.18	97.5	12.47	6.89	-18.6	131.3	4.4
Site1	2014/03/04	05:30:40	4.89	363	224	0.236	0.17	97.4	12.46	6.88	-18.1	128.8	4.1
Site1	2014/03/04	06:00:40	4.86	362	223	0.236	0.17	97.4	12.47	6.88	-18.2	130.1	4.1
Site1	2014/03/04	06:30:40	4.87	359	221	0.234	0.17	97.8	12.52	6.88	-18.4	130.3	4.1
Site1	2014/03/04	07:00:40	4.83	358	220	0.233	0.17	97.5	12.5	6.87	-17.6	129.3	4.3
Site1	2014/03/04	07:30:40	4.81	359	220	0.233	0.17	97.4	12.48	6.87	-17.9	128.8	4.3
Site1	2014/03/04	08:00:40	4.82	360	221	0.234	0.17	97	12.43	6.86	-17.5	135.4	4
Site1	2014/03/04	08:30:40	4.85	371	228	0.241	0.18	97.5	12.48	6.89	-18.7	135.9	4.8
Site1	2014/03/04	09:00:40	4.87	359	221	0.234	0.17	98.4	12.59	6.89	-18.7	115.7	4.3
Site1	2014/03/04	09:30:40	4.9	363	223	0.236	0.17	98	12.53	6.9	-19.3	122.6	4.5
Site1	2014/03/04	10:00:40	4.93	363	224	0.236	0.17	97.7	12.49	6.91	-19.6	126.7	4.4
Site1	2014/03/04	10:30:40	4.95	360	222	0.234	0.17	97.7	12.47	6.89	-19	130.4	4.3
Site1	2014/03/04	11:00:40	4.99	353	218	0.229	0.17	98.1	12.52	6.89	-18.8	129.3	4.1
Site1	2014/03/04	11:30:40	5.04	347	215	0.226	0.17	98.5	12.56	6.9	-19.1	120.8	4.2
Site1	2014/03/04	12:00:40	5.08	360	223	0.234	0.17	98.7	12.57	6.91	-20	126.5	7.6
Site1	2014/03/04	12:30:40	5.11	353	219	0.23	0.17	99	12.6	6.91	-20	133.1	7.3
Site1	2014/03/04	13:00:40	5.19	327	203	0.213	0.16	99.9	12.68	6.93	-20.6	117.9	8.5
Site1	2014/03/04	13:30:40	5.24	304	189	0.198	0.15	100.3	12.72	6.92	-20.5	113.6	9.8
Site1	2014/03/04	14:00:40	5.24	307	191	0.2	0.15	99.7	12.64	6.92	-20.4	120.7	8.7
Site1	2014/03/04	14:30:40	5.24	305	190	0.198	0.15	99.7	12.65	6.92	-20.3	128.4	8.6
Site1	2014/03/04	15:00:40	5.29	290	181	0.188	0.14	100.8	12.77	6.93	-20.8	123.8	8.7
Site1	2014/03/04	15:30:40	5.33	284	178	0.185	0.14	101.1	12.8	6.93	-20.8	112.5	9.7
Site1	2014/03/04	16:00:40	5.36	287	179	0.186	0.14	101.5	12.83	6.93	-20.9	109.7	8.8
Site1	2014/03/04	16:30:40	5.39	283	177	0.184	0.13	101.7	12.85	6.94	-21.1	111	8.2
Site1	2014/03/04	17:00:40	5.37	282	176	0.184	0.13	101.5	12.83	6.93	-20.9	109.7	7.9
Site1	2014/03/04	17:30:40	5.35	282	176	0.184	0.13	101.2	12.8	6.92	-20.4	109.4	7.5
Site1	2014/03/04	18:00:40	5.34	287	179	0.187	0.14	101	12.78	6.92	-20.2	108.2	7
Site1	2014/03/04	18:30:40	5.33	289	180	0.188	0.14	100.6	12.73	6.9	-19.2	107.7	6.5
Site1	2014/03/04	19:00:40	5.33	293	183	0.191	0.14	100.5	12.72	6.89	-19	106.1	6.3
Site1	2014/03/04	19:30:40	5.32	297	186	0.193	0.14	100.3	12.69	6.92	-20.1	108.3	6.7
Site1	2014/03/04	20:00:40	5.3	293	183	0.19	0.14	99.7	12.62	6.89	-19	119.6	6.2

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/04	20:30:40	5.29	290	181	0.189	0.14	99.8	12.64	6.88	-18.4	118	6.6
Site1	2014/03/04	21:00:40	5.27	292	182	0.19	0.14	99.5	12.61	6.89	-18.7	117.9	5.9
Site1	2014/03/04	21:30:40	5.26	292	182	0.19	0.14	99.2	12.57	6.87	-18.1	123.7	5.4
Site1	2014/03/04	22:00:40	5.25	292	182	0.19	0.14	98.8	12.53	6.88	-18.1	121.3	5.5
Site1	2014/03/04	22:30:40	5.23	292	182	0.19	0.14	98.6	12.51	6.87	-17.7	127.4	5.4
Site1	2014/03/04	23:00:40	5.22	292	182	0.19	0.14	98.4	12.49	6.86	-17.4	121	5.6
Site1	2014/03/04	23:30:40	5.21	292	182	0.19	0.14	97.5	12.38	6.86	-17.4	121.3	5.8
Site1	2014/03/05	00:00:40	5.2	293	182	0.19	0.14	98.1	12.45	6.87	-17.6	135.6	6.1
Site1	2014/03/05	00:30:40	5.2	291	181	0.189	0.14	98.9	12.55	6.88	-18.4	141	7.4
Site1	2014/03/05	01:00:40	5.16	275	171	0.179	0.13	99.5	12.65	6.88	-18.5	140.4	7.2
Site1	2014/03/05	01:30:40	5.16	269	167	0.175	0.13	99.3	12.62	6.88	-18.2	121.5	6.3
Site1	2014/03/05	02:00:40	5.16	267	166	0.174	0.13	98.8	12.56	6.88	-18.1	132.6	6.5
Site1	2014/03/05	02:30:40	5.13	262	162	0.17	0.12	98.9	12.58	6.88	-18.4	131.2	5.8
Site1	2014/03/05	03:00:40	5.11	254	158	0.165	0.12	99.6	12.67	6.9	-19.2	126.5	6.3
Site1	2014/03/05	03:30:40	5.09	249	154	0.162	0.12	99.6	12.68	6.89	-18.7	131.3	6.2
Site1	2014/03/05	04:00:40	5.1	247	153	0.161	0.12	99.4	12.65	6.88	-18.4	118.2	5.8
Site1	2014/03/05	04:30:40	5.13	251	156	0.163	0.12	99.3	12.63	6.89	-18.8	113.6	5.3
Site1	2014/03/05	05:00:40	5.14	249	155	0.162	0.12	99.9	12.7	6.9	-19.4	110.8	5.1
Site1	2014/03/05	05:30:40	5.15	247	154	0.161	0.12	99.5	12.65	6.89	-19	115.7	5
Site1	2014/03/05	06:00:40	5.17	244	152	0.159	0.12	99.6	12.65	6.89	-19	112.9	4.9
Site1	2014/03/05	06:30:40	5.21	248	154	0.161	0.12	99.6	12.65	6.9	-19.5	110.9	4.6
Site1	2014/03/05	07:00:40	5.21	247	154	0.16	0.12	99	12.57	6.89	-18.9	112.6	5
Site1	2014/03/05	07:30:40	5.22	242	150	0.157	0.12	98.7	12.52	6.89	-18.7	120.3	6.7
Site1	2014/03/05	08:00:40	5.25	242	151	0.158	0.12	98.2	12.45	6.88	-18.2	120.1	6.3
Site1	2014/03/05	08:30:40	5.28	244	152	0.159	0.12	98.1	12.43	6.88	-18.5	114.6	5.8
Site1	2014/03/05	09:00:40	5.36	250	157	0.163	0.12	97.9	12.39	6.89	-18.9	113.7	5.5
Site1	2014/03/05	09:30:40	5.46	256	160	0.166	0.12	98.7	12.45	6.9	-19.5	112.2	6.6
Site1	2014/03/05	10:00:40	5.54	244	153	0.159	0.12	98.9	12.45	6.91	-20	114.6	11.7
Site1	2014/03/05	10:30:40	5.66	235	148	0.152	0.11	99	12.42	6.9	-19.4	122.9	12.3
Site1	2014/03/05	11:00:40	5.74	242	153	0.157	0.12	98.9	12.38	6.9	-19.2	121.2	10.2
Site1	2014/03/05	11:30:40	5.83	247	157	0.161	0.12	98.8	12.35	6.89	-18.9	122.3	8.6
Site1	2014/03/05	12:00:40	5.9	259	165	0.169	0.12	98.6	12.29	6.88	-18.1	103.2	8.6
Site1	2014/03/05	12:30:40	6.04	253	161	0.164	0.12	99.5	12.37	6.89	-18.7	105.7	10.9
Site1	2014/03/05	13:00:40	6.12	257	164	0.167	0.12	99.7	12.37	6.9	-19	106.5	10.3
Site1	2014/03/05	13:30:40	6.17	257	165	0.167	0.12	100.1	12.39	6.91	-19.8	118.5	10
Site1	2014/03/05	14:00:40	6.23	257	165	0.167	0.12	100.8	12.46	6.92	-20.5	116.1	8.6
Site1	2014/03/05	14:30:40	6.39	257	166	0.167	0.12	101.4	12.49	6.92	-20.5	132.1	7.7
Site1	2014/03/05	15:00:40	6.55	254	164	0.165	0.12	101.3	12.42	6.92	-20.2	112.5	8.9
Site1	2014/03/05	15:30:40	6.61	259	168	0.168	0.12	101.4	12.42	6.92	-20.3	131.9	7.3
Site1	2014/03/05	16:00:40	6.64	258	167	0.167	0.12	100.8	12.34	6.91	-20	139.6	6.8
Site1	2014/03/05	16:30:40	6.67	257	167	0.167	0.12	100.4	12.28	6.92	-20	142.8	6.4
Site1	2014/03/05	17:00:40	6.67	258	168	0.168	0.12	100.1	12.24	6.92	-20.1	140.8	6.8
Site1	2014/03/05	17:30:40	6.65	259	168	0.168	0.12	99.6	12.19	6.91	-19.9	141.3	6.8
Site1	2014/03/05	18:00:40	6.64	260	169	0.169	0.12	99.2	12.14	6.9	-19.2	141.8	7.3
Site1	2014/03/05	18:30:40	6.63	260	169	0.169	0.12	98.8	12.1	6.89	-18.9	141.7	6.2
Site1	2014/03/05	19:00:40	6.6	260	169	0.169	0.12	98.2	12.03	6.88	-18.1	142.6	5.9
Site1	2014/03/05	19:30:40	6.58	259	168	0.169	0.12	98.1	12.03	6.87	-17.8	143.2	5.9
Site1	2014/03/05	20:00:40	6.57	257	167	0.167	0.12	98.1	12.03	6.88	-18.1	148	5.4
Site1	2014/03/05	20:30:40	6.56	254	164	0.165	0.12	98.1	12.04	6.88	-18	146.2	5.7
Site1	2014/03/05	21:00:40	6.53	252	163	0.164	0.12	97.5	11.97	6.87	-17.8	140	6.1
Site1	2014/03/05	21:30:40	6.53	261	169	0.17	0.12	97.7	11.99	6.89	-18.9	143.2	9.2

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/05	22:00:40	6.6	239	155	0.155	0.11	97.3	11.93	6.88	-18.5	141.8	10.5
Site1	2014/03/05	22:30:40	6.56	231	150	0.15	0.11	97.2	11.92	6.89	-18.6	144.2	8.1
Site1	2014/03/05	23:00:40	6.57	229	148	0.149	0.11	96.8	11.88	6.88	-18.5	150	7.4
Site1	2014/03/05	23:30:40	6.48	232	150	0.151	0.11	96.8	11.89	6.87	-17.8	119.5	7.6
Site1	2014/03/06	00:00:40	6.47	236	152	0.153	0.11	96.7	11.89	6.89	-18.7	120.7	6.2
Site1	2014/03/06	00:30:40	6.41	242	156	0.157	0.12	96.4	11.86	6.89	-18.6	121.2	6
Site1	2014/03/06	01:00:40	6.38	247	159	0.16	0.12	96.3	11.86	6.89	-18.6	119.9	5.6
Site1	2014/03/06	01:30:40	6.39	244	157	0.159	0.12	96.3	11.86	6.89	-18.6	114.1	5.7
Site1	2014/03/06	02:00:40	6.47	225	145	0.146	0.11	97	11.92	6.89	-18.7	125.1	7
Site1	2014/03/06	02:30:40	6.45	218	141	0.142	0.1	96.8	11.9	6.88	-18.1	122.1	5.9
Site1	2014/03/06	03:00:40	6.51	210	136	0.136	0.1	97.4	11.96	6.88	-18.4	127.1	6.2
Site1	2014/03/06	03:30:40	6.55	204	132	0.133	0.1	97.2	11.93	6.88	-18.1	127.6	6.1
Site1	2014/03/06	04:00:40	6.56	205	133	0.133	0.1	97.1	11.92	6.87	-17.9	122.7	5.5
Site1	2014/03/06	04:30:40	6.55	207	134	0.135	0.1	96.9	11.9	6.88	-18.1	119.2	5.3
Site1	2014/03/06	05:00:40	6.54	207	134	0.134	0.1	97	11.9	6.88	-18.4	119	5.2
Site1	2014/03/06	05:30:40	6.57	206	133	0.134	0.1	97.3	11.94	6.88	-18.4	117.2	5
Site1	2014/03/06	06:00:40	6.65	195	127	0.127	0.09	97.5	11.93	6.88	-18.1	125.5	5.2
Site1	2014/03/06	06:30:40	6.61	195	127	0.127	0.09	97.4	11.94	6.89	-18.9	134.1	5
Site1	2014/03/06	07:00:40	6.64	194	126	0.126	0.09	97.8	11.97	6.9	-19.2	138.9	4.8
Site1	2014/03/06	07:30:40	6.76	183	119	0.119	0.09	97.9	11.95	6.9	-19.3	133.9	13.4
Site1	2014/03/06	08:00:40	6.83	174	114	0.113	0.08	97.9	11.93	6.89	-19	137.1	13.7
Site1	2014/03/06	08:30:40	6.82	178	116	0.116	0.08	97.7	11.9	6.88	-18.1	122.4	19.5
Site1	2014/03/06	09:00:40	6.79	185	120	0.12	0.09	98.3	11.99	6.89	-18.7	123.3	14.5
Site1	2014/03/06	09:30:40	6.92	173	113	0.113	0.08	99.2	12.06	6.89	-18.9	111.4	18
Site1	2014/03/06	10:00:40	7.02	161	106	0.105	0.08	99.7	12.09	6.9	-19	118.6	20.9
Site1	2014/03/06	10:30:40	7.05	165	108	0.107	0.08	100.1	12.13	6.91	-19.8	120.7	18.5
Site1	2014/03/06	11:00:40	7.05	174	114	0.113	0.08	99.5	12.06	6.9	-19.4	121.8	20
Site1	2014/03/06	11:30:40	7.11	177	116	0.115	0.08	98.9	11.96	6.9	-19.4	122.4	17.5
Site1	2014/03/06	12:00:40	7.22	180	119	0.117	0.09	98.6	11.9	6.91	-19.5	120.8	13.7
Site1	2014/03/06	12:30:40	7.29	186	123	0.121	0.09	97.8	11.78	6.91	-19.8	118.6	12.7
Site1	2014/03/06	13:00:40	7.29	185	122	0.12	0.09	97.9	11.8	6.94	-21.2	121	11.4
Site1	2014/03/06	13:30:40	7.36	179	119	0.116	0.08	98.6	11.85	6.93	-20.6	124.9	12.2
Site1	2014/03/06	14:00:40	7.49	168	112	0.109	0.08	98.6	11.81	6.91	-20	130.4	11.1
Site1	2014/03/06	14:30:40	7.62	157	105	0.102	0.07	98.2	11.74	6.88	-18.4	129.2	12.3
Site1	2014/03/06	15:00:40	7.62	152	102	0.099	0.07	99	11.83	6.87	-17.6	132	10.8
Site1	2014/03/06	15:30:40	7.53	155	104	0.101	0.07	98.2	11.76	6.87	-17.5	109.3	19.6
Site1	2014/03/06	16:00:40	7.54	152	102	0.099	0.07	98.3	11.77	6.86	-17.2	107.7	24.4
Site1	2014/03/06	16:30:40	7.49	153	102	0.099	0.07	98.9	11.85	6.87	-17.6	119.6	13.3
Site1	2014/03/06	17:00:40	7.43	154	102	0.1	0.07	98.8	11.86	6.88	-18.1	122.8	11.3
Site1	2014/03/06	17:30:40	7.39	153	102	0.1	0.07	98.3	11.81	6.9	-19.2	128.9	9.7
Site1	2014/03/06	18:00:40	7.38	152	101	0.099	0.07	98.6	11.86	6.89	-18.6	133.4	9.4
Site1	2014/03/06	18:30:40	7.36	149	98	0.097	0.07	98.4	11.83	6.89	-18.7	134.5	8.9
Site1	2014/03/06	19:00:40	7.35	148	98	0.096	0.07	98	11.79	6.89	-18.9	140.4	9.1
Site1	2014/03/06	19:30:40	7.31	149	99	0.097	0.07	98.3	11.84	6.89	-19	147.9	8.3
Site1	2014/03/06	20:00:40	7.28	150	99	0.098	0.07	98	11.81	6.89	-18.6	143.3	10
Site1	2014/03/06	20:30:40	7.25	152	100	0.099	0.07	98.1	11.83	6.89	-18.6	146.4	8.3
Site1	2014/03/06	21:00:40	7.21	154	102	0.1	0.07	98	11.83	6.88	-18.5	144.8	7.9
Site1	2014/03/06	21:30:40	7.2	154	102	0.1	0.07	97.8	11.82	6.88	-18.1	144.2	7.5
Site1	2014/03/06	22:00:40	7.17	155	102	0.1	0.07	97.4	11.77	6.87	-17.5	147.7	9
Site1	2014/03/06	22:30:40	7.14	156	103	0.101	0.07	97.5	11.79	6.87	-17.9	138.9	7.5
Site1	2014/03/06	23:00:40	7.12	156	103	0.102	0.07	97.4	11.78	6.86	-17.3	140.4	6.8

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/06	23:30:40	7.11	156	103	0.101	0.07	96.8	11.71	6.85	-16.7	134	9.8
Site1	2014/03/07	00:00:40	7.07	156	102	0.101	0.07	97	11.75	6.85	-17	134.5	7.3
Site1	2014/03/07	00:30:40	7.06	156	102	0.101	0.07	96.8	11.74	6.85	-16.7	132.3	7
Site1	2014/03/07	01:00:40	7.07	155	102	0.101	0.07	96.3	11.66	6.84	-16.5	137.6	6.7
Site1	2014/03/07	01:30:40	7.17	152	100	0.099	0.07	96.1	11.62	6.88	-18.2	146.1	7.4
Site1	2014/03/07	02:00:40	7.11	153	101	0.1	0.07	95.8	11.6	6.86	-17.3	152.3	7
Site1	2014/03/07	02:30:40	7.08	155	102	0.101	0.07	96.3	11.66	6.86	-17.2	157.6	6.1
Site1	2014/03/07	03:00:40	7.06	155	102	0.101	0.07	95.8	11.61	6.85	-16.8	161.6	5.9
Site1	2014/03/07	03:30:40	7.05	156	102	0.101	0.07	95.8	11.61	6.85	-16.5	162.6	6.2
Site1	2014/03/07	04:00:40	7.04	156	102	0.101	0.07	95.4	11.56	6.84	-16.2	159.3	6.2
Site1	2014/03/07	04:30:40	7.05	157	103	0.102	0.07	95.6	11.58	6.84	-16.2	165.6	6
Site1	2014/03/07	05:00:40	7.05	157	103	0.102	0.07	95.7	11.59	6.84	-16.5	159.2	5.8
Site1	2014/03/07	05:30:40	7.05	157	103	0.102	0.07	95.9	11.62	6.85	-16.5	158.3	5.6
Site1	2014/03/07	06:00:40	7.07	156	103	0.102	0.07	95.6	11.58	6.85	-16.5	159.1	5.7
Site1	2014/03/07	06:30:40	7.06	157	103	0.102	0.07	95.7	11.6	6.86	-17.1	161.8	5.3
Site1	2014/03/07	07:00:40	7.03	157	103	0.102	0.07	95.2	11.54	6.84	-16.1	160.6	5.1
Site1	2014/03/07	07:30:40	7.07	155	102	0.101	0.07	95	11.51	6.84	-16.2	142.7	5.4
Site1	2014/03/07	08:00:40	7.16	152	101	0.099	0.07	95.4	11.53	6.87	-17.7	152.5	5.6
Site1	2014/03/07	08:30:40	7.16	154	101	0.1	0.07	95	11.48	6.84	-16.4	164.6	5.9
Site1	2014/03/07	09:00:40	7.19	156	103	0.101	0.07	96.9	11.7	6.86	-17.3	165.7	11.4
Site1	2014/03/07	09:30:40	7.26	157	104	0.102	0.07	96.8	11.67	6.85	-16.7	163.5	7.5
Site1	2014/03/07	10:00:40	7.38	156	103	0.101	0.07	97.2	11.68	6.85	-16.7	164.1	6.2
Site1	2014/03/07	10:30:40	7.46	157	104	0.102	0.07	97	11.64	6.84	-16.1	171.4	7
Site1	2014/03/07	11:00:40	7.52	157	105	0.102	0.07	96.5	11.56	6.81	-15	176	5.9
Site1	2014/03/07	11:30:40	7.55	157	105	0.102	0.07	96.8	11.59	6.84	-16.4	171.8	6
Site1	2014/03/07	12:00:40	7.56	157	105	0.102	0.07	97	11.6	6.83	-15.7	174.9	5.4
Site1	2014/03/07	12:30:40	7.63	167	111	0.108	0.08	98	11.71	6.89	-18.7	160.9	6.3
Site1	2014/03/07	13:00:40	7.66	169	113	0.11	0.08	98.7	11.78	6.89	-18.6	170.2	6.3
Site1	2014/03/07	13:30:40	7.7	166	111	0.108	0.08	98.8	11.78	6.91	-19.5	172.6	6.4
Site1	2014/03/07	14:00:40	7.73	164	110	0.106	0.08	99.6	11.86	6.91	-19.5	171.4	5.4
Site1	2014/03/07	14:30:40	7.72	164	110	0.107	0.08	99.8	11.9	6.89	-18.9	152.1	5.1
Site1	2014/03/07	15:00:40	7.76	163	109	0.106	0.08	98.5	11.73	6.9	-19.4	152.4	5.3
Site1	2014/03/07	15:30:40	7.75	164	110	0.106	0.08	98.6	11.75	6.89	-19	159.7	5.6
Site1	2014/03/07	16:00:40	7.74	163	109	0.106	0.08	98.8	11.77	6.9	-19.1	160.8	5.5
Site1	2014/03/07	16:30:40	7.75	163	110	0.106	0.08	98.8	11.77	6.9	-19.2	168	5.2
Site1	2014/03/07	17:00:40	7.83	115	77	0.075	0.05	99.6	11.84	6.94	-21.1	142.1	5.7
Site1	2014/03/07	17:30:40	7.86	114	77	0.074	0.05	99.7	11.84	6.91	-19.8	161.2	5.4
Site1	2014/03/07	18:00:40	7.83	114	77	0.074	0.05	98.2	11.67	6.87	-17.7	181.2	5.4
Site1	2014/03/07	18:30:40	7.84	113	76	0.074	0.05	98.4	11.69	6.89	-18.9	179.7	5.4
Site1	2014/03/07	19:00:40	7.81	114	76	0.074	0.05	97.8	11.64	6.89	-18.8	184.4	5.3
Site1	2014/03/07	19:30:40	7.79	114	76	0.074	0.05	97.3	11.58	6.88	-18.2	188.4	5.3
Site1	2014/03/07	20:00:40	7.76	114	77	0.074	0.05	97.1	11.57	6.88	-18.5	187.6	5
Site1	2014/03/07	20:30:40	7.72	115	77	0.075	0.05	96.6	11.52	6.87	-17.7	189.6	5.2
Site1	2014/03/07	21:00:40	7.69	115	77	0.075	0.05	96	11.45	6.86	-17.2	194.6	4.9
Site1	2014/03/07	21:30:40	7.64	116	77	0.075	0.05	96.8	11.56	6.88	-18.2	198.4	5.6
Site1	2014/03/07	22:00:40	7.59	116	78	0.076	0.05	95.9	11.47	6.86	-17.2	191.5	4.8
Site1	2014/03/07	22:30:40	7.56	117	78	0.076	0.05	95.4	11.42	6.85	-16.8	199.2	5
Site1	2014/03/07	23:00:40	7.51	117	78	0.076	0.06	95.3	11.42	6.86	-17.3	199.2	5.2
Site1	2014/03/07	23:30:40	7.48	118	78	0.076	0.06	94.2	11.3	6.85	-16.5	204.5	5.1
Site1	2014/03/08	00:00:40	7.4	118	79	0.077	0.06	94.4	11.35	6.86	-17.3	205	4.7
Site1	2014/03/08	00:30:40	7.37	119	79	0.077	0.06	93.6	11.26	6.85	-16.6	210.1	4.5



Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/08	01:00:40	7.35	145	96	0.094	0.07	93.7	11.27	6.86	-17.1	199	4.9
Site1	2014/03/08	01:30:40	7.33	145	96	0.094	0.07	94	11.32	6.86	-17.5	201	4.3
Site1	2014/03/08	02:00:40	7.32	145	96	0.094	0.07	94.3	11.35	6.87	-17.9	183	5.4
Site1	2014/03/08	02:30:40	7.3	146	96	0.095	0.07	94.1	11.33	6.86	-17.3	203.3	4.7
Site1	2014/03/08	03:00:40	7.26	143	95	0.093	0.07	93.8	11.31	6.87	-17.6	188	4.3
Site1	2014/03/08	03:30:40	7.23	145	96	0.094	0.07	93.8	11.32	6.87	-17.8	195.6	4.2
Site1	2014/03/08	04:00:40	7.19	146	97	0.095	0.07	93.3	11.26	6.86	-17.2	206.7	4.2
Site1	2014/03/08	04:30:40	7.16	147	97	0.096	0.07	93	11.24	6.86	-17.2	216.2	4
Site1	2014/03/08	05:00:40	7.14	148	97	0.096	0.07	92.4	11.18	6.84	-16.4	220	4
Site1	2014/03/08	05:30:40	7.11	148	98	0.097	0.07	92.6	11.2	6.86	-17.5	221.1	4
Site1	2014/03/08	06:00:40	7.1	148	98	0.096	0.07	91.9	11.12	6.85	-16.7	223.8	3.9
Site1	2014/03/08	06:30:40	7.07	149	98	0.097	0.07	92.2	11.16	6.87	-17.6	223.1	3.9
Site1	2014/03/08	07:00:40	7.05	150	99	0.098	0.07	92	11.15	6.85	-16.7	230.5	3.9
Site1	2014/03/08	07:30:40	7.04	151	99	0.098	0.07	92	11.16	6.84	-16.5	232.1	3.9
Site1	2014/03/08	08:00:40	7.06	152	100	0.099	0.07	92.7	11.23	6.86	-17	222	4.5
Site1	2014/03/08	08:30:40	7.07	151	99	0.098	0.07	92.6	11.22	6.86	-17.3	224.1	4.4
Site1	2014/03/08	09:00:40	7.08	152	100	0.099	0.07	92.8	11.24	6.85	-16.9	239.4	4.5
Site1	2014/03/08	09:30:40	7.09	153	100	0.099	0.07	93	11.26	6.86	-17.4	246.3	4.3
Site1	2014/03/08	10:00:40	7.11	153	101	0.1	0.07	92.9	11.24	6.86	-17.3	257.1	4
Site1	2014/03/08	10:30:40	7.12	154	101	0.1	0.07	93	11.25	6.86	-17.3	263.7	4.2
Site1	2014/03/08	11:00:40	7.15	154	102	0.1	0.07	92.7	11.21	6.84	-16.4	269.1	4.5
Site1	2014/03/08	11:30:40	7.18	154	101	0.1	0.07	93.6	11.3	6.86	-17.3	272.2	4
Site1	2014/03/08	12:00:40	7.19	156	103	0.102	0.07	94	11.35	6.86	-17.2	276.8	4.2
Site1	2014/03/08	12:30:40	7.31	162	107	0.105	0.08	94.4	11.37	6.87	-17.9	275.9	8
Site1	2014/03/08	13:00:40	7.4	147	98	0.095	0.07	95.4	11.46	6.9	-19.1	274.5	7.2
Site1	2014/03/08	13:30:40	7.44	143	95	0.093	0.07	95.2	11.43	6.89	-18.8	277.5	7
Site1	2014/03/08	14:00:40	7.48	139	92	0.09	0.07	95.3	11.43	6.89	-18.8	275.4	7.9
Site1	2014/03/08	14:30:40	7.51	137	91	0.089	0.06	95.5	11.45	6.9	-19.3	279.4	6.4
Site1	2014/03/08	15:00:40	7.53	134	89	0.087	0.06	96.2	11.53	6.91	-19.8	264.2	6.8
Site1	2014/03/08	15:30:40	7.55	133	89	0.086	0.06	96.4	11.54	6.92	-20.2	262.6	7
Site1	2014/03/08	16:00:40	7.56	134	89	0.087	0.06	96.2	11.51	6.91	-19.7	262.6	6.8
Site1	2014/03/08	16:30:40	7.59	148	98	0.096	0.07	96.2	11.5	6.89	-18.7	210.9	8.9
Site1	2014/03/08	17:00:40	7.57	147	98	0.096	0.07	96.7	11.57	6.91	-19.7	215	8.4
Site1	2014/03/08	17:30:40	7.55	143	95	0.093	0.07	95.9	11.48	6.88	-18.1	185.2	14.2
Site1	2014/03/08	18:00:40	7.54	135	90	0.088	0.06	97.6	11.69	6.91	-20	190	11.7
Site1	2014/03/08	18:30:40	7.51	134	89	0.087	0.06	97.5	11.68	6.91	-19.8	203.2	12.7
Site1	2014/03/08	19:00:40	7.46	135	90	0.087	0.06	97.5	11.7	6.92	-20.2	202.4	14.2
Site1	2014/03/08	19:30:40	7.41	135	90	0.088	0.06	97.6	11.73	6.92	-20	207.5	13.9
Site1	2014/03/08	20:00:40	7.36	134	89	0.087	0.06	97.4	11.72	6.91	-19.8	213.4	17.1
Site1	2014/03/08	20:30:40	7.32	134	89	0.087	0.06	97.2	11.7	6.9	-19.4	220.6	20.6
Site1	2014/03/08	21:00:40	7.3	136	90	0.088	0.06	96.8	11.66	6.87	-17.9	219.3	21.5
Site1	2014/03/08	21:30:40	7.28	137	90	0.089	0.06	97.2	11.71	6.88	-18.1	214.7	20.6
Site1	2014/03/08	22:00:40	7.25	139	92	0.09	0.07	97.4	11.74	6.88	-18.1	215.6	19.5
Site1	2014/03/08	22:30:40	7.28	149	98	0.097	0.07	96.4	11.62	6.86	-17.3	188.4	22.9
Site1	2014/03/08	23:00:40	7.34	154	102	0.1	0.07	95.4	11.48	6.88	-18.1	186.6	22.4
Site1	2014/03/08	23:30:40	7.39	149	99	0.097	0.07	95.3	11.45	6.88	-18.2	193.6	22.7
Site1	2014/03/09	00:00:40	7.42	141	94	0.092	0.07	95.1	11.42	6.86	-17.3	203.8	15.5
Site1	2014/03/09	00:30:40	7.44	134	89	0.087	0.06	95.2	11.43	6.85	-16.7	197.8	16
Site1	2014/03/09	01:00:40	7.46	131	87	0.085	0.06	95.1	11.41	6.84	-16.3	198.4	14.4
Site1	2014/03/09	01:30:40	7.49	124	83	0.081	0.06	94.9	11.38	6.83	-15.7	197.8	14
Site1	2014/03/09	02:00:40	7.48	121	81	0.079	0.06	95.6	11.46	6.86	-17.2	206.5	10.8

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/09	02:30:40	7.45	119	79	0.078	0.06	95.6	11.48	6.84	-16.4	214.5	10.3
Site1	2014/03/09	03:00:40	7.42	117	78	0.076	0.06	95.4	11.46	6.83	-15.8	214.5	9.6
Site1	2014/03/09	03:30:40	7.37	117	78	0.076	0.06	95.8	11.52	6.86	-17.1	227.4	8.1
Site1	2014/03/09	04:00:40	7.34	116	77	0.075	0.05	95	11.43	6.83	-15.9	244.4	8.6
Site1	2014/03/09	04:30:40	7.26	118	78	0.077	0.06	95.7	11.54	6.84	-16.5	257.2	7.8
Site1	2014/03/09	05:00:40	7.23	119	78	0.077	0.06	95.6	11.53	6.83	-15.6	265.9	7.3
Site1	2014/03/09	05:30:40	7.17	120	79	0.078	0.06	95.4	11.53	6.83	-15.8	262.6	6.7
Site1	2014/03/09	06:00:40	7.13	122	80	0.079	0.06	95	11.49	6.83	-15.7	263.7	6.4
Site1	2014/03/09	06:30:40	7.09	123	81	0.08	0.06	94.6	11.46	6.82	-15.2	264.9	6.5
Site1	2014/03/09	07:00:40	7.05	123	81	0.08	0.06	94.6	11.46	6.81	-15	263.5	6.1
Site1	2014/03/09	07:30:40	7.04	124	81	0.08	0.06	94.5	11.46	6.81	-14.8	262.6	5.9
Site1	2014/03/09	08:00:40	7.06	123	81	0.08	0.06	94.4	11.44	6.8	-14.4	263.5	6
Site1	2014/03/09	08:30:40	7.09	123	81	0.08	0.06	94.8	11.48	6.8	-14.5	266.7	5.6
Site1	2014/03/09	09:00:40	7.14	124	81	0.08	0.06	95.2	11.52	6.8	-14.2	261.2	6.1
Site1	2014/03/09	09:30:40	7.23	123	81	0.08	0.06	95.4	11.51	6.82	-15.2	279.2	5.6
Site1	2014/03/09	10:00:40	7.3	126	83	0.082	0.06	96.9	11.68	6.82	-15.4	289.4	5.5
Site1	2014/03/09	10:30:40	7.38	127	84	0.082	0.06	97.6	11.73	6.83	-15.6	289.7	5.2
Site1	2014/03/09	11:00:40	7.48	128	85	0.083	0.06	98.5	11.8	6.83	-15.7	294.6	5
Site1	2014/03/09	11:30:40	7.59	128	85	0.083	0.06	99.2	11.86	6.83	-15.6	295.3	5
Site1	2014/03/09	12:00:40	7.71	129	86	0.084	0.06	98.6	11.76	6.83	-15.6	296.9	4.7
Site1	2014/03/09	12:30:40	7.8	128	86	0.084	0.06	98.4	11.71	6.81	-14.6	291.6	5.2
Site1	2014/03/09	13:00:40	8.01	128	86	0.083	0.06	98.4	11.65	6.82	-15.4	290.6	4.8
Site1	2014/03/09	13:30:40	8.16	125	85	0.081	0.06	101	11.91	6.83	-15.5	296.8	5.3
Site1	2014/03/09	14:00:40	8.26	127	86	0.082	0.06	102.1	12.01	6.83	-15.9	301.5	5
Site1	2014/03/09	14:30:40	8.36	127	87	0.083	0.06	102.4	12.02	6.85	-16.5	301.9	5
Site1	2014/03/09	15:00:40	8.48	131	89	0.085	0.06	102	11.93	6.85	-16.7	302.6	4.8
Site1	2014/03/09	15:30:40	8.53	129	89	0.084	0.06	101.2	11.83	6.84	-16.2	304.4	4.8
Site1	2014/03/09	16:00:40	8.58	132	90	0.086	0.06	100.1	11.69	6.84	-16	305.1	4.5
Site1	2014/03/09	16:30:40	8.56	131	90	0.085	0.06	99.1	11.57	6.84	-16.1	305.3	4.6
Site1	2014/03/09	17:00:40	8.54	130	89	0.085	0.06	98.6	11.53	6.83	-15.7	307.5	4.5
Site1	2014/03/09	17:30:40	8.53	130	89	0.085	0.06	97.4	11.39	6.82	-15.2	308.7	4.5
Site1	2014/03/09	18:00:40	8.49	129	89	0.084	0.06	97.3	11.38	6.82	-15	309.6	4.5
Site1	2014/03/09	18:30:40	8.47	129	89	0.084	0.06	97.1	11.37	6.83	-15.6	309.3	4.4
Site1	2014/03/09	19:00:40	8.45	129	88	0.084	0.06	96.8	11.34	6.82	-15.3	308.7	4.4
Site1	2014/03/09	19:30:40	8.38	130	88	0.084	0.06	96.5	11.31	6.83	-15.6	308.7	4.4
Site1	2014/03/09	20:00:40	8.27	131	89	0.085	0.06	96.2	11.32	6.83	-15.9	308	4.3
Site1	2014/03/09	20:30:40	8.15	132	90	0.086	0.06	95.7	11.29	6.83	-15.6	310.8	4.3
Site1	2014/03/09	21:00:40	8.08	133	90	0.086	0.06	95	11.23	6.82	-15.1	307.5	4.6
Site1	2014/03/09	21:30:40	7.94	133	90	0.087	0.06	95.2	11.29	6.83	-15.9	304.7	5
Site1	2014/03/09	22:00:40	7.85	134	90	0.087	0.06	94.3	11.21	6.83	-15.6	311	5.3
Site1	2014/03/09	22:30:40	7.75	134	90	0.087	0.06	93.6	11.14	6.83	-15.7	308.3	5.3
Site1	2014/03/09	23:00:40	7.63	135	90	0.088	0.06	92.9	11.1	6.81	-15	311.3	4.4
Site1	2014/03/09	23:30:40	7.57	134	89	0.087	0.06	92.3	11.04	6.82	-15.2	317.5	4.4
Site1	2014/03/10	00:00:40	7.47	134	89	0.087	0.06	92	11.04	6.83	-15.9	316.3	4.4
Site1	2014/03/10	00:30:40	7.4	134	89	0.087	0.06	91.7	11.02	6.82	-15.3	319.6	5.3
Site1	2014/03/10	01:00:40	7.34	134	89	0.087	0.06	91	10.96	6.81	-14.8	320.5	4.6
Site1	2014/03/10	01:30:40	7.29	135	89	0.088	0.06	90.9	10.96	6.81	-14.9	317.3	4.3
Site1	2014/03/10	02:00:40	7.27	135	89	0.087	0.06	91	10.97	6.81	-14.9	317.7	4.7
Site1	2014/03/10	02:30:40	7.2	135	89	0.088	0.06	90.7	10.95	6.81	-14.8	321.5	4.5
Site1	2014/03/10	03:00:40	7.27	134	89	0.087	0.06	90.6	10.92	6.81	-14.6	321.6	4.8
Site1	2014/03/10	03:30:40	7.21	135	89	0.088	0.06	90.4	10.91	6.8	-14.4	323.2	4

## Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/10	04:00:40	7.19	136	90	0.088	0.06	90.5	10.93	6.8	-14.1	315.9	4
Site1	2014/03/10	04:30:40	7.14	137	90	0.089	0.06	90.5	10.94	6.81	-14.6	319.1	4
Site1	2014/03/10	05:00:40	7.06	139	91	0.09	0.07	89.7	10.88	6.8	-14.4	319.9	3.7
Site1	2014/03/10	05:30:40	7.03	140	92	0.091	0.07	90.3	10.95	6.81	-14.8	315.7	3.6
Site1	2014/03/10	06:00:40	7.01	141	92	0.092	0.07	90.1	10.93	6.81	-14.7	317.2	3.6
Site1	2014/03/10	06:30:40	7.13	139	91	0.09	0.07	90.6	10.96	6.82	-15.3	320.4	3.4
Site1	2014/03/10	07:00:40	7.02	140	92	0.091	0.07	90.2	10.95	6.81	-14.5	324.3	3.5
Site1	2014/03/10	07:30:40	7.02	140	92	0.091	0.07	91	11.03	6.82	-15.5	322.9	3.6
Site1	2014/03/10	08:00:40	7.07	141	92	0.091	0.07	91.2	11.04	6.82	-15.5	317	3.4
Site1	2014/03/10	08:30:40	7.05	140	92	0.091	0.07	92.2	11.18	6.82	-15.3	325.3	3.4
Site1	2014/03/10	09:00:40	7.11	140	92	0.091	0.07	94.9	11.48	6.82	-15.4	324.7	3.7
Site1	2014/03/10	09:30:40	7.16	141	93	0.092	0.07	92.1	11.13	6.81	-14.6	322.6	3.8
Site1	2014/03/10	10:00:40	7.2	147	97	0.096	0.07	91	10.99	6.78	-13	319.8	3.7
Site1	2014/03/10	10:30:40	7.29	147	97	0.095	0.07	97	11.68	6.78	-13.4	316.7	3.9
Site1	2014/03/10	11:00:40	7.44	144	96	0.094	0.07	102.5	12.3	6.81	-14.5	323.5	3.7
Site1	2014/03/10	11:30:40	7.7	148	99	0.096	0.07	96.6	11.52	6.8	-14.3	323.9	4
Site1	2014/03/10	12:00:40	7.88	147	99	0.096	0.07	96.7	11.49	6.8	-14.3	324.5	4.2
Site1	2014/03/10	12:30:40	8.15	147	100	0.096	0.07	99.5	11.74	6.79	-13.7	324.4	3.7
Site1	2014/03/10	13:00:40	7.86	142	96	0.092	0.07	100.9	11.98	6.83	-15.7	324.6	3.5
Site1	2014/03/10	13:30:30	9.24	138	97	0.09	0.07	98.2	11.28	6.84	-16	311.8	7
Site1	2014/03/10	14:00:40	8.71	148	102	0.096	0.07	104.5	12.16	6.81	-14.5	319.9	5.2
Site1	2014/03/10	14:30:40	9.02	150	104	0.097	0.07	104.5	12.07	6.8	-14.5	322.6	4.9
Site1	2014/03/10	15:00:40	8.95	147	102	0.096	0.07	103.9	12.02	6.81	-14.5	322.8	4.6
Site1	2014/03/10	15:30:40	8.96	146	101	0.095	0.07	104.7	12.11	6.83	-15.6	323.4	4.2
Site1	2014/03/10	16:00:40	9.29	148	103	0.096	0.07	100.5	11.53	6.82	-15.1	321.5	3.7
Site1	2014/03/10	16:30:40	9.63	149	106	0.097	0.07	100.7	11.46	6.86	-17.2	318.8	3.3
Site1	2014/03/10	17:00:40	9.8	149	106	0.097	0.07	100.7	11.42	6.87	-17.8	322.2	3.6
Site1	2014/03/10	17:30:40	9.72	147	104	0.095	0.07	99.6	11.32	6.88	-18	323.7	3.6
Site1	2014/03/10	18:00:40	9.58	147	104	0.096	0.07	99.1	11.29	6.88	-18.3	323.9	3.6
Site1	2014/03/10	18:30:40	9.47	148	104	0.096	0.07	99.6	11.38	6.91	-19.9	323	3.9
Site1	2014/03/10	19:00:40	9.42	148	104	0.096	0.07	96.6	11.06	6.84	-16.3	325.2	3.5
Site1	2014/03/10	19:30:40	9.26	147	103	0.096	0.07	98	11.25	6.9	-19.1	326.8	3.7
Site1	2014/03/10	20:00:40	9.17	147	103	0.096	0.07	97.1	11.18	6.91	-19.7	326.2	4
Site1	2014/03/10	20:30:40	9.08	147	102	0.096	0.07	96.6	11.14	6.92	-20	325.8	3.7
Site1	2014/03/10	21:00:40	9	147	102	0.095	0.07	95.9	11.08	6.91	-19.8	326.8	3.8
Site1	2014/03/10	21:30:40	8.94	146	101	0.095	0.07	95.3	11.03	6.91	-19.6	327	3.7
Site1	2014/03/10	22:00:40	8.87	146	101	0.095	0.07	94.4	10.94	6.9	-19.5	327.5	3.8
Site1	2014/03/10	22:30:40	8.77	146	101	0.095	0.07	94	10.92	6.91	-19.5	327.9	3.8
Site1	2014/03/10	23:00:40	8.7	147	101	0.095	0.07	93.6	10.89	6.91	-19.7	327.8	4.2
Site1	2014/03/10	23:30:40	8.61	148	101	0.096	0.07	93.1	10.86	6.91	-19.7	328	4.2
Site1	2014/03/11	00:00:40	8.51	148	102	0.096	0.07	92.2	10.78	6.9	-19.1	328.1	4.2
Site1	2014/03/11	00:30:40	8.39	149	101	0.097	0.07	91.6	10.74	6.89	-18.9	328	4.2
Site1	2014/03/11	01:00:40	8.25	149	101	0.097	0.07	90.9	10.7	6.88	-18.4	328.9	4.5
Site1	2014/03/11	01:30:40	8.13	149	101	0.097	0.07	90.3	10.65	6.88	-18	329	4.5
Site1	2014/03/11	02:00:40	8.02	149	101	0.097	0.07	89.7	10.61	6.87	-17.6	329.5	4.4
Site1	2014/03/11	02:30:40	7.91	149	101	0.097	0.07	89.7	10.64	6.87	-17.7	328.9	4.5
Site1	2014/03/11	03:00:40	7.82	149	100	0.097	0.07	89.6	10.65	6.87	-17.8	329.8	4.7
Site1	2014/03/11	03:30:40	7.72	149	100	0.097	0.07	89.3	10.64	6.87	-17.7	330	4.2
Site1	2014/03/11	04:00:40	7.69	149	100	0.097	0.07	89.2	10.64	6.87	-17.8	330.3	4.3
Site1	2014/03/11	04:30:40	7.68	150	100	0.098	0.07	89.5	10.68	6.86	-17.3	330	4.3
Site1	2014/03/11	05:00:40	7.6	151	101	0.098	0.07	89.3	10.67	6.87	-17.8	330.3	4.3

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/11	05:30:40	7.53	152	101	0.099	0.07	89.2	10.68	6.87	-17.9	330.7	4.2
Site1	2014/03/11	06:00:40	7.51	152	101	0.099	0.07	89.3	10.7	6.87	-17.9	330.7	4.3
Site1	2014/03/11	06:30:40	7.45	152	101	0.099	0.07	89.4	10.73	6.88	-18.2	330.8	4
Site1	2014/03/11	07:00:40	7.44	152	101	0.099	0.07	89.8	10.78	6.88	-18.2	330.7	4
Site1	2014/03/11	07:30:40	7.46	152	101	0.099	0.07	90.2	10.82	6.88	-18.4	331.1	4.1
Site1	2014/03/11	08:00:40	7.5	152	101	0.099	0.07	91.9	11.01	6.89	-18.5	330.6	4.2
Site1	2014/03/11	08:30:40	7.46	156	104	0.101	0.07	90.6	10.87	6.88	-18.1	330.4	4.1
Site1	2014/03/11	09:00:40	7.54	160	106	0.104	0.08	94.3	11.29	6.89	-18.6	324.9	4.3
Site1	2014/03/11	09:30:40	7.64	160	107	0.104	0.08	97.9	11.69	6.9	-19.5	325.7	4
Site1	2014/03/11	10:00:40	7.67	162	108	0.105	0.08	97.7	11.66	6.91	-19.5	328.5	5.2
Site1	2014/03/11	10:30:40	7.75	163	109	0.106	0.08	103	12.27	6.91	-20	328.4	4.1
Site1	2014/03/11	11:00:40	7.78	164	110	0.107	0.08	102.5	12.2	6.92	-20.2	328.2	4.1
Site1	2014/03/11	11:30:40	7.86	164	111	0.107	0.08	104.9	12.47	6.92	-20.4	328.5	3.9
Site1	2014/03/11	12:00:40	7.91	165	111	0.107	0.08	107.7	12.78	6.92	-20.4	328.7	3.9
Site1	2014/03/11	12:30:40	7.99	166	112	0.108	0.08	108.8	12.88	6.93	-20.6	328.6	3.9
Site1	2014/03/11	13:00:40	8.19	166	112	0.108	0.08	108.6	12.8	6.93	-20.8	328.6	4.2
Site1	2014/03/11	13:30:40	8.27	165	112	0.107	0.08	113.4	13.34	6.94	-21.2	326.9	4.7
Site1	2014/03/11	14:00:40	8.72	168	116	0.109	0.08	109.2	12.7	6.95	-21.9	326.9	4.2
Site1	2014/03/11	14:30:40	8.81	168	116	0.109	0.08	114.1	13.25	6.97	-23	325.9	5.4
Site1	2014/03/11	15:00:40	9.06	169	117	0.11	0.08	112.7	13.01	6.96	-22.3	326.8	4.2
Site1	2014/03/11	15:30:40	9.2	170	119	0.11	0.08	110.3	12.68	6.98	-23.4	325.9	3.7
Site1	2014/03/11	16:00:40	9.89	165	117	0.107	0.08	106.6	12.06	6.98	-23.3	326.4	4.6
Site1	2014/03/11	16:30:40	9.61	166	117	0.108	0.08	105.3	11.99	6.97	-22.5	327.4	4.2
Site1	2014/03/11	17:00:40	9.64	166	118	0.108	0.08	102.9	11.71	6.98	-23.2	327.5	4
Site1	2014/03/11	17:30:40	9.62	166	117	0.108	0.08	99.2	11.3	6.97	-22.8	327.5	4
Site1	2014/03/11	18:00:40	9.64	164	116	0.107	0.08	100.3	11.41	6.99	-23.5	328.3	4
Site1	2014/03/11	18:30:40	9.7	161	114	0.105	0.08	99.9	11.35	6.99	-23.6	328.5	4
Site1	2014/03/11	19:00:40	9.77	159	113	0.103	0.08	100.6	11.42	6.99	-23.7	327.1	3.7
Site1	2014/03/11	19:30:40	9.75	159	113	0.104	0.08	98.3	11.16	6.97	-22.8	328.4	3.7
Site1	2014/03/11	20:00:40	9.75	157	111	0.102	0.07	100.1	11.36	6.98	-23.3	329.6	4.2
Site1	2014/03/11	20:30:40	9.75	155	110	0.101	0.07	100	11.35	6.98	-23.5	329.1	4
Site1	2014/03/11	21:00:40	9.72	155	110	0.101	0.07	98.6	11.2	6.98	-23	329	3.7
Site1	2014/03/11	21:30:40	9.61	156	110	0.101	0.07	99.8	11.36	6.97	-23	328.7	4
Site1	2014/03/11	22:00:40	9.49	156	110	0.101	0.07	98	11.19	6.96	-22.5	330	4.3
Site1	2014/03/11	22:30:40	9.32	160	112	0.104	0.08	96.2	11.03	6.95	-21.9	330.8	4.1
Site1	2014/03/11	23:00:40	9.22	160	111	0.104	0.08	94.7	10.89	6.96	-22.3	330.3	3.9
Site1	2014/03/11	23:30:40	9.1	159	111	0.103	0.08	95.1	10.97	6.93	-20.8	330.4	4
Site1	2014/03/12	00:00:40	8.99	159	110	0.103	0.08	95	10.99	6.93	-20.9	330.8	4.1
Site1	2014/03/12	00:30:40	8.91	159	110	0.103	0.08	95.8	11.1	6.95	-21.9	331.3	4.3
Site1	2014/03/12	01:00:40	8.83	159	110	0.103	0.08	95.8	11.12	6.96	-22.2	331.4	4
Site1	2014/03/12	01:30:40	8.73	160	110	0.104	0.08	95.7	11.13	6.96	-22.4	331.4	3.9
Site1	2014/03/12	02:00:40	8.64	160	110	0.104	0.08	95.3	11.11	6.97	-22.6	330.9	3.7
Site1	2014/03/12	02:30:40	8.55	161	110	0.105	0.08	95.1	11.1	6.97	-22.6	331.7	3.7
Site1	2014/03/12	03:00:40	8.46	162	111	0.105	0.08	94.6	11.07	6.97	-22.8	331.8	3.9
Site1	2014/03/12	03:30:40	8.37	163	111	0.106	0.08	94.2	11.05	6.97	-22.9	331.7	4.7
Site1	2014/03/12	04:00:40	8.28	164	112	0.107	0.08	93.8	11.02	6.97	-22.9	332	4
Site1	2014/03/12	04:30:40	8.2	165	112	0.107	0.08	93.2	10.98	6.97	-22.9	332.2	4.3
Site1	2014/03/12	05:00:40	8.07	166	112	0.108	0.08	92.6	10.94	6.97	-22.9	332	3.8
Site1	2014/03/12	05:30:40	7.99	166	112	0.108	0.08	92.4	10.94	6.97	-22.9	331.9	4.1
Site1	2014/03/12	06:00:40	7.92	166	112	0.108	0.08	91.9	10.9	6.97	-22.6	331.8	5.4
Site1	2014/03/12	06:30:40	7.83	166	111	0.108	0.08	91.2	10.85	6.96	-22.5	332.5	3.9

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/12	07:00:40	7.78	166	111	0.108	0.08	91.6	10.9	6.96	-22.3	331.2	3.9
Site1	2014/03/12	07:30:40	7.8	166	111	0.108	0.08	92.5	11.01	6.95	-21.9	331.4	3.9
Site1	2014/03/12	08:00:40	7.79	166	112	0.108	0.08	93.7	11.15	6.95	-21.6	331.2	3.5
Site1	2014/03/12	08:30:40	7.7	166	111	0.108	0.08	93.9	11.19	6.94	-21.4	332.2	6.1
Site1	2014/03/12	09:00:40	7.61	167	112	0.109	0.08	98.7	11.8	6.95	-21.9	331.4	4.3
Site1	2014/03/12	09:30:40	7.77	167	112	0.109	0.08	96.5	11.49	6.95	-22	331.8	4.5
Site1	2014/03/12	10:00:40	7.88	167	112	0.108	0.08	96.1	11.41	6.95	-21.9	331.8	7.9
Site1	2014/03/12	10:30:40	7.93	167	113	0.109	0.08	96.8	11.48	6.95	-21.8	329.3	4.1
Site1	2014/03/12	11:00:40	8	167	113	0.109	0.08	102.6	12.15	6.96	-22.3	330.9	3.9
Site1	2014/03/12	11:30:40	8.09	168	113	0.109	0.08	112.1	13.24	6.96	-22.4	331	3.7
Site1	2014/03/12	12:00:40	8.18	168	114	0.109	0.08	116.7	13.75	6.96	-22.3	331.4	3.7
Site1	2014/03/12	12:30:40	8.39	168	114	0.109	0.08	114.7	13.45	6.97	-22.8	330.7	3.9
Site1	2014/03/12	13:00:40	8.67	167	115	0.109	0.08	122.4	14.25	6.98	-23.1	330.5	3.9
Site1	2014/03/12	13:30:40	8.61	168	115	0.109	0.08	119.9	13.98	6.99	-23.8	329.3	3.8
Site1	2014/03/12	14:00:40	8.91	168	116	0.109	0.08	122.9	14.23	6.96	-22.2	330	4.1
Site1	2014/03/12	14:30:40	9.53	171	120	0.111	0.08	108.1	12.34	6.93	-20.7	329.3	4.8
Site1	2014/03/12	15:00:40	9.87	175	124	0.114	0.08	112.1	12.69	6.97	-22.8	328.8	4
Site1	2014/03/12	15:30:40	9.92	175	125	0.114	0.08	105.6	11.94	6.98	-23.3	329.5	4.7
Site1	2014/03/12	16:00:40	9.88	174	124	0.113	0.08	102.8	11.63	7.01	-24.8	329.2	4.5
Site1	2014/03/12	16:30:40	9.85	173	123	0.112	0.08	102	11.55	7.01	-24.8	328.9	5
Site1	2014/03/12	17:00:40	9.81	173	123	0.112	0.08	100.2	11.35	7	-24.4	329.2	3.9
Site1	2014/03/12	17:30:40	9.78	173	122	0.112	0.08	99.7	11.3	7	-24.4	329.3	4.6
Site1	2014/03/12	18:00:40	9.79	172	122	0.112	0.08	99.3	11.26	7	-24.4	329.7	4
Site1	2014/03/12	18:30:40	9.79	173	122	0.112	0.08	98.9	11.22	7	-24.2	329.8	4
Site1	2014/03/12	19:00:40	9.77	173	123	0.113	0.08	99.1	11.24	7.01	-24.7	330	3.7
Site1	2014/03/12	19:30:40	9.81	174	123	0.113	0.08	99	11.22	7.01	-24.7	330	4.1
Site1	2014/03/12	20:00:40	9.77	174	123	0.113	0.08	98.6	11.18	7.01	-24.9	330.3	4.2
Site1	2014/03/12	20:30:40	9.8	174	124	0.113	0.08	98.7	11.19	7.02	-25.1	330.1	3.3
Site1	2014/03/12	21:00:40	9.95	172	123	0.112	0.08	99.2	11.21	7.03	-25.8	330	4
Site1	2014/03/12	21:30:40	9.94	172	123	0.112	0.08	98.9	11.17	7.02	-25.2	330	3.5
Site1	2014/03/12	22:00:40	9.92	172	123	0.112	0.08	98	11.08	7.01	-24.8	330	4.3
Site1	2014/03/12	22:30:40	9.91	173	123	0.112	0.08	98.5	11.13	7	-24.5	330	3.9
Site1	2014/03/12	23:00:40	9.86	173	123	0.113	0.08	99	11.21	7.01	-25	330.2	4.7
Site1	2014/03/12	23:30:40	9.66	176	125	0.115	0.08	96.6	10.99	7.02	-25.2	330.1	3.6
Site1	2014/03/13	00:00:40	9.46	176	124	0.115	0.08	96.3	11	7.01	-24.9	330.4	4.7
Site1	2014/03/13	00:30:40	9.41	176	124	0.115	0.08	96.3	11.02	7.01	-24.9	330.7	4.3
Site1	2014/03/13	01:00:40	9.35	177	124	0.115	0.08	95.7	10.97	7.01	-24.6	331.4	3.6
Site1	2014/03/13	01:30:40	9.29	177	124	0.115	0.08	95.2	10.93	7.01	-24.6	332	3.8
Site1	2014/03/13	02:00:40	9.24	177	124	0.115	0.08	94.1	10.81	6.99	-23.7	331.4	3.3
Site1	2014/03/13	02:30:40	9.12	178	124	0.116	0.08	93.5	10.78	6.99	-23.9	331.2	3.5
Site1	2014/03/13	03:00:40	9.12	178	124	0.116	0.08	92.8	10.69	6.98	-23.5	331.1	3.1
Site1	2014/03/13	03:30:40	9.12	178	124	0.116	0.08	92.8	10.69	6.98	-23.3	331.5	3.2
Site1	2014/03/13	04:00:40	9.06	177	123	0.115	0.08	93.8	10.83	7.01	-24.8	331.7	3.6
Site1	2014/03/13	04:30:40	9.05	177	123	0.115	0.08	93.1	10.74	7	-24.2	332.3	3.9
Site1	2014/03/13	05:00:40	9.05	177	123	0.115	0.08	91.9	10.61	6.98	-23.1	332.4	3.4
Site1	2014/03/13	05:30:40	9.01	177	123	0.115	0.08	92.3	10.66	6.97	-22.9	332.6	3.6
Site1	2014/03/13	06:00:40	8.83	178	123	0.116	0.08	91.8	10.65	6.99	-23.9	332.3	5.1
Site1	2014/03/13	06:30:40	8.65	181	125	0.118	0.09	90.7	10.57	6.98	-23.4	332.5	3.3
Site1	2014/03/13	07:00:40	8.63	182	125	0.118	0.09	91	10.6	6.96	-22.3	333	3.9
Site1	2014/03/13	07:30:40	8.55	181	124	0.118	0.09	91.9	10.73	6.97	-22.9	333.4	5.3
Site1	2014/03/13	08:00:40	8.54	182	124	0.118	0.09	91.8	10.72	6.96	-22.4	332.8	4.6

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/13	08:30:40	8.58	181	124	0.118	0.09	92.6	10.81	6.96	-22	333.6	5.7
Site1	2014/03/13	09:00:40	8.63	180	124	0.117	0.09	97.8	11.41	6.97	-22.9	333.4	5.1
Site1	2014/03/13	09:30:40	8.67	180	124	0.117	0.09	99.3	11.56	6.97	-22.8	333.1	3.5
Site1	2014/03/13	10:00:40	8.73	180	124	0.117	0.09	106.1	12.34	6.97	-22.6	332.8	3.7
Site1	2014/03/13	10:30:40	8.81	180	125	0.117	0.09	113.6	13.18	6.96	-22.2	331.7	3.3
Site1	2014/03/13	11:00:40	8.87	179	124	0.117	0.09	101.1	11.72	6.97	-22.8	331	3.6
Site1	2014/03/13	11:30:40	8.98	180	125	0.117	0.09	114.3	13.21	6.98	-23.1	331.7	3.4
Site1	2014/03/13	12:00:40	9.14	179	124	0.116	0.08	107.6	12.39	6.94	-21.3	332.4	5.3
Site1	2014/03/13	12:30:40	9.15	178	124	0.116	0.08	120.2	13.84	6.96	-22.2	332	3.9
Site1	2014/03/13	13:00:40	9.29	177	124	0.115	0.08	120.4	13.81	6.99	-23.7	331.5	4.6
Site1	2014/03/13	13:30:40	9.34	178	125	0.116	0.08	122.1	14	6.98	-23.4	331.9	3.9
Site1	2014/03/13	14:00:40	9.43	178	125	0.115	0.08	125.8	14.38	7	-24.1	332.7	4.5
Site1	2014/03/13	14:30:40	10.07	181	129	0.118	0.09	117.8	13.27	7	-24.4	332.4	3
Site1	2014/03/13	15:00:40	9.93	181	129	0.118	0.09	126	14.24	6.96	-22.5	332	3.5
Site1	2014/03/13	15:30:40	10.23	183	132	0.119	0.09	109.5	12.29	6.94	-21.3	332.3	3
Site1	2014/03/13	16:00:40	10.79	181	132	0.118	0.09	108.8	12.05	6.94	-21.2	333	3.5
Site1	2014/03/13	16:30:40	10.71	178	130	0.116	0.08	106.9	11.86	6.96	-22.5	332	3.3
Site1	2014/03/13	17:00:40	10.05	179	128	0.117	0.09	101.1	11.39	7	-24.5	332.5	7.6
Site1	2014/03/13	17:30:40	10.36	180	129	0.117	0.09	100.7	11.27	7.05	-26.7	331.3	6.5
Site1	2014/03/13	18:00:40	10.32	179	129	0.116	0.08	100.1	11.22	7.06	-27.5	331.1	8.4
Site1	2014/03/13	18:30:40	10.37	178	128	0.116	0.08	99.8	11.16	7.07	-28.1	331.5	7.3
Site1	2014/03/13	19:00:40	10.34	178	128	0.115	0.08	98.9	11.07	7.06	-27.5	332.1	11.2
Site1	2014/03/13	19:30:40	10.41	176	127	0.114	0.08	98.8	11.04	7.07	-27.8	332.2	3.9
Site1	2014/03/13	20:00:40	10.43	175	127	0.114	0.08	98.5	11	7.06	-27.1	333.3	5.3
Site1	2014/03/13	20:30:40	10.38	175	126	0.114	0.08	96.9	10.83	7.03	-25.7	332.3	4.3
Site1	2014/03/13	21:00:40	10.38	176	127	0.114	0.08	96.5	10.79	7.01	-24.7	332.7	3.3
Site1	2014/03/13	21:30:40	10.37	175	126	0.114	0.08	96.6	10.81	7.01	-24.7	332.6	3.2
Site1	2014/03/13	22:00:40	10.45	173	125	0.113	0.08	99.1	11.07	7.05	-26.9	332.3	11.4
Site1	2014/03/13	22:30:40	10.15	176	126	0.115	0.08	95.7	10.76	7.02	-25.1	333.3	9
Site1	2014/03/13	23:00:40	9.96	176	125	0.114	0.08	93.5	10.56	7.01	-24.8	333.9	4.5
Site1	2014/03/13	23:30:40	9.74	177	125	0.115	0.08	94.4	10.72	7.03	-25.8	333.2	9.9
Site1	2014/03/14	00:00:40	9.71	180	128	0.117	0.09	93.5	10.63	7.01	-25	335.1	4
Site1	2014/03/14	00:30:40	9.65	195	138	0.127	0.09	93.6	10.65	7.02	-25.1	334.1	4.7
Site1	2014/03/14	01:00:40	9.55	206	145	0.134	0.1	93.4	10.65	7.02	-25.3	333.7	5.3
Site1	2014/03/14	01:30:40	9.42	199	140	0.129	0.09	93.9	10.74	7.02	-25.5	333.7	10
Site1	2014/03/14	02:00:40	9.28	193	135	0.126	0.09	92.9	10.67	7.02	-25.3	333.9	8.4
Site1	2014/03/14	02:30:40	9.04	187	130	0.122	0.09	92.8	10.71	7.02	-25.4	334	5
Site1	2014/03/14	03:00:40	8.43	159	109	0.103	0.08	93.8	10.99	7.05	-26.8	331.2	20
Site1	2014/03/14	03:30:40	8.68	148	102	0.096	0.07	93.8	10.92	7.01	-24.6	333.5	9.1
Site1	2014/03/14	04:00:40	8.51	130	89	0.084	0.06	93.5	10.93	7.02	-25.1	334	17
Site1	2014/03/14	04:30:40	8.73	139	96	0.09	0.07	92.3	10.73	6.95	-21.9	331.7	19.4
Site1	2014/03/14	05:00:40	8.71	144	99	0.094	0.07	90.8	10.56	6.95	-21.9	328.2	14.8
Site1	2014/03/14	05:30:40	8.67	150	103	0.098	0.07	90.8	10.58	6.96	-22.2	329.2	11.8
Site1	2014/03/14	06:00:40	8.65	149	103	0.097	0.07	89.4	10.42	6.92	-20.5	325.6	16.5
Site1	2014/03/14	06:30:40	8.62	146	101	0.095	0.07	89.4	10.43	6.93	-20.9	328.6	12.3
Site1	2014/03/14	07:00:40	8.46	145	99	0.094	0.07	89.3	10.46	6.91	-19.7	328.1	14.4
Site1	2014/03/14	07:30:40	8.62	161	111	0.105	0.08	89.8	10.47	6.92	-20.4	331.8	11.4
Site1	2014/03/14	08:00:40	8.59	164	113	0.107	0.08	89.7	10.47	6.92	-20.1	332.5	9.8
Site1	2014/03/14	08:30:40	8.7	173	119	0.113	0.08	90.5	10.53	6.93	-21	333.4	8.9
Site1	2014/03/14	09:00:40	8.74	176	122	0.115	0.08	93.3	10.85	6.92	-20.3	333.4	8.8
Site1	2014/03/14	09:30:40	8.77	179	124	0.117	0.09	92.2	10.71	6.93	-20.8	335.1	6.6

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/14	10:00:40	8.9	183	127	0.119	0.09	93	10.78	6.92	-20.4	335.3	6.2
Site1	2014/03/14	10:30:40	9.21	190	132	0.123	0.09	91.3	10.49	6.92	-20.1	334.8	5
Site1	2014/03/14	11:00:40	9.35	193	135	0.126	0.09	98.5	11.28	6.93	-20.8	335.9	6.5
Site1	2014/03/14	11:30:40	9.5	194	136	0.126	0.09	100.8	11.51	6.93	-20.6	336.6	7
Site1	2014/03/14	12:00:40	9.61	194	137	0.126	0.09	110.4	12.57	6.93	-20.8	337.2	8.9
Site1	2014/03/14	12:30:40	9.71	194	137	0.126	0.09	92.8	10.54	6.92	-20.1	339.5	7
Site1	2014/03/14	13:00:40	9.74	193	137	0.125	0.09	89.5	10.16	6.92	-20	339.7	7.5
Site1	2014/03/14	13:30:40	9.83	192	137	0.125	0.09	100.8	11.42	6.92	-20.3	339.4	5.9
Site1	2014/03/14	14:00:40	9.91	191	136	0.124	0.09	121.7	13.76	6.91	-20	339.3	7.5
Site1	2014/03/14	14:30:40	9.98	190	135	0.123	0.09	118.8	13.41	6.92	-20	339.4	7.9
Site1	2014/03/14	15:00:40	10.04	191	136	0.124	0.09	105.7	11.92	6.92	-20.3	339.7	7
Site1	2014/03/14	15:30:40	10.24	191	137	0.124	0.09	101.9	11.43	6.93	-20.9	340.5	7.6
Site1	2014/03/14	16:00:40	10.52	190	138	0.124	0.09	97.3	10.84	6.92	-20.2	340.2	9.4
Site1	2014/03/14	16:30:40	10.66	191	139	0.124	0.09	96.7	10.74	6.95	-21.5	340	6.8
Site1	2014/03/14	17:00:40	10.65	191	139	0.124	0.09	94.1	10.46	6.95	-21.9	341	5.1
Site1	2014/03/14	17:30:40	10.69	188	137	0.122	0.09	92.7	10.29	6.96	-22.2	341.7	6.7
Site1	2014/03/14	18:00:40	10.72	187	136	0.122	0.09	91.2	10.12	6.96	-22.2	342.7	8.7
Site1	2014/03/14	18:30:40	10.66	188	136	0.122	0.09	90.7	10.07	6.96	-22.1	342.2	7.6
Site1	2014/03/14	19:00:40	10.64	188	136	0.122	0.09	89.4	9.94	6.95	-21.6	343.9	7.8
Site1	2014/03/14	19:30:40	10.57	189	137	0.123	0.09	89.3	9.95	6.95	-21.5	343.9	10.6
Site1	2014/03/14	20:00:40	10.5	190	137	0.124	0.09	88.7	9.89	6.94	-21.4	344.2	4.9
Site1	2014/03/14	20:30:40	10.41	191	137	0.124	0.09	87.8	9.82	6.94	-21.1	344.7	7.5
Site1	2014/03/14	21:00:40	10.29	191	138	0.124	0.09	87.1	9.76	6.93	-20.7	345.8	4
Site1	2014/03/14	21:30:40	10.15	192	138	0.125	0.09	87	9.79	6.92	-20.4	346	9.7
Site1	2014/03/14	22:00:40	10.06	193	138	0.125	0.09	85.8	9.67	6.92	-20.1	346.1	9.2
Site1	2014/03/14	22:30:40	9.95	193	137	0.125	0.09	85.6	9.67	6.91	-19.7	347.6	9
Site1	2014/03/14	23:00:40	9.88	193	137	0.125	0.09	84.4	9.54	6.91	-19.5	348.6	11.4
Site1	2014/03/14	23:30:40	9.75	192	136	0.125	0.09	84.5	9.59	6.9	-19.4	348	11.4
Site1	2014/03/15	00:00:40	9.66	191	135	0.124	0.09	83.5	9.5	6.9	-19.2	348.8	9
Site1	2014/03/15	00:30:40	9.54	190	134	0.124	0.09	83.6	9.53	6.9	-19.1	349.1	16.1
Site1	2014/03/15	01:00:40	9.44	190	134	0.124	0.09	82.5	9.44	6.89	-18.6	349.1	10.2
Site1	2014/03/15	01:30:40	9.36	190	133	0.123	0.09	82.1	9.41	6.89	-18.6	349.3	10.3
Site1	2014/03/15	02:00:40	9.3	189	132	0.123	0.09	82	9.41	6.88	-18.2	350.3	10.9
Site1	2014/03/15	02:30:40	9.23	188	132	0.122	0.09	82.2	9.44	6.89	-18.8	349.9	8.1
Site1	2014/03/15	03:00:40	9.18	188	131	0.122	0.09	82.3	9.47	6.89	-18.7	350.7	6.2
Site1	2014/03/15	03:30:40	9.16	185	129	0.12	0.09	83.5	9.61	6.9	-19.2	350.8	11.9
Site1	2014/03/15	04:00:40	9.1	184	128	0.119	0.09	83.8	9.66	6.91	-19.8	351.3	10.6
Site1	2014/03/15	04:30:40	9.06	183	127	0.119	0.09	83	9.57	6.91	-19.7	351.3	6.9
Site1	2014/03/15	05:00:40	9.02	182	126	0.118	0.09	83.6	9.65	6.91	-19.7	351.8	14.6
Site1	2014/03/15	05:30:40	8.96	180	125	0.117	0.09	83.8	9.69	6.91	-19.6	352.4	9.2
Site1	2014/03/15	06:00:40	8.9	180	124	0.117	0.09	82.9	9.6	6.91	-19.8	352.4	4.9
Site1	2014/03/15	06:30:40	8.85	179	124	0.116	0.08	82.7	9.59	6.9	-19.3	353	7
Site1	2014/03/15	07:00:40	8.82	178	123	0.116	0.08	82.4	9.56	6.9	-19.2	353.3	16.6
Site1	2014/03/15	07:30:40	8.77	178	123	0.116	0.08	82.6	9.6	6.89	-18.7	354.4	9.9
Site1	2014/03/15	08:00:40	8.77	178	123	0.115	0.08	82.6	9.6	6.89	-18.6	354.4	14.5
Site1	2014/03/15	08:30:40	8.77	178	123	0.116	0.08	84.3	9.8	6.88	-18.4	354.9	16.1
Site1	2014/03/15	09:00:40	8.76	180	124	0.117	0.09	83.5	9.7	6.89	-18.7	354	13.2
Site1	2014/03/15	09:30:40	8.78	180	125	0.117	0.09	85.6	9.94	6.88	-18.4	354.7	13.2
Site1	2014/03/15	10:00:40	8.96	180	125	0.117	0.09	88.3	10.21	6.88	-18.3	354.4	8.3
Site1	2014/03/15	10:30:40	9.01	179	125	0.117	0.09	82.5	9.53	6.89	-18.8	355.8	13.2
Site1	2014/03/15	11:00:40	8.93	181	125	0.118	0.09	83.2	9.63	6.89	-18.8	355.7	9.4

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/15	11:30:40	8.85	182	126	0.119	0.09	83.4	9.67	6.9	-19.1	356.5	22.1
Site1	2014/03/15	12:00:40	8.82	183	127	0.119	0.09	83.3	9.67	6.89	-18.9	357.1	8.6
Site1	2014/03/15	12:30:40	8.79	183	127	0.119	0.09	84.3	9.79	6.89	-18.9	357.2	6.9
Site1	2014/03/15	13:00:40	8.75	183	126	0.119	0.09	84.1	9.78	6.9	-19.3	356.4	10.4
Site1	2014/03/15	13:30:40	8.68	170	117	0.111	0.08	84.8	9.87	6.91	-19.8	357.1	14.7
Site1	2014/03/15	14:00:40	7.94	116	78	0.075	0.05	92.7	10.99	6.97	-22.8	355.5	19.9
Site1	2014/03/15	14:30:40	8.35	132	90	0.086	0.06	90.2	10.59	6.9	-19.3	358.9	16.2
Site1	2014/03/15	15:00:40	8.04	100	68	0.065	0.05	93	11	6.95	-21.7	356.6	32.4
Site1	2014/03/15	15:30:40	8.48	135	93	0.088	0.06	87.8	10.28	6.92	-20.4	358.9	10.6
Site1	2014/03/15	16:00:40	8.24	107	73	0.07	0.05	90.5	10.65	6.89	-19	358.4	26
Site1	2014/03/15	16:30:40	8.16	106	72	0.069	0.05	90.1	10.63	6.93	-20.6	358.6	31.9
Site1	2014/03/15	17:00:40	8.24	118	80	0.077	0.06	88.9	10.46	6.91	-19.9	359.3	16.2
Site1	2014/03/15	17:30:40	7.95	103	69	0.067	0.05	91.3	10.82	6.95	-21.6	357.7	29.1
Site1	2014/03/15	18:00:40	8.24	107	73	0.07	0.05	89.1	10.48	6.88	-18.2	359.7	13.9
Site1	2014/03/15	18:30:40	8.1	101	68	0.066	0.05	90.5	10.69	6.9	-19.4	358.8	13.3
Site1	2014/03/15	19:00:40	8.4	114	78	0.074	0.05	86.5	10.15	6.84	-16.4	362	16.5
Site1	2014/03/15	19:30:40	8.56	122	84	0.079	0.06	86.8	10.14	6.86	-17.2	362.1	13.5
Site1	2014/03/15	20:00:40	8.14	104	70	0.067	0.05	90.1	10.64	6.89	-18.5	361.1	16
Site1	2014/03/15	20:30:40	8.1	111	75	0.072	0.05	89.2	10.53	6.88	-18.2	361.6	14.4
Site1	2014/03/15	21:00:40	8.15	112	76	0.073	0.05	88.6	10.45	6.87	-17.6	362.7	10.6
Site1	2014/03/15	21:30:40	8.19	120	81	0.078	0.06	88.1	10.38	6.85	-16.9	363.3	14.8
Site1	2014/03/15	22:00:40	8.4	136	93	0.089	0.06	85.8	10.06	6.83	-15.5	364.6	9
Site1	2014/03/15	22:30:40	8.24	139	95	0.09	0.07	84.9	9.99	6.83	-15.6	365.3	9.7
Site1	2014/03/15	23:00:40	8.13	143	97	0.093	0.07	84.9	10.02	6.84	-16.1	364.9	8.7
Site1	2014/03/15	23:30:40	8.12	151	103	0.098	0.07	83.8	9.89	6.83	-15.9	365.5	9.2
Site1	2014/03/16	00:00:40	8.08	157	106	0.102	0.07	83.3	9.84	6.82	-15.3	365.9	7.8
Site1	2014/03/16	00:30:40	8	155	105	0.101	0.07	83.4	9.87	6.82	-15.4	364.3	7.8
Site1	2014/03/16	01:00:40	7.99	152	103	0.099	0.07	83.4	9.87	6.81	-14.6	366.2	7.6
Site1	2014/03/16	01:30:40	7.96	147	99	0.095	0.07	83.5	9.9	6.81	-14.6	362.8	10.5
Site1	2014/03/16	02:00:40	7.94	140	94	0.091	0.07	82.9	9.83	6.79	-13.9	366.5	9.1
Site1	2014/03/16	02:30:40	7.89	137	92	0.089	0.06	81.8	9.71	6.78	-13	368.9	22.9
Site1	2014/03/16	09:00:40	7.59	115	77	0.075	0.05	84.8	10.15	6.95	-21.6	367.3	38.6
Site1	2014/03/16	09:30:40	7.69	116	78	0.075	0.05	84.7	10.1	6.86	-17.5	371	10.3
Site1	2014/03/16	10:00:40	7.72	116	78	0.076	0.05	82.6	9.84	6.83	-15.8	372.4	12.6
Site1	2014/03/16	10:30:40	7.76	117	78	0.076	0.06	84	10	6.8	-14.1	372.9	7
Site1	2014/03/16	11:00:40	7.78	117	79	0.076	0.06	84.3	10.03	6.78	-13.2	373.4	7.2
Site1	2014/03/16	11:30:40	7.8	117	79	0.076	0.06	89.4	10.64	6.77	-13	373.9	6.6
Site1	2014/03/16	12:00:40	7.81	117	79	0.076	0.06	85.5	10.17	6.76	-12.4	373.8	7.3
Site1	2014/03/16	13:00:40	7.68	118	79	0.077	0.06	82.5	9.84	6.72	-10	366.4	18.7
Site1	2014/03/16	20:00:40	7.81	123	83	0.08	0.06	79.1	9.41	6.81	-14.9	374.3	65.5
Site1	2014/03/16	20:30:40	7.8	124	83	0.08	0.06	79.5	9.46	6.79	-14	374.6	62.6
Site1	2014/03/16	21:00:40	7.8	123	82	0.08	0.06	79.1	9.41	6.79	-13.5	374.6	6.6
Site1	2014/03/16	21:30:40	7.75	123	82	0.08	0.06	79.9	9.52	6.73	-11	375.1	6.3
Site1	2014/03/16	22:00:40	7.61	129	86	0.084	0.06	79.5	9.51	6.73	-10.5	373.5	6.2
Site1	2014/03/16	22:30:40	7.32	136	90	0.089	0.06	80.6	9.71	6.73	-10.7	375.7	5.2
Site1	2014/03/16	23:00:40	7.21	142	93	0.092	0.07	83.4	10.07	6.76	-12.3	375.8	4.5
Site1	2014/03/16	23:30:40	7.14	147	97	0.096	0.07	84.8	10.26	6.81	-14.7	374	4.4
Site1	2014/03/17	00:00:40	7.09	148	97	0.096	0.07	85.5	10.35	6.83	-15.6	375.4	4.7
Site1	2014/03/17	00:30:40	7.13	146	96	0.095	0.07	85.6	10.35	6.83	-15.6	375.3	4.4
Site1	2014/03/17	01:00:40	7.08	144	95	0.094	0.07	85.3	10.33	6.83	-15.7	375	4.5
Site1	2014/03/17	01:30:40	7.1	144	95	0.094	0.07	84.8	10.27	6.82	-15.2	375.1	4.2



Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/17	02:00:40	6.88	145	95	0.094	0.07	84.5	10.28	6.82	-15.3	373.7	8.1
Site1	2014/03/17	02:30:40	7.15	130	86	0.085	0.06	78.5	9.49	6.73	-10.9	371.4	6.8
Site1	2014/03/17	03:00:40	7.16	128	85	0.083	0.06	75.5	9.12	6.71	-9.8	378.8	5.3
Site1	2014/03/17	03:30:40	7.13	126	83	0.082	0.06	76.3	9.24	6.7	-9.2	378.8	9.5
Site1	2014/03/17	04:00:40	7.12	129	85	0.084	0.06	76.5	9.26	6.71	-9.6	378	5.4
Site1	2014/03/17	04:30:40	7.17	126	83	0.082	0.06	74.1	8.95	6.68	-8.4	380.1	6.1
Site1	2014/03/17	05:00:40	7.15	126	83	0.082	0.06	72.4	8.76	6.68	-8.1	380.3	5.4
Site1	2014/03/17	05:30:40	6.79	129	84	0.084	0.06	76.2	9.29	6.69	-8.7	380.4	8.9
Site1	2014/03/17	06:00:40	6.85	127	83	0.083	0.06	74.9	9.13	6.69	-8.9	380.2	6.9
Site1	2014/03/17	06:30:40	6.86	125	82	0.081	0.06	75	9.13	6.7	-9	381.4	6.6
Site1	2014/03/17	07:00:40	6.82	125	82	0.081	0.06	74.4	9.07	6.68	-8.4	381.4	5.6
Site1	2014/03/17	07:30:40	6.83	125	82	0.081	0.06	75.4	9.19	6.68	-8.5	382	5.7
Site1	2014/03/17	08:00:40	6.86	125	82	0.081	0.06	76.8	9.35	6.69	-8.7	381.7	5.7
Site1	2014/03/17	08:30:40	6.88	125	82	0.081	0.06	76.5	9.32	6.68	-8.3	382.4	5.1
Site1	2014/03/17	09:00:40	6.85	125	82	0.081	0.06	77.1	9.4	6.68	-8.4	383.2	5.1
Site1	2014/03/17	09:30:40	6.9	125	82	0.081	0.06	84.2	10.24	6.69	-8.7	382.4	5.1
Site1	2014/03/17	10:00:40	6.94	127	83	0.083	0.06	90.8	11.04	6.7	-9.5	380.9	5.3
Site1	2014/03/17	10:30:40	7.01	128	84	0.083	0.06	92.8	11.26	6.72	-10.1	382	5.1
Site1	2014/03/17	11:00:40	7.25	128	85	0.083	0.06	89.2	10.76	6.71	-9.6	381.3	5.2
Site1	2014/03/17	11:30:40	7.25	130	86	0.084	0.06	85.6	10.33	6.69	-8.9	381.1	5.4
Site1	2014/03/17	12:00:40	7.24	131	86	0.085	0.06	92.9	11.21	6.7	-9.2	382.4	5.3
Site1	2014/03/17	12:30:40	7.4	140	93	0.091	0.07	95.9	11.52	6.73	-10.7	381.6	4.3
Site1	2014/03/17	13:00:40	7.56	144	96	0.094	0.07	97.6	11.68	6.78	-13.1	380.5	4.2
Site1	2014/03/17	13:30:40	7.44	145	97	0.095	0.07	94.6	11.35	6.78	-13.4	379.8	36.8
Site1	2014/03/17	14:00:40	7.47	145	97	0.095	0.07	96.9	11.62	6.78	-13.4	380.7	33.6
Site1	2014/03/17	14:30:40	7.56	146	97	0.095	0.07	94.5	11.31	6.8	-14.5	379.9	33
Site1	2014/03/17	15:00:40	7.86	145	98	0.094	0.07	105.6	12.54	6.81	-14.8	380.2	20.9
Site1	2014/03/17	15:30:40	8.29	146	99	0.095	0.07	102	11.99	6.83	-15.7	380.6	27.8
Site1	2014/03/17	16:00:40	8.24	146	99	0.095	0.07	106	12.48	6.79	-14	380.5	25.7
Site1	2014/03/17	16:30:40	8.24	145	99	0.094	0.07	97.2	11.44	6.79	-13.5	381	29.9
Site1	2014/03/17	17:00:40	8.08	144	97	0.094	0.07	89.7	10.6	6.78	-13.1	381.8	30.4
Site1	2014/03/17	17:30:40	8.05	142	96	0.093	0.07	87.4	10.33	6.79	-13.6	382.3	33.9
Site1	2014/03/17	18:00:40	7.96	142	96	0.093	0.07	82.7	9.8	6.78	-13.3	382.6	39
Site1	2014/03/17	18:30:40	7.92	143	96	0.093	0.07	81.5	9.66	6.77	-12.6	383.2	38.1
Site1	2014/03/17	19:00:40	7.84	143	96	0.093	0.07	81.8	9.73	6.77	-12.9	383.5	36.3
Site1	2014/03/17	19:30:40	7.78	143	96	0.093	0.07	80.7	9.6	6.77	-12.9	383.6	35.7
Site1	2014/03/17	20:00:40	7.73	143	96	0.093	0.07	80.1	9.55	6.75	-11.7	383.9	38.3
Site1	2014/03/17	20:30:40	7.67	143	96	0.093	0.07	81.6	9.74	6.77	-12.9	382.6	34.1
Site1	2014/03/17	21:00:40	7.6	143	95	0.093	0.07	81.4	9.73	6.78	-13.4	382.6	30
Site1	2014/03/17	21:30:40	7.5	142	94	0.092	0.07	81.8	9.81	6.81	-14.6	382.9	19.4
Site1	2014/03/17	22:00:40	7.45	144	96	0.093	0.07	81.5	9.78	6.81	-14.9	382.8	26.3
Site1	2014/03/17	22:30:40	7.43	144	96	0.094	0.07	82	9.85	6.82	-15.3	383.3	26.2
Site1	2014/03/17	23:00:40	7.49	143	95	0.093	0.07	81.9	9.82	6.82	-15.4	383.2	24.6
Site1	2014/03/17	23:30:40	7.46	141	94	0.092	0.07	80.4	9.65	6.81	-14.9	383.1	17.5
Site1	2014/03/18	00:00:40	7.42	141	94	0.092	0.07	80.3	9.64	6.82	-15	382.8	219.4
Site1	2014/03/18	00:30:40	7.44	140	93	0.091	0.07	80.6	9.67	6.82	-15.3	383.4	33.6
Site1	2014/03/18	01:00:40	7.38	140	93	0.091	0.07	80.2	9.65	6.82	-15.2	383.1	34.4
Site1	2014/03/18	01:30:40	7.29	140	93	0.091	0.07	80	9.64	6.82	-15.3	382.8	27.8
Site1	2014/03/18	02:00:40	7.25	140	93	0.091	0.07	79.8	9.63	6.82	-15.3	383.7	37.6
Site1	2014/03/18	02:30:40	7.26	142	94	0.092	0.07	80.3	9.68	6.83	-15.9	383.2	29.2
Site1	2014/03/18	03:00:40	7.21	143	94	0.093	0.07	80.4	9.71	6.84	-16.1	383.4	22.7

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/18	03:30:40	7.23	144	95	0.094	0.07	81.3	9.81	6.85	-17	383.1	25
Site1	2014/03/18	04:00:40	7.22	146	96	0.095	0.07	81.5	9.83	6.86	-17.5	382.8	22.2
Site1	2014/03/18	04:30:40	7.22	147	97	0.096	0.07	81.3	9.81	6.87	-17.5	382.6	10.4
Site1	2014/03/18	05:00:40	7.16	149	98	0.097	0.07	81.4	9.83	6.87	-17.8	382.2	54.3
Site1	2014/03/18	05:30:40	7.08	150	99	0.097	0.07	80.9	9.8	6.87	-18	382	36.8
Site1	2014/03/18	06:00:40	7.08	152	100	0.099	0.07	81	9.8	6.88	-18.1	382.3	23.3
Site1	2014/03/18	06:30:40	7.06	152	100	0.099	0.07	80.9	9.8	6.88	-18.1	382.4	32.2
Site1	2014/03/18	07:00:40	6.99	152	100	0.099	0.07	81.1	9.84	6.88	-18.3	382.3	19.7
Site1	2014/03/18	07:30:40	7.04	151	99	0.098	0.07	83.3	10.1	6.89	-18.6	382	47.9
Site1	2014/03/18	08:00:40	7.02	150	99	0.098	0.07	85.5	10.37	6.88	-18.4	382	29.3
Site1	2014/03/18	08:30:40	7.02	151	99	0.098	0.07	86.8	10.53	6.88	-18.4	381.4	10.5
Site1	2014/03/18	09:00:40	7.06	151	99	0.098	0.07	90	10.9	6.88	-18.3	381.7	38.3
Site1	2014/03/18	09:30:40	7.14	151	99	0.098	0.07	89.9	10.87	6.88	-18.4	381.7	43.5
Site1	2014/03/18	10:00:40	7.23	150	99	0.097	0.07	94.3	11.38	6.88	-18.5	381	39
Site1	2014/03/18	10:30:40	7.28	151	100	0.098	0.07	95.5	11.51	6.87	-17.8	381.4	18.4
Site1	2014/03/18	11:00:40	7.33	151	100	0.098	0.07	93	11.19	6.87	-18	381.6	13.4
Site1	2014/03/18	11:30:40	7.36	152	100	0.098	0.07	93.6	11.25	6.86	-17.5	381	51.4
Site1	2014/03/18	12:00:40	7.42	152	101	0.099	0.07	99.6	11.96	6.87	-17.9	381	27.9
Site1	2014/03/18	12:30:40	7.52	153	102	0.099	0.07	105.1	12.6	6.87	-17.8	381	28.9
Site1	2014/03/18	13:00:40	7.62	152	101	0.099	0.07	112.6	13.46	6.88	-18.2	380.4	16.2
Site1	2014/03/18	13:30:40	7.72	152	102	0.099	0.07	112.3	13.39	6.86	-17.3	380.3	15.3
Site1	2014/03/18	14:00:40	7.78	153	103	0.099	0.07	103.7	12.35	6.87	-17.7	380.9	22.2
Site1	2014/03/18	14:30:40	7.85	153	103	0.1	0.07	101.2	12.02	6.88	-18.1	380.4	13.6
Site1	2014/03/18	15:00:40	7.94	154	104	0.1	0.07	100.5	11.92	6.87	-17.9	380.3	9.4
Site1	2014/03/18	15:30:40	7.95	155	104	0.101	0.07	97.2	11.52	6.87	-17.8	380.6	13.3
Site1	2014/03/18	16:00:40	8.05	157	106	0.102	0.07	95	11.23	6.86	-17.5	381	11.3
Site1	2014/03/18	16:30:40	8.1	158	107	0.103	0.07	90.5	10.69	6.86	-17.2	380.8	10.1
Site1	2014/03/18	17:00:40	8.14	158	107	0.103	0.07	87.9	10.37	6.86	-17.5	380.7	39.2
Site1	2014/03/18	17:30:40	8.18	158	107	0.102	0.07	85	10.02	6.87	-17.8	381.6	15.6
Site1	2014/03/18	18:00:40	8.19	157	107	0.102	0.07	83.6	9.85	6.87	-17.5	381.1	34.3
Site1	2014/03/18	18:30:40	8.18	157	106	0.102	0.07	83.5	9.84	6.88	-18.4	379.9	4.5
Site1	2014/03/18	19:00:40	8.14	157	106	0.102	0.07	81.2	9.57	6.85	-16.8	381.2	4.5
Site1	2014/03/18	19:30:40	8.11	157	107	0.102	0.07	80.1	9.45	6.83	-15.8	381.8	5.9
Site1	2014/03/18	20:00:40	8.11	156	106	0.101	0.07	77.9	9.2	6.82	-15.3	382.1	5.1
Site1	2014/03/18	20:30:40	8.09	156	105	0.101	0.07	80.7	9.53	6.81	-14.7	384.2	4.7
Site1	2014/03/18	21:00:40	8.08	154	104	0.1	0.07	80.6	9.52	6.83	-15.7	384.8	5
Site1	2014/03/18	21:30:40	8.03	153	103	0.099	0.07	81.4	9.63	6.87	-17.7	382.8	10.4
Site1	2014/03/18	22:00:40	8.01	153	103	0.099	0.07	79.8	9.45	6.86	-17.3	382.7	10.2
Site1	2014/03/18	22:30:40	7.97	158	106	0.102	0.07	80.4	9.52	6.86	-17.5	382.5	7.2
Site1	2014/03/18	23:00:40	8.01	159	108	0.104	0.08	81.4	9.63	6.87	-17.8	383.6	83.7
Site1	2014/03/18	23:30:40	8	159	107	0.103	0.08	80.9	9.57	6.87	-17.9	382.3	53.6
Site1	2014/03/19	00:00:40	7.94	160	108	0.104	0.08	80.1	9.49	6.86	-17.4	382.2	11.7
Site1	2014/03/19	00:30:40	7.86	159	107	0.103	0.08	81.5	9.68	6.88	-18.4	381.5	6.4
Site1	2014/03/19	01:00:40	7.78	147	98	0.095	0.07	82.3	9.8	6.87	-18	382.4	23.2
Site1	2014/03/19	01:30:40	7.79	137	92	0.089	0.06	83.6	9.95	6.89	-18.6	381.8	64.6
Site1	2014/03/19	02:00:40	7.7	136	91	0.088	0.06	82	9.78	6.87	-17.5	382.7	69.9
Site1	2014/03/19	02:30:40	7.57	133	89	0.086	0.06	82.7	9.89	6.87	-17.5	382.7	42.5
Site1	2014/03/19	03:00:40	7.56	132	88	0.086	0.06	82.5	9.87	6.87	-17.6	382.6	43.8
Site1	2014/03/19	03:30:40	7.46	127	84	0.082	0.06	82.7	9.92	6.85	-16.8	382.4	37.8
Site1	2014/03/19	04:00:40	7.38	124	82	0.081	0.06	82.7	9.95	6.86	-17.3	382.6	9.7
Site1	2014/03/19	04:30:40	7.29	123	81	0.08	0.06	83.2	10.02	6.86	-17.3	381.4	12.6

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/19	05:00:40	7.26	123	81	0.08	0.06	83.8	10.11	6.87	-17.8	381.6	15.1
Site1	2014/03/19	05:30:40	7.2	121	80	0.079	0.06	85	10.27	6.89	-18.9	381	10.1
Site1	2014/03/19	06:00:40	7.33	131	87	0.085	0.06	83.6	10.07	6.89	-18.7	379.2	19
Site1	2014/03/19	06:30:40	7.44	143	95	0.093	0.07	82.6	9.92	6.9	-19.2	380.6	12.2
Site1	2014/03/19	07:00:40	7.45	147	98	0.096	0.07	83.3	9.99	6.9	-19.4	381.2	10.8
Site1	2014/03/19	07:30:40	7.42	147	98	0.096	0.07	82.5	9.91	6.92	-20.1	381.9	8.7
Site1	2014/03/19	08:00:40	7.36	144	96	0.094	0.07	82.9	9.97	6.91	-20	383	8.7
Site1	2014/03/19	08:30:40	7.27	138	91	0.09	0.07	83.9	10.12	6.92	-20.4	382.9	10.1
Site1	2014/03/19	09:00:40	7.32	133	88	0.087	0.06	85.2	10.26	6.91	-19.7	383.1	10.1
Site1	2014/03/19	09:30:40	7.46	145	97	0.094	0.07	84.6	10.15	6.88	-18.5	383.1	10.1
Site1	2014/03/19	10:00:40	7.61	157	105	0.102	0.07	84.2	10.07	6.89	-18.7	382.6	11.2
Site1	2014/03/19	10:30:40	7.66	155	103	0.1	0.07	86.7	10.35	6.9	-19.4	382.6	10.4
Site1	2014/03/19	11:00:40	7.8	158	106	0.103	0.08	87.4	10.4	6.89	-18.9	382.3	14.1
Site1	2014/03/19	11:30:40	8.01	162	110	0.106	0.08	89.9	10.64	6.9	-19.4	382.1	12.1
Site1	2014/03/19	12:00:40	8.16	164	111	0.106	0.08	93.7	11.04	6.92	-20	382.7	11
Site1	2014/03/19	12:30:40	8.24	166	113	0.108	0.08	92.3	10.87	6.92	-20.1	383.5	12.5
Site1	2014/03/19	13:00:40	8.32	166	113	0.108	0.08	93.1	10.94	6.91	-20	384.1	11.4
Site1	2014/03/19	13:30:40	8.63	165	114	0.107	0.08	101.8	11.87	6.93	-20.6	383.5	8.9
Site1	2014/03/19	14:00:40	8.78	168	116	0.109	0.08	102	11.84	6.93	-20.9	383.2	8.1
Site1	2014/03/19	14:30:40	8.82	168	116	0.109	0.08	93.7	10.87	6.94	-21.1	383.2	8.2
Site1	2014/03/19	15:00:40	8.76	171	118	0.111	0.08	91.6	10.64	6.93	-21	383.4	11.4
Site1	2014/03/19	15:30:40	8.71	171	117	0.111	0.08	96.7	11.26	6.94	-21.2	383.7	11.3
Site1	2014/03/19	16:00:40	8.78	171	118	0.111	0.08	88.7	10.3	6.95	-21.6	383.9	10.1
Site1	2014/03/19	16:30:40	8.73	172	119	0.112	0.08	88.6	10.3	6.96	-22.1	383.4	10.1
Site1	2014/03/19	17:00:40	8.64	172	118	0.112	0.08	87.7	10.22	6.96	-22.5	383.4	9.3
Site1	2014/03/19	17:30:40	8.57	171	117	0.111	0.08	86.5	10.09	6.97	-22.6	383.1	12.3
Site1	2014/03/19	18:00:40	8.47	169	116	0.11	0.08	84.6	9.9	6.97	-22.6	382.8	6.1
Site1	2014/03/19	18:30:40	8.32	167	114	0.108	0.08	84	9.87	6.97	-22.5	383.2	12.9
Site1	2014/03/19	19:00:40	8.21	162	110	0.105	0.08	84.3	9.93	6.98	-23.5	383.7	13.9
Site1	2014/03/19	19:30:40	8.11	159	108	0.103	0.08	83.8	9.9	6.98	-23.4	383.5	13.7
Site1	2014/03/19	20:00:40	7.94	158	107	0.103	0.07	83.9	9.94	6.99	-23.7	383.4	9
Site1	2014/03/19	20:30:40	7.9	156	105	0.101	0.07	83.1	9.86	6.98	-23.3	383.9	13.4
Site1	2014/03/19	21:00:40	7.81	154	103	0.1	0.07	82.8	9.85	6.97	-22.8	383.9	15.5
Site1	2014/03/19	21:30:40	7.69	152	102	0.099	0.07	82.3	9.81	6.97	-22.6	384.5	14.7
Site1	2014/03/19	22:00:40	7.63	151	101	0.098	0.07	82	9.8	6.96	-22.2	384.6	16.9
Site1	2014/03/19	22:30:40	7.51	151	100	0.098	0.07	82.2	9.85	6.95	-22	384.5	15
Site1	2014/03/19	23:00:40	7.35	151	100	0.098	0.07	81.9	9.85	6.95	-21.7	384.4	14.5
Site1	2014/03/19	23:30:40	7.24	151	100	0.098	0.07	81.5	9.84	6.93	-20.5	384.9	14.5
Site1	2014/03/20	00:00:40	7.11	150	99	0.098	0.07	81.3	9.84	6.94	-21.2	384.1	13.6
Site1	2014/03/20	00:30:40	7.03	148	97	0.096	0.07	80.1	9.72	6.93	-21	384.5	6
Site1	2014/03/20	01:00:40	6.96	142	93	0.092	0.07	79.3	9.63	6.94	-21.5	384.5	14.6
Site1	2014/03/20	01:30:40	6.76	139	91	0.091	0.07	80.7	9.85	6.93	-21	385.3	11.9
Site1	2014/03/20	02:00:40	6.66	136	88	0.088	0.06	80.3	9.83	6.94	-21.1	385.7	13.6
Site1	2014/03/20	02:30:40	6.55	135	87	0.088	0.06	81	9.94	6.93	-20.8	385.6	12.9
Site1	2014/03/20	03:00:40	6.46	134	86	0.087	0.06	81.2	9.99	6.93	-20.8	385.6	12.5
Site1	2014/03/20	03:30:40	6.41	132	85	0.086	0.06	80.8	9.96	6.92	-20.3	385.7	13.7
Site1	2014/03/20	04:00:40	6.29	132	85	0.086	0.06	80.8	9.98	6.92	-20.4	385.5	13.5
Site1	2014/03/20	04:30:40	6.28	130	84	0.085	0.06	80.9	10	6.92	-20.4	386.2	14.5
Site1	2014/03/20	05:00:40	6.25	132	85	0.086	0.06	80.6	9.97	6.91	-20	386.2	13.3
Site1	2014/03/20	05:30:40	6.27	133	85	0.086	0.06	80.5	9.95	6.92	-20.1	385.9	17
Site1	2014/03/20	06:00:40	6.21	134	86	0.087	0.06	79.9	9.89	6.91	-19.8	386	14.1

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/20	06:30:40	6.07	136	87	0.088	0.06	80.7	10.03	6.91	-19.9	385.6	10.3
Site1	2014/03/20	07:00:40	6.15	138	88	0.089	0.06	81.6	10.11	6.91	-20	385.8	14.7
Site1	2014/03/20	07:30:40	6.22	140	90	0.091	0.07	81.9	10.14	6.92	-20.4	385.6	21.4
Site1	2014/03/20	08:00:40	6.31	140	90	0.091	0.07	83.4	10.29	6.91	-19.7	386.4	15.6
Site1	2014/03/20	08:30:40	6.22	142	91	0.092	0.07	86.8	10.75	6.92	-20.3	385.4	17.7
Site1	2014/03/20	09:00:40	6.32	145	93	0.094	0.07	88.9	10.98	6.93	-20.8	385.6	19.2
Site1	2014/03/20	09:30:40	6.41	147	95	0.095	0.07	90.3	11.12	6.94	-21.1	385.5	20.2
Site1	2014/03/20	10:00:40	6.52	148	96	0.096	0.07	91.2	11.2	6.94	-21.1	385.1	19.7
Site1	2014/03/20	10:30:40	6.75	150	98	0.097	0.07	92.1	11.24	6.93	-20.6	385.1	18.8
Site1	2014/03/20	11:00:40	7.05	151	99	0.098	0.07	88.8	10.76	6.93	-20.8	384.5	22.7
Site1	2014/03/20	11:30:40	6.97	151	99	0.098	0.07	91.9	11.16	6.92	-20.3	383.8	7.8
Site1	2014/03/20	12:00:40	7.05	151	100	0.098	0.07	112.6	13.64	6.92	-20.3	384.2	15
Site1	2014/03/20	12:30:40	7.41	152	101	0.099	0.07	98.2	11.8	6.93	-20.7	383.4	13.6
Site1	2014/03/20	13:00:40	7.56	152	101	0.099	0.07	116.9	14	6.9	-19.2	384.2	9
Site1	2014/03/20	13:30:40	7.96	154	104	0.1	0.07	105.5	12.5	6.91	-19.9	383.1	17.2
Site1	2014/03/20	14:00:40	8.12	154	105	0.1	0.07	109.6	12.94	6.92	-20.4	382.6	13.9
Site1	2014/03/20	14:30:40	8.31	155	106	0.101	0.07	112.9	13.27	6.93	-20.8	382.5	12.3
Site1	2014/03/20	15:00:40	8.46	154	105	0.1	0.07	119.9	14.03	6.93	-20.9	383	18.1
Site1	2014/03/20	15:30:40	8.36	154	105	0.1	0.07	105.7	12.4	6.93	-20.8	383.4	9.5
Site1	2014/03/20	16:00:40	8.44	155	106	0.101	0.07	93.7	10.97	6.96	-22.1	382.1	20.9
Site1	2014/03/20	16:30:40	8.46	156	106	0.101	0.07	93	10.88	6.95	-21.8	382.9	23.4
Site1	2014/03/20	17:00:40	8.46	157	107	0.102	0.07	87	10.18	6.96	-22.4	382.7	20
Site1	2014/03/20	17:30:40	8.4	157	108	0.102	0.07	85.7	10.05	6.96	-22.3	382.6	18.8
Site1	2014/03/20	18:00:40	8.42	158	108	0.103	0.07	84.6	9.92	6.95	-22	383.6	17
Site1	2014/03/20	18:30:40	8.38	157	107	0.102	0.07	83.1	9.74	6.95	-21.8	383.7	13.5
Site1	2014/03/20	19:00:40	8.39	155	106	0.101	0.07	83.8	9.83	6.96	-22.5	383.2	16.3
Site1	2014/03/20	19:30:40	8.5	154	105	0.1	0.07	84.4	9.87	6.99	-23.8	382.8	26.4
Site1	2014/03/20	20:00:40	8.47	153	105	0.1	0.07	84.9	9.93	7	-24.4	381.9	27.2
Site1	2014/03/20	20:30:40	8.49	152	104	0.099	0.07	85	9.94	7.01	-24.9	381.9	31.9
Site1	2014/03/20	21:00:40	8.46	151	103	0.098	0.07	84.7	9.92	7.02	-25.1	381.3	27.9
Site1	2014/03/20	21:30:40	8.33	150	102	0.097	0.07	84.9	9.97	7.02	-25.3	381	33.5
Site1	2014/03/20	22:00:40	8.25	148	101	0.096	0.07	84	9.89	7.02	-25.3	380.9	29.6
Site1	2014/03/20	22:30:40	8.15	147	100	0.095	0.07	84.3	9.94	7.02	-25.4	380.4	28.6
Site1	2014/03/20	23:00:40	8.04	146	98	0.095	0.07	84.1	9.95	7.02	-25.1	381.2	25.4
Site1	2014/03/20	23:30:40	7.97	144	97	0.094	0.07	84	9.96	7.01	-25	381	24.1
Site1	2014/03/21	00:00:40	7.93	143	96	0.093	0.07	83.9	9.95	7.01	-25	381.2	25.8
Site1	2014/03/21	00:30:40	7.93	141	95	0.092	0.07	83.8	9.94	7	-24.5	381.2	27.5
Site1	2014/03/21	01:00:40	7.85	140	94	0.091	0.07	83	9.86	7	-24.4	381.4	24.7
Site1	2014/03/21	01:30:40	7.76	139	93	0.09	0.07	82.6	9.84	6.99	-23.9	381.3	38
Site1	2014/03/21	02:00:40	7.64	138	92	0.09	0.07	82.3	9.83	6.99	-23.7	381.4	26.5
Site1	2014/03/21	02:30:40	7.49	138	92	0.09	0.07	81.2	9.74	6.98	-23.3	381.5	27.5
Site1	2014/03/21	03:00:40	7.31	139	92	0.09	0.07	80.1	9.65	6.97	-22.5	382	36.1
Site1	2014/03/21	03:30:40	7.24	139	92	0.09	0.07	79.5	9.59	6.96	-22	382.6	36.9
Site1	2014/03/21	04:00:40	7.08	139	92	0.09	0.07	78.9	9.56	6.95	-21.6	382.7	30.2
Site1	2014/03/21	04:30:40	6.99	140	92	0.091	0.07	78	9.46	6.94	-21.2	383.2	34.2
Site1	2014/03/21	05:00:40	6.87	141	92	0.092	0.07	77.1	9.38	6.93	-20.9	382.9	35
Site1	2014/03/21	05:30:40	6.73	143	93	0.093	0.07	77.2	9.43	6.93	-20.6	383	30.5
Site1	2014/03/21	06:00:40	6.68	144	93	0.093	0.07	76.1	9.31	6.93	-20.7	382.7	29.2
Site1	2014/03/21	06:30:40	6.55	145	94	0.094	0.07	77.3	9.48	6.93	-20.8	382.9	35.2
Site1	2014/03/21	07:00:40	6.56	146	95	0.095	0.07	79	9.7	6.93	-20.8	382.4	45.7
Site1	2014/03/21	07:30:40	6.43	148	95	0.096	0.07	80.1	9.86	6.93	-20.8	382.8	39.6

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/21	08:00:40	6.44	149	96	0.097	0.07	81.9	10.08	6.94	-21.3	382.4	43.7
Site1	2014/03/21	08:30:40	6.52	149	96	0.097	0.07	83.7	10.28	6.95	-21.5	382	33.5
Site1	2014/03/21	09:00:40	6.55	150	97	0.098	0.07	90	11.04	6.96	-22	381.8	40.7
Site1	2014/03/21	09:30:40	6.67	151	98	0.098	0.07	97.8	11.97	6.97	-22.8	381.4	30
Site1	2014/03/21	10:00:40	6.76	151	98	0.098	0.07	91.7	11.2	6.96	-22.1	381.7	29.2
Site1	2014/03/21	10:30:40	6.9	151	99	0.098	0.07	118.6	14.43	6.98	-23.1	381	6.7
Site1	2014/03/22	00:00:40	8.09	148	100	0.096	0.07	78	9.21	6.95	-21.7	381.6	8.8
Site1	2014/03/22	00:30:40	7.99	148	100	0.096	0.07	76.8	9.09	6.94	-21.2	380.7	12.5
Site1	2014/03/22	01:00:40	7.96	148	100	0.096	0.07	76.5	9.07	6.94	-21.3	380.3	8.9
Site1	2014/03/22	01:30:40	7.85	148	100	0.096	0.07	76.4	9.08	6.94	-21.4	381.1	14.7
Site1	2014/03/22	02:00:40	7.85	148	100	0.096	0.07	76.3	9.07	6.94	-21.5	380.3	21.6
Site1	2014/03/22	02:30:40	7.77	148	100	0.096	0.07	76.5	9.11	6.95	-21.6	380.4	9.8
Site1	2014/03/22	03:00:40	7.72	149	100	0.097	0.07	75.7	9.03	6.95	-21.7	379.9	7.2
Site1	2014/03/22	03:30:40	7.66	149	99	0.097	0.07	76.3	9.1	6.95	-21.7	380.1	6.8
Site1	2014/03/22	04:00:40	7.51	148	99	0.096	0.07	79	9.47	6.96	-22.4	379.6	6.6
Site1	2014/03/22	04:30:40	7.39	150	99	0.097	0.07	77.2	9.28	6.95	-21.7	379.6	7.3
Site1	2014/03/22	05:00:40	7.27	152	101	0.099	0.07	76.7	9.24	6.95	-22	379.6	13.8
Site1	2014/03/22	05:30:40	7.4	151	100	0.098	0.07	77	9.25	6.94	-21.2	380.2	18.8
Site1	2014/03/22	06:00:40	7.49	149	99	0.097	0.07	78.5	9.41	6.95	-21.7	380.2	18.9
Site1	2014/03/22	06:30:40	7.53	149	99	0.097	0.07	79	9.46	6.96	-22.2	379.3	24
Site1	2014/03/22	07:00:40	7.58	148	99	0.097	0.07	81.2	9.72	6.97	-22.8	379.3	12.3
Site1	2014/03/22	07:30:40	7.59	150	100	0.097	0.07	83.2	9.95	6.98	-23.2	379.3	4.8
Site1	2014/03/22	08:00:40	7.56	151	100	0.098	0.07	83.7	10.01	6.98	-23.1	379.2	5.4
Site1	2014/03/22	08:30:40	7.57	152	101	0.099	0.07	84.4	10.1	6.98	-23.3	378.8	39.4
Site1	2014/03/22	09:00:40	7.57	153	102	0.1	0.07	86.4	10.33	6.98	-23.3	378.9	28.3
Site1	2014/03/22	09:30:40	7.53	153	102	0.1	0.07	87	10.42	6.97	-23	378.8	22.5
Site1	2014/03/22	10:00:40	7.5	153	102	0.1	0.07	89.1	10.68	6.96	-22.5	378.8	12.3
Site1	2014/03/22	10:30:40	7.44	155	103	0.101	0.07	96.1	11.53	6.98	-23.4	377.8	5.1
Site1	2014/03/22	11:00:40	7.4	156	104	0.101	0.07	101.5	12.2	6.99	-24	377.7	6.1
Site1	2014/03/22	11:30:40	7.42	156	104	0.101	0.07	106.5	12.79	6.98	-23.4	378.5	16.9
Site1	2014/03/22	12:00:40	7.43	156	104	0.102	0.07	113.4	13.61	6.97	-22.6	378.7	7.2
Site1	2014/03/22	12:30:40	7.42	157	104	0.102	0.07	117	14.05	6.97	-22.9	379	11.3
Site1	2014/03/22	13:00:40	7.46	157	104	0.102	0.07	107.6	12.91	6.98	-23.2	378.4	4.1
Site1	2014/03/22	13:30:40	7.39	156	104	0.101	0.07	86.4	10.38	6.97	-22.8	378.2	6.4
Site1	2014/03/22	14:00:40	7.31	159	105	0.104	0.08	92	11.08	6.98	-23	378.3	5.4
Site1	2014/03/22	14:30:40	7.23	169	112	0.11	0.08	91.4	11.03	6.98	-23.3	377.9	5.2
Site1	2014/03/22	15:00:40	7.28	171	113	0.111	0.08	103.7	12.5	6.98	-23.4	378.5	6
Site1	2014/03/22	15:30:40	7.41	173	115	0.113	0.08	95.7	11.49	7	-24.1	377.7	8.7
Site1	2014/03/22	16:00:40	7.42	164	109	0.107	0.08	88.6	10.65	7.01	-24.8	377.7	8.2
Site1	2014/03/22	16:30:40	7.42	166	110	0.108	0.08	90.1	10.82	6.97	-22.9	378.5	6.4
Site1	2014/03/22	17:00:40	7.32	159	105	0.103	0.08	86	10.36	6.98	-23.1	378.4	5.4
Site1	2014/03/22	17:30:40	7.37	157	104	0.102	0.07	84.2	10.13	6.98	-23.4	378.5	6.9
Site1	2014/03/22	18:00:40	7.36	155	103	0.101	0.07	80.8	9.72	6.97	-23	379.2	5.9
Site1	2014/03/22	18:30:40	7.3	155	102	0.101	0.07	77.5	9.34	6.97	-22.6	379.1	5.3
Site1	2014/03/22	19:00:40	7.24	156	103	0.101	0.07	76.6	9.25	6.97	-22.7	379	5.6
Site1	2014/03/22	19:30:40	7.19	157	104	0.102	0.07	77.3	9.33	6.98	-23.2	378.7	5.6
Site1	2014/03/22	20:00:40	7.15	158	104	0.102	0.07	77.7	9.4	6.99	-23.6	378.7	5
Site1	2014/03/22	20:30:40	7.09	158	104	0.102	0.07	78.6	9.51	7	-24.1	378.7	7.6
Site1	2014/03/22	21:00:40	7.07	157	103	0.102	0.07	79.4	9.62	7.01	-24.7	378.1	7
Site1	2014/03/22	21:30:40	7.08	157	103	0.102	0.07	79.2	9.59	7.01	-24.6	378.3	14.9
Site1	2014/03/22	22:00:40	7	157	103	0.102	0.07	79.5	9.64	7.02	-25.1	378.1	7.8

## Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/22	22:30:40	7.03	156	102	0.101	0.07	79	9.58	7.01	-24.9	378.1	18
Site1	2014/03/22	23:00:40	6.95	156	102	0.101	0.07	78.9	9.58	7.02	-25.1	377.8	4.6
Site1	2014/03/22	23:30:40	6.96	156	102	0.101	0.07	78.9	9.59	7.01	-25	377.7	4.8
Site1	2014/03/23	00:00:40	6.93	156	102	0.101	0.07	79.1	9.61	7.01	-24.8	377.6	4.3
Site1	2014/03/23	00:30:40	6.89	155	102	0.101	0.07	79.1	9.63	7.01	-24.9	377.1	26
Site1	2014/03/23	01:00:40	6.83	156	102	0.101	0.07	78.6	9.58	7.01	-24.8	377.1	22.7
Site1	2014/03/23	01:30:40	6.81	156	102	0.101	0.07	78.1	9.52	7.01	-24.7	378.3	31.8
Site1	2014/03/23	02:00:40	6.74	156	102	0.102	0.07	78.5	9.58	7.01	-24.8	377.6	46
Site1	2014/03/23	02:30:40	6.73	156	102	0.102	0.07	78.1	9.55	7.01	-24.7	377.9	34.9
Site1	2014/03/23	03:00:40	6.75	157	102	0.102	0.07	77.8	9.5	7.01	-24.7	377.5	23.1
Site1	2014/03/23	03:30:40	6.7	157	102	0.102	0.07	77.1	9.42	7	-24.2	378.1	29.8
Site1	2014/03/23	04:00:40	6.74	157	102	0.102	0.07	76.7	9.36	6.99	-23.8	378	5.1
Site1	2014/03/23	04:30:40	6.77	158	103	0.102	0.07	74.8	9.13	6.98	-23.4	378.7	5
Site1	2014/03/23	05:00:40	6.76	158	103	0.103	0.07	72.7	8.88	6.96	-22.4	378.7	4.5
Site1	2014/03/23	05:30:40	6.68	158	103	0.103	0.07	69.6	8.52	6.96	-22.3	379.2	27.2
Site1	2014/03/23	06:00:40	6.64	157	102	0.102	0.07	71.7	8.78	6.97	-22.9	379.2	44.1
Site1	2014/03/23	06:30:40	6.63	157	102	0.102	0.07	73.9	9.06	6.97	-22.8	379.7	34.7
Site1	2014/03/23	07:00:40	6.52	157	102	0.102	0.07	77.7	9.54	6.97	-22.8	378.8	29
Site1	2014/03/23	07:30:40	6.48	157	101	0.102	0.07	79.8	9.8	6.97	-23	378.5	59.5
Site1	2014/03/23	08:00:40	6.35	158	102	0.103	0.07	85.1	10.5	6.96	-22.4	378.8	10
Site1	2014/03/23	08:30:40	6.44	159	102	0.103	0.08	64.2	7.9	6.97	-22.7	378.8	9
Site1	2014/03/23	09:00:40	6.5	159	103	0.104	0.08	94.5	11.61	6.98	-23.4	378.5	16.2
Site1	2014/03/23	09:30:40	6.56	160	103	0.104	0.08	96.6	11.85	6.99	-23.8	378.9	23.4
Site1	2014/03/23	10:00:40	6.75	160	104	0.104	0.08	109.4	13.35	6.99	-24	378.2	9.5
Site1	2014/03/23	10:30:40	6.97	160	105	0.104	0.08	111.2	13.51	7.01	-24.8	378.1	46.2
Site1	2014/03/23	11:00:40	7.05	160	105	0.104	0.08	114.2	13.84	6.97	-22.9	378.1	7
Site1	2014/03/23	11:30:40	7.44	161	107	0.105	0.08	110.2	13.23	6.98	-23.1	378	12.6
Site1	2014/03/23	12:00:40	7.43	162	107	0.105	0.08	121.6	14.6	6.97	-22.6	377.7	9
Site1	2014/03/23	12:30:40	7.83	163	110	0.106	0.08	119.1	14.16	6.98	-23.1	377.5	4.5
Site1	2014/03/23	13:00:40	8.11	162	110	0.105	0.08	124.3	14.67	6.99	-23.6	376.3	4.2
Site1	2014/03/23	13:30:40	7.8	164	110	0.106	0.08	100.9	12.01	6.96	-22.2	376.5	4.6
Site1	2014/03/23	14:00:40	7.8	163	109	0.106	0.08	120.1	14.28	6.97	-22.9	376.5	38.4
Site1	2014/03/23	14:30:40	8.36	162	111	0.105	0.08	119.6	14.04	6.97	-22.6	377.2	5.4
Site1	2014/03/23	15:00:40	9.02	163	113	0.106	0.08	116.5	13.45	6.97	-22.7	375.9	5.6
Site1	2014/03/23	15:30:40	8.72	163	113	0.106	0.08	122.6	14.27	6.96	-22.4	375.1	4.2
Site1	2014/03/23	16:00:40	9.06	164	114	0.106	0.08	115.3	13.3	6.96	-22.5	375.2	4
Site1	2014/03/23	16:30:40	8.91	164	114	0.107	0.08	107	12.39	6.99	-23.9	374.2	4
Site1	2014/03/23	17:00:40	9.03	164	114	0.107	0.08	99.1	11.44	6.98	-23.3	374.3	81.5
Site1	2014/03/23	17:30:40	9.04	165	114	0.107	0.08	91.7	10.59	6.98	-23	374.4	4
Site1	2014/03/23	18:00:40	8.96	166	115	0.108	0.08	85.6	9.9	6.95	-21.7	375	4.2
Site1	2014/03/23	18:30:40	8.98	166	115	0.108	0.08	80	9.25	6.92	-20.2	376.3	4.2
Site1	2014/03/23	19:00:40	8.88	166	115	0.108	0.08	81.5	9.44	6.97	-22.9	374.8	8.7
Site1	2014/03/23	19:30:40	8.84	166	115	0.108	0.08	79	9.16	6.96	-22	375	31
Site1	2014/03/23	20:00:40	8.94	163	113	0.106	0.08	81.3	9.4	6.98	-23	374.3	21.3
Site1	2014/03/23	20:30:40	8.93	162	112	0.105	0.08	72.7	8.42	6.97	-22.9	374.5	30.8
Site1	2014/03/23	21:00:40	8.87	162	112	0.105	0.08	68.8	7.97	6.96	-22.5	374.9	31.8
Site1	2014/03/23	21:30:40	8.78	163	112	0.106	0.08	81.2	9.43	6.97	-23	373.5	15.1
Site1	2014/03/23	22:00:40	8.69	163	112	0.106	0.08	78	9.08	6.96	-22.5	374	159.1
Site1	2014/03/23	22:30:40	8.59	163	112	0.106	0.08	80.3	9.37	6.97	-22.9	373.2	3.9
Site1	2014/03/23	23:00:40	8.47	163	112	0.106	0.08	77.7	9.1	6.97	-22.6	372.9	4.1
Site1	2014/03/23	23:30:40	8.44	163	112	0.106	0.08	76.6	8.97	6.95	-21.7	373.9	15.3

## Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/24	00:00:40	8.42	164	112	0.106	0.08	72.8	8.53	6.94	-21.5	374.3	4.9
Site1	2014/03/24	00:30:40	8.38	163	111	0.106	0.08	74.5	8.74	6.95	-21.5	374.2	6.2
Site1	2014/03/24	01:00:40	8.35	164	112	0.106	0.08	72.7	8.54	6.94	-21.1	374.4	4.7
Site1	2014/03/24	01:30:40	8.26	163	111	0.106	0.08	73.1	8.6	6.95	-21.7	373.8	30.8
Site1	2014/03/24	02:00:40	8.25	162	110	0.105	0.08	75	8.82	6.96	-22.3	373.7	4.9
Site1	2014/03/24	02:30:40	8.19	162	110	0.106	0.08	79.9	9.42	6.98	-23.4	373.9	10.6
Site1	2014/03/24	03:00:40	8.07	163	110	0.106	0.08	78	9.21	6.98	-23.3	373.1	10
Site1	2014/03/24	03:30:40	7.93	167	112	0.108	0.08	74.7	8.86	6.96	-22	373.4	123.7
Site1	2014/03/24	04:00:40	7.9	166	112	0.108	0.08	72.7	8.63	6.96	-22.1	373.4	22.3
Site1	2014/03/24	04:30:40	7.89	165	111	0.108	0.08	72.1	8.55	6.97	-22.7	373.5	20
Site1	2014/03/24	05:00:40	7.79	166	111	0.108	0.08	77.7	9.24	6.97	-22.6	373.6	22.5
Site1	2014/03/24	05:30:40	7.73	166	111	0.108	0.08	77.4	9.23	6.97	-22.7	373.3	25.2
Site1	2014/03/24	06:00:40	7.72	167	112	0.108	0.08	77.1	9.18	6.97	-22.8	373.2	3.8
Site1	2014/03/24	06:30:40	7.72	168	112	0.109	0.08	78.2	9.32	6.96	-22.4	372.8	4
Site1	2014/03/24	07:00:40	7.71	168	112	0.109	0.08	79.4	9.47	6.96	-22	373.8	6.9
Site1	2014/03/24	07:30:40	7.7	168	112	0.109	0.08	81.7	9.74	6.95	-21.7	374.3	6.9
Site1	2014/03/24	08:00:40	7.72	168	113	0.109	0.08	85.5	10.19	6.96	-22.5	374.4	5.3
Site1	2014/03/24	08:30:40	7.71	168	113	0.109	0.08	83.3	9.93	6.98	-23	374.8	24.4
Site1	2014/03/24	09:00:40	7.71	168	113	0.109	0.08	89.2	10.64	6.99	-23.6	373.7	36.4
Site1	2014/03/24	09:30:40	7.69	169	113	0.11	0.08	99.1	11.82	6.98	-23.3	374.1	4.4
Site1	2014/03/24	10:00:40	7.85	167	112	0.108	0.08	92.1	10.94	6.97	-22.9	374.1	4.5
Site1	2014/03/24	10:30:40	7.96	166	112	0.108	0.08	99.9	11.84	6.97	-22.6	374.2	10
Site1	2014/03/24	11:00:40	8.02	165	111	0.107	0.08	106.4	12.59	6.95	-22	374.4	3.7
Site1	2014/03/24	11:30:40	8.11	166	112	0.108	0.08	118.3	13.97	6.95	-21.9	374.8	6.2
Site1	2014/03/24	12:00:40	8.2	166	113	0.108	0.08	113.7	13.39	6.98	-23.4	373	19
Site1	2014/03/24	12:30:40	8.43	167	114	0.108	0.08	117.4	13.75	6.99	-23.9	372.7	4.7
Site1	2014/03/24	13:00:40	8.55	167	114	0.108	0.08	117.7	13.75	7.01	-24.7	372.4	3.9
Site1	2014/03/24	13:30:40	8.59	167	115	0.109	0.08	115.9	13.52	7.03	-25.8	372	4.3
Site1	2014/03/24	14:00:40	8.78	166	115	0.108	0.08	114.9	13.34	7.06	-27.2	371.2	4.2
Site1	2014/03/24	14:30:40	8.89	165	114	0.107	0.08	117.5	13.61	7.03	-26	371.3	21.6
Site1	2014/03/24	15:00:40	9	165	114	0.107	0.08	114.8	13.27	7.01	-24.7	372.3	4.3
Site1	2014/03/24	15:30:40	9.08	165	115	0.107	0.08	114.6	13.21	7	-24.2	371.9	4.1
Site1	2014/03/24	16:00:40	9.09	165	115	0.107	0.08	113	13.03	7	-24.5	372.1	4.3
Site1	2014/03/24	16:30:40	9.48	164	116	0.107	0.08	106.5	12.17	7.02	-25.4	371.9	3.7
Site1	2014/03/24	17:00:40	9.27	166	116	0.108	0.08	91.4	10.5	7.01	-24.7	371.3	4
Site1	2014/03/24	17:30:40	9.65	169	119	0.11	0.08	88.2	10.03	6.99	-23.9	371.2	12.6
Site1	2014/03/24	18:00:40	9.56	169	119	0.11	0.08	87.2	9.94	7.02	-25.4	370.3	3.7
Site1	2014/03/24	18:30:40	9.5	170	120	0.111	0.08	83.6	9.54	6.98	-23.4	370.3	4.3
Site1	2014/03/24	19:00:40	9.21	170	119	0.11	0.08	80.7	9.27	6.96	-22.2	370.6	4
Site1	2014/03/24	19:30:40	9.06	169	118	0.11	0.08	75.6	8.72	6.97	-22.9	371.2	4
Site1	2014/03/24	20:00:40	9.36	168	118	0.109	0.08	78.1	8.95	6.96	-22.5	371.9	3.7
Site1	2014/03/24	20:30:40	9.48	168	118	0.109	0.08	79.1	9.04	6.97	-22.9	372	3.9
Site1	2014/03/24	21:00:40	9.5	168	118	0.109	0.08	77.9	8.9	6.96	-22.4	371.6	3.7
Site1	2014/03/24	21:30:40	9.49	168	119	0.109	0.08	73.8	8.43	6.94	-21.3	372.1	5.9
Site1	2014/03/24	22:00:40	9.47	169	119	0.11	0.08	73.3	8.38	6.93	-20.8	372.3	4.5
Site1	2014/03/24	22:30:40	9.44	169	119	0.11	0.08	77.2	8.82	6.92	-20.4	372.1	3.8
Site1	2014/03/24	23:00:40	9.42	169	119	0.11	0.08	78.1	8.93	6.94	-21.1	371.9	3.7
Site1	2014/03/24	23:30:40	9.42	169	119	0.11	0.08	73.2	8.37	6.94	-21.1	371.6	3.6
Site1	2014/03/25	00:00:40	8.95	167	116	0.109	0.08	80.9	9.36	6.99	-23.9	370.6	4.8
Site1	2014/03/25	00:30:40	9.02	170	118	0.11	0.08	77.4	8.94	6.96	-22.1	371	4.8
Site1	2014/03/25	01:00:40	9.17	170	119	0.111	0.08	78.8	9.07	6.97	-22.6	371.6	8.4

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/25	01:30:40	9.11	171	119	0.111	0.08	78.6	9.06	6.97	-22.7	370.9	4.7
Site1	2014/03/25	02:00:40	9	172	119	0.112	0.08	77	8.9	6.96	-22.3	370.4	4.5
Site1	2014/03/25	02:30:40	8.97	173	120	0.113	0.08	78.3	9.05	6.97	-22.8	370.2	4.5
Site1	2014/03/25	03:00:40	8.92	174	120	0.113	0.08	77.4	8.96	6.97	-22.7	370.7	5.9
Site1	2014/03/25	03:30:40	8.81	175	121	0.114	0.08	77.7	9.02	6.97	-22.8	370.7	8.6
Site1	2014/03/25	04:00:40	8.75	177	122	0.115	0.08	76.3	8.87	6.97	-22.6	368.7	4.8
Site1	2014/03/25	04:30:40	8.71	177	122	0.115	0.08	76.2	8.87	6.98	-23	368.6	3.9
Site1	2014/03/25	05:00:40	8.7	177	122	0.115	0.08	73.4	8.54	6.95	-21.6	369.1	4.1
Site1	2014/03/25	05:30:40	8.69	177	122	0.115	0.08	72	8.38	6.93	-20.9	370.3	3.6
Site1	2014/03/25	06:00:40	8.74	175	121	0.114	0.08	74.2	8.63	6.94	-21.4	370.4	6.4
Site1	2014/03/25	06:30:40	8.73	174	120	0.113	0.08	74	8.61	6.95	-21.6	370.2	26.2
Site1	2014/03/25	07:00:40	8.69	176	122	0.115	0.08	76.1	8.86	6.96	-22.3	369.7	4.3
Site1	2014/03/25	07:30:40	8.67	182	125	0.118	0.09	75.6	8.8	6.94	-21.4	369.7	5.4
Site1	2014/03/25	08:00:40	8.59	181	124	0.118	0.09	76.2	8.89	6.96	-22.3	369.9	5.6
Site1	2014/03/25	08:30:40	8.64	179	123	0.116	0.08	76.9	8.96	6.95	-21.7	370.4	5.9
Site1	2014/03/25	09:00:40	8.69	177	122	0.115	0.08	76.5	8.91	6.95	-21.8	370.2	7.1
Site1	2014/03/25	09:30:40	8.74	177	122	0.115	0.08	77.7	9.03	6.96	-22.2	370	5.2
Site1	2014/03/25	10:00:40	8.74	178	123	0.116	0.08	77.8	9.04	6.94	-21.3	370.3	5.6
Site1	2014/03/25	10:30:40	8.81	178	123	0.116	0.08	82.4	9.56	6.95	-21.7	370	6.7
Site1	2014/03/25	11:00:40	8.83	178	123	0.116	0.08	84.2	9.77	6.94	-21.3	370.5	5.8
Site1	2014/03/25	11:30:40	8.77	179	124	0.116	0.09	84.1	9.77	6.94	-21.1	370.3	5.4
Site1	2014/03/25	12:00:40	8.78	181	125	0.117	0.09	84.1	9.77	6.94	-21.5	370.1	8.5
Site1	2014/03/25	12:30:40	8.76	182	126	0.119	0.09	82.6	9.6	6.95	-22	369.6	5.4
Site1	2014/03/25	13:00:40	8.72	184	126	0.119	0.09	79.9	9.29	6.95	-21.9	370.4	9.7
Site1	2014/03/25	13:30:40	8.7	183	126	0.119	0.09	78	9.08	6.95	-21.6	370.2	9.4
Site1	2014/03/25	14:00:40	8.65	182	125	0.118	0.09	79.6	9.27	6.95	-21.9	370.4	8.6
Site1	2014/03/25	14:30:40	8.75	182	126	0.119	0.09	81.7	9.5	6.94	-21.4	370.4	9.9
Site1	2014/03/25	15:00:40	8.87	179	124	0.116	0.08	85	9.85	6.97	-22.8	370.7	13
Site1	2014/03/25	15:30:40	8.59	174	120	0.113	0.08	81.3	9.49	6.96	-22.2	370.1	12.8
Site1	2014/03/25	16:00:40	8.56	178	122	0.116	0.08	77.9	9.09	6.95	-21.5	370.7	14.4
Site1	2014/03/25	16:30:40	8.59	178	122	0.116	0.08	75	8.75	6.95	-21.7	371	10
Site1	2014/03/25	17:00:40	8.63	179	123	0.116	0.08	78.5	9.15	6.94	-21.4	371.7	8.4
Site1	2014/03/25	17:30:40	8.63	179	123	0.116	0.09	74.2	8.65	6.94	-21.4	371.6	7.7
Site1	2014/03/25	18:00:40	8.68	179	123	0.116	0.08	73.8	8.59	6.94	-21.2	371.7	6.7
Site1	2014/03/25	18:30:40	8.69	179	124	0.117	0.09	74.3	8.65	6.94	-21.4	371.6	7.5
Site1	2014/03/25	19:00:40	8.7	181	124	0.117	0.09	74	8.61	6.94	-21.4	371.5	9.7
Site1	2014/03/25	19:30:40	8.69	182	125	0.118	0.09	73.6	8.56	6.94	-21.4	372.1	8.1
Site1	2014/03/25	20:00:40	8.7	181	125	0.118	0.09	74.4	8.66	6.95	-21.9	371.9	7.1
Site1	2014/03/25	20:30:40	8.7	180	124	0.117	0.09	75.1	8.74	6.95	-21.7	371.5	14.2
Site1	2014/03/25	21:00:40	8.69	180	124	0.117	0.09	74.3	8.65	6.95	-21.6	372.4	13.3
Site1	2014/03/25	21:30:40	8.66	184	126	0.119	0.09	73.9	8.61	6.94	-21.4	372.4	6.1
Site1	2014/03/25	22:00:40	8.64	185	127	0.12	0.09	72.3	8.43	6.94	-21.1	372.9	5
Site1	2014/03/25	22:30:40	8.63	186	128	0.121	0.09	73.6	8.57	6.94	-21.2	372.7	15.4
Site1	2014/03/25	23:00:40	8.62	187	129	0.122	0.09	73.4	8.56	6.95	-22	373	17.4
Site1	2014/03/25	23:30:40	8.54	184	126	0.12	0.09	75.7	8.84	6.98	-23	372.7	10.5
Site1	2014/03/26	00:00:40	8.45	160	110	0.104	0.08	75.9	8.89	6.98	-23.5	372.6	10.9
Site1	2014/03/26	00:30:40	8.31	154	105	0.1	0.07	76.3	8.96	6.96	-22.2	372.7	18.4
Site1	2014/03/26	01:00:40	8.34	165	113	0.107	0.08	75.5	8.87	6.97	-22.8	373.4	19.5
Site1	2014/03/26	01:30:40	8.38	170	116	0.11	0.08	75.6	8.86	6.98	-23.1	373.2	10.8
Site1	2014/03/26	02:00:40	8.4	172	117	0.112	0.08	75.3	8.83	6.99	-23.7	374	8.2
Site1	2014/03/26	02:30:40	8.41	174	119	0.113	0.08	75	8.78	6.98	-23.1	374.3	13.2



Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/26	03:00:40	8.42	174	119	0.113	0.08	74.2	8.7	6.97	-22.6	374.8	11.9
Site1	2014/03/26	03:30:40	8.38	174	119	0.113	0.08	73.8	8.66	6.96	-22.3	375.4	17.7
Site1	2014/03/26	04:00:40	8.33	173	118	0.112	0.08	73	8.58	6.96	-22	375.5	22.8
Site1	2014/03/26	04:30:40	8.28	172	117	0.112	0.08	73.1	8.6	6.96	-22	375.8	10.3
Site1	2014/03/26	05:00:40	8.26	171	117	0.111	0.08	72.4	8.52	6.95	-21.6	376	6.9
Site1	2014/03/26	05:30:40	8.23	172	117	0.112	0.08	72.4	8.52	6.94	-21.1	376.4	5.6
Site1	2014/03/26	06:00:40	8.21	173	118	0.113	0.08	73.9	8.7	6.94	-21.3	376.5	8.6
Site1	2014/03/26	06:30:40	8.19	174	118	0.113	0.08	73.8	8.7	6.94	-21.1	376.8	6.7
Site1	2014/03/26	07:00:40	8.19	175	119	0.114	0.08	74.8	8.81	6.93	-20.9	376.9	61.4
Site1	2014/03/26	07:30:40	8.25	177	120	0.115	0.08	75.3	8.86	6.93	-20.8	376	11.9
Site1	2014/03/26	08:00:40	8.32	180	123	0.117	0.09	74.6	8.76	6.93	-20.7	375.9	15.5
Site1	2014/03/26	08:30:40	8.37	180	123	0.117	0.09	79.9	9.37	6.94	-21.2	376	13.2
Site1	2014/03/26	09:00:40	8.48	181	124	0.118	0.09	83.3	9.74	6.94	-21.1	375.9	67.2
Site1	2014/03/26	09:30:40	8.53	182	125	0.118	0.09	91.2	10.66	6.93	-20.7	376.6	41.2
Site1	2014/03/26	10:00:40	8.61	184	126	0.12	0.09	88.3	10.29	6.92	-20.4	376.3	6.5
Site1	2014/03/26	10:30:40	8.69	186	128	0.121	0.09	87.2	10.15	6.92	-20.1	376.1	6.8
Site1	2014/03/26	11:00:40	8.77	187	129	0.122	0.09	88.3	10.26	6.93	-20.7	376.2	59.7
Site1	2014/03/26	11:30:40	8.83	187	129	0.122	0.09	96	11.13	6.93	-20.7	375.9	28.4
Site1	2014/03/26	12:00:40	8.86	187	129	0.122	0.09	80.6	9.35	6.92	-20.4	376.1	55.1
Site1	2014/03/26	12:30:40	8.92	188	130	0.122	0.09	81.5	9.44	6.92	-20.4	376.2	26.7
Site1	2014/03/26	13:00:40	8.96	189	131	0.123	0.09	93.4	10.8	6.93	-20.6	375.2	50.3
Site1	2014/03/26	13:30:40	9.08	190	132	0.123	0.09	110.8	12.77	6.93	-20.6	375.7	33.9
Site1	2014/03/26	14:00:40	9.14	192	134	0.125	0.09	106.8	12.29	6.93	-20.8	375.3	25.7
Site1	2014/03/26	14:30:40	9.23	192	134	0.125	0.09	91.6	10.52	6.93	-20.9	375.3	12.6
Site1	2014/03/26	15:00:40	9.42	193	135	0.125	0.09	79.3	9.07	6.93	-20.6	375.7	33.1
Site1	2014/03/26	15:30:40	9.45	193	136	0.125	0.09	82	9.37	6.94	-21.1	375.4	33.9
Site1	2014/03/26	16:00:40	9.49	192	135	0.125	0.09	87.4	9.98	6.94	-21.2	374.8	42.5
Site1	2014/03/26	16:30:40	9.58	192	135	0.125	0.09	81.6	9.3	6.94	-21.1	374.9	41
Site1	2014/03/26	17:00:40	9.59	191	135	0.124	0.09	78.6	8.96	6.93	-20.9	374.5	28.3
Site1	2014/03/26	17:30:40	9.68	193	136	0.125	0.09	78.9	8.97	6.95	-21.6	374.3	28.7
Site1	2014/03/26	18:00:40	9.7	193	136	0.125	0.09	77.9	8.85	6.95	-21.9	374.1	32.3
Site1	2014/03/26	18:30:40	9.68	192	136	0.125	0.09	76.2	8.67	6.95	-21.5	374	24.6
Site1	2014/03/26	19:00:40	9.67	192	136	0.125	0.09	75.3	8.56	6.94	-21.3	373.9	22.4
Site1	2014/03/26	19:30:40	9.64	191	135	0.124	0.09	75.1	8.55	6.93	-20.6	375.1	25.3
Site1	2014/03/26	20:00:40	9.62	191	135	0.124	0.09	73.1	8.32	6.93	-21	374.5	9.7
Site1	2014/03/26	20:30:40	9.58	191	135	0.124	0.09	72.5	8.26	6.93	-21	374.5	10.1
Site1	2014/03/26	21:00:40	9.56	191	134	0.124	0.09	72.8	8.31	6.94	-21.1	374.8	41.1
Site1	2014/03/26	21:30:40	9.51	190	134	0.124	0.09	72	8.22	6.94	-21.1	374.9	22.8
Site1	2014/03/26	22:00:40	9.43	191	134	0.124	0.09	72.9	8.34	6.94	-21.1	374.5	25.3
Site1	2014/03/26	22:30:40	9.34	186	130	0.121	0.09	73.5	8.43	6.96	-22.3	374.8	11.1
Site1	2014/03/26	23:00:40	9.23	176	123	0.114	0.08	74.8	8.6	6.96	-22.2	374.1	6.4
Site1	2014/03/26	23:30:40	9.15	171	119	0.111	0.08	75.1	8.65	6.94	-21.1	373.7	5.9
Site1	2014/03/27	00:00:40	9.08	165	115	0.107	0.08	74.4	8.58	6.93	-20.8	375.8	5.6
Site1	2014/03/27	00:30:40	9.01	163	113	0.106	0.08	74.5	8.61	6.94	-21.5	374.8	5.2
Site1	2014/03/27	01:00:40	8.96	162	112	0.105	0.08	74.2	8.59	6.94	-21.1	375.2	5.3
Site1	2014/03/27	01:30:40	8.89	162	112	0.105	0.08	74.4	8.62	6.92	-20.3	374.1	5.7
Site1	2014/03/27	02:00:40	8.93	168	116	0.109	0.08	74.7	8.65	6.96	-22.3	374.9	5.1
Site1	2014/03/27	02:30:40	8.9	172	119	0.112	0.08	74.3	8.6	6.95	-21.6	376.7	5
Site1	2014/03/27	03:00:40	8.95	177	123	0.115	0.08	72.4	8.38	6.96	-22.5	378.2	5
Site1	2014/03/27	03:30:40	8.85	173	119	0.112	0.08	72.5	8.41	6.95	-21.9	378.6	5
Site1	2014/03/27	04:00:40	8.77	173	119	0.112	0.08	72.1	8.38	6.95	-21.8	377.7	4.9

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/27	04:30:40	8.65	166	114	0.108	0.08	73.1	8.51	6.95	-21.8	378.1	5
Site1	2014/03/27	05:00:40	8.59	167	115	0.109	0.08	72.6	8.47	6.94	-21.3	379.8	5.3
Site1	2014/03/27	05:30:40	8.6	165	113	0.107	0.08	71.8	8.38	6.92	-20.3	380.6	5.8
Site1	2014/03/27	06:00:40	8.64	173	119	0.113	0.08	71.1	8.28	6.92	-20.1	381.5	5.3
Site1	2014/03/27	06:30:40	8.64	175	120	0.114	0.08	70.7	8.24	6.91	-20	381.5	5.3
Site1	2014/03/27	07:00:40	8.65	177	122	0.115	0.08	70.8	8.25	6.91	-19.7	382.1	5.5
Site1	2014/03/27	07:30:40	8.67	176	121	0.114	0.08	70.7	8.24	6.91	-19.7	382.5	6.4
Site1	2014/03/27	08:00:40	8.71	177	122	0.115	0.08	70.8	8.24	6.9	-19.2	382.9	6.5
Site1	2014/03/27	08:30:40	8.72	177	122	0.115	0.08	70.8	8.23	6.89	-18.7	384.6	6.4
Site1	2014/03/27	09:00:40	8.82	177	123	0.115	0.08	70.5	8.18	6.9	-19	385.1	6.1
Site1	2014/03/27	09:30:40	8.82	178	123	0.115	0.08	72.4	8.41	6.89	-18.6	385.9	6.1
Site1	2014/03/27	10:00:40	8.83	177	123	0.115	0.08	72.3	8.39	6.87	-17.5	386.2	6.5
Site1	2014/03/27	10:30:40	8.86	177	123	0.115	0.08	73.9	8.57	6.85	-16.6	386.9	6.1
Site1	2014/03/27	11:00:40	8.9	177	122	0.115	0.08	57.2	6.63	6.86	-17.1	387.9	7
Site1	2014/03/27	11:30:40	8.91	177	123	0.115	0.08	67.4	7.8	6.85	-17	387.9	6.8
Site1	2014/03/27	12:00:40	8.97	177	123	0.115	0.08	62.5	7.23	6.88	-18	387.6	6.4
Site1	2014/03/27	12:30:40	9.06	177	123	0.115	0.08	76.6	8.83	6.87	-17.8	387.9	6.7
Site1	2014/03/27	13:00:40	9.11	177	123	0.115	0.08	74.6	8.6	6.88	-18.2	388.1	6.6
Site1	2014/03/27	13:30:40	9.24	177	124	0.115	0.08	73.3	8.42	6.88	-18.3	388.7	6.7
Site1	2014/03/27	14:00:40	9.34	178	124	0.115	0.08	73.4	8.42	6.87	-17.5	388.9	6.6
Site1	2014/03/27	14:30:40	9.34	178	125	0.116	0.08	73	8.36	6.88	-18.2	388.4	6.8
Site1	2014/03/27	15:00:40	9.41	178	125	0.116	0.08	72.3	8.27	6.87	-17.9	389.1	6.8
Site1	2014/03/27	15:30:40	9.39	179	125	0.116	0.08	73.5	8.42	6.89	-18.5	389.2	8.1
Site1	2014/03/27	16:00:40	9.42	179	126	0.116	0.08	73.2	8.37	6.9	-19.3	388.7	7.1
Site1	2014/03/27	16:30:40	9.44	179	126	0.116	0.09	72	8.23	6.88	-18.2	388.9	7.8
Site1	2014/03/27	17:00:40	9.48	179	126	0.116	0.09	71.8	8.2	6.87	-17.9	389.8	7.1
Site1	2014/03/27	17:30:40	9.51	180	126	0.117	0.09	71.8	8.2	6.89	-18.5	390	6.5
Site1	2014/03/27	18:00:40	9.54	180	127	0.117	0.09	71.7	8.18	6.89	-18.9	389.6	6.4
Site1	2014/03/27	18:30:40	9.54	180	127	0.117	0.09	70.9	8.09	6.88	-18.4	390.3	7.4
Site1	2014/03/27	19:00:40	9.54	180	127	0.117	0.09	70.5	8.05	6.89	-18.6	390.1	7.5
Site1	2014/03/27	19:30:40	9.52	180	127	0.117	0.09	71.1	8.12	6.89	-18.6	391.1	6
Site1	2014/03/27	20:00:40	9.53	180	127	0.117	0.09	70.7	8.07	6.89	-18.8	390.9	6.8
Site1	2014/03/27	20:30:40	9.53	179	126	0.116	0.09	70.5	8.04	6.89	-18.8	391.7	6.7
Site1	2014/03/27	21:00:40	9.52	178	125	0.115	0.08	70.4	8.03	6.89	-18.7	391.3	6.1
Site1	2014/03/27	21:30:40	9.5	176	124	0.115	0.08	69.9	7.98	6.88	-18.3	391.6	7.3
Site1	2014/03/27	22:00:40	9.49	174	123	0.113	0.08	69.7	7.96	6.87	-17.8	391	9.2
Site1	2014/03/27	22:30:40	9.45	173	122	0.113	0.08	69.7	7.97	6.87	-17.8	392.3	9.4
Site1	2014/03/27	23:00:40	9.43	173	122	0.113	0.08	68.7	7.86	6.87	-17.6	393.2	6.7
Site1	2014/03/27	23:30:40	9.41	171	120	0.111	0.08	68.8	7.87	6.87	-17.8	393.2	7.3
Site1	2014/03/28	00:00:40	9.36	169	118	0.11	0.08	68.5	7.84	6.86	-17.1	393.9	8.7
Site1	2014/03/28	00:30:40	9.33	167	117	0.109	0.08	68.4	7.84	6.86	-17.3	394.3	7.3
Site1	2014/03/28	01:00:40	9.28	167	117	0.109	0.08	67.7	7.77	6.85	-16.8	394.7	7.6
Site1	2014/03/28	01:30:40	9.25	167	117	0.108	0.08	67.5	7.75	6.85	-16.8	394.8	7.9
Site1	2014/03/28	02:00:40	9.17	167	117	0.109	0.08	67.6	7.78	6.85	-16.8	394.5	10.1
Site1	2014/03/28	02:30:40	9.14	168	117	0.109	0.08	67.6	7.78	6.85	-16.6	395.1	9.5
Site1	2014/03/28	03:00:40	9.08	167	116	0.109	0.08	67.4	7.77	6.84	-16.2	395.6	17.7
Site1	2014/03/28	03:30:40	9.06	166	115	0.108	0.08	66.8	7.71	6.83	-15.9	396.8	8.2
Site1	2014/03/28	04:00:40	9.04	165	115	0.107	0.08	67.1	7.74	6.83	-15.9	396.5	7.6
Site1	2014/03/28	04:30:40	9.02	164	114	0.107	0.08	66.8	7.71	6.84	-16.3	397	6.4
Site1	2014/03/28	05:00:40	9.01	164	114	0.106	0.08	66.7	7.71	6.84	-16.4	397.2	6.2
Site1	2014/03/28	05:30:40	8.98	164	114	0.107	0.08	66.3	7.67	6.85	-16.5	396.4	6.8

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/28	06:00:40	8.96	164	114	0.107	0.08	66.6	7.7	6.85	-16.6	396.8	7.5
Site1	2014/03/28	06:30:40	8.94	165	114	0.107	0.08	66.4	7.69	6.85	-16.9	396.9	7.9
Site1	2014/03/28	07:00:40	8.92	165	114	0.107	0.08	66.2	7.67	6.85	-16.8	397.4	8.7
Site1	2014/03/28	07:30:40	8.91	166	115	0.108	0.08	66.3	7.67	6.85	-16.8	397.3	10.8
Site1	2014/03/28	08:00:40	8.88	166	115	0.108	0.08	66.1	7.66	6.85	-16.7	396.4	9.4
Site1	2014/03/28	08:30:40	8.86	166	115	0.108	0.08	66	7.66	6.85	-16.8	397.8	10.9
Site1	2014/03/28	09:00:40	8.83	168	116	0.109	0.08	64.8	7.52	6.87	-17.6	397.1	7.3
Site1	2014/03/28	09:30:40	8.73	171	118	0.111	0.08	68.2	7.93	6.88	-18.1	397.3	7.6
Site1	2014/03/28	10:00:40	8.72	156	108	0.102	0.07	68.5	7.97	6.88	-18.4	396.3	11.2
Site1	2014/03/28	10:30:40	8.7	151	104	0.098	0.07	68.5	7.97	6.85	-16.7	394.2	11.2
Site1	2014/03/28	11:00:40	8.82	153	106	0.1	0.07	69.2	8.03	6.87	-17.5	396.9	8.3
Site1	2014/03/28	11:30:40	8.89	158	109	0.103	0.07	69	8	6.88	-18.2	397.9	7.8
Site1	2014/03/28	12:00:40	8.89	159	110	0.103	0.08	69.7	8.07	6.89	-18.7	398.2	7.9
Site1	2014/03/28	12:30:40	8.93	160	111	0.104	0.08	69.7	8.07	6.91	-19.5	397.2	6.6
Site1	2014/03/28	13:00:40	8.94	161	112	0.105	0.08	70.6	8.17	6.9	-19.3	398.3	7.2
Site1	2014/03/28	13:30:40	8.97	161	112	0.105	0.08	70.5	8.15	6.91	-19.5	397.6	7.5
Site1	2014/03/28	14:00:40	9.04	158	110	0.103	0.08	71.9	8.3	6.9	-19.3	398.3	8.8
Site1	2014/03/28	14:30:40	9.23	149	104	0.097	0.07	72.7	8.35	6.92	-20.1	397.8	16.1
Site1	2014/03/28	15:00:40	9.35	147	103	0.095	0.07	71.9	8.24	6.92	-20	397.8	15.8
Site1	2014/03/28	15:30:40	9.38	148	104	0.096	0.07	71.6	8.2	6.91	-19.8	398.2	13.3
Site1	2014/03/28	16:00:40	9.36	148	104	0.096	0.07	71.4	8.18	6.91	-19.7	398.1	13.3
Site1	2014/03/28	16:30:40	9.37	145	101	0.094	0.07	71.3	8.16	6.9	-19.4	398.3	10.9
Site1	2014/03/28	17:00:40	9.35	143	100	0.093	0.07	71.2	8.15	6.91	-19.9	398.7	12.9
Site1	2014/03/28	17:30:40	9.33	143	101	0.093	0.07	70.6	8.09	6.89	-18.9	399.5	14.7
Site1	2014/03/28	18:00:40	9.22	144	101	0.094	0.07	71.1	8.17	6.9	-19.3	399.1	14.7
Site1	2014/03/28	18:30:40	9.1	135	94	0.087	0.06	71.2	8.21	6.91	-19.5	397.2	23.5
Site1	2014/03/28	19:00:40	9	134	93	0.087	0.06	70.7	8.18	6.89	-18.8	398.6	18.9
Site1	2014/03/28	19:30:40	8.97	138	96	0.09	0.07	69.9	8.08	6.89	-18.6	400.2	15.6
Site1	2014/03/28	20:00:40	8.89	139	96	0.09	0.07	70.1	8.13	6.91	-19.7	399.5	11.8
Site1	2014/03/28	20:30:40	8.86	139	96	0.09	0.07	69.4	8.05	6.9	-19.3	401.1	10.6
Site1	2014/03/28	21:00:40	8.81	139	96	0.091	0.07	69.5	8.07	6.89	-18.9	402.4	11.5
Site1	2014/03/28	21:30:40	8.8	140	97	0.091	0.07	69.4	8.06	6.89	-18.5	402.5	9.6
Site1	2014/03/28	22:00:40	8.76	141	97	0.091	0.07	69	8.02	6.88	-18.2	402.5	10.5
Site1	2014/03/28	22:30:40	8.74	141	97	0.092	0.07	68.4	7.96	6.88	-18.1	402.9	10.1
Site1	2014/03/28	23:00:40	8.77	143	98	0.093	0.07	68.3	7.94	6.87	-17.8	403.1	10.1
Site1	2014/03/28	23:30:40	8.74	143	98	0.093	0.07	68	7.9	6.87	-17.6	403.6	8.9
Site1	2014/03/29	00:00:40	8.68	143	98	0.093	0.07	68	7.91	6.86	-17.1	404.4	11.2
Site1	2014/03/29	00:30:40	8.65	143	98	0.093	0.07	67.9	7.91	6.86	-17.2	404.5	10.6
Site1	2014/03/29	01:00:40	8.61	143	98	0.093	0.07	67.6	7.89	6.82	-15.3	407.4	12.6
Site1	2014/03/29	01:30:40	8.56	143	98	0.093	0.07	67.6	7.9	6.84	-16.5	405.1	15
Site1	2014/03/29	02:00:40	8.5	142	97	0.093	0.07	67.7	7.92	6.82	-15.3	405.9	10.1
Site1	2014/03/29	02:30:40	8.42	140	95	0.091	0.07	67.5	7.92	6.83	-15.9	405.5	7.1
Site1	2014/03/29	03:00:40	8.45	140	96	0.091	0.07	66.8	7.82	6.83	-15.7	405.3	9.4
Site1	2014/03/29	03:30:40	8.48	143	98	0.093	0.07	66.6	7.79	6.83	-15.9	405.5	8.3
Site1	2014/03/29	04:00:40	8.46	145	99	0.094	0.07	66.5	7.79	6.84	-16.2	406.2	7.4
Site1	2014/03/29	04:30:40	8.45	146	100	0.095	0.07	66.2	7.76	6.84	-16.2	406.1	9.9
Site1	2014/03/29	05:00:40	8.44	148	101	0.096	0.07	66.3	7.77	6.85	-16.7	405.6	6.8
Site1	2014/03/29	05:30:40	8.41	149	101	0.097	0.07	66.2	7.76	6.85	-16.7	406.4	7.6
Site1	2014/03/29	06:00:40	8.41	149	102	0.097	0.07	66.3	7.77	6.85	-16.8	406.9	6.8
Site1	2014/03/29	06:30:40	8.39	148	101	0.097	0.07	66.3	7.77	6.85	-16.8	407.2	5.7
Site1	2014/03/29	07:00:40	8.37	148	101	0.097	0.07	65.9	7.74	6.85	-16.7	407.8	10.4

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/29	07:30:40	8.36	148	101	0.097	0.07	66.6	7.81	6.86	-17	407.8	10.8
Site1	2014/03/29	08:00:40	8.41	149	102	0.097	0.07	67.1	7.87	6.86	-17.3	407.3	9.1
Site1	2014/03/29	08:30:40	8.38	149	102	0.097	0.07	67	7.86	6.86	-17.4	407.5	13.9
Site1	2014/03/29	09:00:40	8.36	147	100	0.096	0.07	67.2	7.89	6.86	-17.3	407.2	8.7
Site1	2014/03/29	09:30:40	8.37	142	97	0.092	0.07	68	7.98	6.86	-17.5	407.8	7.6
Site1	2014/03/29	10:00:40	8.42	137	93	0.089	0.06	68.6	8.05	6.88	-18.1	407.3	9.9
Site1	2014/03/29	10:30:40	8.51	137	94	0.089	0.06	68.8	8.04	6.87	-17.6	408.4	7.8
Site1	2014/03/29	11:00:40	8.61	140	96	0.091	0.07	70.3	8.2	6.87	-17.8	408.6	9.5
Site1	2014/03/29	11:30:40	8.74	142	98	0.092	0.07	70.3	8.17	6.86	-17.3	408.8	9.1
Site1	2014/03/29	12:00:40	8.87	146	101	0.095	0.07	70.6	8.19	6.85	-16.9	410.1	61.4
Site1	2014/03/29	12:30:40	9.04	149	103	0.097	0.07	71	8.2	6.86	-17.1	409.5	17.3
Site1	2014/03/29	13:00:40	9.15	151	105	0.098	0.07	71.4	8.22	6.87	-17.8	409.1	20.1
Site1	2014/03/29	13:30:40	9.26	152	107	0.099	0.07	72.2	8.29	6.87	-17.6	409.5	34.6
Site1	2014/03/29	14:00:40	9.34	153	107	0.1	0.07	70.4	8.07	6.87	-17.9	409.2	14.8
Site1	2014/03/29	14:30:40	9.29	154	108	0.1	0.07	72.6	8.33	6.88	-18.3	410.4	8.9
Site1	2014/03/29	15:00:40	9.31	156	109	0.101	0.07	70.3	8.07	6.87	-17.9	411.4	8.8
Site1	2014/03/29	15:30:40	9.31	157	110	0.102	0.07	71.5	8.2	6.89	-18.9	411	8.7
Site1	2014/03/29	16:00:40	9.41	157	110	0.102	0.07	70.5	8.06	6.89	-18.9	411.7	10.5
Site1	2014/03/29	16:30:40	9.42	157	110	0.102	0.07	70.9	8.11	6.89	-18.9	411.8	15.3
Site1	2014/03/29	17:00:40	9.37	158	111	0.103	0.07	70.7	8.1	6.9	-19.3	411.7	12.9
Site1	2014/03/29	17:30:40	9.41	158	111	0.103	0.07	70.5	8.07	6.89	-18.9	412.2	12.6
Site1	2014/03/29	18:00:40	9.46	155	109	0.101	0.07	70.8	8.1	6.92	-20.1	411.3	15.8
Site1	2014/03/29	18:30:40	9.44	153	107	0.099	0.07	70.5	8.06	6.91	-19.8	411.2	32.3
Site1	2014/03/29	19:00:40	9.41	153	108	0.1	0.07	70.3	8.04	6.91	-19.6	411.8	36.9
Site1	2014/03/29	19:30:40	9.35	152	107	0.099	0.07	69.3	7.94	6.9	-19.1	411.4	30
Site1	2014/03/29	20:00:40	9.31	152	107	0.099	0.07	69.3	7.95	6.91	-19.5	411.6	23.5
Site1	2014/03/29	20:30:40	9.17	154	108	0.1	0.07	69.6	8.01	6.91	-19.6	410	9.7
Site1	2014/03/29	21:00:40	9.16	148	103	0.096	0.07	69.4	7.99	6.93	-20.6	410.9	57.4
Site1	2014/03/29	21:30:40	9.1	141	98	0.092	0.07	69.3	7.99	6.92	-20.2	412.3	24.9
Site1	2014/03/29	22:00:40	9.03	140	98	0.091	0.07	68.9	7.95	6.91	-20	412.4	26.6
Site1	2014/03/29	22:30:40	8.99	144	100	0.093	0.07	68.3	7.89	6.9	-19	413.5	21.6
Site1	2014/03/29	23:00:40	8.96	146	101	0.095	0.07	68.1	7.88	6.91	-19.6	413	12.9
Site1	2014/03/29	23:30:40	8.92	149	103	0.097	0.07	67.6	7.83	6.91	-19.7	413.4	79.4
Site1	2014/03/30	00:00:40	8.89	150	104	0.097	0.07	67.2	7.79	6.9	-19.2	414.3	14.1
Site1	2014/03/30	00:30:40	8.84	149	103	0.097	0.07	66.7	7.73	6.89	-18.9	414.1	9
Site1	2014/03/30	01:00:40	8.78	149	103	0.097	0.07	66.5	7.72	6.9	-19	414.7	9
Site1	2014/03/30	01:30:40	8.75	148	102	0.097	0.07	65.9	7.66	6.89	-18.6	414.9	10.8
Site1	2014/03/30	02:00:40	8.71	147	101	0.096	0.07	66.1	7.69	6.89	-18.7	414.8	8.4
Site1	2014/03/30	02:30:40	8.67	146	101	0.095	0.07	65.8	7.67	6.88	-18.2	414.2	6.1
Site1	2014/03/30	03:00:40	8.65	146	101	0.095	0.07	65.2	7.6	6.87	-17.9	414.7	8.4
Site1	2014/03/30	03:30:40	8.59	146	100	0.095	0.07	65.2	7.61	6.86	-17	415	9.4
Site1	2014/03/30	04:00:40	8.56	145	99	0.094	0.07	65.1	7.61	6.88	-18.1	414.7	10
Site1	2014/03/30	04:30:40	8.51	145	99	0.094	0.07	65.7	7.68	6.88	-18	414.9	28.6
Site1	2014/03/30	05:00:40	8.48	145	99	0.094	0.07	65	7.61	6.87	-17.8	415.4	15.9
Site1	2014/03/30	05:30:40	8.44	145	99	0.094	0.07	65.3	7.65	6.87	-17.6	415.5	10.6
Site1	2014/03/30	06:00:40	8.4	145	99	0.094	0.07	65	7.62	6.87	-17.6	415.6	8.6
Site1	2014/03/30	06:30:40	8.35	145	99	0.095	0.07	65.1	7.64	6.87	-17.6	415.6	17.9
Site1	2014/03/30	07:00:40	8.33	146	99	0.095	0.07	65.3	7.67	6.87	-17.7	416	11.1
Site1	2014/03/30	07:30:40	8.37	145	99	0.095	0.07	65.5	7.69	6.87	-17.9	415.9	11.2
Site1	2014/03/30	08:00:40	8.41	146	100	0.095	0.07	66.7	7.82	6.89	-18.5	415.5	10.7
Site1	2014/03/30	08:30:40	8.45	146	100	0.095	0.07	66.8	7.82	6.89	-18.7	415.5	21.3

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/30	09:00:40	8.48	146	100	0.095	0.07	66.8	7.82	6.89	-18.8	415.5	10.1
Site1	2014/03/30	09:30:40	8.51	146	100	0.095	0.07	67.6	7.9	6.89	-18.8	415.8	13.3
Site1	2014/03/30	10:00:40	8.55	146	100	0.095	0.07	66.6	7.78	6.89	-18.8	416.2	12.5
Site1	2014/03/30	10:30:40	8.59	146	100	0.095	0.07	68.8	8.03	6.89	-18.9	416.1	9.8
Site1	2014/03/30	11:00:40	8.56	148	101	0.096	0.07	67.6	7.9	6.89	-18.6	416.3	8.1
Site1	2014/03/30	11:30:40	8.65	143	99	0.093	0.07	70.1	8.17	6.91	-19.7	415.8	10.8
Site1	2014/03/30	12:00:40	8.77	141	97	0.092	0.07	70.7	8.22	6.92	-20.2	415.8	39.1
Site1	2014/03/30	12:30:40	8.85	139	96	0.091	0.07	70.7	8.2	6.91	-20	416.2	8.9
Site1	2014/03/30	13:00:40	8.9	139	97	0.091	0.07	73.5	8.51	6.91	-19.9	416	9.5
Site1	2014/03/30	13:30:40	9.05	140	97	0.091	0.07	76.2	8.79	6.92	-20.1	415.8	18.9
Site1	2014/03/30	14:00:40	9.44	141	99	0.092	0.07	76.1	8.71	6.93	-20.6	416.4	18.5
Site1	2014/03/30	14:30:40	9.48	142	100	0.093	0.07	74.3	8.49	6.93	-20.8	416.8	7.5
Site1	2014/03/30	15:00:40	9.62	143	101	0.093	0.07	78.2	8.91	6.94	-21	416.6	7.3
Site1	2014/03/30	15:30:40	9.68	143	101	0.093	0.07	76.9	8.75	6.93	-20.8	415.6	25.5
Site1	2014/03/30	16:00:40	9.71	142	101	0.093	0.07	76	8.63	6.93	-20.6	415.9	8.6
Site1	2014/03/30	16:30:40	9.73	142	100	0.092	0.07	71	8.06	6.93	-20.8	415.9	7.4
Site1	2014/03/30	17:00:40	9.71	142	101	0.092	0.07	74	8.41	6.93	-20.9	416	15
Site1	2014/03/30	17:30:40	9.76	143	101	0.093	0.07	71.6	8.13	6.91	-20	416.9	13.9
Site1	2014/03/30	18:00:40	9.81	143	102	0.093	0.07	70.7	8.01	6.9	-19.5	417.5	14.4
Site1	2014/03/30	18:30:40	9.77	143	102	0.093	0.07	70.6	8.01	6.91	-19.5	417.3	13.7
Site1	2014/03/30	19:00:40	9.74	143	101	0.093	0.07	70.5	8.01	6.93	-20.6	417	52
Site1	2014/03/30	19:30:40	9.74	143	101	0.093	0.07	70.3	7.98	6.95	-21.7	415.8	14.5
Site1	2014/03/30	20:00:40	9.73	143	101	0.093	0.07	69.8	7.93	6.95	-21.7	415.6	13.3
Site1	2014/03/30	20:30:40	9.67	143	101	0.093	0.07	69.3	7.88	6.95	-21.7	416.5	16
Site1	2014/03/30	21:00:40	9.64	143	101	0.093	0.07	69.1	7.86	6.95	-21.6	416.8	20.8
Site1	2014/03/30	21:30:40	9.62	143	101	0.093	0.07	68.8	7.83	6.94	-21.3	416.6	12.1
Site1	2014/03/30	22:00:40	9.57	144	101	0.093	0.07	68.6	7.81	6.94	-21.2	416.8	19.7
Site1	2014/03/30	22:30:40	9.55	144	101	0.094	0.07	68.2	7.78	6.94	-21.3	417.3	16.4
Site1	2014/03/30	23:00:40	9.52	144	102	0.094	0.07	68	7.76	6.93	-20.8	417.7	12.3
Site1	2014/03/30	23:30:40	9.49	145	102	0.094	0.07	67.7	7.73	6.93	-20.8	417.4	12.5
Site1	2014/03/31	00:00:40	9.43	145	102	0.094	0.07	67.5	7.73	6.93	-20.8	417.4	18.6
Site1	2014/03/31	00:30:40	9.37	145	102	0.094	0.07	67.2	7.7	6.93	-20.8	417.1	18.9
Site1	2014/03/31	01:00:40	9.28	145	102	0.094	0.07	66.6	7.64	6.93	-20.6	416.7	24.2
Site1	2014/03/31	01:30:40	9.18	145	101	0.095	0.07	66.3	7.62	6.92	-20.1	416.6	13.9
Site1	2014/03/31	02:00:40	9.09	146	102	0.095	0.07	65.8	7.59	6.91	-19.9	417.3	12.7
Site1	2014/03/31	02:30:40	8.95	146	101	0.095	0.07	65.1	7.54	6.91	-19.8	417	18.3
Site1	2014/03/31	03:00:40	8.88	146	101	0.095	0.07	64.9	7.52	6.91	-19.8	417.7	15
Site1	2014/03/31	03:30:40	8.77	147	101	0.095	0.07	64.4	7.49	6.91	-19.7	417.2	14.1
Site1	2014/03/31	04:00:40	8.7	147	101	0.096	0.07	63.9	7.44	6.9	-19.2	417.4	15
Site1	2014/03/31	04:30:40	8.63	148	102	0.096	0.07	63.8	7.43	6.91	-19.7	416.9	11.7
Site1	2014/03/31	05:00:40	8.54	148	102	0.096	0.07	63.6	7.44	6.91	-19.8	417.6	7.8
Site1	2014/03/31	05:30:40	8.48	148	101	0.096	0.07	63.5	7.43	6.91	-19.9	417.5	8.4
Site1	2014/03/31	06:00:40	8.41	148	101	0.096	0.07	63.6	7.45	6.91	-19.8	417.5	8.3
Site1	2014/03/31	06:30:40	8.35	148	101	0.096	0.07	63.4	7.44	6.91	-19.9	417.1	9.2
Site1	2014/03/31	07:00:40	8.24	148	101	0.096	0.07	63.4	7.46	6.91	-20	417.4	9.2
Site1	2014/03/31	07:30:40	8.2	149	101	0.097	0.07	63.6	7.49	6.92	-20.3	417.4	11.5
Site1	2014/03/31	08:00:40	8.2	149	101	0.097	0.07	64	7.54	6.93	-20.6	417.1	10.9
Site1	2014/03/31	08:30:40	8.27	149	101	0.097	0.07	64.3	7.56	6.93	-20.9	417.2	7.4
Site1	2014/03/31	09:00:40	8.36	149	102	0.097	0.07	64.7	7.59	6.94	-21.1	417	11.1
Site1	2014/03/31	09:30:40	8.51	149	102	0.097	0.07	65.4	7.65	6.94	-21.4	416.6	8.6
Site1	2014/03/31	10:00:40	8.64	150	103	0.097	0.07	68	7.93	6.95	-21.6	416.1	6.4

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/03/31	10:30:40	8.73	150	103	0.097	0.07	74.9	8.71	6.97	-22.9	416.6	5.5
Site1	2014/03/31	11:00:40	8.87	150	104	0.097	0.07	74.3	8.62	6.95	-21.8	416.7	4.9
Site1	2014/03/31	11:30:40	9.01	150	104	0.098	0.07	78.8	9.11	6.96	-22.1	416.3	4.8
Site1	2014/03/31	12:00:40	9.37	150	105	0.098	0.07	79.7	9.12	6.97	-22.8	415.6	5.1
Site1	2014/03/31	12:30:40	9.51	150	106	0.098	0.07	54.4	6.21	6.96	-22.4	415.5	4.6
Site1	2014/03/31	13:00:40	9.97	151	108	0.098	0.07	74.8	8.45	6.96	-22.1	415.8	4.2
Site1	2014/03/31	13:30:40	10.36	151	109	0.098	0.07	77.1	8.63	6.94	-21.2	416.3	4.3
Site1	2014/03/31	14:00:40	10.36	152	110	0.099	0.07	77.3	8.65	6.94	-21.1	415.8	9
Site1	2014/03/31	14:30:40	10.76	152	111	0.099	0.07	78.5	8.7	6.9	-19.3	417.4	4.7
Site1	2014/03/31	15:00:40	10.89	152	111	0.099	0.07	77.6	8.58	6.91	-19.5	416.9	4.1
Site1	2014/03/31	15:30:40	10.86	153	111	0.099	0.07	79.5	8.79	6.91	-19.5	417.1	3.2
Site1	2014/03/31	16:00:40	11.49	152	113	0.099	0.07	76.6	8.35	6.91	-19.7	418.1	4.4
Site1	2014/03/31	16:30:40	11.56	150	112	0.098	0.07	74	8.05	6.93	-20.5	416.1	4.4
Site1	2014/03/31	17:00:40	11.98	149	112	0.097	0.07	73.9	7.96	6.92	-20.2	415.8	4.2
Site1	2014/03/31	17:30:40	12.16	150	113	0.097	0.07	73.6	7.9	6.91	-19.8	413.9	4.1
Site1	2014/03/31	18:00:40	12.34	150	114	0.098	0.07	73.3	7.84	6.92	-20	415.6	3.9
Site1	2014/03/31	18:30:40	12.27	151	114	0.098	0.07	72	7.71	6.92	-20	414.9	4.1
Site1	2014/03/31	19:00:40	11.94	150	112	0.097	0.07	70.6	7.62	6.93	-20.8	409.1	4.2
Site1	2014/03/31	19:30:40	12	150	113	0.097	0.07	70.2	7.57	6.89	-18.7	415.4	4.1
Site1	2014/03/31	20:00:40	12.04	150	113	0.097	0.07	71.8	7.73	6.9	-19.2	415.1	3.9
Site1	2014/03/31	20:30:40	12.24	148	112	0.096	0.07	71.9	7.71	6.92	-20.4	415	3.9
Site1	2014/03/31	21:00:40	12.21	148	112	0.096	0.07	71.3	7.64	6.91	-19.5	415.8	3.8
Site1	2014/03/31	21:30:40	12.05	148	112	0.096	0.07	70	7.53	6.9	-19	414.3	4.2
Site1	2014/03/31	22:00:40	11.74	149	111	0.097	0.07	70.1	7.6	6.9	-19	415.3	4.1
Site1	2014/03/31	22:30:40	11.3	150	111	0.097	0.07	69.3	7.58	6.91	-19.7	415.7	3.8
Site1	2014/03/31	23:00:40	11.06	150	110	0.097	0.07	67.7	7.45	6.89	-18.7	414.7	3.7
Site1	2014/03/31	23:30:40	10.67	151	109	0.098	0.07	67.6	7.51	6.88	-18.2	416.1	4.1
Site1	2014/04/01	00:00:40	10.67	151	110	0.098	0.07	67.2	7.47	6.91	-19.6	414.8	4.3
Site1	2014/04/01	00:30:40	10.6	154	111	0.1	0.07	66.4	7.39	6.87	-17.7	416.6	5
Site1	2014/04/01	01:00:40	10.51	152	110	0.099	0.07	66.3	7.4	6.84	-16.3	417.4	3.9
Site1	2014/04/01	01:30:40	10.46	153	110	0.099	0.07	63.1	7.04	6.84	-16.1	418.6	3.8
Site1	2014/04/01	02:00:40	10.25	150	108	0.098	0.07	65.8	7.38	6.89	-18.5	416.3	4
Site1	2014/04/01	02:30:40	10.14	150	108	0.098	0.07	64.7	7.28	6.9	-19	416.9	3.9
Site1	2014/04/01	03:00:40	9.96	151	108	0.098	0.07	64.9	7.33	6.89	-18.9	416.4	3.7
Site1	2014/04/01	03:30:40	9.83	151	107	0.098	0.07	64.5	7.31	6.89	-19	416.6	3.9
Site1	2014/04/01	04:00:40	9.78	151	107	0.098	0.07	64.3	7.3	6.91	-19.6	416.7	4.1
Site1	2014/04/01	04:30:40	9.72	151	107	0.098	0.07	64.1	7.28	6.91	-19.8	416.3	4.1
Site1	2014/04/01	05:00:40	9.66	151	107	0.098	0.07	63.7	7.24	6.91	-20	415.5	3.9
Site1	2014/04/01	05:30:40	9.59	152	107	0.099	0.07	63.1	7.19	6.92	-20	415.3	4.3
Site1	2014/04/01	06:00:40	9.54	152	107	0.099	0.07	62.9	7.18	6.92	-20	415.3	4.1
Site1	2014/04/01	06:30:40	9.49	153	107	0.099	0.07	62.6	7.15	6.91	-19.9	415	4.7
Site1	2014/04/01	07:00:40	9.54	153	108	0.1	0.07	63.4	7.23	6.92	-20.4	414.7	4
Site1	2014/04/01	07:30:40	9.48	154	108	0.1	0.07	63.1	7.21	6.92	-20.3	414.1	4.8
Site1	2014/04/01	08:00:40	9.41	154	108	0.1	0.07	63	7.21	6.93	-20.9	414	4
Site1	2014/04/01	08:30:40	9.45	154	108	0.1	0.07	63.1	7.21	6.93	-20.7	414.3	4
Site1	2014/04/01	09:00:40	9.53	155	109	0.101	0.07	63.4	7.24	6.92	-20.4	414.5	4
Site1	2014/04/01	09:30:40	9.65	155	109	0.101	0.07	64.2	7.3	6.93	-21	414	4
Site1	2014/04/01	10:00:40	9.71	155	110	0.101	0.07	67.7	7.69	6.94	-21.4	414	3.9
Site1	2014/04/01	10:30:40	10.26	155	111	0.101	0.07	68	7.63	7	-24.3	414.5	3.7
Site1	2014/04/01	11:00:40	10.26	156	112	0.101	0.07	72.4	8.12	6.98	-23.1	413	3.8
Site1	2014/04/01	11:30:40	10.24	156	112	0.101	0.07	73	8.2	6.96	-22.4	413	4.5

## Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/04/01	12:00:40	10.71	156	114	0.101	0.07	79.7	8.85	6.97	-22.7	412.9	4.2
Site1	2014/04/01	12:30:40	10.96	156	115	0.102	0.07	78.7	8.68	6.96	-22.3	412.4	3.7
Site1	2014/04/01	13:00:40	11.46	156	115	0.101	0.07	80.2	8.75	6.95	-21.7	412.8	3.7
Site1	2014/04/01	13:30:40	11.77	155	116	0.101	0.07	79.7	8.63	6.95	-21.8	413.1	3.9
Site1	2014/04/01	14:00:40	12.02	156	117	0.101	0.07	78.5	8.46	6.95	-21.5	412	4.2
Site1	2014/04/01	14:30:40	12.36	156	119	0.102	0.07	84.1	8.98	6.95	-21.6	413.1	20.8
Site1	2014/04/01	15:00:40	12.5	157	119	0.102	0.07	80.5	8.58	6.96	-22.1	412	9.5
Site1	2014/04/01	15:30:40	12.55	157	119	0.102	0.07	77	8.19	6.97	-22.6	411.4	5.9
Site1	2014/04/01	16:00:40	12.51	158	120	0.102	0.07	74.2	7.9	6.96	-22	411	4.2
Site1	2014/04/01	16:30:40	12.52	157	120	0.102	0.07	74.2	7.9	6.94	-21.4	410.8	4.3
Site1	2014/04/01	17:00:40	12.64	158	121	0.103	0.07	71.7	7.62	6.97	-22.6	411.3	6.7
Site1	2014/04/01	17:30:40	12.54	158	121	0.103	0.08	70.4	7.49	6.96	-22.3	410.4	4.5
Site1	2014/04/01	18:00:40	12.54	159	121	0.103	0.08	70.2	7.47	6.96	-22.1	411.1	5.1
Site1	2014/04/01	18:30:40	12.59	159	121	0.103	0.08	70	7.44	6.96	-22	410.9	9.2
Site1	2014/04/01	19:00:40	12.62	158	121	0.103	0.07	69.7	7.4	6.94	-21.4	411.7	4.6
Site1	2014/04/01	19:30:40	12.61	158	121	0.103	0.07	69.6	7.4	6.95	-21.9	411.4	4.8
Site1	2014/04/01	20:00:40	12.61	158	120	0.102	0.07	69.1	7.34	6.95	-21.7	411.9	4.9
Site1	2014/04/01	20:30:40	12.55	155	118	0.101	0.07	68.6	7.3	6.96	-22.3	408.6	4.3
Site1	2014/04/01	21:00:40	12.48	155	118	0.101	0.07	68.7	7.32	6.96	-22.4	409.5	3.7
Site1	2014/04/01	21:30:40	12.46	155	118	0.101	0.07	67.7	7.21	6.95	-21.9	409	3.7
Site1	2014/04/01	22:00:40	12.37	155	118	0.101	0.07	67.5	7.21	6.96	-22	408.6	3.8
Site1	2014/04/01	22:30:40	12.34	155	117	0.101	0.07	67.3	7.19	6.95	-21.9	409.1	3.8
Site1	2014/04/01	23:00:40	12.29	154	116	0.1	0.07	68.5	7.33	6.98	-23.1	408.2	4.3
Site1	2014/04/01	23:30:40	12.11	154	116	0.1	0.07	66.9	7.19	6.96	-22.1	408.9	4.7
Site1	2014/04/02	00:00:40	11.99	155	116	0.101	0.07	65.5	7.06	6.95	-21.7	408.7	4.3
Site1	2014/04/02	00:30:40	11.77	156	117	0.101	0.07	64.8	7.02	6.94	-21.2	408.7	4.1
Site1	2014/04/02	01:00:40	11.61	157	117	0.102	0.07	64.7	7.03	6.94	-21.1	408.9	4.4
Site1	2014/04/02	01:30:40	11.59	157	117	0.102	0.07	65.3	7.1	6.95	-21.6	408.6	4.7
Site1	2014/04/02	02:00:40	11.56	157	117	0.102	0.07	65.2	7.1	6.96	-22.1	408.8	5
Site1	2014/04/02	02:30:40	11.58	157	117	0.102	0.07	65.2	7.09	6.96	-22.3	408.9	5.2
Site1	2014/04/02	03:00:40	11.52	158	117	0.103	0.07	64.6	7.04	6.97	-22.6	407.8	3.9
Site1	2014/04/02	03:30:40	11.47	158	117	0.103	0.07	64.3	7.01	6.95	-21.7	408.2	3.6
Site1	2014/04/02	04:00:40	11.45	159	118	0.103	0.08	62.9	6.86	6.93	-20.9	408.6	4
Site1	2014/04/02	04:30:40	11.43	159	118	0.103	0.08	61.7	6.73	6.92	-20.1	409.6	3.9
Site1	2014/04/02	05:00:40	11.29	159	117	0.103	0.08	64.5	7.06	6.94	-21.4	408	5.3
Site1	2014/04/02	05:30:40	11.15	159	117	0.104	0.08	63.2	6.95	6.95	-21.9	407.7	5.1
Site1	2014/04/02	06:00:40	11.09	160	117	0.104	0.08	62.3	6.85	6.95	-21.5	407.7	5.6
Site1	2014/04/02	06:30:40	10.93	161	118	0.105	0.08	62.4	6.89	6.94	-21.1	407.9	7.5
Site1	2014/04/02	07:00:40	10.81	161	117	0.105	0.08	62.7	6.94	6.93	-20.8	408.6	4.7
Site1	2014/04/02	07:30:40	10.77	161	118	0.105	0.08	63	6.98	6.94	-21	408.6	5.4
Site1	2014/04/02	08:00:40	10.74	162	118	0.105	0.08	63.5	7.04	6.94	-21.2	408.4	5.9
Site1	2014/04/02	08:30:40	10.73	162	118	0.105	0.08	64.6	7.17	6.94	-21.4	408.3	6.2
Site1	2014/04/02	09:00:40	10.62	163	118	0.106	0.08	63.8	7.09	6.94	-21.5	408.3	5.7
Site1	2014/04/02	09:30:40	10.61	164	119	0.106	0.08	67.8	7.54	6.96	-22.4	407.7	5.3
Site1	2014/04/02	10:00:40	10.63	164	119	0.107	0.08	68.8	7.65	6.98	-23.2	408.1	5.7
Site1	2014/04/02	10:30:40	10.76	164	119	0.106	0.08	67.6	7.5	6.98	-23.1	408	4.2
Site1	2014/04/02	11:00:40	10.91	164	120	0.107	0.08	70.7	7.81	6.98	-23.2	408.3	3.8
Site1	2014/04/02	11:30:40	10.96	164	120	0.107	0.08	70.6	7.79	7	-24.1	405.4	4.8
Site1	2014/04/02	12:00:40	11.1	164	120	0.107	0.08	79.5	8.75	7.02	-25.3	406	4.2
Site1	2014/04/02	12:30:40	11.26	164	121	0.107	0.08	78.1	8.55	7.03	-25.9	405.5	3.9
Site1	2014/04/02	13:00:40	11.66	164	122	0.107	0.08	80.8	8.77	7.03	-25.6	406.7	4

Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/04/02	13:30:40	11.99	163	123	0.106	0.08	76.8	8.27	7.04	-26.2	406.2	6.1
Site1	2014/04/02	14:00:40	12.29	164	124	0.107	0.08	76.8	8.22	7.02	-25.5	405.7	5.6
Site1	2014/04/02	14:30:40	12.34	165	125	0.108	0.08	75.7	8.1	6.98	-23.3	407.1	5.7
Site1	2014/04/02	15:00:40	13.09	166	128	0.108	0.08	74.6	7.84	6.97	-22.6	410.1	7.7
Site1	2014/04/02	15:30:40	12.98	165	127	0.107	0.08	74.7	7.87	6.98	-23.1	408.4	6.9
Site1	2014/04/02	16:00:40	12.46	165	126	0.107	0.08	70.8	7.54	6.99	-23.6	408.6	4.8
Site1	2014/04/02	16:30:40	12.47	166	127	0.108	0.08	71.4	7.6	7.01	-24.7	407.7	5.3
Site1	2014/04/02	17:00:40	12.76	167	128	0.109	0.08	69.5	7.36	6.98	-23.4	408.7	5
Site1	2014/04/02	17:30:40	12.77	166	127	0.108	0.08	69.5	7.35	7.02	-25.3	406.3	4.3
Site1	2014/04/02	18:00:40	12.8	166	127	0.108	0.08	68.4	7.24	7.01	-24.8	406.1	8.3
Site1	2014/04/02	18:30:40	12.97	166	128	0.108	0.08	69.2	7.3	7.02	-25.2	402	7.4
Site1	2014/04/02	19:00:40	12.96	165	127	0.108	0.08	68.5	7.22	7.03	-25.8	397.7	6
Site1	2014/04/02	19:30:40	12.93	165	127	0.107	0.08	67.4	7.1	7.03	-25.9	405.6	5.3
Site1	2014/04/02	20:00:40	12.93	164	127	0.107	0.08	67.2	7.09	7.03	-25.8	405.6	5.9
Site1	2014/04/02	20:30:40	12.87	164	126	0.107	0.08	66.8	7.05	7.03	-25.6	407.6	4.9
Site1	2014/04/02	21:00:40	12.84	165	126	0.107	0.08	65.9	6.97	7.02	-25	407.2	4.8
Site1	2014/04/02	21:30:40	12.8	165	127	0.107	0.08	65.9	6.98	7.01	-24.9	407.9	5.3
Site1	2014/04/02	22:00:40	12.72	163	125	0.106	0.08	67.3	7.13	7.05	-26.8	407.7	6.5
Site1	2014/04/02	22:30:40	12.64	163	124	0.106	0.08	66.2	7.03	7.03	-25.9	408.6	5.7
Site1	2014/04/02	23:00:40	12.54	163	124	0.106	0.08	64.8	6.9	7.02	-25.2	408.9	5.8
Site1	2014/04/02	23:30:40	12.39	164	124	0.106	0.08	60.8	6.49	7.01	-24.7	408.5	6.1
Site1	2014/04/03	00:00:40	12.3	164	124	0.107	0.08	60.2	6.44	7	-24.5	407.9	3.9
Site1	2014/04/03	00:30:40	12.25	164	124	0.107	0.08	59.1	6.33	7	-24.5	407.8	3.9
Site1	2014/04/03	01:00:40	12.22	164	124	0.107	0.08	60.8	6.52	7	-24.1	408	3.7
Site1	2014/04/03	01:30:40	12.13	164	124	0.107	0.08	62.8	6.74	7	-24.4	407.7	11.2
Site1	2014/04/03	02:00:40	12	164	124	0.107	0.08	58.7	6.33	6.98	-23.1	408.2	5.4
Site1	2014/04/03	02:30:40	11.81	164	123	0.107	0.08	58	6.27	6.95	-21.8	409.2	5.4
Site1	2014/04/03	03:00:40	11.7	165	123	0.107	0.08	60.7	6.59	6.96	-22.2	409.2	3.7
Site1	2014/04/03	03:30:40	11.64	166	123	0.108	0.08	59.5	6.46	6.94	-21.2	409.3	3.6
Site1	2014/04/03	04:00:40	11.56	166	123	0.108	0.08	58.5	6.37	6.92	-20.1	410.6	3.7
Site1	2014/04/03	04:30:40	11.49	166	123	0.108	0.08	59.1	6.45	6.92	-20.1	410.9	3.7
Site1	2014/04/03	05:00:40	11.43	165	122	0.107	0.08	59.8	6.53	6.92	-20.4	410.3	3.7
Site1	2014/04/03	05:30:40	11.34	164	121	0.106	0.08	59.4	6.5	6.95	-21.5	410.5	5.7
Site1	2014/04/03	06:00:40	11.24	163	120	0.106	0.08	59	6.47	6.94	-21.2	410.5	7.8
Site1	2014/04/03	06:30:40	11.18	164	120	0.106	0.08	58.2	6.39	6.93	-20.6	410.8	4.3
Site1	2014/04/03	07:00:40	11.08	164	121	0.107	0.08	58.3	6.41	6.91	-19.8	410.9	5.9
Site1	2014/04/03	07:30:40	11.04	164	120	0.107	0.08	60.5	6.66	6.93	-20.6	411.5	8.8
Site1	2014/04/03	08:00:40	11.05	164	120	0.107	0.08	61.7	6.8	6.94	-21.3	410.9	5.6
Site1	2014/04/03	08:30:40	11.02	164	121	0.107	0.08	61.6	6.79	6.94	-21.2	410.8	4.8
Site1	2014/04/03	09:00:40	11	165	121	0.108	0.08	60	6.61	6.95	-21.7	409.8	4.2
Site1	2014/04/03	09:30:40	10.96	166	121	0.108	0.08	61.2	6.75	6.96	-22	409.2	3.9
Site1	2014/04/03	10:00:40	11	165	121	0.107	0.08	63.3	6.97	6.97	-22.9	408.7	3.8
Site1	2014/04/03	10:30:40	11.02	166	121	0.108	0.08	64.9	7.15	6.96	-22.5	408.8	3.9
Site1	2014/04/03	11:00:40	11.04	165	121	0.107	0.08	61.6	6.78	6.96	-22	409.4	10.4
Site1	2014/04/03	11:30:40	10.91	166	122	0.108	0.08	66.1	7.3	6.93	-20.7	409.7	5
Site1	2014/04/03	12:00:40	10.91	167	122	0.109	0.08	66.5	7.34	6.93	-20.5	410.4	4.4
Site1	2014/04/03	12:30:40	10.85	168	123	0.109	0.08	64.6	7.15	6.95	-21.7	409.4	6.4
Site1	2014/04/03	13:00:40	10.87	169	123	0.11	0.08	62.2	6.88	6.96	-22.2	408.8	4.7
Site1	2014/04/03	13:30:40	10.93	169	123	0.11	0.08	61.3	6.77	6.95	-21.7	409.2	4.2
Site1	2014/04/03	14:00:40	10.94	169	123	0.11	0.08	60.5	6.68	6.93	-20.8	409.2	3.7
Site1	2014/04/03	14:30:40	10.9	169	123	0.11	0.08	60.9	6.73	6.91	-19.9	409.7	5.2



Appendix 3 - Sonde data - Burnaby Lake d/s - Site 1

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site1	2014/04/03	15:00:40	10.89	167	122	0.109	0.08	59.4	6.57	6.95	-21.6	408.9	20.8
Site1	2014/04/03	15:30:40	10.87	167	122	0.108	0.08	59.1	6.53	6.94	-21.1	409	11.6
Site1	2014/04/03	16:00:40	10.83	166	121	0.108	0.08	58.5	6.48	6.97	-22.5	408.3	4.7
Site1	2014/04/03	16:30:40	10.4	172	124	0.112	0.08	58.3	6.51	6.95	-21.5	408.8	9.8
Site1	2014/04/03	17:00:40	10.05	147	105	0.096	0.07	58.3	6.57	6.98	-23.3	407.1	20.6
Site1	2014/04/03	17:30:40	9.74	130	92	0.085	0.06	58.4	6.63	6.95	-21.9	408.1	17.2
Site1	2014/04/03	18:00:40	9.3	121	85	0.079	0.06	58.9	6.76	6.95	-21.8	407.5	21.7
Site1	2014/04/03	18:30:40	9.18	126	88	0.082	0.06	58.9	6.77	6.96	-22.4	408.4	13
Site1	2014/04/03	19:00:40	9.89	146	104	0.095	0.07	57.9	6.55	6.98	-23	409.5	8.7
Site1	2014/04/03	19:30:40	9.65	150	106	0.098	0.07	57.4	6.53	6.97	-22.9	408.8	13.5
Site1	2014/04/03	20:00:40	9.69	154	109	0.1	0.07	57.1	6.49	6.97	-22.6	408.3	10.9
Site1	2014/04/03	20:30:40	9.96	159	113	0.103	0.08	56.3	6.36	6.98	-23.1	408.9	9.8
Site1	2014/04/03	21:00:40	9.96	162	115	0.105	0.08	56	6.32	6.98	-23	408.9	12.8
Site1	2014/04/03	21:30:40	9.83	161	114	0.105	0.08	55.9	6.33	6.97	-22.8	408.4	8.6
Site1	2014/04/03	22:00:40	9.79	158	112	0.103	0.08	55.9	6.34	6.98	-23.3	408.8	9.5
Site1	2014/04/03	22:30:40	9.86	158	112	0.103	0.07	55.7	6.3	6.97	-22.8	409.4	9.7
Site1	2014/04/03	23:00:40	9.64	155	109	0.101	0.07	55.9	6.36	6.96	-22.5	408.9	7.8
Site1	2014/04/03	23:30:40	9.5	149	105	0.097	0.07	55.9	6.39	6.98	-23.1	408.3	9.5
Site1	2014/04/04	00:00:40	9.08	137	96	0.089	0.06	56.4	6.51	6.96	-22.4	408.3	10.5
Site1	2014/04/04	00:30:40	8.92	128	88	0.083	0.06	56.7	6.57	6.97	-23	408.1	9.7
Site1	2014/04/04	01:00:40	9.02	131	91	0.085	0.06	56.5	6.52	6.97	-22.8	408.8	9.8
Site1	2014/04/04	01:30:40	9.28	139	97	0.09	0.07	56.2	6.45	6.98	-23.1	409	7.5
Site1	2014/04/04	02:00:40	9.3	145	102	0.095	0.07	56.1	6.44	6.99	-23.9	408.4	5
Site1	2014/04/04	02:30:40	8.78	140	96	0.091	0.07	55.8	6.49	6.97	-22.9	408.2	7.4
Site1	2014/04/04	03:00:40	8.85	145	100	0.094	0.07	56	6.49	6.96	-22.4	409	5.4
Site1	2014/04/04	03:30:40	9.48	159	112	0.103	0.08	55.1	6.3	6.98	-23.3	409.8	6.2
Site1	2014/04/04	04:00:40	9.34	158	111	0.103	0.08	55.2	6.33	6.98	-23.4	408.4	6.1
Site1	2014/04/04	04:30:40	9.24	159	111	0.104	0.08	55.1	6.33	6.98	-23.3	408.9	9
Site1	2014/04/04	05:00:40	9.35	160	112	0.104	0.08	54.3	6.22	6.99	-23.6	408.8	3.9
Site1	2014/04/04	05:30:40	9.57	162	114	0.105	0.08	54.2	6.18	6.98	-23.3	409.2	6.8
Site1	2014/04/04	06:00:40	9.5	163	114	0.106	0.08	54.2	6.19	6.97	-22.9	408.4	5.1
Site1	2014/04/04	06:30:40	9.56	163	115	0.106	0.08	54.3	6.19	6.97	-22.9	408.9	6.3
Site1	2014/04/04	07:00:40	9.55	163	115	0.106	0.08	54.8	6.25	6.98	-23.1	408.3	3.7
Site1	2014/04/04	07:30:40	9.56	163	115	0.106	0.08	55.2	6.3	6.98	-23	408.3	3.6
Site1	2014/04/04	08:00:40	9.6	163	115	0.106	0.08	55.3	6.3	6.97	-22.9	408.1	6.3
Site1	2014/04/04	08:30:40	9.62	164	116	0.107	0.08	56.1	6.39	6.97	-22.8	408.1	3.5
Site1	2014/04/04	09:00:40	9.69	165	117	0.107	0.08	56.3	6.4	6.97	-22.5	408.8	6.9

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/02/28	16:30:40	7.07	472	310.000	0.307	0.23	111.7	13.51	7.17	-30	19	2
Site2	2014/02/28	17:00:40	6.97	474	311.000	0.308	0.23	112	13.59	7.18	-30.5	13.9	1.9
Site2	2014/02/28	17:30:40	6.83	466	304.000	0.303	0.23	111.7	13.6	7.18	-30.3	12.1	2.3
Site2	2014/02/28	18:00:40	6.67	461	299.000	0.299	0.22	111	13.57	7.17	-29.8	11.7	1.8
Site2	2014/02/28	18:30:40	6.52	456	295.000	0.296	0.22	110.5	13.56	7.17	-29.9	10.7	1.8
Site2	2014/02/28	19:00:40	6.37	451	291.000	0.293	0.22	109.9	13.54	7.16	-29.2	10.6	1.8
Site2	2014/02/28	19:30:40	6.21	446	286.000	0.29	0.22	109.8	13.58	7.16	-29.3	10.1	1.7
Site2	2014/02/28	20:00:40	6.05	443	283.000	0.288	0.21	109.6	13.61	7.16	-29.1	10.1	1.7
Site2	2014/02/28	20:30:40	5.9	438	278.000	0.285	0.21	109.8	13.69	7.17	-29.7	9.1	1.7
Site2	2014/02/28	21:00:40	5.76	434	274.000	0.282	0.21	109.8	13.74	7.17	-29.8	9.1	1.7
Site2	2014/02/28	21:30:40	5.63	432	272.000	0.281	0.21	109.7	13.76	7.16	-29.2	9.3	1.8
Site2	2014/02/28	22:00:40	5.54	437	274.000	0.284	0.21	109.7	13.79	7.18	-30.2	8.1	1.6
Site2	2014/02/28	22:30:40	5.41	425	266.000	0.276	0.2	109.9	13.87	7.17	-29.8	9.6	1.8
Site2	2014/02/28	23:00:40	5.29	422	263.000	0.274	0.2	110	13.92	7.17	-29.5	9.7	1.7
Site2	2014/02/28	23:30:40	5.2	419	260.000	0.272	0.2	110	13.96	7.16	-29.1	10.2	1.6
Site2	2014/03/01	00:00:40	5.11	416	258.000	0.27	0.2	110.1	14.01	7.16	-29.2	10.4	1.7
Site2	2014/03/01	00:30:40	5.02	415	257.000	0.27	0.2	110.2	14.05	7.16	-29.3	9.7	1.6
Site2	2014/03/01	01:00:40	4.95	414	255.000	0.269	0.2	110.4	14.1	7.17	-29.8	8.5	1.6
Site2	2014/03/01	01:30:40	4.88	415	256.000	0.27	0.2	110.5	14.14	7.17	-29.8	7.7	1.6
Site2	2014/03/01	02:00:40	4.85	415	255.000	0.27	0.2	110.6	14.17	7.19	-30.6	7	1.5
Site2	2014/03/01	02:30:40	4.88	416	256.000	0.27	0.2	110.7	14.16	7.18	-30.4	6.7	1.5
Site2	2014/03/01	03:00:40	4.91	417	257.000	0.271	0.2	110.7	14.15	7.18	-30.2	6.5	1.5
Site2	2014/03/01	03:30:40	4.96	426	263.000	0.277	0.2	110.7	14.13	7.21	-31.7	3.4	1.5
Site2	2014/03/01	04:00:40	4.95	418	258.000	0.272	0.2	110.7	14.13	7.18	-30.3	6.2	1.5
Site2	2014/03/01	04:30:40	4.95	417	257.000	0.271	0.2	110.7	14.14	7.18	-30.4	5.7	1.6
Site2	2014/03/01	05:00:40	4.95	416	256.000	0.27	0.2	110.7	14.14	7.19	-30.8	5.1	1.5
Site2	2014/03/01	05:30:40	4.93	414	255.000	0.269	0.2	110.7	14.14	7.18	-30.2	4.3	1.6
Site2	2014/03/01	06:00:40	4.91	411	253.000	0.267	0.2	110.8	14.16	7.19	-30.9	4.5	1.6
Site2	2014/03/01	06:30:40	4.88	408	251.000	0.265	0.2	110.7	14.17	7.19	-30.5	3.8	1.8
Site2	2014/03/01	07:00:40	4.79	405	249.000	0.263	0.19	111	14.23	7.19	-30.9	4.4	1.6
Site2	2014/03/01	07:30:40	4.79	423	260.000	0.275	0.2	111.4	14.28	7.19	-30.7	3	1.7
Site2	2014/03/01	08:00:40	4.81	418	257.000	0.271	0.2	111.9	14.35	7.19	-30.6	2.2	1.7
Site2	2014/03/01	08:30:40	4.84	414	255.000	0.269	0.2	112.6	14.42	7.19	-30.9	1.5	1.5
Site2	2014/03/01	09:00:40	4.93	420	259.000	0.273	0.2	113.3	14.48	7.2	-31.3	-3.9	1.7
Site2	2014/03/01	09:30:40	5.01	410	253.000	0.266	0.2	114.5	14.6	7.18	-30.5	-3.1	1.7
Site2	2014/03/01	10:00:40	5.08	407	252.000	0.265	0.2	115.7	14.72	7.18	-30.2	-3.5	1.6
Site2	2014/03/01	10:30:40	5.13	407	252.000	0.264	0.2	116.5	14.81	7.18	-30.2	-4.7	1.7
Site2	2014/03/01	11:00:40	5.23	404	252.000	0.263	0.19	117.6	14.91	7.19	-30.9	-8.4	1.6
Site2	2014/03/01	11:30:40	5.41	402	252.000	0.261	0.19	119.8	15.12	7.2	-31.1	-8.8	1.7
Site2	2014/03/01	12:00:40	5.33	400	250.000	0.26	0.19	119.1	15.06	7.2	-31.3	-9	1.6
Site2	2014/03/01	12:30:40	5.37	398	249.000	0.259	0.19	118.6	14.99	7.2	-31.3	-9.2	1.6
Site2	2014/03/01	13:00:40	5.47	398	249.000	0.259	0.19	119	15	7.2	-31.3	-8.9	1.6
Site2	2014/03/01	13:30:40	5.45	396	248.000	0.257	0.19	118.6	14.96	7.19	-30.8	-8.8	1.7
Site2	2014/03/01	14:00:40	5.42	394	247.000	0.256	0.19	117.9	14.88	7.21	-31.6	-8.5	1.6
Site2	2014/03/01	14:30:40	5.41	396	248.000	0.258	0.19	117.1	14.78	7.2	-31.2	-10	1.5
Site2	2014/03/01	15:00:40	5.37	393	246.000	0.255	0.19	116.4	14.71	7.21	-32	-8.7	1.7
Site2	2014/03/01	15:30:40	5.3	391	244.000	0.254	0.19	115.6	14.63	7.21	-31.7	-8.4	1.7
Site2	2014/03/01	16:00:40	5.26	390	243.000	0.253	0.19	115.1	14.59	7.2	-31.5	-6.8	1.9
Site2	2014/03/01	16:30:40	5.19	389	242.000	0.253	0.19	114.6	14.55	7.2	-31.4	-5.8	2
Site2	2014/03/01	17:00:40	5.13	387	240.000	0.252	0.19	114.2	14.51	7.21	-31.8	-5.2	1.8
Site2	2014/03/01	17:30:40	5.08	387	240.000	0.252	0.19	113.6	14.45	7.19	-30.9	-4.3	1.8

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/01	18:00:40	5.03	386	239.000	0.251	0.19	113.2	14.43	7.2	-31.4	-3.7	1.7
Site2	2014/03/01	18:30:40	4.99	385	238.000	0.25	0.18	112.8	14.4	7.2	-31.3	-3	1.7
Site2	2014/03/01	19:00:40	4.94	384	237.000	0.25	0.18	112.7	14.4	7.2	-31.3	-2.5	1.8
Site2	2014/03/01	19:30:40	4.91	383	236.000	0.249	0.18	112.6	14.39	7.21	-31.7	-3.7	1.7
Site2	2014/03/01	20:00:40	4.86	382	235.000	0.248	0.18	112.4	14.39	7.21	-31.9	-3.8	1.7
Site2	2014/03/01	20:30:40	4.87	389	240.000	0.253	0.19	112.3	14.37	7.22	-32.6	-6.5	1.8
Site2	2014/03/01	21:00:40	4.81	381	234.000	0.248	0.18	112.4	14.41	7.21	-32	-4	1.7
Site2	2014/03/01	21:30:40	4.77	380	233.000	0.247	0.18	112.4	14.42	7.22	-32.2	-4.3	1.7
Site2	2014/03/01	22:00:40	4.75	378	232.000	0.246	0.18	112.4	14.43	7.22	-32.3	-4.2	1.7
Site2	2014/03/01	22:30:40	4.72	378	231.000	0.245	0.18	112.4	14.44	7.22	-32.2	-4.1	1.7
Site2	2014/03/01	23:00:40	4.72	377	231.000	0.245	0.18	112.4	14.44	7.21	-32	-4.1	1.7
Site2	2014/03/01	23:30:40	4.7	377	231.000	0.245	0.18	112.4	14.44	7.21	-32	-4	1.7
Site2	2014/03/02	00:00:40	4.67	376	230.000	0.245	0.18	112.3	14.45	7.22	-32.2	-4.5	1.7
Site2	2014/03/02	00:30:40	4.66	392	240.000	0.255	0.19	112.4	14.46	7.22	-32.2	-4.3	1.7
Site2	2014/03/02	01:00:40	4.66	396	242.000	0.257	0.19	112.4	14.46	7.22	-32.2	-4.4	1.7
Site2	2014/03/02	01:30:40	4.64	384	235.000	0.25	0.18	112.4	14.47	7.22	-32.2	-4.8	1.7
Site2	2014/03/02	02:00:40	4.64	379	232.000	0.246	0.18	112.5	14.48	7.22	-32.5	-4.7	1.7
Site2	2014/03/02	02:30:40	4.66	382	233.000	0.248	0.18	112.4	14.46	7.24	-33.3	-7	1.7
Site2	2014/03/02	03:00:40	4.62	375	229.000	0.243	0.18	112.4	14.48	7.22	-32.3	-4.9	1.7
Site2	2014/03/02	03:30:40	4.59	373	228.000	0.243	0.18	112.4	14.49	7.22	-32.4	-5.1	1.7
Site2	2014/03/02	04:00:40	4.59	376	230.000	0.245	0.18	112.3	14.49	7.23	-32.7	-5.8	1.8
Site2	2014/03/02	04:30:40	4.56	371	226.000	0.241	0.18	112.4	14.5	7.23	-32.7	-5.8	1.8
Site2	2014/03/02	05:00:40	4.54	370	225.000	0.24	0.18	112.4	14.51	7.23	-32.7	-5.9	1.8
Site2	2014/03/02	05:30:40	4.51	369	225.000	0.24	0.18	112.3	14.51	7.23	-32.7	-5.9	1.8
Site2	2014/03/02	06:00:40	4.47	368	224.000	0.239	0.18	112.2	14.52	7.23	-32.8	-6	1.8
Site2	2014/03/02	06:30:40	4.29	368	222.000	0.239	0.18	112	14.56	7.22	-32.5	-5.2	1.9
Site2	2014/03/02	07:00:40	4.17	394	237.000	0.256	0.19	112.2	14.62	7.23	-32.8	-4.7	2.4
Site2	2014/03/02	07:30:40	4.23	6173	3724.000	4.012	3.33	111.8	14.25	7.06	-24	20.4	7.6
Site2	2014/03/02	08:00:40	4.21	7843	4729.000	5.098	4.3	112.2	14.21	7.1	-26.1	23.1	6.8
Site2	2014/03/02	08:30:40	4.14	7523	4526.000	4.89	4.12	113	14.36	7.09	-25.2	29.2	10.2
Site2	2014/03/02	09:00:40	4.01	6574	3939.000	4.273	3.56	113.3	14.49	7.1	-25.8	36.2	18.3
Site2	2014/03/02	09:30:40	3.81	4278	2546.000	2.781	2.26	113.5	14.73	7.1	-26.1	36.1	18
Site2	2014/03/02	10:00:40	3.86	3515	2096.000	2.285	1.83	113.9	14.8	7.09	-25.6	32.7	14.8
Site2	2014/03/02	10:30:40	3.9	3835	2290.000	2.493	2.01	114.7	14.88	7.09	-25.2	36.1	24.2
Site2	2014/03/02	11:00:40	3.87	4118	2456.000	2.677	2.17	114.7	14.87	7.04	-22.9	41.6	20.3
Site2	2014/03/02	11:30:40	4.02	3497	2096.000	2.273	1.83	114.5	14.82	7.07	-24.2	33.3	10.3
Site2	2014/03/02	12:00:40	4.13	3082	1854.000	2.003	1.6	114.8	14.84	7.09	-25.4	30	14.1
Site2	2014/03/02	12:30:40	3.93	4637	2770.000	3.014	2.46	115.7	14.95	7.15	-28.4	47.2	49.5
Site2	2014/03/02	13:00:40	3.78	1999	1189.000	1.299	1.01	116.2	15.22	7.17	-29.7	49.9	58.4
Site2	2014/03/02	13:30:40	3.66	1016	602.000	0.661	0.5	116.4	15.34	7.15	-28.3	55.4	31.8
Site2	2014/03/02	14:00:40	3.44	666	392.000	0.433	0.32	116.9	15.52	7.07	-24.5	70.5	26.8
Site2	2014/03/02	14:30:40	3.26	620	362.000	0.403	0.3	117	15.61	7.01	-21.1	75.9	21.9
Site2	2014/03/02	15:00:40	3.45	638	376.000	0.415	0.31	116.3	15.44	7	-20.8	66.2	12.8
Site2	2014/03/02	15:30:40	3.58	599	354.000	0.39	0.29	116.6	15.42	7.02	-21.9	70.9	31.7
Site2	2014/03/02	16:00:40	3.67	503	298.000	0.327	0.24	116.4	15.36	7.05	-23	70.2	26.4
Site2	2014/03/02	16:30:40	3.76	413	245.000	0.268	0.2	116.1	15.3	7.04	-22.6	66.9	20.6
Site2	2014/03/02	17:00:40	3.76	388	230.000	0.252	0.19	116.2	15.32	7.03	-22.3	71.5	27
Site2	2014/03/02	17:30:40	3.82	390	232.000	0.253	0.19	115.9	15.24	7.03	-22.2	64.2	19.1
Site2	2014/03/02	18:00:40	3.79	359	214.000	0.233	0.17	116	15.27	7.03	-22.3	63.2	16.9
Site2	2014/03/02	18:30:40	3.82	343	204.000	0.223	0.16	115.9	15.24	7.02	-21.9	61.7	14.8
Site2	2014/03/02	19:00:40	3.76	305	181.000	0.198	0.15	116.1	15.3	7.05	-23.2	62.7	19.1

## Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/02	19:30:40	3.69	294	174.000	0.191	0.14	116.2	15.35	7.02	-21.9	70.1	22.4
Site2	2014/03/02	20:00:40	3.83	296	176.000	0.193	0.14	115.8	15.24	7.02	-21.8	62.3	15.9
Site2	2014/03/02	20:30:40	3.92	313	187.000	0.204	0.15	115.7	15.18	7.04	-22.5	57.4	12.1
Site2	2014/03/02	21:00:40	3.99	319	191.000	0.207	0.15	115.5	15.14	7.04	-22.9	54.4	10.4
Site2	2014/03/02	21:30:40	4.14	341	205.000	0.221	0.16	115.1	15.02	7.05	-23.1	48.5	9.5
Site2	2014/03/02	22:00:40	4.25	363	219.000	0.236	0.17	114.8	14.94	7.06	-23.7	43.5	9.1
Site2	2014/03/02	22:30:40	4.35	375	227.000	0.244	0.18	114.6	14.87	7.07	-24.5	39.1	9
Site2	2014/03/02	23:00:40	4.41	393	238.000	0.255	0.19	114.6	14.84	7.09	-25.1	38.3	8.6
Site2	2014/03/02	23:30:40	4.45	385	234.000	0.251	0.18	114.5	14.82	7.09	-25.4	36.9	9.1
Site2	2014/03/03	00:00:40	4.23	361	218.000	0.234	0.17	115.5	15.04	7.07	-24.5	52.9	15.9
Site2	2014/03/03	00:30:40	4.27	298	180.000	0.194	0.14	115.1	14.97	7.06	-23.9	50.2	12
Site2	2014/03/03	01:00:40	4.46	323	196.000	0.21	0.15	114.5	14.82	7.05	-23.5	41	9.6
Site2	2014/03/03	01:30:40	4.58	360	220.000	0.234	0.17	114.2	14.73	7.06	-24	37.7	8.5
Site2	2014/03/03	02:00:40	4.68	385	235.000	0.25	0.18	114	14.67	7.07	-24.4	35.7	8.7
Site2	2014/03/03	02:30:40	4.77	395	242.000	0.257	0.19	113.8	14.6	7.09	-25.3	32.7	8
Site2	2014/03/03	03:00:40	4.86	400	246.000	0.26	0.19	113.6	14.55	7.09	-25.6	31.4	7.8
Site2	2014/03/03	03:30:40	4.59	358	218.000	0.233	0.17	115.4	14.88	7.08	-24.8	59.6	13.8
Site2	2014/03/03	04:00:40	4.69	251	154.000	0.163	0.12	115	14.79	7.05	-23.2	60.4	9.4
Site2	2014/03/03	04:30:40	4.76	258	158.000	0.168	0.12	114.6	14.72	7.04	-22.6	52.9	7.5
Site2	2014/03/03	05:00:40	4.87	288	177.000	0.187	0.14	114.4	14.64	7.05	-23.3	44.8	6.8
Site2	2014/03/03	05:30:40	4.97	317	196.000	0.206	0.15	114.2	14.58	7.07	-24.3	40.1	6.6
Site2	2014/03/03	06:00:40	5.06	340	211.000	0.221	0.16	113.9	14.51	7.08	-24.7	37.4	5.3
Site2	2014/03/03	06:30:40	5.24	367	228.000	0.238	0.18	113.6	14.4	7.08	-24.9	35.5	4.9
Site2	2014/03/03	07:00:40	5.33	379	237.000	0.247	0.18	113.7	14.38	7.08	-25	38	6.6
Site2	2014/03/03	07:30:40	5.38	344	215.000	0.224	0.16	113.6	14.36	7.06	-24	42.5	7.8
Site2	2014/03/03	08:00:40	5.45	326	204.000	0.212	0.16	113.6	14.33	7.06	-24.1	38.6	6.4
Site2	2014/03/03	08:30:40	5.54	351	220.000	0.228	0.17	113.8	14.31	7.07	-24.2	41.2	9.7
Site2	2014/03/03	09:00:40	5.65	311	196.000	0.202	0.15	114.3	14.35	7.07	-24.7	52.4	23.3
Site2	2014/03/03	09:30:40	5.78	217	137.000	0.141	0.1	114.6	14.33	7.09	-25.3	66.4	29
Site2	2014/03/03	10:00:40	5.89	200	127.000	0.13	0.1	114.4	14.27	7.08	-24.8	66.2	26.9
Site2	2014/03/03	10:30:40	6.08	198	127.000	0.129	0.09	114.3	14.19	7.06	-23.7	69.6	26
Site2	2014/03/03	11:00:40	6.21	199	128.000	0.129	0.09	114.3	14.14	7.07	-24.5	68.2	28.9
Site2	2014/03/03	11:30:40	6.34	201	129.000	0.131	0.1	114.1	14.08	7.07	-24.4	65.6	22.2
Site2	2014/03/03	12:00:40	6.48	209	135.000	0.136	0.1	114	14.01	7.04	-22.8	65.8	21.1
Site2	2014/03/03	12:30:40	6.51	226	146.000	0.147	0.11	113.9	13.99	7.03	-22.1	59.3	19.4
Site2	2014/03/03	13:00:40	6.4	253	163.000	0.164	0.12	113.9	14.03	7.03	-22.1	50.5	14.7
Site2	2014/03/03	13:30:40	6.34	275	177.000	0.179	0.13	114	14.06	7.01	-21.2	45.7	13.9
Site2	2014/03/03	14:00:40	6.34	290	187.000	0.189	0.14	114.1	14.07	7.02	-21.6	41.3	12.5
Site2	2014/03/03	14:30:40	6.33	295	190.000	0.192	0.14	114.2	14.09	7.03	-22.2	38.7	11.7
Site2	2014/03/03	15:00:40	6.33	298	192.000	0.194	0.14	114.4	14.11	7.04	-22.6	35.5	10.2
Site2	2014/03/03	15:30:40	6.34	299	193.000	0.194	0.14	114.5	14.12	7.04	-22.9	34.2	9.5
Site2	2014/03/03	16:00:40	6.32	299	192.000	0.194	0.14	114.3	14.1	7.04	-23	32.3	8.8
Site2	2014/03/03	16:30:40	6.31	300	193.000	0.195	0.14	114.3	14.11	7.05	-23.1	31.4	8.4
Site2	2014/03/03	17:00:40	6.3	311	200.000	0.202	0.15	114.2	14.09	7.05	-23.3	31.9	8.3
Site2	2014/03/03	17:30:40	6.29	316	203.000	0.205	0.15	113.9	14.06	7.05	-23.2	31.4	6.5
Site2	2014/03/03	18:00:40	6.3	329	212.000	0.214	0.16	113.6	14.02	7.05	-23.3	31.6	7.4
Site2	2014/03/03	18:30:40	6.28	324	208.000	0.21	0.16	113.4	14.01	7.05	-23.5	31.9	8.2
Site2	2014/03/03	19:00:40	6.24	315	202.000	0.205	0.15	113.3	14.01	7.04	-22.9	32.8	5.9
Site2	2014/03/03	19:30:40	6.2	311	200.000	0.202	0.15	113.3	14.02	7.04	-22.6	33.5	4.5
Site2	2014/03/03	20:00:40	6.16	310	198.000	0.201	0.15	113.3	14.03	7.04	-22.7	32.7	4.2
Site2	2014/03/03	20:30:40	6.13	308	197.000	0.2	0.15	113.2	14.03	7.04	-22.7	32.4	4.2

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/03	21:00:40	6.12	306	196.000	0.199	0.15	113.2	14.04	7.05	-23.3	31.6	3.9
Site2	2014/03/03	21:30:40	6.1	303	194.000	0.197	0.15	113.4	14.07	7.06	-23.9	30.9	3.8
Site2	2014/03/03	22:00:40	6.07	301	192.000	0.196	0.14	113.4	14.08	7.06	-23.7	31.4	3.9
Site2	2014/03/03	22:30:40	6.04	300	191.000	0.195	0.14	113.4	14.09	7.07	-24.2	30.3	3.3
Site2	2014/03/03	23:00:40	5.99	297	189.000	0.193	0.14	113.5	14.12	7.06	-23.9	31.1	3.3
Site2	2014/03/03	23:30:40	5.93	295	188.000	0.192	0.14	113.5	14.14	7.06	-23.6	31.6	3.1
Site2	2014/03/04	00:00:40	5.88	295	187.000	0.192	0.14	113.6	14.17	7.05	-23.6	31.6	2.9
Site2	2014/03/04	00:30:40	5.84	295	187.000	0.192	0.14	113.5	14.17	7.05	-23.2	32.2	2.9
Site2	2014/03/04	01:00:40	5.79	291	184.000	0.189	0.14	113.7	14.22	7.06	-23.6	31.5	2.8
Site2	2014/03/04	01:30:40	5.74	289	183.000	0.188	0.14	113.7	14.24	7.05	-23.6	31.6	2.6
Site2	2014/03/04	02:00:40	5.7	288	182.000	0.187	0.14	113.8	14.26	7.05	-23.1	32.2	2.8
Site2	2014/03/04	02:30:40	5.68	286	181.000	0.186	0.14	113.9	14.28	7.05	-23.4	31.6	2.5
Site2	2014/03/04	03:00:40	5.66	286	180.000	0.186	0.14	113.9	14.28	7.06	-23.6	30.8	2.5
Site2	2014/03/04	03:30:40	5.63	284	179.000	0.185	0.14	113.9	14.3	7.05	-23.3	31.4	2.3
Site2	2014/03/04	04:00:40	5.61	282	178.000	0.184	0.13	113.8	14.3	7.05	-23.3	31.4	2.3
Site2	2014/03/04	04:30:40	5.59	282	177.000	0.183	0.13	113.9	14.31	7.05	-23.3	31.1	2.4
Site2	2014/03/04	05:00:40	5.56	281	177.000	0.183	0.13	113.9	14.32	7.05	-23.2	30.9	2.1
Site2	2014/03/04	05:30:40	5.53	280	176.000	0.182	0.13	113.8	14.33	7.05	-23.1	31.8	2.5
Site2	2014/03/04	06:00:40	5.49	279	175.000	0.181	0.13	113.8	14.35	7.04	-23	31.9	2.3
Site2	2014/03/04	06:30:40	5.47	277	173.000	0.18	0.13	113.9	14.36	7.05	-23.4	31.1	3.1
Site2	2014/03/04	07:00:40	5.44	275	172.000	0.178	0.13	114.1	14.39	7.06	-23.6	30.7	2.3
Site2	2014/03/04	07:30:40	5.43	271	170.000	0.176	0.13	114.4	14.44	7.06	-23.9	30.5	2.4
Site2	2014/03/04	08:00:40	5.46	278	174.000	0.181	0.13	114.9	14.48	7.06	-23.8	28.9	2.5
Site2	2014/03/04	08:30:40	5.52	278	175.000	0.181	0.13	115.5	14.55	7.05	-23.2	27.9	2.3
Site2	2014/03/04	09:00:40	5.57	281	177.000	0.183	0.13	116.1	14.6	7.05	-23.3	25.9	3.4
Site2	2014/03/04	09:30:40	5.64	280	176.000	0.182	0.13	116.2	14.58	7.04	-22.6	25.9	2.4
Site2	2014/03/04	10:00:40	5.65	280	177.000	0.182	0.13	116.2	14.58	7.05	-23.3	24.4	2.2
Site2	2014/03/04	10:30:40	5.72	287	181.000	0.187	0.14	116.3	14.57	7.08	-25.1	22	2.6
Site2	2014/03/04	11:00:40	6.07	422	269.000	0.274	0.2	116.5	14.46	7.1	-26.1	34.8	31.3
Site2	2014/03/04	11:30:40	6.07	263	168.000	0.171	0.13	116.4	14.46	7.11	-26.6	39.9	20.9
Site2	2014/03/04	12:00:40	6.09	207	132.000	0.135	0.1	116.3	14.43	7.08	-24.9	42.8	16.5
Site2	2014/03/04	12:30:40	6.09	173	111.000	0.113	0.08	116.6	14.47	7.06	-23.6	54	22.2
Site2	2014/03/04	13:00:40	6.15	160	103.000	0.104	0.08	116.2	14.41	7.05	-23.6	52.6	20.1
Site2	2014/03/04	13:30:40	6.14	159	101.000	0.103	0.08	116.2	14.4	7.04	-22.8	53.4	18.8
Site2	2014/03/04	14:00:40	5.98	155	99.000	0.101	0.07	116.6	14.51	7.01	-21.1	62.6	18
Site2	2014/03/04	14:30:40	6.04	163	104.000	0.106	0.08	116.3	14.46	7.01	-21.2	62.7	15.1
Site2	2014/03/04	15:00:40	5.88	151	96.000	0.098	0.07	116.9	14.6	7.03	-22.2	65.6	18.4
Site2	2014/03/04	15:30:40	5.95	162	103.000	0.105	0.08	116.5	14.52	7.02	-21.9	61.3	14.9
Site2	2014/03/04	16:00:40	5.95	185	118.000	0.12	0.09	116.4	14.5	7.05	-23.3	46.2	11.8
Site2	2014/03/04	16:30:40	5.95	204	130.000	0.132	0.1	116.2	14.48	7.05	-23.3	43.6	8.6
Site2	2014/03/04	17:00:40	5.85	216	137.000	0.14	0.1	116.1	14.5	7.05	-23.2	38.5	7
Site2	2014/03/04	17:30:40	5.79	224	142.000	0.146	0.11	115.6	14.46	7.04	-22.6	36.6	5.7
Site2	2014/03/04	18:00:40	5.83	241	153.000	0.157	0.11	115.5	14.43	7.04	-22.9	34.6	5
Site2	2014/03/04	18:30:40	5.8	252	159.000	0.164	0.12	115.2	14.4	7.05	-23.3	35.7	5.1
Site2	2014/03/04	19:00:40	5.74	243	153.000	0.158	0.12	114.9	14.39	7.05	-23.2	35.2	4.7
Site2	2014/03/04	19:30:40	5.7	244	154.000	0.159	0.12	114.8	14.39	7.04	-22.8	35.5	4
Site2	2014/03/04	20:00:40	5.68	254	160.000	0.165	0.12	114.5	14.36	7.03	-22.4	35.8	3.5
Site2	2014/03/04	20:30:40	5.65	258	163.000	0.168	0.12	114.4	14.36	7.03	-22.3	36	3.4
Site2	2014/03/04	21:00:40	5.64	260	164.000	0.169	0.12	114.3	14.35	7.03	-22.2	35.5	3.1
Site2	2014/03/04	21:30:40	5.63	261	165.000	0.17	0.12	114.2	14.34	7.03	-22.2	35	3.2
Site2	2014/03/04	22:00:40	5.62	263	165.000	0.171	0.13	114.2	14.34	7.03	-22.3	34.4	3.7

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/04	22:30:40	5.61	262	165.000	0.171	0.13	114.1	14.33	7.03	-22.2	34.4	3.1
Site2	2014/03/04	23:00:40	5.75	300	190.000	0.195	0.14	114.5	14.33	7.05	-23.5	35.6	11
Site2	2014/03/04	23:30:40	5.47	237	148.000	0.154	0.11	115.8	14.6	7.06	-24	53.3	16.7
Site2	2014/03/05	00:00:40	5.43	185	116.000	0.12	0.09	115.3	14.56	7.03	-22.2	58.2	9.7
Site2	2014/03/05	00:30:40	5.43	180	113.000	0.117	0.09	115.4	14.57	7.01	-21.4	53.6	6.5
Site2	2014/03/05	01:00:40	5.39	182	114.000	0.118	0.09	115.2	14.55	6.99	-20.1	54.1	5.4
Site2	2014/03/05	01:30:40	5.41	176	110.000	0.114	0.08	115.5	14.59	7.02	-21.5	51.4	8.3
Site2	2014/03/05	02:00:40	5.28	155	97.000	0.101	0.07	115.9	14.69	7	-20.5	62.8	7.7
Site2	2014/03/05	02:30:40	5.24	149	93.000	0.097	0.07	115.9	14.71	6.99	-20	63.2	7.9
Site2	2014/03/05	03:00:40	5.19	144	89.000	0.093	0.07	115.9	14.72	6.97	-19.3	68.2	9.5
Site2	2014/03/05	03:30:40	5.26	160	100.000	0.104	0.08	115.5	14.64	6.97	-19	62.6	7
Site2	2014/03/05	04:00:40	5.37	184	115.000	0.119	0.09	115	14.54	7	-20.4	52.7	5.7
Site2	2014/03/05	04:30:40	5.42	187	117.000	0.122	0.09	115.2	14.55	7.01	-21	53.3	6.6
Site2	2014/03/05	05:00:40	5.39	175	109.000	0.114	0.08	115	14.54	6.99	-19.8	58	5.4
Site2	2014/03/05	05:30:40	5.43	176	110.000	0.115	0.08	114.9	14.5	6.99	-19.8	55.4	5.4
Site2	2014/03/05	06:00:40	5.52	187	117.000	0.122	0.09	114.5	14.42	6.99	-20	50	4.7
Site2	2014/03/05	06:30:40	5.54	179	113.000	0.116	0.08	115.1	14.49	7.01	-21.4	53.6	8.6
Site2	2014/03/05	07:00:40	5.41	132	83.000	0.086	0.06	115.6	14.6	6.98	-19.3	78.6	20
Site2	2014/03/05	07:30:40	5.54	155	97.000	0.101	0.07	114.6	14.43	6.96	-18.7	63.8	10.8
Site2	2014/03/05	08:00:40	5.63	185	116.000	0.12	0.09	114.4	14.38	6.99	-20.2	54.6	8.6
Site2	2014/03/05	08:30:40	5.73	206	130.000	0.134	0.1	114.3	14.32	7	-20.9	49.3	7.2
Site2	2014/03/05	09:00:40	5.91	221	140.000	0.143	0.1	114.7	14.3	7.02	-21.5	53.3	12.3
Site2	2014/03/05	09:30:40	6.05	154	98.000	0.1	0.07	115.4	14.35	7.02	-21.8	70.4	60.9
Site2	2014/03/05	10:00:40	6.33	120	77.000	0.078	0.06	115	14.19	7.01	-20.9	82.8	40.4
Site2	2014/03/05	10:30:40	6.36	156	101.000	0.102	0.07	114.5	14.12	6.97	-19	67.7	21.1
Site2	2014/03/05	11:00:40	6.43	192	124.000	0.125	0.09	114.6	14.1	6.98	-19.7	58.5	17.2
Site2	2014/03/05	11:30:40	6.52	207	134.000	0.135	0.1	114.7	14.09	7	-20.8	49.7	12.6
Site2	2014/03/05	12:00:40	6.64	215	140.000	0.14	0.1	115	14.08	7.01	-21.4	43.6	9.8
Site2	2014/03/05	12:30:40	6.72	219	142.000	0.142	0.1	115	14.05	7.02	-21.7	42.7	33.9
Site2	2014/03/05	13:00:40	6.78	220	143.000	0.143	0.1	114.9	14.01	7.02	-21.9	40.9	16.9
Site2	2014/03/05	13:30:40	6.86	221	144.000	0.144	0.11	115.1	14.01	7.03	-22.2	36.9	10.4
Site2	2014/03/05	14:00:40	6.96	222	145.000	0.144	0.11	115.8	14.06	7.03	-22	35.5	12.9
Site2	2014/03/05	14:30:40	7.1	223	147.000	0.145	0.11	115.9	14.03	7.03	-22.1	32.6	10.6
Site2	2014/03/05	15:00:40	7.23	225	148.000	0.146	0.11	116	13.99	7.02	-21.9	36.3	8.1
Site2	2014/03/05	15:30:40	7.31	226	150.000	0.147	0.11	116	13.96	7.03	-22.3	36.1	7.7
Site2	2014/03/05	16:00:40	7.26	225	149.000	0.146	0.11	115.7	13.94	7.03	-22.1	38.2	8.6
Site2	2014/03/05	16:30:40	7.24	225	149.000	0.146	0.11	115	13.87	7.02	-21.9	38.8	8.1
Site2	2014/03/05	17:00:40	7.17	231	153.000	0.15	0.11	114.3	13.81	7.01	-21.4	41	10
Site2	2014/03/05	17:30:40	7.11	232	153.000	0.151	0.11	113.8	13.77	7.01	-21.3	41.3	7.1
Site2	2014/03/05	18:00:40	7.03	233	153.000	0.151	0.11	113.4	13.74	7.01	-20.9	41.7	6.6
Site2	2014/03/05	18:30:40	6.95	233	153.000	0.152	0.11	112.9	13.71	6.99	-20.3	43.3	6.4
Site2	2014/03/05	19:00:40	6.89	234	153.000	0.152	0.11	112.7	13.71	6.99	-20.2	44.3	6.4
Site2	2014/03/05	19:30:40	6.83	235	154.000	0.153	0.11	112.6	13.71	6.99	-20.3	45.4	6.1
Site2	2014/03/05	20:00:40	6.79	233	152.000	0.151	0.11	112.5	13.71	6.99	-20.1	47.2	6.2
Site2	2014/03/05	20:30:40	6.81	249	162.000	0.162	0.12	112.7	13.74	7.01	-21.3	43.5	7.9
Site2	2014/03/05	21:00:40	7.36	182	121.000	0.119	0.09	113.1	13.61	7.07	-24.2	73.1	39.4
Site2	2014/03/05	21:30:40	7.37	129	86.000	0.084	0.06	113.1	13.6	7.03	-22.2	81.5	19.7
Site2	2014/03/05	22:00:40	7.29	142	94.000	0.092	0.07	112.9	13.6	6.99	-20.1	68.6	14.1
Site2	2014/03/05	22:30:40	7.19	154	101.000	0.1	0.07	112.7	13.61	6.96	-18.3	72.4	11.6
Site2	2014/03/05	23:00:40	7.05	182	120.000	0.118	0.09	112.6	13.65	6.99	-20.1	56.6	9.1
Site2	2014/03/05	23:30:40	7.06	200	132.000	0.13	0.1	112.7	13.66	7.02	-21.5	51.7	7.9

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/06	00:00:40	6.97	201	132.000	0.131	0.1	112.6	13.67	7.01	-21.2	48	6.7
Site2	2014/03/06	00:30:40	6.92	207	136.000	0.135	0.1	112.5	13.67	7.01	-20.9	46.4	5.9
Site2	2014/03/06	01:00:40	6.92	212	139.000	0.138	0.1	112.6	13.68	7.01	-21.4	45	5.6
Site2	2014/03/06	01:30:40	7.29	139	92.000	0.09	0.07	113.3	13.65	7.01	-21.2	73.7	15.3
Site2	2014/03/06	02:00:40	7.14	151	99.000	0.098	0.07	112.7	13.63	6.97	-19.2	60.7	7.8
Site2	2014/03/06	02:30:40	7.34	143	95.000	0.093	0.07	113	13.59	6.98	-19.8	71.5	9.5
Site2	2014/03/06	03:00:40	7.37	138	92.000	0.09	0.07	113	13.58	6.99	-20	73	8.7
Site2	2014/03/06	03:30:40	7.21	164	108.000	0.107	0.08	112.9	13.63	7	-20.6	60.9	6.2
Site2	2014/03/06	04:00:40	7.14	185	122.000	0.12	0.09	112.8	13.64	7	-20.9	53.3	5.9
Site2	2014/03/06	04:30:40	7.12	194	128.000	0.126	0.09	112.7	13.64	7.02	-21.5	49.9	5.1
Site2	2014/03/06	05:00:40	7.24	201	133.000	0.13	0.1	112.9	13.61	7.04	-22.9	49.3	6.4
Site2	2014/03/06	05:30:40	7.49	151	100.000	0.098	0.07	112.7	13.51	7.01	-21.1	67.1	6.9
Site2	2014/03/06	06:00:40	7.33	162	107.000	0.105	0.08	112.6	13.56	6.99	-20	58.3	5.1
Site2	2014/03/06	06:30:40	7.26	178	118.000	0.116	0.08	112.7	13.59	7	-20.9	53.3	4.9
Site2	2014/03/06	07:00:40	8.01	102	69.000	0.067	0.05	113.3	13.42	6.98	-19.3	88	85.2
Site2	2014/03/06	07:30:40	7.86	99	67.000	0.065	0.05	113.1	13.43	7.02	-21.8	90.6	46.9
Site2	2014/03/06	08:00:40	7.63	130	87.000	0.085	0.06	113.4	13.54	7.02	-21.6	93.4	54.6
Site2	2014/03/06	08:30:40	7.59	150	100.000	0.098	0.07	113.1	13.53	7.01	-21	93	45.7
Site2	2014/03/06	09:00:40	7.7	148	99.000	0.096	0.07	113.3	13.51	7.06	-23.7	82.8	38.5
Site2	2014/03/06	09:30:40	7.99	98	66.000	0.064	0.05	113.5	13.44	7.01	-21.1	92.3	43.4
Site2	2014/03/06	10:00:40	7.97	100	67.000	0.065	0.05	113.5	13.44	7	-20.7	93.1	42.6
Site2	2014/03/06	10:30:40	7.96	111	75.000	0.072	0.05	113.4	13.44	6.97	-18.8	95.9	51.5
Site2	2014/03/06	11:00:40	7.84	121	81.000	0.079	0.06	113.6	13.51	7.03	-22	93.3	50.4
Site2	2014/03/06	11:30:40	7.96	131	88.000	0.085	0.06	113.3	13.43	7	-20.7	90.6	34.7
Site2	2014/03/06	12:00:40	8.05	133	90.000	0.086	0.06	113.3	13.4	7.01	-21.2	88.4	24.1
Site2	2014/03/06	12:30:40	7.96	141	95.000	0.092	0.07	113.4	13.44	7	-20.4	85.4	21.2
Site2	2014/03/06	13:00:40	7.96	148	100.000	0.096	0.07	113.4	13.44	7.01	-20.9	83.1	17.2
Site2	2014/03/06	13:30:40	8.39	134	91.000	0.087	0.06	113.4	13.3	7.03	-22	87.5	21.2
Site2	2014/03/06	14:00:40	8.67	109	75.000	0.071	0.05	113.4	13.2	7	-20.6	93.6	26.2
Site2	2014/03/06	14:30:40	8.4	113	77.000	0.074	0.05	113.5	13.3	6.95	-17.7	89.7	21.7
Site2	2014/03/06	15:00:40	8.25	119	81.000	0.077	0.06	114	13.42	6.95	-17.9	91.7	33.7
Site2	2014/03/06	15:30:40	8.02	134	90.000	0.087	0.06	113.8	13.46	6.96	-18.7	89.2	19.2
Site2	2014/03/06	16:00:40	7.9	142	96.000	0.093	0.07	113.7	13.49	6.97	-19	87.1	15.3
Site2	2014/03/06	16:30:40	7.73	149	100.000	0.097	0.07	114	13.59	6.97	-19	83.1	14.5
Site2	2014/03/06	17:00:40	7.59	153	102.000	0.1	0.07	114.2	13.66	6.98	-19.6	78.1	14.1
Site2	2014/03/06	17:30:40	7.54	157	105.000	0.102	0.07	114.4	13.69	6.99	-20.2	77.3	13
Site2	2014/03/06	18:00:40	7.46	154	102.000	0.1	0.07	114.4	13.72	6.98	-19.3	76	12.1
Site2	2014/03/06	18:30:40	7.37	156	104.000	0.102	0.07	114.5	13.77	6.97	-19.2	74.8	10.3
Site2	2014/03/06	19:00:40	7.3	160	106.000	0.104	0.08	114.4	13.78	6.97	-19.1	75.9	9.7
Site2	2014/03/06	19:30:40	7.2	163	108.000	0.106	0.08	114.6	13.84	6.97	-19.1	73.9	9.1
Site2	2014/03/06	20:00:40	7.12	165	109.000	0.107	0.08	114.7	13.87	6.96	-18.7	72.2	8.6
Site2	2014/03/06	20:30:40	7.07	168	110.000	0.109	0.08	114.8	13.9	6.96	-18.7	71.6	9.5
Site2	2014/03/06	21:00:40	7.04	168	110.000	0.109	0.08	114.9	13.93	6.97	-19.2	69.9	10.5
Site2	2014/03/06	21:30:40	7	168	110.000	0.109	0.08	114.9	13.94	6.96	-18.6	70.1	7.9
Site2	2014/03/06	22:00:40	6.97	170	111.000	0.11	0.08	114.9	13.96	6.97	-19	68.7	7.6
Site2	2014/03/06	22:30:40	6.93	170	112.000	0.111	0.08	115	13.97	6.96	-18.4	70.6	6.5
Site2	2014/03/06	23:00:40	6.91	171	112.000	0.111	0.08	115.1	14	6.96	-18.3	70.6	6.5
Site2	2014/03/06	23:30:40	6.88	172	112.000	0.112	0.08	115.1	14.01	6.96	-18.4	69.2	5.7
Site2	2014/03/07	00:00:40	6.82	175	114.000	0.114	0.08	115.1	14.03	6.96	-18.6	68.2	5.3
Site2	2014/03/07	00:30:40	6.79	177	115.000	0.115	0.08	115.2	14.04	6.96	-18.5	67.8	5.3
Site2	2014/03/07	01:00:40	6.8	180	117.000	0.117	0.09	115.2	14.05	6.96	-18.7	67.8	5

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/07	01:30:40	6.79	178	116.000	0.116	0.08	115.2	14.06	6.95	-18.1	68.3	4.8
Site2	2014/03/07	02:00:40	6.8	179	117.000	0.117	0.09	115.3	14.06	6.95	-17.9	68.6	4.8
Site2	2014/03/07	02:30:40	6.8	180	117.000	0.117	0.09	115.2	14.05	6.95	-18.1	68.7	4.7
Site2	2014/03/07	03:00:40	6.8	181	118.000	0.117	0.09	115.3	14.06	6.95	-17.9	69.5	4.2
Site2	2014/03/07	03:30:40	6.8	182	119.000	0.118	0.09	115.2	14.05	6.95	-17.8	70.3	4.2
Site2	2014/03/07	04:00:40	6.8	183	119.000	0.119	0.09	115.2	14.05	6.95	-17.8	70.7	4
Site2	2014/03/07	04:30:40	6.79	183	119.000	0.119	0.09	115.3	14.06	6.94	-17.6	71.2	3.7
Site2	2014/03/07	05:00:40	6.8	186	121.000	0.121	0.09	115.3	14.06	6.96	-18.3	71.1	3.8
Site2	2014/03/07	05:30:40	6.78	185	120.000	0.12	0.09	115.3	14.07	6.95	-18	71.8	3.6
Site2	2014/03/07	06:00:40	6.78	185	121.000	0.12	0.09	115.4	14.07	6.96	-18.5	72.3	3.5
Site2	2014/03/07	06:30:40	6.78	186	121.000	0.121	0.09	115.3	14.07	6.95	-18.1	73.4	3.7
Site2	2014/03/07	07:00:40	6.77	186	121.000	0.121	0.09	115.3	14.07	6.96	-18.3	74.5	3.9
Site2	2014/03/07	07:30:40	6.78	186	121.000	0.121	0.09	115.6	14.1	6.97	-18.8	74.5	3.4
Site2	2014/03/07	08:00:40	6.8	187	122.000	0.121	0.09	115.8	14.12	7	-20.8	83.7	69.4
Site2	2014/03/07	08:30:40	6.84	187	122.000	0.122	0.09	116	14.13	6.99	-19.9	73.7	5.5
Site2	2014/03/07	09:00:40	6.92	188	123.000	0.122	0.09	116.8	14.2	7	-20.4	69.2	4
Site2	2014/03/07	09:30:40	7.01	189	124.000	0.123	0.09	117.6	14.27	7	-20.8	68.2	3.6
Site2	2014/03/07	10:00:40	7.11	189	124.000	0.123	0.09	118.2	14.3	7	-20.6	67	3.2
Site2	2014/03/07	10:30:40	7.23	189	125.000	0.123	0.09	118.5	14.3	7	-20.7	69.8	3.3
Site2	2014/03/07	11:00:40	7.27	188	124.000	0.122	0.09	118.1	14.24	6.99	-20.4	73.6	3.6
Site2	2014/03/07	11:30:40	7.27	189	125.000	0.123	0.09	117.6	14.17	6.99	-19.9	73.7	3.1
Site2	2014/03/07	12:00:40	7.41	235	156.000	0.153	0.11	117.4	14.1	7.01	-21.2	64.1	7.3
Site2	2014/03/07	12:30:40	7.62	223	149.000	0.145	0.11	116.9	13.97	7.02	-21.6	65.4	7.3
Site2	2014/03/07	13:00:40	7.5	192	128.000	0.125	0.09	117.1	14.04	7.01	-20.9	69.1	5.1
Site2	2014/03/07	13:30:40	7.43	186	124.000	0.121	0.09	117.3	14.08	6.99	-20	72.1	4.1
Site2	2014/03/07	14:00:40	7.43	187	124.000	0.122	0.09	117.4	14.1	6.98	-19.7	73.2	3.7
Site2	2014/03/07	18:00:40	7.22	194	128.000	0.126	0.09	115.3	13.92	6.97	-19.1	78	3
Site2	2014/03/07	18:30:40	7.18	194	128.000	0.126	0.09	115.4	13.94	6.98	-19.4	77.7	2.8
Site2	2014/03/07	19:00:40	7.15	195	128.000	0.127	0.09	115	13.91	6.98	-19.7	78.2	2.8
Site2	2014/03/07	19:30:40	7.12	196	129.000	0.127	0.09	115	13.92	6.98	-19.5	79.5	2.5
Site2	2014/03/07	20:00:40	7.09	196	129.000	0.127	0.09	115	13.92	6.98	-19.5	79.8	2.9
Site2	2014/03/07	20:30:40	7.07	197	129.000	0.128	0.09	114.9	13.92	6.97	-19	79	2.7
Site2	2014/03/07	21:00:40	7.06	197	130.000	0.128	0.09	114.9	13.92	6.96	-18.7	79.5	2.6
Site2	2014/03/07	21:30:40	7.05	192	126.000	0.125	0.09	114.8	13.91	6.97	-19	78.8	2.9
Site2	2014/03/07	22:00:40	7.07	193	127.000	0.126	0.09	114.6	13.88	6.98	-19.5	78.9	2.7
Site2	2014/03/07	22:30:40	7.06	192	126.000	0.125	0.09	114.7	13.9	6.98	-19.7	79.3	2.5
Site2	2014/03/07	23:00:40	7.04	192	126.000	0.125	0.09	114.6	13.9	6.98	-19.7	78.4	2.5
Site2	2014/03/07	23:30:40	6.99	192	126.000	0.125	0.09	114.5	13.89	6.98	-19.4	79	3.5
Site2	2014/03/08	00:00:40	6.96	193	126.000	0.125	0.09	114.5	13.91	6.97	-19.3	79.2	2.5
Site2	2014/03/08	00:30:40	6.95	194	127.000	0.126	0.09	114.4	13.91	6.97	-19.3	79	2.2
Site2	2014/03/08	01:00:40	6.93	198	130.000	0.129	0.09	113	13.73	6.87	-13.8	80.9	2.5
Site2	2014/03/08	01:30:40	6.89	201	132.000	0.131	0.1	114.3	13.91	6.96	-18.4	81.4	2.5
Site2	2014/03/08	02:00:40	6.88	203	133.000	0.132	0.1	114.1	13.89	6.95	-17.9	80.3	2.3
Site2	2014/03/08	02:30:40	6.89	206	135.000	0.134	0.1	114	13.87	6.96	-18.4	79.4	2.1
Site2	2014/03/08	03:00:40	6.87	203	133.000	0.132	0.1	114.1	13.89	6.96	-18.7	81.2	2.1
Site2	2014/03/08	03:30:40	6.87	204	133.000	0.132	0.1	114.1	13.89	6.96	-18.4	81.7	2
Site2	2014/03/08	04:00:40	6.87	204	134.000	0.133	0.1	113.9	13.87	6.95	-18.1	82.3	2.1
Site2	2014/03/08	04:30:40	6.86	205	134.000	0.133	0.1	113.9	13.87	6.96	-18.6	82.6	2
Site2	2014/03/08	05:00:40	6.85	205	134.000	0.133	0.1	114	13.88	6.96	-18.2	81.7	2
Site2	2014/03/08	05:30:40	6.85	205	134.000	0.133	0.1	114.2	13.91	6.97	-19	81.8	2
Site2	2014/03/08	06:00:40	6.84	206	135.000	0.134	0.1	113.8	13.87	6.96	-18.5	82.3	2.1



Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/08	06:30:40	6.84	206	134.000	0.134	0.1	114.2	13.91	6.99	-19.8	81.2	2.1
Site2	2014/03/08	07:00:40	6.85	207	135.000	0.134	0.1	114.2	13.91	7	-20.6	79.9	2.1
Site2	2014/03/08	07:30:40	6.86	207	135.000	0.134	0.1	114	13.88	6.99	-19.9	79.5	2
Site2	2014/03/08	08:00:40	6.88	208	136.000	0.135	0.1	113.8	13.84	6.98	-19.8	78.7	2.1
Site2	2014/03/08	08:30:40	6.91	207	135.000	0.135	0.1	114.4	13.92	7.01	-21.4	77.8	1.8
Site2	2014/03/08	09:00:40	6.94	211	138.000	0.137	0.1	114.1	13.86	6.99	-20.3	77.7	2.1
Site2	2014/03/08	09:30:40	6.97	212	139.000	0.138	0.1	114.1	13.85	6.95	-18.1	81.2	2.1
Site2	2014/03/08	10:00:40	7.01	210	138.000	0.137	0.1	114.2	13.85	6.98	-19.7	78.6	2
Site2	2014/03/08	10:30:40	7.05	210	138.000	0.137	0.1	114.5	13.88	7.01	-21.1	77.6	2
Site2	2014/03/08	11:00:40	7.29	292	194.000	0.19	0.14	114.7	13.81	7.04	-22.6	73.5	17.7
Site2	2014/03/08	11:30:40	7.81	209	141.000	0.136	0.1	114.9	13.66	7.04	-22.8	85.9	33.3
Site2	2014/03/08	12:00:40	7.97	133	90.000	0.087	0.06	114.9	13.61	7.03	-22	98.9	17
Site2	2014/03/08	12:30:40	8.18	108	73.000	0.07	0.05	114.9	13.54	7.02	-21.9	105.1	18.1
Site2	2014/03/08	13:00:40	8.25	103	70.000	0.067	0.05	114.7	13.5	6.98	-19.6	108.5	13
Site2	2014/03/08	13:30:40	8.42	89	61.000	0.058	0.04	114.9	13.47	6.99	-20.1	117.6	21.4
Site2	2014/03/08	14:00:40	8.42	82	56.000	0.053	0.04	115.1	13.49	6.99	-20.1	122.1	31
Site2	2014/03/08	14:30:40	8.37	85	58.000	0.055	0.04	114.9	13.48	6.93	-16.8	126.9	21.9
Site2	2014/03/08	15:00:40	8.31	81	55.000	0.053	0.04	115.2	13.54	6.94	-17.6	127.5	27.2
Site2	2014/03/08	15:30:40	8.23	92	62.000	0.06	0.04	114.8	13.52	6.96	-18.4	125.4	20.4
Site2	2014/03/08	16:00:40	8.23	90	61.000	0.059	0.04	115	13.55	6.95	-17.8	125.6	20.2
Site2	2014/03/08	16:30:40	8.17	89	60.000	0.058	0.04	114.9	13.55	6.93	-17.2	124.3	16
Site2	2014/03/08	17:00:40	8.11	88	59.000	0.057	0.04	115	13.58	6.94	-17.3	123.3	18
Site2	2014/03/08	17:30:40	8.09	81	55.000	0.053	0.04	115.1	13.6	6.94	-17.3	121.8	24.7
Site2	2014/03/08	18:00:40	8.01	85	57.000	0.055	0.04	115.1	13.63	6.93	-16.7	121.4	20.5
Site2	2014/03/08	18:30:40	7.93	77	52.000	0.05	0.04	115.3	13.68	6.88	-14.2	123.2	35.6
Site2	2014/03/08	19:00:40	7.85	77	52.000	0.05	0.04	115.4	13.71	6.86	-12.8	123.5	33.2
Site2	2014/03/08	19:30:40	7.79	74	50.000	0.048	0.03	115.5	13.75	6.85	-12.5	124.2	43.1
Site2	2014/03/08	20:00:40	7.71	71	48.000	0.046	0.03	115.7	13.8	6.84	-12.1	125.2	59.2
Site2	2014/03/08	20:30:40	7.66	73	49.000	0.048	0.03	115.6	13.81	6.82	-11.2	126.1	58.5
Site2	2014/03/08	21:00:40	7.64	81	54.000	0.053	0.04	115.7	13.82	6.83	-11.5	125.7	56
Site2	2014/03/08	21:30:40	7.56	85	57.000	0.055	0.04	115.7	13.85	6.87	-13.5	122.7	45.1
Site2	2014/03/08	22:00:40	7.48	92	61.000	0.06	0.04	115.6	13.86	6.86	-13.1	119.8	38.5
Site2	2014/03/08	22:30:40	7.44	94	62.000	0.061	0.04	115.6	13.88	6.88	-14.2	118.7	32.4
Site2	2014/03/08	23:00:40	7.45	101	67.000	0.066	0.05	115.6	13.87	6.9	-15.3	115.5	28.6
Site2	2014/03/08	23:30:40	7.45	95	63.000	0.062	0.04	115.7	13.88	6.89	-14.7	118.7	30.9
Site2	2014/03/09	00:00:40	7.42	106	70.000	0.069	0.05	115.5	13.87	6.88	-14.2	116.4	26.1
Site2	2014/03/09	00:30:40	7.37	120	79.000	0.078	0.06	115.4	13.88	6.9	-15.1	110.7	24.1
Site2	2014/03/09	01:00:40	7.33	129	85.000	0.084	0.06	115.4	13.89	6.9	-15.4	103.3	21.5
Site2	2014/03/09	01:30:40	7.31	134	89.000	0.087	0.06	115.4	13.89	6.91	-15.7	99.2	18.2
Site2	2014/03/09	02:00:40	7.28	138	91.000	0.09	0.07	115.4	13.91	6.92	-16.5	95.3	16.4
Site2	2014/03/09	02:30:40	7.26	141	93.000	0.092	0.07	115.4	13.91	6.92	-16.4	94.6	13.4
Site2	2014/03/09	03:00:40	7.22	144	95.000	0.093	0.07	115.4	13.93	6.92	-16.3	92.7	11.7
Site2	2014/03/09	03:30:40	7.17	145	96.000	0.095	0.07	115.5	13.95	6.92	-16.4	89.9	10.4
Site2	2014/03/09	04:00:40	7.12	146	96.000	0.095	0.07	115.6	13.98	6.92	-16.3	87.8	9.7
Site2	2014/03/09	04:30:40	7.07	146	96.000	0.095	0.07	115.6	14.01	6.92	-16.2	86.1	9
Site2	2014/03/09	05:00:40	7.04	147	97.000	0.096	0.07	115.7	14.02	6.92	-16.1	85.1	8.2
Site2	2014/03/09	05:30:40	7	152	99.000	0.099	0.07	115.6	14.03	6.91	-15.8	83.4	7.8
Site2	2014/03/09	06:00:40	6.96	152	100.000	0.099	0.07	115.6	14.05	6.91	-15.8	83.2	9
Site2	2014/03/09	06:30:40	6.93	153	100.000	0.099	0.07	115.7	14.06	6.91	-15.7	82.9	7.4
Site2	2014/03/09	07:00:40	6.9	153	100.000	0.1	0.07	115.7	14.08	6.91	-16	82.3	7.3
Site2	2014/03/09	07:30:40	6.9	154	101.000	0.1	0.07	115.9	14.1	6.92	-16.4	80.9	6.6

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/09	08:00:40	6.94	154	101.000	0.1	0.07	116.1	14.11	6.92	-16.1	80	6.5
Site2	2014/03/09	08:30:40	7	155	102.000	0.101	0.07	116.3	14.11	6.91	-16.1	78.9	5.8
Site2	2014/03/09	09:00:40	7.09	156	102.000	0.101	0.07	116.5	14.11	6.92	-16.5	75.9	5.5
Site2	2014/03/09	09:30:40	7.18	157	103.000	0.102	0.07	116.8	14.11	6.93	-16.8	76.1	5.8
Site2	2014/03/09	10:00:40	7.28	157	104.000	0.102	0.07	117.1	14.12	6.93	-17	74.5	5.3
Site2	2014/03/09	10:30:40	7.37	158	105.000	0.102	0.07	117.5	14.12	6.93	-17.1	72.9	4.7
Site2	2014/03/09	11:00:40	7.45	158	105.000	0.103	0.07	117.8	14.14	6.94	-17.6	72.9	4.7
Site2	2014/03/09	11:30:40	7.61	158	106.000	0.103	0.07	118.4	14.15	6.94	-17.5	69.6	4.6
Site2	2014/03/09	12:00:40	7.68	159	106.000	0.103	0.08	118.2	14.11	6.95	-17.7	75	5.1
Site2	2014/03/09	12:30:40	7.76	160	107.000	0.104	0.08	117.9	14.04	6.94	-17.5	64	4.6
Site2	2014/03/09	13:00:40	7.91	160	108.000	0.104	0.08	118.3	14.03	6.94	-17.5	74.9	4.6
Site2	2014/03/09	13:30:40	7.97	161	109.000	0.105	0.08	118.3	14.02	6.95	-17.8	72.1	4.3
Site2	2014/03/09	14:00:40	8.05	162	109.000	0.105	0.08	118.3	13.98	6.95	-17.8	72.9	4.4
Site2	2014/03/09	14:30:40	8.12	163	110.000	0.106	0.08	118.1	13.94	6.95	-17.8	73.5	4.3
Site2	2014/03/09	15:00:40	8.16	164	111.000	0.106	0.08	117.9	13.9	6.95	-18	75.7	4.8
Site2	2014/03/09	15:30:40	8.11	164	111.000	0.107	0.08	117.5	13.88	6.95	-17.8	78.4	4.4
Site2	2014/03/09	16:00:40	8.09	165	112.000	0.107	0.08	117.2	13.85	6.95	-17.7	79.3	4.4
Site2	2014/03/09	16:30:40	8.02	165	112.000	0.108	0.08	116.9	13.83	6.94	-17.6	80.5	3.9
Site2	2014/03/09	17:00:40	7.96	167	112.000	0.108	0.08	116.6	13.81	6.94	-17.4	81.5	3.6
Site2	2014/03/09	17:30:40	7.87	167	113.000	0.109	0.08	116.3	13.81	6.94	-17.6	83.3	3.9
Site2	2014/03/09	18:00:40	7.78	168	113.000	0.109	0.08	115.9	13.8	6.94	-17.2	84	3.4
Site2	2014/03/09	18:30:40	7.69	172	115.000	0.112	0.08	115.6	13.78	6.94	-17.6	83.6	4.1
Site2	2014/03/09	19:00:40	7.6	170	113.000	0.11	0.08	115.5	13.81	6.93	-16.7	83.6	3.2
Site2	2014/03/09	19:30:40	7.51	172	114.000	0.112	0.08	115.4	13.83	6.93	-17.1	84.7	3.2
Site2	2014/03/09	20:00:40	7.42	171	113.000	0.111	0.08	115.4	13.86	6.94	-17.4	86.1	3.1
Site2	2014/03/09	20:30:40	7.34	171	113.000	0.111	0.08	115.4	13.89	6.94	-17.6	85.4	3.1
Site2	2014/03/09	21:00:40	7.25	172	114.000	0.112	0.08	115.4	13.92	6.95	-17.7	87.3	3
Site2	2014/03/09	21:30:40	7.17	172	114.000	0.112	0.08	115.4	13.94	6.94	-17.6	87.8	3
Site2	2014/03/09	22:00:40	7.11	176	116.000	0.114	0.08	115.4	13.96	6.95	-18.1	87.3	3.3
Site2	2014/03/09	22:30:40	7.02	173	114.000	0.112	0.08	115.4	14	6.96	-18.2	87.7	3
Site2	2014/03/09	23:00:40	6.95	174	114.000	0.113	0.08	115.4	14.02	6.95	-17.9	89.2	2.9
Site2	2014/03/09	23:30:40	6.88	174	114.000	0.113	0.08	115.4	14.05	6.95	-18.1	89.4	2.8
Site2	2014/03/10	00:00:40	6.84	174	114.000	0.113	0.08	115.4	14.06	6.96	-18.6	89.9	2.8
Site2	2014/03/10	00:30:40	6.81	175	114.000	0.113	0.08	115.4	14.07	6.96	-18.7	90.8	2.8
Site2	2014/03/10	01:00:40	6.78	175	114.000	0.114	0.08	115.4	14.07	6.97	-19	90.3	2.9
Site2	2014/03/10	01:30:40	6.78	175	114.000	0.114	0.08	115.5	14.09	6.97	-18.9	91.4	2.7
Site2	2014/03/10	02:00:40	6.75	177	116.000	0.115	0.08	115.4	14.09	6.98	-19.7	91.9	2.6
Site2	2014/03/10	02:30:40	6.71	176	115.000	0.115	0.08	115.4	14.11	6.97	-19.2	93.1	2.6
Site2	2014/03/10	03:00:40	6.7	177	115.000	0.115	0.08	115.4	14.11	6.98	-19.3	93.1	2.6
Site2	2014/03/10	03:30:40	6.69	177	115.000	0.115	0.08	115.4	14.11	6.97	-18.9	93.8	2.5
Site2	2014/03/10	04:00:40	6.67	177	115.000	0.115	0.08	115.5	14.13	6.97	-18.9	94.2	2.5
Site2	2014/03/10	04:30:40	6.68	178	116.000	0.116	0.08	115.5	14.13	6.97	-18.9	93.2	2.5
Site2	2014/03/10	05:00:40	6.66	178	116.000	0.116	0.08	115.5	14.14	6.97	-18.9	93.9	2.5
Site2	2014/03/10	05:30:40	6.64	179	116.000	0.116	0.08	115.6	14.15	6.96	-18.6	93.5	2.5
Site2	2014/03/10	06:00:40	6.62	180	117.000	0.117	0.09	115.5	14.15	6.98	-19.6	90.9	2.5
Site2	2014/03/10	06:30:40	6.57	180	116.000	0.117	0.09	115.6	14.17	6.97	-19	92.2	2.3
Site2	2014/03/10	07:00:40	6.56	184	119.000	0.12	0.09	115.4	14.16	6.94	-17.5	92.8	2.5
Site2	2014/03/10	07:30:40	6.55	187	121.000	0.121	0.09	115.6	14.19	6.93	-16.8	91.4	2.6
Site2	2014/03/10	08:00:40	6.56	182	118.000	0.118	0.09	116	14.23	6.94	-17.6	90.7	2.3
Site2	2014/03/10	08:30:40	6.57	182	118.000	0.118	0.09	116.4	14.27	6.96	-18.5	89.7	2.4
Site2	2014/03/10	09:00:40	6.64	182	118.000	0.118	0.09	117	14.32	6.98	-19.3	84.9	3.7

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/10	09:30:40	6.73	183	119.000	0.119	0.09	117.9	14.4	6.98	-19.7	78.2	3.3
Site2	2014/03/10	10:00:40	6.81	175	114.000	0.114	0.08	118.2	14.41	7.02	-21.7	81.8	2.9
Site2	2014/03/10	10:30:40	7.04	170	112.000	0.111	0.08	118.5	14.37	7.02	-21.9	64	11.5
Site2	2014/03/10	11:00:40	7.34	170	113.000	0.111	0.08	119.5	14.38	7.03	-22	80.9	2.9
Site2	2014/03/10	11:30:40	7.57	171	114.000	0.111	0.08	119.5	14.3	7.03	-22.1	82.2	2.6
Site2	2014/03/10	12:00:40	7.8	173	116.000	0.112	0.08	118.6	14.11	6.95	-18.2	69.1	3
Site2	2014/03/10	12:30:40	7.9	183	123.000	0.119	0.09	120.6	14.31	7.02	-21.8	70.4	2.8
Site2	2014/03/10	13:00:40	8.02	184	125.000	0.12	0.09	120	14.2	7.01	-21.2	71.2	2.6
Site2	2014/03/10	13:30:40	8.13	184	125.000	0.12	0.09	119.1	14.05	7.02	-21.6	86.1	4.2
Site2	2014/03/10	14:00:40	8.29	185	126.000	0.12	0.09	118.2	13.89	7.02	-21.6	84.2	3.4
Site2	2014/03/10	14:30:40	8.4	190	130.000	0.124	0.09	117.6	13.79	7.02	-21.7	83.4	2.8
Site2	2014/03/10	15:00:40	8.39	186	127.000	0.121	0.09	117.3	13.75	7.02	-21.8	84.4	2.8
Site2	2014/03/10	15:30:40	8.33	187	127.000	0.122	0.09	116.9	13.73	7.02	-21.7	89.2	2.4
Site2	2014/03/10	16:00:40	8.23	188	128.000	0.122	0.09	116.7	13.74	7.02	-22	88.8	2.4
Site2	2014/03/10	16:30:40	8.1	189	128.000	0.123	0.09	116.5	13.75	7.02	-21.9	87.4	2.6
Site2	2014/03/10	17:00:40	7.98	189	128.000	0.123	0.09	116.4	13.78	7.02	-21.7	88.1	2.8
Site2	2014/03/10	17:30:40	7.85	190	127.000	0.123	0.09	116.2	13.81	7.02	-21.7	88.4	3.4
Site2	2014/03/10	18:00:40	7.7	189	127.000	0.123	0.09	116.2	13.86	7.03	-22.1	87.5	2.7
Site2	2014/03/10	18:30:40	7.58	190	127.000	0.124	0.09	116.2	13.9	7.03	-22	87.5	2.5
Site2	2014/03/10	19:00:40	7.48	191	127.000	0.124	0.09	116.2	13.93	7.02	-21.9	87.8	2.2
Site2	2014/03/10	19:30:40	7.39	193	128.000	0.126	0.09	116.2	13.97	7.03	-22.5	86.9	2.2
Site2	2014/03/10	20:00:40	7.27	194	128.000	0.126	0.09	116.3	14.01	7.02	-21.7	89.2	2.1
Site2	2014/03/10	20:30:40	7.18	192	126.000	0.125	0.09	116.4	14.06	7.02	-21.9	89.7	2.1
Site2	2014/03/10	21:00:40	7.09	192	127.000	0.125	0.09	116.5	14.11	7.02	-21.8	90.6	2.9
Site2	2014/03/10	21:30:40	6.99	192	126.000	0.125	0.09	116.7	14.16	7.02	-21.9	91.9	2.1
Site2	2014/03/10	22:00:40	6.91	193	126.000	0.125	0.09	116.9	14.21	7.03	-22	91.9	2
Site2	2014/03/10	22:30:40	6.83	193	126.000	0.125	0.09	116.9	14.25	7.02	-21.9	92.9	2
Site2	2014/03/10	23:00:40	6.76	193	126.000	0.126	0.09	117	14.28	7.03	-22.1	92.7	2
Site2	2014/03/10	23:30:40	6.69	193	126.000	0.126	0.09	117.1	14.32	7.03	-22	92	2
Site2	2014/03/11	00:00:40	6.63	194	126.000	0.126	0.09	117.2	14.35	7.02	-22	93.6	2
Site2	2014/03/11	00:30:40	6.58	195	126.000	0.127	0.09	117.3	14.38	7.03	-22	93.2	1.9
Site2	2014/03/11	01:00:40	6.54	195	126.000	0.127	0.09	117.4	14.41	7.04	-22.6	91.3	1.9
Site2	2014/03/11	01:30:40	6.5	194	126.000	0.126	0.09	117.5	14.43	7.04	-22.5	91.3	1.9
Site2	2014/03/11	02:00:40	6.51	195	126.000	0.127	0.09	117.5	14.44	7.03	-22.5	91.4	2
Site2	2014/03/11	02:30:40	6.48	195	126.000	0.127	0.09	117.6	14.46	7.04	-22.5	91.2	1.9
Site2	2014/03/11	03:00:40	6.43	195	126.000	0.127	0.09	117.6	14.48	7.04	-22.6	91.4	1.8
Site2	2014/03/11	03:30:40	6.42	196	126.000	0.127	0.09	117.7	14.49	7.03	-22.3	92.5	1.8
Site2	2014/03/11	04:00:40	6.46	196	127.000	0.128	0.09	117.8	14.48	7.03	-22.2	91.8	1.8
Site2	2014/03/11	04:30:40	6.46	196	127.000	0.128	0.09	117.8	14.48	7.03	-22.4	93	1.9
Site2	2014/03/11	05:00:40	6.47	196	127.000	0.128	0.09	117.7	14.48	7.04	-22.6	93.9	1.8
Site2	2014/03/11	05:30:40	6.44	197	127.000	0.128	0.09	117.7	14.49	7.03	-22.2	95.9	1.8
Site2	2014/03/11	06:00:40	6.42	197	127.000	0.128	0.09	117.8	14.5	7.03	-22.5	94.5	2
Site2	2014/03/11	06:30:40	6.4	202	130.000	0.132	0.1	117.6	14.49	7.03	-22.2	95.9	2
Site2	2014/03/11	07:00:40	6.38	198	128.000	0.129	0.09	118	14.54	7.03	-22.4	94.8	1.9
Site2	2014/03/11	07:30:40	6.42	199	128.000	0.129	0.09	118	14.52	7.03	-22.4	95.2	1.9
Site2	2014/03/11	08:00:40	6.49	198	128.000	0.129	0.09	118.3	14.54	7.04	-22.7	90.1	1.8
Site2	2014/03/11	08:30:40	6.6	199	129.000	0.129	0.09	118.5	14.53	7.05	-23.2	87.6	2.1
Site2	2014/03/11	09:00:40	6.73	199	129.000	0.129	0.09	118.8	14.5	7.06	-24.1	84.9	5.1
Site2	2014/03/11	09:30:40	6.86	200	131.000	0.13	0.1	118.9	14.48	7.07	-24.2	84.5	4.4
Site2	2014/03/11	10:00:40	7	200	131.000	0.13	0.09	118.9	14.42	7.07	-24.4	83.6	3.3
Site2	2014/03/11	10:30:40	7.17	200	132.000	0.13	0.1	119	14.38	7.08	-24.8	77.9	2.7

## Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/11	11:00:40	7.36	200	132.000	0.13	0.09	120	14.43	7.08	-24.8	80	2.4
Site2	2014/03/11	11:30:40	7.54	201	134.000	0.131	0.1	120.6	14.44	7.08	-25	85	2.4
Site2	2014/03/11	12:00:40	7.77	201	135.000	0.131	0.1	120.5	14.34	7.09	-25.3	74.2	7
Site2	2014/03/11	12:30:40	7.96	204	137.000	0.132	0.1	120.6	14.3	7.1	-25.9	67	10.6
Site2	2014/03/11	13:00:40	8.05	203	137.000	0.132	0.1	120.2	14.21	7.1	-26.1	75	13.5
Site2	2014/03/11	13:30:40	8.16	203	138.000	0.132	0.1	119.2	14.05	7.1	-26.1	92.4	7.9
Site2	2014/03/11	14:00:40	8.3	203	138.000	0.132	0.1	118.8	13.96	7.1	-25.9	87.1	3.3
Site2	2014/03/11	14:30:40	8.39	203	138.000	0.132	0.1	118.3	13.87	7.09	-25.4	86.7	2.6
Site2	2014/03/11	15:00:40	8.48	203	139.000	0.132	0.1	118	13.8	7.09	-25.6	87	2.3
Site2	2014/03/11	15:30:40	8.4	204	139.000	0.132	0.1	117.7	13.8	7.08	-25.1	86.5	2.7
Site2	2014/03/11	16:00:40	8.31	205	140.000	0.133	0.1	117.5	13.81	7.08	-25.1	88.8	2.5
Site2	2014/03/11	16:30:40	8.2	206	140.000	0.134	0.1	117.2	13.81	7.07	-24.6	88.5	2.3
Site2	2014/03/11	17:00:40	8.09	207	140.000	0.134	0.1	116.9	13.81	7.07	-24.4	88	2.3
Site2	2014/03/11	17:30:40	7.97	210	141.000	0.136	0.1	116.9	13.85	7.07	-24.2	90.3	2.3
Site2	2014/03/11	18:00:40	7.87	204	137.000	0.133	0.1	116.7	13.86	7.07	-24.7	90.4	3.2
Site2	2014/03/11	18:30:40	7.74	208	139.000	0.135	0.1	116.6	13.88	7.07	-24.6	87.1	2.3
Site2	2014/03/11	19:00:40	7.61	207	139.000	0.135	0.1	116.7	13.94	7.06	-23.9	87.6	2
Site2	2014/03/11	19:30:40	7.49	209	139.000	0.136	0.1	116.7	13.99	7.07	-24.2	86.9	2
Site2	2014/03/11	20:00:40	7.37	209	139.000	0.136	0.1	116.7	14.03	7.06	-24	84	2
Site2	2014/03/11	20:30:40	7.27	209	138.000	0.136	0.1	116.7	14.07	7.06	-23.6	86.2	2
Site2	2014/03/11	21:00:40	7.17	210	139.000	0.137	0.1	116.8	14.11	7.06	-23.9	83.6	1.8
Site2	2014/03/11	21:30:40	7.08	210	138.000	0.137	0.1	116.9	14.16	7.06	-23.7	83.1	1.9
Site2	2014/03/11	22:00:40	6.99	211	138.000	0.137	0.1	117	14.19	7.06	-23.7	83.4	1.9
Site2	2014/03/11	22:30:40	6.91	211	138.000	0.137	0.1	117.1	14.23	7.05	-23.4	81.9	1.9
Site2	2014/03/11	23:00:40	6.84	211	138.000	0.137	0.1	117.1	14.26	7.05	-23.5	82.8	1.9
Site2	2014/03/11	23:30:40	6.77	211	138.000	0.137	0.1	117.2	14.3	7.06	-23.7	82.3	1.8
Site2	2014/03/12	00:00:40	6.71	215	140.000	0.14	0.1	117.2	14.32	7.07	-24.2	80.1	1.8
Site2	2014/03/12	00:30:40	6.63	212	138.000	0.138	0.1	117.2	14.36	7.06	-23.6	80.4	1.8
Site2	2014/03/12	01:00:40	6.56	212	138.000	0.138	0.1	117.3	14.39	7.05	-23.1	80.4	1.8
Site2	2014/03/12	01:30:40	6.5	213	137.000	0.138	0.1	117.4	14.42	7.05	-23.3	79.4	1.8
Site2	2014/03/12	02:00:40	6.45	213	137.000	0.138	0.1	117.4	14.44	7.05	-23.1	79.3	2
Site2	2014/03/12	02:30:40	6.39	213	137.000	0.138	0.1	117.4	14.46	7.05	-23.1	78.9	1.8
Site2	2014/03/12	03:00:40	6.33	214	137.000	0.139	0.1	117.4	14.48	7.05	-23.2	80	1.8
Site2	2014/03/12	03:30:40	6.3	214	138.000	0.139	0.1	117.4	14.49	7.05	-23.5	78.8	1.8
Site2	2014/03/12	04:00:40	6.27	214	138.000	0.139	0.1	117.4	14.5	7.06	-23.6	79	1.7
Site2	2014/03/12	04:30:40	6.23	214	137.000	0.139	0.1	117.4	14.53	7.05	-23.4	78	1.8
Site2	2014/03/12	05:00:40	6.19	216	138.000	0.14	0.1	117.5	14.54	7.06	-23.7	79	1.7
Site2	2014/03/12	05:30:40	6.18	218	140.000	0.142	0.1	117.4	14.54	7.06	-24	78.2	1.7
Site2	2014/03/12	06:00:40	6.13	215	138.000	0.14	0.1	117.5	14.57	7.06	-23.7	78.3	1.8
Site2	2014/03/12	06:30:40	6.09	215	137.000	0.14	0.1	117.4	14.58	7.05	-23.4	78.5	1.8
Site2	2014/03/12	07:00:40	6.06	216	138.000	0.14	0.1	117.5	14.59	7.05	-23.3	77.7	1.8
Site2	2014/03/12	07:30:40	6.08	216	138.000	0.141	0.1	117.6	14.6	7.05	-23.5	77.8	3.6
Site2	2014/03/12	08:00:40	6.13	216	138.000	0.141	0.1	117.8	14.6	7.05	-23.3	78.9	1.9
Site2	2014/03/12	08:30:40	6.2	216	139.000	0.141	0.1	117.9	14.6	7.05	-23.4	79.8	2.8
Site2	2014/03/12	09:00:40	6.32	217	139.000	0.141	0.1	118.3	14.59	7.06	-23.7	75.3	2.8
Site2	2014/03/12	09:30:40	6.5	217	140.000	0.141	0.1	118.7	14.58	7.07	-24.4	75	2
Site2	2014/03/12	10:00:40	6.65	243	158.000	0.158	0.12	118.4	14.49	7.07	-24.5	78.2	2.4
Site2	2014/03/12	10:30:40	6.84	222	145.000	0.145	0.11	118.5	14.43	7.09	-25.5	67.2	2.2
Site2	2014/03/12	11:00:40	7.07	215	141.000	0.139	0.1	119.5	14.47	7.08	-25.1	71.9	1.8
Site2	2014/03/12	11:30:40	7.33	212	141.000	0.138	0.1	119.9	14.43	7.08	-25.1	79.1	2
Site2	2014/03/12	12:00:40	7.59	214	143.000	0.139	0.1	119.6	14.3	7.07	-24.4	72	2.2

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/12	12:30:40	7.76	216	145.000	0.14	0.1	119.1	14.18	7.07	-24.5	72.8	2.3
Site2	2014/03/12	13:00:40	7.97	217	147.000	0.141	0.1	118.5	14.04	7.09	-25.3	75	2
Site2	2014/03/12	13:30:40	8.11	219	148.000	0.142	0.1	118	13.93	7.09	-25.3	82.6	2
Site2	2014/03/12	14:00:40	8.22	220	149.000	0.143	0.1	117.5	13.84	7.1	-26.1	81.6	1.9
Site2	2014/03/12	14:30:40	8.35	221	151.000	0.144	0.11	117.1	13.74	7.11	-26.4	82.5	3.5
Site2	2014/03/12	15:00:40	8.44	226	154.000	0.147	0.11	116.6	13.65	7.11	-26.4	82.6	2.3
Site2	2014/03/12	15:30:40	8.41	224	153.000	0.145	0.11	116.3	13.63	7.12	-26.9	82.3	2.1
Site2	2014/03/12	16:00:40	8.36	223	152.000	0.145	0.11	116.1	13.62	7.11	-26.6	83.3	2.3
Site2	2014/03/12	16:30:40	8.25	224	152.000	0.146	0.11	115.7	13.61	7.1	-26.1	84.1	2.1
Site2	2014/03/12	17:00:40	8.12	224	152.000	0.146	0.11	115.5	13.63	7.09	-25.3	85.3	2.1
Site2	2014/03/12	17:30:40	8.03	223	151.000	0.145	0.11	115	13.61	7.09	-25.4	88.4	2.2
Site2	2014/03/12	18:00:40	7.92	225	152.000	0.146	0.11	115.1	13.65	7.1	-25.8	87.7	2.2
Site2	2014/03/12	18:30:40	7.83	227	153.000	0.148	0.11	115.2	13.69	7.1	-26	87.5	2
Site2	2014/03/12	19:00:40	7.74	230	154.000	0.149	0.11	115	13.7	7.09	-25.5	88.4	2.2
Site2	2014/03/12	19:30:40	7.69	226	151.000	0.147	0.11	115	13.72	7.09	-25.2	89.5	2.1
Site2	2014/03/12	20:00:40	7.65	228	153.000	0.148	0.11	115	13.72	7.1	-25.8	90	2.1
Site2	2014/03/12	20:30:40	7.6	227	152.000	0.148	0.11	115	13.75	7.08	-25	90.3	2.1
Site2	2014/03/12	21:00:40	7.55	228	152.000	0.148	0.11	115.1	13.77	7.08	-24.8	91.5	2
Site2	2014/03/12	21:30:40	7.52	227	151.000	0.148	0.11	115.2	13.8	7.08	-25	91.4	2.1
Site2	2014/03/12	22:00:40	7.52	204	136.000	0.133	0.1	115.8	13.87	7.11	-26.7	90.7	5.2
Site2	2014/03/12	22:30:40	7.58	196	130.000	0.127	0.09	115.8	13.85	7.13	-27.4	94.7	3.5
Site2	2014/03/12	23:00:40	7.58	201	134.000	0.131	0.1	115.2	13.78	7.11	-26.4	95.5	3.1
Site2	2014/03/12	23:30:40	7.47	224	149.000	0.146	0.11	115.5	13.85	7.1	-26.1	93.2	2.2
Site2	2014/03/13	00:00:40	7.42	227	151.000	0.148	0.11	115.6	13.88	7.1	-26.2	90.4	2
Site2	2014/03/13	00:30:40	7.4	232	154.000	0.151	0.11	115.6	13.89	7.1	-25.8	89.9	2
Site2	2014/03/13	01:00:40	7.35	230	153.000	0.15	0.11	115.6	13.91	7.11	-26.7	87	2
Site2	2014/03/13	01:30:40	7.3	229	152.000	0.149	0.11	115.7	13.93	7.11	-26.4	88.1	2
Site2	2014/03/13	02:00:40	7.18	229	151.000	0.149	0.11	115.7	13.97	7.11	-26.3	88	2.1
Site2	2014/03/13	02:30:40	7.11	230	151.000	0.149	0.11	115.7	14	7.11	-26.4	88.7	2
Site2	2014/03/13	03:00:40	7.02	230	151.000	0.15	0.11	115.8	14.04	7.11	-26.3	90.1	2
Site2	2014/03/13	03:30:40	6.93	230	151.000	0.15	0.11	115.9	14.08	7.11	-26.4	90.4	2
Site2	2014/03/13	04:00:40	6.85	230	151.000	0.15	0.11	116	14.12	7.11	-26.3	91.1	2.1
Site2	2014/03/13	04:30:40	6.82	231	151.000	0.15	0.11	116.1	14.15	7.1	-26.2	91.7	2
Site2	2014/03/13	05:00:40	6.84	231	151.000	0.15	0.11	116.1	14.15	7.11	-26.2	92	2
Site2	2014/03/13	05:30:40	6.86	237	155.000	0.154	0.11	116.1	14.14	7.11	-26.5	92.7	2
Site2	2014/03/13	06:00:40	6.87	232	152.000	0.151	0.11	116.1	14.14	7.11	-26.6	92	2.1
Site2	2014/03/13	06:30:40	6.87	232	152.000	0.151	0.11	116.2	14.14	7.11	-26.6	92.5	2.1
Site2	2014/03/13	07:00:40	6.88	233	152.000	0.151	0.11	116.3	14.15	7.12	-26.9	92.3	2.1
Site2	2014/03/13	07:30:40	6.93	233	153.000	0.151	0.11	116.3	14.14	7.12	-27.1	91.9	2.1
Site2	2014/03/13	08:00:40	6.97	232	152.000	0.151	0.11	116.4	14.13	7.12	-27	91.5	2.1
Site2	2014/03/13	08:30:40	7.02	232	152.000	0.151	0.11	116.5	14.13	7.12	-27	90.9	2
Site2	2014/03/13	09:00:40	7.12	235	155.000	0.153	0.11	116.8	14.13	7.13	-27.4	87.2	2.1
Site2	2014/03/13	09:30:40	7.23	233	154.000	0.151	0.11	117	14.11	7.13	-27.8	87.3	2
Site2	2014/03/13	10:00:40	7.24	233	154.000	0.151	0.11	116.9	14.1	7.11	-26.8	84.8	2.1
Site2	2014/03/13	10:30:40	7.41	236	157.000	0.153	0.11	117	14.05	7.1	-25.9	77.9	2.1
Site2	2014/03/13	11:00:40	7.62	236	157.000	0.153	0.11	117.9	14.09	7.13	-27.4	82.3	2
Site2	2014/03/13	11:30:40	7.82	234	157.000	0.152	0.11	118.5	14.09	7.13	-27.6	89.6	2
Site2	2014/03/13	12:00:40	8.02	234	158.000	0.152	0.11	118.6	14.03	7.13	-27.7	79.3	2
Site2	2014/03/13	12:30:40	8.22	234	159.000	0.152	0.11	118.4	13.93	7.15	-28.5	77	2
Site2	2014/03/13	13:00:40	8.35	233	159.000	0.151	0.11	117.8	13.82	7.14	-28.4	81.4	2.1
Site2	2014/03/13	13:30:40	8.44	234	160.000	0.152	0.11	117.3	13.73	7.15	-28.6	88.1	2.2

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/13	14:00:40	8.53	235	161.000	0.153	0.11	116.9	13.66	7.16	-29.1	87	2.2
Site2	2014/03/13	14:30:40	8.59	235	162.000	0.153	0.11	116.5	13.59	7.15	-29	89.5	6.6
Site2	2014/03/13	15:00:40	8.6	236	162.000	0.153	0.11	116.4	13.58	7.16	-29.1	88.3	3.4
Site2	2014/03/13	15:30:40	8.6	242	166.000	0.157	0.12	115.8	13.51	7.16	-29.1	93	2.3
Site2	2014/03/13	16:00:40	8.52	238	163.000	0.155	0.11	115.7	13.52	7.16	-29.2	93.1	2.2
Site2	2014/03/13	16:30:40	8.45	237	162.000	0.154	0.11	115.4	13.51	7.15	-28.8	94.4	2.3
Site2	2014/03/13	17:00:40	8.37	237	162.000	0.154	0.11	115.3	13.52	7.14	-28.4	95.9	2.3
Site2	2014/03/13	17:30:40	8.29	238	162.000	0.155	0.11	115	13.52	7.14	-28.1	98.3	2.6
Site2	2014/03/13	18:00:40	8.18	239	162.000	0.155	0.11	114.9	13.54	7.14	-28.4	98.4	2.3
Site2	2014/03/13	18:30:40	8.06	239	162.000	0.155	0.11	114.7	13.55	7.14	-28.4	98.5	2.3
Site2	2014/03/13	19:00:40	7.99	240	162.000	0.156	0.11	114.6	13.57	7.14	-28	99	2.6
Site2	2014/03/13	19:30:40	7.95	240	162.000	0.156	0.11	114.6	13.58	7.13	-27.8	99.7	2.6
Site2	2014/03/13	20:00:40	7.9	241	162.000	0.157	0.11	114.7	13.6	7.14	-28.1	100	2.5
Site2	2014/03/13	20:30:40	7.87	247	166.000	0.161	0.12	114.7	13.62	7.14	-28.4	100.4	2.5
Site2	2014/03/13	21:00:40	7.83	242	163.000	0.157	0.12	114.7	13.63	7.14	-28.3	100.3	2.6
Site2	2014/03/13	21:30:40	7.8	241	162.000	0.157	0.12	114.7	13.64	7.14	-28.1	101.6	2.5
Site2	2014/03/13	22:00:40	7.77	241	162.000	0.156	0.11	114.7	13.66	7.14	-28.3	102.7	2.6
Site2	2014/03/13	22:30:40	7.78	255	171.000	0.166	0.12	114.8	13.66	7.17	-29.8	105.2	8.1
Site2	2014/03/13	23:00:40	8.21	1027	697.000	0.667	0.51	113.9	13.38	7.16	-29.2	108.1	15.5
Site2	2014/03/13	23:30:40	8.22	532	362.000	0.346	0.26	114	13.41	7.14	-28.1	109.5	10.1
Site2	2014/03/14	00:00:40	8.35	258	176.000	0.167	0.12	115.9	13.6	7.1	-25.8	112.6	23.4
Site2	2014/03/14	00:30:40	8.23	167	113.000	0.108	0.08	116.2	13.68	7.03	-22.4	120.2	10.4
Site2	2014/03/14	01:00:40	8.19	139	94.000	0.09	0.07	116.6	13.74	7.05	-23.3	122.6	8
Site2	2014/03/14	01:30:40	8.15	123	83.000	0.08	0.06	117.3	13.83	7.02	-21.5	124.3	13.2
Site2	2014/03/14	02:00:40	8.1	105	71.000	0.068	0.05	117.7	13.9	7.01	-21.4	126.6	21.1
Site2	2014/03/14	02:30:40	8.01	90	61.000	0.059	0.04	117.8	13.94	6.94	-17.6	132.2	16.7
Site2	2014/03/14	03:00:40	8.01	73	49.000	0.047	0.03	118.1	13.98	6.94	-17.5	135.3	26.3
Site2	2014/03/14	03:30:40	7.98	73	49.000	0.047	0.03	117.9	13.97	6.89	-14.7	139.6	19
Site2	2014/03/14	04:00:40	8	66	44.000	0.043	0.03	118.5	14.04	6.89	-14.6	141.2	34.3
Site2	2014/03/14	04:30:40	8.01	64	43.000	0.042	0.03	118.6	14.04	6.89	-15	140.9	31
Site2	2014/03/14	05:00:40	7.99	80	54.000	0.052	0.04	117.9	13.96	6.88	-14.2	142.2	22.9
Site2	2014/03/14	05:30:40	8.06	87	59.000	0.057	0.04	118	13.95	6.95	-17.9	139.6	20.2
Site2	2014/03/14	06:00:40	8.05	59	40.000	0.039	0.03	118.6	14.03	6.85	-12.8	142.4	34.3
Site2	2014/03/14	06:30:40	7.96	82	55.000	0.053	0.04	117.8	13.96	6.88	-14.1	142.9	40.7
Site2	2014/03/14	07:00:40	7.92	117	79.000	0.076	0.05	117.6	13.96	6.94	-17.2	137.3	20.2
Site2	2014/03/14	07:30:40	7.91	133	89.000	0.086	0.06	117.3	13.91	6.96	-18.4	131.3	15.7
Site2	2014/03/14	08:00:40	7.93	144	97.000	0.094	0.07	116.9	13.87	6.96	-18.6	128.8	13.4
Site2	2014/03/14	08:30:40	7.95	154	104	0.1	0.07	116.1	13.76	6.98	-19.5	128.1	12.6
Site2	2014/03/14	09:00:40	8.01	162	109	0.105	0.08	116.8	13.82	7	-20.4	119	11
Site2	2014/03/14	09:30:40	8.05	169	114	0.11	0.08	117	13.83	7.01	-21.3	115.7	9.6
Site2	2014/03/14	10:00:40	8.18	173	118	0.113	0.08	117.5	13.84	7.03	-22.5	110.5	8.9
Site2	2014/03/14	10:30:40	8.34	176	120	0.115	0.08	117.4	13.78	7.04	-22.8	117.3	7
Site2	2014/03/14	11:00:40	8.63	179	123	0.116	0.08	118.3	13.79	7.05	-23.5	97.4	6.4
Site2	2014/03/14	11:30:40	8.71	182	126	0.118	0.09	118.3	13.77	7.06	-23.7	111.4	6.5
Site2	2014/03/14	12:00:40	8.86	182	126	0.118	0.09	118.7	13.76	7.06	-24	97.6	6.9
Site2	2014/03/14	12:30:40	8.85	185	128	0.12	0.09	118	13.68	7.06	-23.8	120.5	5
Site2	2014/03/14	13:00:40	8.77	187	129	0.121	0.09	116.9	13.58	7.05	-23.1	129	4.4
Site2	2014/03/14	13:30:40	8.7	195	135	0.127	0.09	117.5	13.67	7.05	-23.6	118.3	3.7
Site2	2014/03/14	14:00:40	9.11	227	158	0.147	0.11	116.8	13.45	7.06	-24	110.7	7.6
Site2	2014/03/14	14:30:40	9.19	218	152	0.142	0.1	116.5	13.4	7.04	-22.7	112.7	5.4
Site2	2014/03/14	15:00:40	9.27	207	145	0.135	0.1	116.4	13.36	7.04	-22.9	120.4	4

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/14	15:30:40	9.16	199	138	0.129	0.09	116.4	13.4	7.05	-23.1	121.8	7.2
Site2	2014/03/14	16:00:40	9.14	198	138	0.128	0.09	116.4	13.4	7.06	-23.8	125.9	6.4
Site2	2014/03/14	16:30:40	9	198	138	0.129	0.09	116.2	13.43	7.06	-23.6	127.7	6.2
Site2	2014/03/14	17:00:40	8.89	200	138	0.13	0.1	116.1	13.45	7.05	-23.3	132.9	6.3
Site2	2014/03/14	17:30:40	8.73	201	138	0.131	0.1	116	13.49	7.04	-22.9	135.3	2.9
Site2	2014/03/14	18:00:40	8.62	203	139	0.132	0.1	116	13.52	7.04	-22.6	137.4	2.6
Site2	2014/03/14	18:30:40	8.53	204	140	0.132	0.1	116	13.55	7.04	-22.8	138.6	2.5
Site2	2014/03/14	19:00:40	8.44	205	140	0.133	0.1	116.1	13.59	7.04	-22.8	139.7	2.3
Site2	2014/03/14	19:30:40	8.38	206	141	0.134	0.1	116.1	13.62	7.04	-23.1	140.7	2.4
Site2	2014/03/14	20:00:40	8.31	205	140	0.133	0.1	116.3	13.66	7.05	-23.3	141.7	5.7
Site2	2014/03/14	20:30:40	8.4	230	157	0.15	0.11	116.1	13.61	7.08	-25.1	142.5	11.4
Site2	2014/03/14	21:00:40	8.26	216	147	0.14	0.1	115.6	13.59	7.04	-23	144	8.5
Site2	2014/03/14	21:30:40	8.07	208	141	0.135	0.1	115.9	13.7	7.03	-22.2	144.9	5.7
Site2	2014/03/14	22:00:40	7.92	207	140	0.135	0.1	116.3	13.8	7.02	-21.8	146.6	3.6
Site2	2014/03/14	22:30:40	7.82	205	137	0.133	0.1	116.6	13.86	7.03	-22.1	148.9	2.6
Site2	2014/03/14	23:00:40	7.72	203	136	0.132	0.1	116.7	13.91	7.03	-22.3	149.7	2.5
Site2	2014/03/14	23:30:40	7.63	205	137	0.133	0.1	116.7	13.95	7.04	-22.6	150.1	2.3
Site2	2014/03/15	00:00:40	7.57	204	136	0.132	0.1	117	14	7.04	-23.1	150.7	2.3
Site2	2014/03/15	00:30:40	7.53	203	135	0.132	0.1	117.2	14.03	7.05	-23.1	151.3	2.1
Site2	2014/03/15	01:00:40	7.49	203	135	0.132	0.1	117.3	14.06	7.05	-23.1	152.8	2.1
Site2	2014/03/15	01:30:40	7.45	203	135	0.132	0.1	117.3	14.07	7.05	-23.4	154.2	2.2
Site2	2014/03/15	02:00:40	7.43	204	136	0.133	0.1	117.4	14.09	7.06	-23.7	154.5	2.1
Site2	2014/03/15	02:30:40	7.43	204	135	0.132	0.1	117.3	14.08	7.06	-23.8	154.4	2
Site2	2014/03/15	03:00:40	7.42	204	135	0.132	0.1	117.4	14.09	7.06	-23.7	156.2	2.1
Site2	2014/03/15	03:30:40	7.41	204	135	0.132	0.1	117.4	14.1	7.06	-23.6	156.9	2.1
Site2	2014/03/15	04:00:40	7.41	203	135	0.132	0.1	117.5	14.11	7.06	-23.8	157.9	2
Site2	2014/03/15	04:30:40	7.47	193	128	0.126	0.09	117.5	14.09	7.08	-24.9	157.7	3.1
Site2	2014/03/15	05:00:40	7.54	197	131	0.128	0.09	117.3	14.05	7.09	-25.3	158.9	2.5
Site2	2014/03/15	05:30:40	7.51	192	128	0.125	0.09	117.4	14.07	7.08	-25.1	159.7	2.4
Site2	2014/03/15	06:00:40	7.49	194	129	0.126	0.09	116.8	14	7.06	-24	161.6	2.5
Site2	2014/03/15	06:30:40	7.42	203	135	0.132	0.1	117.2	14.07	7.07	-24.4	163.1	2.1
Site2	2014/03/15	07:00:40	7.4	205	136	0.133	0.1	117.3	14.08	7.08	-24.7	163.5	2
Site2	2014/03/15	07:30:40	7.4	205	136	0.133	0.1	117.4	14.1	7.07	-24.5	164.3	1.9
Site2	2014/03/15	08:00:40	7.41	205	136	0.133	0.1	117.4	14.1	7.08	-24.9	164.8	1.9
Site2	2014/03/15	08:30:40	7.42	206	137	0.134	0.1	117.5	14.11	7.08	-24.7	163.3	2
Site2	2014/03/15	09:00:40	7.45	207	138	0.134	0.1	117.5	14.1	7.08	-24.8	164.1	2
Site2	2014/03/15	09:30:40	7.5	207	138	0.135	0.1	117.9	14.13	7.09	-25.4	161.9	2.1
Site2	2014/03/15	10:00:40	7.62	213	142	0.138	0.1	117.8	14.07	7.1	-25.8	161	2
Site2	2014/03/15	10:30:40	7.6	212	141	0.138	0.1	117.6	14.05	7.09	-25.3	164.2	2.1
Site2	2014/03/15	11:00:40	7.63	216	145	0.141	0.1	117.5	14.03	7.09	-25.4	166.9	5.1
Site2	2014/03/15	11:30:40	7.95	284	191	0.184	0.14	117.1	13.87	7.11	-26.6	168.3	15.8
Site2	2014/03/15	12:00:40	8.15	220	149	0.143	0.1	117.9	13.9	7.03	-22.3	171	28.3
Site2	2014/03/15	12:30:40	8.1	79	54	0.051	0.04	119.9	14.16	7.01	-21.4	174	23.8
Site2	2014/03/15	13:00:40	8.16	87	59	0.056	0.04	119.3	14.07	7.01	-21.3	175.2	12.2
Site2	2014/03/15	13:30:40	8.21	75	51	0.049	0.03	119.8	14.11	6.97	-19	176.9	17.2
Site2	2014/03/15	14:00:40	8.2	78	53	0.051	0.04	119.5	14.08	6.93	-16.8	178.6	11.8
Site2	2014/03/15	14:30:40	8.14	84	57	0.055	0.04	119.5	14.11	6.93	-16.7	180.5	13.3
Site2	2014/03/15	15:00:40	8.1	70	48	0.046	0.03	119.8	14.15	6.96	-18.2	180.4	22.7
Site2	2014/03/15	15:30:40	8.06	57	39	0.037	0.03	120.3	14.22	6.9	-15.1	183.3	35.5
Site2	2014/03/15	16:00:40	8.01	63	42	0.041	0.03	120	14.2	6.87	-13.7	183.9	37.4
Site2	2014/03/15	16:30:40	8.02	77	52	0.05	0.04	119.6	14.16	6.91	-15.9	184.5	29.8

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/15	17:00:40	7.99	97	65	0.063	0.05	119.3	14.12	6.95	-17.7	184.3	23.9
Site2	2014/03/15	17:30:40	8.03	65	44	0.043	0.03	120	14.2	6.93	-17.1	184.9	19.5
Site2	2014/03/15	18:00:40	8.06	77	52	0.05	0.04	119.4	14.12	6.9	-15.2	186.6	15.5
Site2	2014/03/15	18:30:40	8.16	64	43	0.041	0.03	120.2	14.17	6.91	-16	186.5	26.4
Site2	2014/03/15	19:00:40	8.16	62	42	0.041	0.03	119.9	14.15	6.89	-14.5	186	41.1
Site2	2014/03/15	19:30:40	8.12	83	56	0.054	0.04	119.5	14.11	6.89	-14.7	189.4	22.3
Site2	2014/03/15	20:00:40	8.1	97	65	0.063	0.05	119.2	14.08	6.91	-16	189.8	17.8
Site2	2014/03/15	20:30:40	8.18	95	64	0.062	0.04	119.4	14.07	6.96	-18.7	189.1	14.3
Site2	2014/03/15	21:00:40	8.12	104	70	0.068	0.05	119.2	14.07	6.94	-17.5	190	12.8
Site2	2014/03/15	21:30:40	8.08	117	79	0.076	0.06	119	14.06	6.95	-17.8	189	12.3
Site2	2014/03/15	22:00:40	8.02	127	86	0.083	0.06	118.9	14.07	6.95	-18.1	186.8	11.3
Site2	2014/03/15	22:30:40	7.98	135	91	0.088	0.06	118.9	14.08	6.97	-18.8	184.9	10.2
Site2	2014/03/15	23:00:40	7.94	139	94	0.091	0.07	118.9	14.1	6.97	-19	184.8	10.4
Site2	2014/03/15	23:30:40	7.9	143	96	0.093	0.07	118.8	14.09	6.98	-19.3	187	9.6
Site2	2014/03/16	00:00:40	7.87	145	97	0.094	0.07	118.7	14.1	6.98	-19.5	187.3	11.7
Site2	2014/03/16	00:30:40	7.83	147	99	0.095	0.07	118.7	14.11	6.98	-19.8	188	7
Site2	2014/03/16	01:00:40	7.8	149	100	0.097	0.07	118.7	14.13	6.98	-19.7	189.5	6.2
Site2	2014/03/16	01:30:40	7.77	150	101	0.098	0.07	118.7	14.14	6.98	-19.7	190.4	5.7
Site2	2014/03/16	02:00:40	7.74	151	101	0.098	0.07	118.6	14.14	6.99	-20	190.6	5.3
Site2	2014/03/16	02:30:40	7.71	155	104	0.101	0.07	118.7	14.15	6.98	-19.7	192.1	5
Site2	2014/03/16	03:00:40	7.7	156	105	0.101	0.07	118.7	14.16	6.98	-19.8	193.4	4.8
Site2	2014/03/16	03:30:40	7.83	169	114	0.11	0.08	119	14.15	7.01	-21.2	193.4	5.6
Site2	2014/03/16	04:00:40	7.75	143	96	0.093	0.07	119.1	14.19	6.99	-19.8	196	4.7
Site2	2014/03/16	04:30:40	7.72	136	91	0.089	0.06	119.2	14.21	6.97	-18.9	198	4.5
Site2	2014/03/16	05:00:40	7.66	138	92	0.089	0.06	119	14.21	6.95	-18.2	200.9	4.3
Site2	2014/03/16	05:30:40	7.61	145	97	0.094	0.07	118.9	14.21	6.95	-18.2	200.9	4.7
Site2	2014/03/16	06:00:40	7.58	151	101	0.098	0.07	118.9	14.22	6.96	-18.7	203.7	4
Site2	2014/03/16	06:30:40	7.56	156	104	0.102	0.07	118.8	14.22	6.98	-19.5	205.7	3.9
Site2	2014/03/16	07:00:40	7.53	157	105	0.102	0.07	118.7	14.22	6.99	-19.8	208.4	4
Site2	2014/03/16	07:30:40	7.51	158	105	0.103	0.07	118.7	14.23	6.99	-20	211	4
Site2	2014/03/16	08:00:40	7.5	158	105	0.103	0.07	118.8	14.24	6.99	-20.3	212.6	3.7
Site2	2014/03/16	08:30:40	7.49	158	105	0.103	0.07	118.8	14.24	7	-20.5	214	3.7
Site2	2014/03/16	09:00:40	7.54	163	108	0.106	0.08	119	14.25	7	-20.9	214.5	3.9
Site2	2014/03/16	09:30:40	7.7	163	109	0.106	0.08	119.4	14.23	7.02	-21.7	210.9	5.4
Site2	2014/03/16	10:00:40	7.7	130	87	0.085	0.06	119.6	14.26	6.98	-19.8	211	5.1
Site2	2014/03/16	10:30:40	7.76	120	81	0.078	0.06	119.6	14.24	6.96	-18.7	213	4.9
Site2	2014/03/16	11:00:40	7.76	124	84	0.081	0.06	119.4	14.22	6.94	-17.6	213.1	4.3
Site2	2014/03/16	11:30:40	7.75	132	89	0.086	0.06	119.4	14.23	6.95	-18.2	211.7	4
Site2	2014/03/16	12:00:40	7.77	140	94	0.091	0.07	119.3	14.21	6.97	-18.8	213.1	4.1
Site2	2014/03/16	12:30:40	7.8	142	96	0.093	0.07	119.4	14.2	6.98	-19.7	214.3	4.3
Site2	2014/03/16	13:00:40	8	134	91	0.087	0.06	119.3	14.13	7	-20.5	214.2	5.7
Site2	2014/03/16	13:30:40	8.22	109	74	0.071	0.05	119.5	14.08	7	-20.8	212.2	6.8
Site2	2014/03/16	14:00:40	8.17	113	77	0.073	0.05	119.5	14.09	6.96	-18.7	210.1	5.1
Site2	2014/03/16	14:30:40	8.06	127	86	0.082	0.06	119.5	14.13	6.97	-19	207	4.3
Site2	2014/03/16	15:00:40	7.95	137	93	0.089	0.06	119.3	14.14	6.99	-19.9	210.3	4.3
Site2	2014/03/16	15:30:40	7.89	149	100	0.097	0.07	118.9	14.12	6.99	-20.2	215.4	4.6
Site2	2014/03/16	16:00:40	7.83	154	104	0.1	0.07	118.7	14.11	7.01	-21	219	4
Site2	2014/03/16	16:30:40	7.78	157	105	0.102	0.07	118.7	14.12	7.02	-21.5	221.6	4.1
Site2	2014/03/16	17:00:40	7.74	158	106	0.103	0.07	118.5	14.12	7.02	-21.9	224.8	4.2
Site2	2014/03/16	17:30:40	7.69	159	107	0.104	0.08	118.2	14.1	7.02	-21.8	226.8	4.1
Site2	2014/03/16	18:00:40	7.65	161	108	0.105	0.08	118	14.09	7.02	-21.8	229.1	3.9



## Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/16	18:30:40	7.6	162	108	0.105	0.08	117.9	14.1	7.02	-21.7	231.4	3.9
Site2	2014/03/16	19:00:40	7.57	164	109	0.106	0.08	117.8	14.1	7.02	-21.6	232.7	3.7
Site2	2014/03/16	19:30:40	7.53	165	110	0.107	0.08	117.8	14.11	7.02	-21.7	235.2	3.6
Site2	2014/03/16	20:00:40	7.5	166	110	0.108	0.08	117.8	14.12	7.02	-21.7	236.3	4.8
Site2	2014/03/16	20:30:40	7.48	166	111	0.108	0.08	117.8	14.12	7.02	-22	239	4
Site2	2014/03/16	21:00:40	7.66	184	123	0.12	0.09	117.6	14.04	7.03	-22	239.1	5.9
Site2	2014/03/16	21:30:40	7.51	147	98	0.096	0.07	118.4	14.19	7	-20.5	234.7	6.2
Site2	2014/03/16	22:00:40	7.38	136	90	0.089	0.06	117.8	14.17	6.97	-19	240.5	4.3
Site2	2014/03/16	22:30:40	7.26	144	95	0.094	0.07	117.9	14.21	6.97	-18.9	244.5	3.7
Site2	2014/03/16	23:00:40	7.14	151	99	0.098	0.07	117.9	14.26	6.98	-19.8	247.6	3.4
Site2	2014/03/16	23:30:40	7.06	160	105	0.104	0.08	117.9	14.29	7	-20.9	250.1	3.2
Site2	2014/03/17	00:00:40	6.96	165	108	0.107	0.08	118.1	14.34	7.01	-21.2	252	3.2
Site2	2014/03/17	00:30:40	6.91	168	110	0.109	0.08	118.1	14.36	7.02	-21.7	253.6	3.2
Site2	2014/03/17	01:00:40	6.84	168	110	0.11	0.08	118.3	14.41	7.02	-21.9	255.1	3.1
Site2	2014/03/17	01:30:40	6.78	168	110	0.109	0.08	118.4	14.44	7.03	-22.1	257	3.2
Site2	2014/03/17	02:00:40	6.69	168	109	0.109	0.08	118.5	14.49	7.03	-22.2	259.4	3.1
Site2	2014/03/17	02:30:40	6.61	168	109	0.109	0.08	118.6	14.53	7.03	-22.4	261.5	3
Site2	2014/03/17	03:00:40	6.54	169	110	0.11	0.08	118.7	14.57	7.03	-22.5	262.4	2.9
Site2	2014/03/17	03:30:40	6.5	169	109	0.11	0.08	118.8	14.6	7.03	-22.5	263.7	3
Site2	2014/03/17	04:00:40	6.49	169	110	0.11	0.08	118.8	14.6	7.03	-22.2	265.3	3
Site2	2014/03/17	04:30:40	6.49	171	111	0.111	0.08	118.8	14.61	7.03	-22.2	266.8	3.1
Site2	2014/03/17	05:00:40	6.52	172	111	0.112	0.08	118.9	14.6	7.03	-22.3	268.7	3
Site2	2014/03/17	05:30:40	6.55	172	111	0.112	0.08	118.7	14.57	7.03	-22.1	270	3.3
Site2	2014/03/17	06:00:40	6.59	173	112	0.112	0.08	118.6	14.54	7.03	-22	270.4	3.2
Site2	2014/03/17	06:30:40	6.62	174	113	0.113	0.08	118.6	14.52	7.02	-21.8	271.6	3.2
Site2	2014/03/17	07:00:40	6.66	175	114	0.114	0.08	118.7	14.52	7.03	-22.1	272.6	3.2
Site2	2014/03/17	07:30:40	6.72	179	117	0.116	0.08	118.7	14.51	7.03	-22.4	273.6	3
Site2	2014/03/17	08:00:40	6.75	175	114	0.114	0.08	119	14.53	7.03	-22.4	273.5	3.1
Site2	2014/03/17	08:30:40	6.79	175	114	0.114	0.08	119	14.51	7.03	-22	274.2	3.9
Site2	2014/03/17	09:00:40	6.82	175	114	0.114	0.08	119.2	14.53	7.03	-22	274.2	3.1
Site2	2014/03/17	09:30:40	6.88	173	113	0.113	0.08	119.8	14.58	7.04	-22.7	271.6	3.2
Site2	2014/03/17	10:00:40	7.11	194	128	0.126	0.09	120.6	14.6	7.08	-25.1	265.9	6.2
Site2	2014/03/17	10:30:40	7.41	201	133	0.13	0.1	119.6	14.36	7.04	-22.6	261.3	7.9
Site2	2014/03/17	11:00:40	7.49	172	114	0.112	0.08	119.9	14.38	7.05	-23.4	248.1	5.5
Site2	2014/03/17	11:30:40	7.37	162	107	0.105	0.08	120.4	14.48	7.06	-24	256.7	4.7
Site2	2014/03/17	12:00:40	7.44	160	106	0.104	0.08	121.1	14.53	7.07	-24.3	248.5	4.2
Site2	2014/03/17	12:30:40	7.54	162	108	0.105	0.08	121.3	14.53	7.07	-24.7	232.4	3.8
Site2	2014/03/17	13:00:40	7.6	164	109	0.106	0.08	121.1	14.48	7.09	-25.3	231.3	5.1
Site2	2014/03/17	13:30:40	7.68	164	109	0.106	0.08	120.7	14.4	7.09	-25.3	248.3	6.5
Site2	2014/03/17	14:00:40	7.76	165	111	0.107	0.08	120.6	14.37	7.1	-26.1	243.9	9.1
Site2	2014/03/17	14:30:40	7.87	170	115	0.111	0.08	119.8	14.23	7.07	-24.6	253.3	4.3
Site2	2014/03/17	15:00:40	7.92	174	117	0.113	0.08	120.6	14.3	7.09	-25.6	248.9	3.2
Site2	2014/03/17	15:30:40	8	175	118	0.113	0.08	119.8	14.18	7.08	-25	256.6	3.6
Site2	2014/03/17	16:00:40	7.91	181	122	0.117	0.09	119.2	14.14	7.07	-24.4	266	4.3
Site2	2014/03/17	16:30:40	7.82	175	118	0.114	0.08	119.4	14.2	7.08	-25	267.4	3.9
Site2	2014/03/17	17:00:40	7.74	176	118	0.114	0.08	119.1	14.2	7.07	-24.2	271.9	4.2
Site2	2014/03/17	17:30:40	7.63	177	118	0.115	0.08	119.1	14.22	7.06	-24.1	273	3.6
Site2	2014/03/17	18:00:40	7.47	178	118	0.116	0.08	119	14.27	7.06	-23.9	274.4	3.3
Site2	2014/03/17	18:30:40	7.35	179	119	0.117	0.09	118.9	14.3	7.06	-23.8	275.4	3.2
Site2	2014/03/17	19:00:40	7.23	179	119	0.117	0.09	119	14.35	7.06	-23.8	277.2	3
Site2	2014/03/17	19:30:40	7.11	180	118	0.117	0.09	119.1	14.41	7.06	-23.7	279.5	2.9

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/17	20:00:40	7	181	119	0.118	0.09	119.1	14.46	7.05	-23.5	280.8	2.9
Site2	2014/03/17	20:30:40	6.89	181	118	0.118	0.09	119.3	14.51	7.05	-23.4	280.8	3.1
Site2	2014/03/17	21:00:40	6.8	186	121	0.121	0.09	119.4	14.56	7.05	-23.4	282.7	2.8
Site2	2014/03/17	21:30:40	6.69	182	118	0.118	0.09	119.6	14.62	7.05	-23.6	283.3	2.8
Site2	2014/03/17	22:00:40	6.6	183	119	0.119	0.09	119.6	14.66	7.05	-23.5	283.6	2.7
Site2	2014/03/17	22:30:40	6.52	183	118	0.119	0.09	119.7	14.7	7.05	-23.4	283.8	2.9
Site2	2014/03/17	23:00:40	6.44	183	118	0.119	0.09	119.8	14.74	7.05	-23.4	284.4	2.8
Site2	2014/03/17	23:30:40	6.37	183	118	0.119	0.09	119.9	14.78	7.05	-23.5	284.7	2.8
Site2	2014/03/18	00:00:40	6.29	183	118	0.119	0.09	120	14.82	7.05	-23.4	285.5	2.7
Site2	2014/03/18	00:30:40	6.24	184	118	0.12	0.09	120	14.84	7.05	-23.4	285.9	2.6
Site2	2014/03/18	01:00:40	6.16	185	118	0.12	0.09	120.1	14.89	7.05	-23.3	286	2.7
Site2	2014/03/18	01:30:40	6.14	184	118	0.12	0.09	120.1	14.89	7.05	-23.1	286.4	2.7
Site2	2014/03/18	02:00:40	6.08	187	119	0.121	0.09	120.2	14.93	7.05	-23	286.9	2.6
Site2	2014/03/18	02:30:40	6.08	185	118	0.12	0.09	120.2	14.92	7.05	-23.4	287.8	2.7
Site2	2014/03/18	03:00:40	6.02	185	118	0.12	0.09	120.3	14.96	7.05	-23.2	287.7	2.6
Site2	2014/03/18	03:30:40	6	186	118	0.121	0.09	120.3	14.97	7.05	-23.1	288.5	2.6
Site2	2014/03/18	04:00:40	6.04	186	118	0.121	0.09	120.3	14.95	7.05	-23.3	288.5	2.6
Site2	2014/03/18	04:30:40	6.06	186	119	0.121	0.09	120.3	14.95	7.05	-23.4	288	2.6
Site2	2014/03/18	05:00:40	6.09	187	119	0.122	0.09	120.2	14.93	7.05	-23.5	288.3	2.6
Site2	2014/03/18	05:30:40	6.12	187	120	0.122	0.09	120.2	14.91	7.05	-23.4	288.5	2.5
Site2	2014/03/18	06:00:40	6.15	188	120	0.122	0.09	120.2	14.89	7.05	-23.3	288.6	2.6
Site2	2014/03/18	06:30:40	6.2	188	120	0.122	0.09	120.1	14.86	7.05	-23.2	289.1	2.7
Site2	2014/03/18	07:00:40	6.25	188	121	0.122	0.09	120.2	14.86	7.05	-23.5	290	2.6
Site2	2014/03/18	07:30:40	6.31	189	122	0.123	0.09	120.3	14.84	7.06	-23.9	290.3	2.8
Site2	2014/03/18	08:00:40	6.4	189	122	0.123	0.09	120.7	14.87	7.06	-23.8	289.5	2.9
Site2	2014/03/18	08:30:40	6.5	188	122	0.123	0.09	121	14.86	7.07	-24.3	287.5	2.9
Site2	2014/03/18	09:00:40	6.62	188	122	0.122	0.09	121.5	14.88	7.09	-25.3	285.5	3.6
Site2	2014/03/18	09:30:40	6.74	188	123	0.122	0.09	121.1	14.79	7.09	-25.5	283.3	9.2
Site2	2014/03/18	10:00:40	6.89	191	125	0.124	0.09	121.6	14.79	7.1	-26.1	278.6	5.2
Site2	2014/03/18	10:30:40	7	190	124	0.123	0.09	121.6	14.76	7.12	-26.9	279.1	4
Site2	2014/03/18	11:00:40	7.07	179	118	0.116	0.08	121.6	14.73	7.13	-27.8	277.4	5.9
Site2	2014/03/18	11:30:40	7.08	178	117	0.116	0.08	121.5	14.71	7.14	-28	277.5	5.9
Site2	2014/03/18	12:00:40	7.2	183	121	0.119	0.09	121.6	14.68	7.12	-27.2	274.5	5.3
Site2	2014/03/18	12:30:40	7.35	189	125	0.123	0.09	122	14.68	7.14	-28.4	267.5	4.7
Site2	2014/03/18	13:00:40	7.45	188	125	0.122	0.09	122.3	14.67	7.15	-28.7	260.1	4.3
	2014/03/18	13:30:40	7.69	189	126	0.123	0.09	121.9	14.54	7.15	-28.9	258.2	4.8
	2014/03/18	14:00:40	7.72	190	127	0.124	0.09	121.1	14.43	7.14	-28.2	266.7	5.1
	2014/03/18	14:30:40	7.74	190	127	0.123	0.09	120.8	14.39	7.14	-28.3	269.8	3.2
Site2	2014/03/18	15:00:40	7.77	189	127	0.123	0.09	120.6	14.35	7.14	-28.3	272.6	2.9
Site2	2014/03/18	15:30:40	7.76	189	127	0.123	0.09	120.1	14.31	7.13	-27.8	276.1	2.8
Site2	2014/03/18	16:00:40	7.72	190	127	0.124	0.09	119.8	14.28	7.13	-27.5	279.4	3
Site2	2014/03/18	16:30:40	7.68	190	127	0.123	0.09	119.5	14.25	7.13	-27.4	281.3	2.9
Site2	2014/03/18	17:00:40	7.64	191	127	0.124	0.09	119.2	14.23	7.12	-27.2	282.6	2.6
Site2	2014/03/18	17:30:40	7.59	194	129	0.126	0.09	118.7	14.19	7.12	-26.9	283	2.6
Site2	2014/03/18	18:00:40	7.53	192	128	0.125	0.09	118.6	14.2	7.11	-26.4	284.2	2.7
Site2	2014/03/18	18:30:40	7.48	192	128	0.125	0.09	118.3	14.19	7.1	-26.2	284.4	2.6
Site2	2014/03/18	19:00:40	7.45	193	128	0.125	0.09	118.4	14.2	7.09	-25.6	286	2.6
Site2	2014/03/18	19:30:40	7.4	195	129	0.127	0.09	118.3	14.21	7.09	-25.6	286.7	2.5
Site2	2014/03/18	20:00:40	7.36	195	129	0.127	0.09	118.4	14.24	7.1	-25.8	286.9	2.3
Site2	2014/03/18	20:30:40	7.41	215	143	0.14	0.1	118.1	14.18	7.11	-26.4	287	5
Site2	2014/03/18	21:00:40	7.47	259	172	0.169	0.12	117.3	14.06	7.1	-26	285.9	5.3

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/18	21:30:40	7.51	269	179	0.175	0.13	117.3	14.04	7.1	-26.2	286.1	7.4
Site2	2014/03/18	22:00:40	7.54	247	164	0.16	0.12	117.3	14.04	7.09	-25.6	285.4	8.7
Site2	2014/03/18	22:30:40	7.46	205	136	0.133	0.1	117.8	14.13	7.07	-24.2	286.7	6.9
Site2	2014/03/18	23:00:40	7.43	159	106	0.104	0.08	119.5	14.34	7.05	-23.3	285.9	12.5
Site2	2014/03/18	23:30:40	7.28	113	74	0.073	0.05	120.5	14.52	7.01	-21.4	285.7	10.6
Site2	2014/03/19	00:00:40	7.23	96	63	0.062	0.04	120.9	14.59	6.98	-19.8	285.4	8.3
Site2	2014/03/19	00:30:40	7.15	86	57	0.056	0.04	121.4	14.68	6.96	-18.7	287.8	10.4
Site2	2014/03/19	01:00:40	7.06	85	56	0.056	0.04	121.2	14.69	6.91	-15.7	288.6	9.2
Site2	2014/03/19	01:30:40	7.06	98	64	0.063	0.05	121	14.67	6.9	-15.3	286.6	6.5
Site2	2014/03/19	02:00:40	7.02	96	63	0.062	0.04	121.3	14.71	6.93	-16.9	287.5	6.8
Site2	2014/03/19	02:30:40	6.99	89	58	0.058	0.04	121.4	14.73	6.94	-17.3	289.7	8.4
Site2	2014/03/19	03:00:40	6.94	79	52	0.051	0.04	121.5	14.77	6.93	-16.9	292.3	10.2
Site2	2014/03/19	03:30:40	6.91	74	48	0.048	0.03	121.7	14.8	6.92	-16.3	293.6	14
Site2	2014/03/19	04:00:40	6.85	71	46	0.046	0.03	121.7	14.83	6.92	-16.1	294.4	17.3
Site2	2014/03/19	04:30:40	6.83	69	45	0.045	0.03	121.9	14.85	6.91	-15.6	295.8	19.5
Site2	2014/03/19	05:00:40	6.78	69	45	0.045	0.03	121.9	14.88	6.9	-15.1	295.5	22.7
Site2	2014/03/19	05:30:40	6.76	66	43	0.043	0.03	121.9	14.88	6.94	-17.6	293.8	56
Site2	2014/03/19	06:00:40	6.87	89	58	0.058	0.04	121.2	14.76	6.91	-15.9	293.9	31.9
Site2	2014/03/19	06:30:40	6.96	106	69	0.069	0.05	121	14.71	6.95	-17.8	290.6	23.1
Site2	2014/03/19	07:00:40	6.99	114	75	0.074	0.05	120.9	14.67	6.96	-18.5	289.7	20
Site2	2014/03/19	07:30:40	6.91	89	58	0.058	0.04	121.3	14.76	6.97	-19.2	291.7	19.1
Site2	2014/03/19	08:00:40	6.94	83	54	0.054	0.04	121.3	14.74	6.95	-18.1	292.7	21.6
Site2	2014/03/19	08:30:40	6.96	71	47	0.046	0.03	121.5	14.76	6.94	-17.5	294.7	20
Site2	2014/03/19	09:00:40	7.06	85	56	0.056	0.04	121.1	14.67	6.93	-16.8	294.1	22
Site2	2014/03/19	09:30:40	7.2	106	70	0.069	0.05	120.9	14.59	6.97	-18.9	290.2	34.2
Site2	2014/03/19	10:00:40	7.36	123	81	0.08	0.06	120.5	14.49	6.98	-19.7	286	49.1
Site2	2014/03/19	10:30:40	7.49	130	86	0.084	0.06	120.3	14.43	7	-20.6	285.1	70.9
Site2	2014/03/19	11:00:40	7.64	136	91	0.088	0.06	120.7	14.42	7.02	-21.7	280.6	41.9
Site2	2014/03/19	11:30:40	7.83	141	95	0.091	0.07	121	14.39	7.04	-22.9	276.4	40.9
Site2	2014/03/19	12:00:40	7.98	148	100	0.096	0.07	121.2	14.36	7.06	-23.6	258.6	26.1
Site2	2014/03/19	12:30:40	8.07	149	101	0.097	0.07	120.7	14.27	7.08	-24.7	263.8	20.3
Site2	2014/03/19	13:00:40	7.99	157	106	0.102	0.07	120.8	14.31	7.06	-24	274.2	12.5
Site2	2014/03/19	13:30:40	8.17	160	109	0.104	0.08	120.2	14.17	7.07	-24.4	276.2	9.4
Site2	2014/03/19	14:00:40	8.28	164	112	0.107	0.08	120.7	14.19	7.08	-25	272.6	7.7
Site2	2014/03/19	14:30:40	8.22	164	112	0.107	0.08	120.4	14.17	7.09	-25.6	275.5	6.9
Site2	2014/03/19	15:00:40	8.07	166	113	0.108	0.08	120.1	14.19	7.09	-25.3	279.4	6
Site2	2014/03/19	15:30:40	8.02	166	112	0.108	0.08	120.6	14.27	7.1	-25.9	279.6	5.7
Site2	2014/03/19	16:00:40	7.9	167	112	0.108	0.08	119.6	14.2	7.08	-24.7	284	5.3
Site2	2014/03/19	16:30:40	7.85	168	113	0.109	0.08	119.4	14.19	7.07	-24.6	285.3	5.1
Site2	2014/03/19	17:00:40	7.72	168	112	0.109	0.08	119.5	14.24	7.06	-23.9	287.2	4.8
Site2	2014/03/19	17:30:40	7.63	169	113	0.11	0.08	119.1	14.23	7.05	-23.5	289.3	4.7
Site2	2014/03/19	18:00:40	7.44	168	112	0.11	0.08	118.9	14.28	7.04	-22.7	290.3	4.5
Site2	2014/03/19	18:30:40	7.32	171	113	0.111	0.08	118.8	14.3	7.03	-22.4	291.4	4.3
Site2	2014/03/19	19:00:40	7.18	168	111	0.109	0.08	118.8	14.35	7.03	-22.2	291.6	4.3
Site2	2014/03/19	19:30:40	7.07	169	111	0.11	0.08	119	14.42	7.02	-21.9	292.1	3.9
Site2	2014/03/19	20:00:40	6.95	169	111	0.11	0.08	119.2	14.48	7.03	-22.1	292.6	3.5
Site2	2014/03/19	20:30:40	6.86	170	111	0.11	0.08	119.3	14.53	7.02	-21.8	293.5	3.4
Site2	2014/03/19	21:00:40	6.78	170	111	0.111	0.08	119.5	14.58	7.02	-22	294.3	3.2
Site2	2014/03/19	21:30:40	6.7	171	111	0.111	0.08	119.6	14.62	7.03	-22.2	295.2	3.1
Site2	2014/03/19	22:00:40	6.63	171	111	0.111	0.08	119.7	14.66	7.03	-22.3	294.9	3.1
Site2	2014/03/19	22:30:40	6.56	171	111	0.111	0.08	120	14.72	7.03	-22.5	296	3.1

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/19	23:00:40	6.5	171	110	0.111	0.08	120.1	14.75	7.04	-22.6	296.1	3.1
Site2	2014/03/19	23:30:40	6.43	171	110	0.111	0.08	120.3	14.8	7.03	-22.3	297.4	3.4
Site2	2014/03/20	00:00:40	6.36	171	110	0.111	0.08	120.3	14.83	7.03	-22.3	297.1	3.3
Site2	2014/03/20	00:30:40	6.31	171	110	0.111	0.08	120.4	14.86	7.03	-22.1	297.1	3.4
Site2	2014/03/20	01:00:40	6.24	171	110	0.111	0.08	120.4	14.89	7.03	-22.2	297	3.4
Site2	2014/03/20	01:30:40	6.18	171	109	0.111	0.08	120.5	14.93	7.03	-22.2	297.5	3.4
Site2	2014/03/20	02:00:40	6.12	171	109	0.111	0.08	120.6	14.96	7.03	-22.1	297.5	3.4
Site2	2014/03/20	02:30:40	6.06	171	109	0.111	0.08	120.8	15	7.03	-22	297.4	3.4
Site2	2014/03/20	03:00:40	6.02	175	112	0.114	0.08	120.5	14.99	7.02	-21.7	297.5	3.6
Site2	2014/03/20	03:30:40	5.95	171	109	0.111	0.08	120.8	15.05	7.02	-21.7	297.9	3.2
Site2	2014/03/20	04:00:40	5.9	173	110	0.113	0.08	120.8	15.07	7.02	-21.6	299.2	3.4
Site2	2014/03/20	04:30:40	5.84	172	109	0.112	0.08	120.8	15.1	7.01	-21.3	298.5	3.4
Site2	2014/03/20	05:00:40	5.79	172	109	0.112	0.08	121.1	15.15	7.02	-21.5	298.9	3.6
Site2	2014/03/20	05:30:40	5.74	172	109	0.112	0.08	121	15.15	7.01	-21.1	298.2	3.7
Site2	2014/03/20	06:00:40	5.69	173	109	0.113	0.08	121.1	15.18	7.01	-20.9	298.4	4
Site2	2014/03/20	06:30:40	5.65	173	109	0.113	0.08	121.4	15.24	7	-20.7	300.2	4.2
Site2	2014/03/20	07:00:40	5.67	173	109	0.112	0.08	122.1	15.32	7.01	-21.1	300.8	3.9
Site2	2014/03/20	07:30:40	5.68	173	109	0.112	0.08	123	15.43	7.01	-21.2	300.8	3.6
Site2	2014/03/20	08:00:40	5.7	174	110	0.113	0.08	122.7	15.38	7.02	-21.7	300.1	3.1
Site2	2014/03/20	08:30:40	5.76	173	109	0.112	0.08	124.2	15.54	7.04	-22.8	299	3.3
Site2	2014/03/20	09:00:40	5.9	175	111	0.114	0.08	124.4	15.52	7.05	-23.3	298.8	8.7
Site2	2014/03/20	09:30:40	6.04	173	110	0.113	0.08	123.9	15.4	7.08	-24.7	295.3	4.5
Site2	2014/03/20	10:00:40	6.24	174	112	0.113	0.08	125.4	15.51	7.1	-25.8	287.7	9.1
Site2	2014/03/20	10:30:40	6.45	175	113	0.114	0.08	124.2	15.28	7.1	-25.7	288.3	3.7
Site2	2014/03/20	11:00:40	6.63	174	113	0.113	0.08	123.1	15.07	7.08	-25.1	287.7	4.5
Site2	2014/03/20	11:30:40	6.51	174	113	0.113	0.08	122.7	15.07	7.06	-24.1	291.5	5.1
Site2	2014/03/20	12:00:40	7.4	153	102	0.099	0.07	121.3	14.57	7.18	-30	270.1	6
Site2	2014/03/20	12:30:40	7.71	154	103	0.1	0.07	118.8	14.17	7.13	-27.8	276.2	5.4
Site2	2014/03/20	13:00:40	7.82	154	103	0.1	0.07	119.9	14.26	7.1	-26	281.4	5.4
Site2	2014/03/20	13:30:40	8.24	155	105	0.101	0.07	123.2	14.5	7.13	-27.6	274.6	6.1
Site2	2014/03/20	14:00:40	8.41	155	106	0.101	0.07	121.7	14.26	7.1	-26.3	281.2	5.6
Site2	2014/03/20	14:30:40	8.55	156	107	0.101	0.07	118.8	13.87	7.12	-27	283.6	5.4
Site2	2014/03/20	15:00:40	8.64	155	107	0.101	0.07	116.7	13.61	7.11	-26.4	285.6	5.4
Site2	2014/03/20	15:30:40	8.69	155	107	0.101	0.07	115.2	13.42	7.09	-25.3	288	5.4
Site2	2014/03/20	16:00:40	8.73	155	107	0.101	0.07	112.7	13.1	7.03	-22.3	290.4	5.6
Site2	2014/03/20	16:30:40	8.72	156	108	0.102	0.07	112.2	13.05	7.03	-22.2	291.1	5.3
Site2	2014/03/20	17:00:40	8.75	157	108	0.102	0.07	111.5	12.97	6.99	-20.3	292.8	5.3
Site2	2014/03/20	17:30:40	8.71	158	109	0.103	0.07	111.2	12.93	6.98	-19.7	292.5	5.1
Site2	2014/03/20	18:00:40	8.71	158	109	0.103	0.08	110.7	12.88	6.97	-19.2	293.7	5
Site2	2014/03/20	18:30:40	8.67	159	109	0.103	0.08	109.6	12.76	6.96	-18.2	294.3	5.1
Site2	2014/03/20	19:00:40	8.7	158	109	0.103	0.07	109.7	12.77	6.96	-18.2	294.4	5.6
Site2	2014/03/20	19:30:40	8.77	158	109	0.103	0.07	110.4	12.83	6.97	-19	294.5	5.4
Site2	2014/03/20	20:00:40	8.76	158	109	0.103	0.07	110.4	12.83	6.98	-19.5	294.8	5.4
Site2	2014/03/20	20:30:40	8.77	158	109	0.103	0.07	110.7	12.86	6.98	-19.6	294.1	5.6
Site2	2014/03/20	21:00:40	8.72	158	109	0.102	0.07	111.2	12.94	6.99	-19.9	294.9	5.2
Site2	2014/03/20	21:30:40	8.63	158	108	0.102	0.07	111	12.94	6.99	-20	294.8	5.6
Site2	2014/03/20	22:00:40	8.56	155	107	0.101	0.07	110.7	12.92	6.98	-19.7	293.7	5.8
Site2	2014/03/20	22:30:40	8.46	155	106	0.101	0.07	110.7	12.96	6.98	-19.7	294.4	6.1
Site2	2014/03/20	23:00:40	8.35	155	106	0.101	0.07	110.3	12.95	6.98	-19.3	295.7	5.9
Site2	2014/03/20	23:30:40	8.29	154	105	0.1	0.07	110.6	13	6.98	-19.3	295.9	6.1
Site2	2014/03/21	00:00:40	8.23	154	105	0.1	0.07	110.1	12.96	6.97	-19	296.4	5.7

Appendix 3: Sonde data -Silver Creek - Site 2

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site2	2014/03/21	00:30:40	8.2	153	104	0.1	0.07	109.9	12.95	6.97	-18.9	296.3	6.5
Site2	2014/03/21	01:00:40	8.12	153	104	0.099	0.07	109.5	12.92	6.96	-18.7	295.7	6.1
Site2	2014/03/21	01:30:40	8.07	152	103	0.099	0.07	108.8	12.86	6.95	-18.2	295.5	6.2
Site2	2014/03/21	02:00:40	7.96	152	103	0.099	0.07	108.3	12.83	6.95	-17.8	295.9	6.3
Site2	2014/03/21	02:30:40	7.8	152	102	0.099	0.07	107.4	12.78	6.94	-17.3	296.8	6.4
Site2	2014/03/21	03:00:40	7.65	152	102	0.099	0.07	106.5	12.72	6.93	-16.7	297	6.3
Site2	2014/03/21	03:30:40	7.52	152	101	0.099	0.07	105.9	12.68	6.92	-16.2	298.2	6.2
Site2	2014/03/21	04:00:40	7.41	151	101	0.098	0.07	105.4	12.66	6.91	-16	297.9	6.1
Site2	2014/03/21	04:30:40	7.27	151	100	0.098	0.07	104.2	12.56	6.91	-15.6	297.5	6.2
Site2	2014/03/21	05:00:40	7.17	151	100	0.098	0.07	103.8	12.55	6.9	-15.5	297.4	6
Site2	2014/03/21	05:30:40	7.06	151	99	0.098	0.07	103.5	12.54	6.9	-15.2	299	5.9
Site2	2014/03/21	06:00:40	6.97	151	99	0.098	0.07	102.8	12.48	6.9	-15.1	299	6.1
Site2	2014/03/21	06:30:40	6.89	151	99	0.098	0.07	104.1	12.66	6.9	-15.4	298.6	6.1
Site2	2014/03/21	07:00:40	6.83	151	98	0.098	0.07	105.9	12.9	6.92	-16.5	299	5.9
Site2	2014/03/21	07:30:40	6.77	149	97	0.097	0.07	106.9	13.04	6.94	-17.3	299.6	6.5
Site2	2014/03/21	08:00:40	6.71	149	97	0.097	0.07	109.8	13.42	6.97	-19.2	299.7	5.8
Site2	2014/03/21	08:30:40	6.81	149	97	0.097	0.07	110.6	13.48	7.02	-21.9	297.9	5.9
Site2	2014/03/21	09:00:40	6.85	149	98	0.097	0.07	112.7	13.73	7.07	-24.6	296.8	5.8
Site2	2014/03/21	09:30:40	6.98	151	99	0.098	0.07	118.6	14.4	7.14	-28.4	294.4	5.8
Site2	2014/03/21	10:00:40	7.04	152	100	0.098	0.07	115.1	13.95	7.12	-26.9	295.7	5.7
Site2	2014/03/21	10:30:40	7.25	151	100	0.098	0.07	130.5	15.74	7.19	-30.7	284.5	6.3

Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/02/28	15:30:40	7.96	584	394.000	0.38	0.28	108.5	12.84	6.74	-13.2	162.8	3.6
Site3	2014/02/28	16:00:40	7.93	586	395.000	0.381	0.29	106.1	12.57	6.76	-14.3	157.4	3.7
Site3	2014/02/28	16:30:40	8.36	547	373.000	0.355	0.27	106	12.42	6.73	-12.6	148.9	3.9
Site3	2014/02/28	17:00:40	8.13	564	382.000	0.366	0.27	105.3	12.41	6.71	-11.9	151	4
Site3	2014/02/28	17:30:40	8.2	562	382.000	0.365	0.27	105.5	12.41	6.74	-13.4	153.5	3.9
Site3	2014/02/28	18:00:40	8.17	562	381.000	0.365	0.27	106.1	12.5	6.75	-14	155	3.9
Site3	2014/02/28	18:30:40	8.14	557	378.000	0.362	0.27	107	12.6	6.77	-14.9	155	4.2
Site3	2014/02/28	19:00:40	8.06	555	376.000	0.361	0.27	106.7	12.6	6.79	-15.6	157.2	3.5
Site3	2014/02/28	19:30:40	7.98	553	373.000	0.359	0.27	106.5	12.6	6.8	-16.2	159.3	3.7
Site3	2014/02/28	20:00:40	7.87	550	370.000	0.357	0.27	107	12.69	6.81	-16.9	161.4	4
Site3	2014/02/28	20:30:40	7.77	550	369.000	0.357	0.27	106.2	12.63	6.8	-16.4	162.9	4
Site3	2014/02/28	21:00:40	7.7	553	370.000	0.359	0.27	105.8	12.6	6.79	-15.7	164	3.7
Site3	2014/02/28	21:30:40	7.59	549	367.000	0.357	0.27	105.9	12.65	6.79	-16.1	161.3	3.8
Site3	2014/02/28	22:00:40	7.61	547	366.000	0.356	0.27	104.7	12.5	6.79	-15.9	161.8	3.7
Site3	2014/02/28	22:30:40	7.39	556	369.000	0.361	0.27	103.5	12.42	6.78	-15.3	163.6	3.9
Site3	2014/02/28	23:00:40	7.3	566	375.000	0.368	0.28	103	12.38	6.78	-15.3	164.5	3.9
Site3	2014/02/28	23:30:40	7.14	575	379.000	0.374	0.28	102	12.32	6.77	-14.8	166.1	3.9
Site3	2014/03/01	00:00:40	6.99	581	381.000	0.378	0.28	100.9	12.23	6.76	-14.2	167.1	3.8
Site3	2014/03/01	00:30:40	6.94	603	395.000	0.392	0.29	100	12.13	6.75	-13.9	168	4
Site3	2014/03/01	01:00:40	6.78	609	397.000	0.396	0.3	99.1	12.08	6.74	-13.5	168.7	3.8
Site3	2014/03/01	01:30:40	6.65	610	396.000	0.397	0.3	98.5	12.04	6.74	-13.6	167.7	3.7
Site3	2014/03/01	02:00:40	6.59	611	396.000	0.397	0.3	98.7	12.08	6.75	-13.8	169.2	3.7
Site3	2014/03/01	02:30:40	6.57	613	397.000	0.398	0.3	98.6	12.08	6.76	-14.2	170.4	3.7
Site3	2014/03/01	03:00:40	6.55	610	395.000	0.396	0.3	98.5	12.07	6.76	-14.5	171.2	3.6
Site3	2014/03/01	03:30:40	6.43	604	390.000	0.393	0.29	97.8	12.02	6.74	-13.5	171.4	3.7
Site3	2014/03/01	04:00:40	6.45	608	393.000	0.395	0.3	97.7	12	6.74	-13.4	167.1	3.9
Site3	2014/03/01	04:30:40	6.35	606	390.000	0.394	0.3	96.8	11.93	6.74	-13.3	166.6	4
Site3	2014/03/01	05:00:40	6.3	606	389.000	0.394	0.29	96.6	11.91	6.74	-13.3	166.9	4
Site3	2014/03/01	05:30:40	6.22	596	382.000	0.388	0.29	96.7	11.94	6.74	-13.6	166	3.7
Site3	2014/03/01	06:00:40	6.33	585	376.000	0.38	0.28	97.5	12.01	6.75	-14	164.8	3.8
Site3	2014/03/01	06:30:40	6.33	574	369.000	0.373	0.28	97.4	12	6.75	-13.9	165.5	3.9
Site3	2014/03/01	07:00:40	6.33	574	369.000	0.373	0.28	97.5	12.02	6.76	-14.3	165.5	7.9
Site3	2014/03/01	07:30:40	6.3	574	369.000	0.373	0.28	97.2	11.99	6.76	-14.5	167.3	3.7
Site3	2014/03/01	08:00:40	6.3	571	367.000	0.371	0.28	97.7	12.05	6.77	-14.8	164.4	3.7
Site3	2014/03/01	08:30:40	6.32	570	366.000	0.37	0.28	97.9	12.06	6.77	-14.8	162.3	3.8
Site3	2014/03/01	09:00:40	6.35	569	367.000	0.37	0.28	98.1	12.08	6.77	-15	159.8	3.7
Site3	2014/03/01	09:30:40	6.36	569	366.000	0.37	0.28	98.3	12.1	6.77	-15.1	158	3.6
Site3	2014/03/01	10:00:40	6.28	564	362.000	0.367	0.27	98.5	12.16	6.75	-14.1	146.2	3.8
Site3	2014/03/01	10:30:40	6.3	561	361.000	0.365	0.27	97.9	12.07	6.75	-14	148.2	3.9
Site3	2014/03/01	11:00:40	6.29	556	357.000	0.361	0.27	97.7	12.05	6.75	-13.7	147.9	3.8
Site3	2014/03/01	11:30:40	6.32	554	357.000	0.36	0.27	97.9	12.07	6.75	-13.9	147.9	3.7
Site3	2014/03/01	12:00:40	6.31	556	357.000	0.361	0.27	98.2	12.11	6.75	-14	150	3.6
Site3	2014/03/01	12:30:40	6.36	554	357.000	0.36	0.27	98.9	12.18	6.76	-14.6	146.2	3.3
Site3	2014/03/01	13:00:40	6.49	556	360.000	0.362	0.27	99.7	12.24	6.78	-15.6	147.9	3.4
Site3	2014/03/01	13:30:40	6.47	557	360.000	0.362	0.27	99.7	12.24	6.78	-15.5	150.3	3.4
Site3	2014/03/01	14:00:40	6.45	558	361.000	0.363	0.27	100	12.28	6.78	-15.7	152.9	3.3
Site3	2014/03/01	14:30:40	6.46	557	360.000	0.362	0.27	100.2	12.3	6.78	-15.7	155.7	3.4
Site3	2014/03/01	15:00:40	6.29	555	356.000	0.361	0.27	99.5	12.27	6.77	-14.9	156.3	3.4
Site3	2014/03/01	15:30:40	6.29	554	356.000	0.36	0.27	99.6	12.29	6.78	-15.3	159.3	3.5
Site3	2014/03/01	16:00:40	6.27	554	355.000	0.36	0.27	99.7	12.31	6.78	-15.3	162.5	3.4
Site3	2014/03/01	16:30:40	6.23	555	356.000	0.361	0.27	100.7	12.44	6.78	-15.6	162	3.4

Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/01	17:00:40	6.14	558	357.000	0.363	0.27	101	12.5	6.79	-16	158.2	3.8
Site3	2014/03/01	17:30:40	6.14	546	350.000	0.355	0.26	99	12.26	6.77	-15	160.1	3.6
Site3	2014/03/01	18:00:40	6.1	542	347.000	0.353	0.26	98.9	12.26	6.77	-14.8	162.5	3.7
Site3	2014/03/01	18:30:40	6.08	542	346.000	0.352	0.26	98.9	12.26	6.77	-14.9	164.3	3.8
Site3	2014/03/01	19:00:40	6.06	545	348.000	0.354	0.26	98.9	12.27	6.78	-15.3	166	3.8
Site3	2014/03/01	19:30:40	6.02	552	352.000	0.359	0.27	99	12.29	6.78	-15.3	168.4	3.9
Site3	2014/03/01	20:00:40	6.02	559	356.000	0.363	0.27	98.7	12.25	6.78	-15.7	168.6	3.6
Site3	2014/03/01	20:30:40	5.96	555	353.000	0.361	0.27	98.2	12.21	6.78	-15.7	170.5	3.6
Site3	2014/03/01	21:00:40	5.86	553	351.000	0.36	0.27	97.5	12.16	6.78	-15.3	167.1	3.9
Site3	2014/03/01	21:30:40	5.86	557	353.000	0.362	0.27	97.5	12.16	6.78	-15.6	168.5	3.7
Site3	2014/03/01	22:00:40	5.79	558	353.000	0.362	0.27	97.5	12.18	6.78	-15.4	170	3.5
Site3	2014/03/01	22:30:40	5.88	562	357.000	0.365	0.27	97.9	12.2	6.79	-16.1	172.1	3.7
Site3	2014/03/01	23:00:40	5.69	563	355.000	0.366	0.27	97.3	12.19	6.77	-15.1	175.7	3.4
Site3	2014/03/01	23:30:40	5.91	569	361.000	0.37	0.28	98.4	12.26	6.79	-16	172.9	3.9
Site3	2014/03/02	00:00:40	5.83	571	362.000	0.371	0.28	98.9	12.34	6.8	-16.4	169.7	3.7
Site3	2014/03/02	00:30:40	5.77	572	362.000	0.372	0.28	99	12.37	6.79	-16.1	171.7	3.8
Site3	2014/03/02	01:00:40	5.72	573	362.000	0.372	0.28	98.7	12.35	6.79	-16.2	172.6	4.2
Site3	2014/03/02	01:30:40	5.7	581	367.000	0.378	0.28	98.6	12.34	6.8	-16.4	173.3	3.9
Site3	2014/03/02	02:00:40	5.67	583	368.000	0.379	0.28	98.1	12.29	6.8	-16.4	173.2	3.6
Site3	2014/03/02	02:30:40	5.67	584	369.000	0.38	0.28	98.1	12.3	6.8	-16.4	175.4	3.7
Site3	2014/03/02	03:00:40	5.57	588	370.000	0.382	0.29	97.6	12.25	6.8	-16.4	178.2	4
Site3	2014/03/02	03:30:40	5.55	586	368.000	0.381	0.28	97.2	12.22	6.79	-16.1	180.3	3.7
Site3	2014/03/02	04:00:40	5.52	589	370.000	0.383	0.29	96.9	12.19	6.79	-16.1	180.8	3.5
Site3	2014/03/02	04:30:40	5.48	591	371.000	0.384	0.29	96.8	12.18	6.79	-16.2	181.9	3.6
Site3	2014/03/02	05:00:40	5.41	590	369.000	0.384	0.29	96.5	12.17	6.79	-16	182.9	3.8
Site3	2014/03/02	05:30:40	5.16	590	367.000	0.384	0.29	96.1	12.2	6.79	-15.9	184.4	5.5
Site3	2014/03/02	06:00:40	5.28	582	363.000	0.378	0.28	95.3	12.06	6.78	-15.6	174	3.7
Site3	2014/03/02	06:30:40	5.32	604	377.000	0.393	0.29	95.3	12.04	6.78	-15.7	176.3	3.9
Site3	2014/03/02	07:00:40	5.25	605	377.000	0.393	0.29	94.5	11.97	6.78	-15.5	176.6	5.1
Site3	2014/03/02	07:30:40	5.22	606	377.000	0.394	0.29	94	11.91	6.78	-15.6	175.9	4
Site3	2014/03/02	08:00:40	5.13	604	375.000	0.393	0.29	93.5	11.87	6.78	-15.3	172.2	4.5
Site3	2014/03/02	08:30:40	5.09	606	376.000	0.394	0.29	93.3	11.86	6.78	-15.4	172.6	3.9
Site3	2014/03/02	09:00:40	5.05	607	376.000	0.394	0.29	93	11.84	6.78	-15.7	165.7	12.7
Site3	2014/03/02	09:30:40	5.12	609	378.000	0.396	0.3	93.3	11.85	6.79	-16.2	169.6	4.5
Site3	2014/03/02	10:00:40	5.13	610	379.000	0.396	0.3	93.5	11.87	6.8	-16.5	171.5	3.7
Site3	2014/03/02	10:30:40	5.11	610	378.000	0.396	0.3	93.6	11.9	6.8	-16.4	168.8	4.7
Site3	2014/03/02	11:00:40	5	602	372.000	0.391	0.29	93.5	11.92	6.79	-15.9	165.4	3.8
Site3	2014/03/02	11:30:40	5.01	602	372.000	0.391	0.29	93.4	11.9	6.79	-15.9	155.3	4.2
Site3	2014/03/02	12:00:40	5.06	609	377.000	0.396	0.3	93.6	11.91	6.8	-16.4	159.5	4.3
Site3	2014/03/02	12:30:40	4.97	613	378.000	0.398	0.3	93.7	11.96	6.79	-16.1	160.2	4.1
Site3	2014/03/02	13:00:40	4.95	620	383.000	0.403	0.3	93.7	11.96	6.8	-16.6	161.7	4.2
Site3	2014/03/02	13:30:40	4.95	627	387.000	0.408	0.3	93.9	11.99	6.81	-16.9	164.3	4
Site3	2014/03/02	14:00:40	4.98	626	386.000	0.407	0.3	94.5	12.05	6.81	-17.2	161.1	3.9
Site3	2014/03/02	14:30:40	4.98	627	388.000	0.408	0.3	94.7	12.07	6.82	-17.3	161.1	4
Site3	2014/03/02	15:00:40	4.99	627	387.000	0.407	0.3	95.1	12.12	6.82	-17.4	160.4	4
Site3	2014/03/02	15:30:40	4.99	624	386.000	0.406	0.3	95.6	12.19	6.83	-18	162.3	4
Site3	2014/03/02	16:00:40	4.95	617	381.000	0.401	0.3	96.3	12.29	6.83	-18.1	162.2	4.1
Site3	2014/03/02	16:30:40	4.97	618	381.000	0.402	0.3	96.5	12.32	6.83	-18.2	163.3	4.2
Site3	2014/03/02	17:00:40	4.91	606	373.000	0.394	0.29	97.5	12.45	6.83	-18.2	160.2	4.9
Site3	2014/03/02	17:30:40	4.96	594	366.000	0.386	0.29	97.8	12.49	6.84	-18.7	161.4	4.3
Site3	2014/03/02	18:00:40	4.95	586	362.000	0.381	0.28	97.9	12.5	6.84	-18.6	161.3	4.4

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/02	18:30:40	4.86	574	353.000	0.373	0.28	98.1	12.55	6.83	-18.2	155.2	4.8
Site3	2014/03/02	19:00:40	4.94	592	365.000	0.385	0.29	97.9	12.5	6.84	-18.7	154.6	5.2
Site3	2014/03/02	19:30:40	5	578	357.000	0.376	0.28	97.6	12.44	6.84	-18.5	151.3	4.7
Site3	2014/03/02	20:00:40	4.91	558	344.000	0.363	0.27	97.7	12.49	6.83	-18.2	151.6	5
Site3	2014/03/02	20:30:40	4.85	539	332.000	0.35	0.26	98.3	12.58	6.84	-18.4	150	5.4
Site3	2014/03/02	21:00:40	4.82	527	324.000	0.342	0.25	98.8	12.66	6.81	-17.1	150.9	6.1
Site3	2014/03/02	21:30:40	4.81	524	322.000	0.341	0.25	98.3	12.59	6.8	-16.7	149.5	5.8
Site3	2014/03/02	22:00:40	4.73	504	309.000	0.328	0.24	98.3	12.62	6.82	-17.5	150.3	5.7
Site3	2014/03/02	22:30:40	4.76	499	306.000	0.324	0.24	97.8	12.54	6.82	-17.5	151.6	5.3
Site3	2014/03/02	23:00:40	4.66	480	294.000	0.312	0.23	96.9	12.47	6.8	-16.4	153.4	5.9
Site3	2014/03/02	23:30:40	4.81	496	305.000	0.322	0.24	96.6	12.39	6.8	-16.6	152	5.4
Site3	2014/03/03	00:00:40	4.77	486	298.000	0.316	0.23	95.9	12.3	6.8	-16.4	154.2	4.9
Site3	2014/03/03	00:30:40	4.73	484	296.000	0.314	0.23	95.2	12.23	6.8	-16.5	157	4.7
Site3	2014/03/03	01:00:40	4.77	489	300.000	0.318	0.24	94.8	12.16	6.79	-15.9	158.1	4.8
Site3	2014/03/03	01:30:40	4.79	489	300.000	0.318	0.24	94.5	12.12	6.78	-15.3	154.5	4.6
Site3	2014/03/03	02:00:40	4.86	490	301.000	0.318	0.24	94.5	12.09	6.8	-16.5	160	4.6
Site3	2014/03/03	02:30:40	4.83	484	298.000	0.315	0.23	94.3	12.08	6.8	-16.6	165.5	4.3
Site3	2014/03/03	03:00:40	4.75	466	286.000	0.303	0.22	93.3	11.98	6.75	-14	169.8	4.5
Site3	2014/03/03	03:30:40	4.78	472	290.000	0.307	0.23	94.4	12.11	6.81	-16.8	169.3	4.5
Site3	2014/03/03	04:00:40	4.77	464	285.000	0.302	0.22	94	12.06	6.78	-15.6	165.6	4.7
Site3	2014/03/03	04:30:40	4.75	458	281.000	0.297	0.22	93.9	12.05	6.78	-15.4	166.8	4.5
Site3	2014/03/03	05:00:40	4.76	456	280.000	0.296	0.22	93.8	12.04	6.78	-15.3	168.7	4
Site3	2014/03/03	05:30:40	4.76	452	277.000	0.294	0.22	93.3	11.97	6.77	-15.2	170.2	4
Site3	2014/03/03	06:00:40	4.82	459	282.000	0.298	0.22	93.4	11.96	6.78	-15.6	172.1	3.9
Site3	2014/03/03	06:30:40	4.81	453	278.000	0.294	0.22	93.2	11.95	6.78	-15.3	173.6	3.9
Site3	2014/03/03	07:00:40	4.82	451	277.000	0.293	0.22	93.1	11.93	6.78	-15.6	175.5	3.8
Site3	2014/03/03	07:30:40	4.81	446	274.000	0.29	0.21	92.7	11.88	6.77	-15	175.7	3.8
Site3	2014/03/03	08:00:40	4.82	452	278.000	0.294	0.22	93.2	11.95	6.79	-15.8	173.4	4
Site3	2014/03/03	08:30:40	4.81	441	271.000	0.287	0.21	92.7	11.88	6.78	-15.5	170.7	4
Site3	2014/03/03	09:00:40	4.84	438	269.000	0.284	0.21	93.2	11.93	6.78	-15.7	167.2	3.9
Site3	2014/03/03	09:30:40	4.85	439	270.000	0.285	0.21	93.8	12.01	6.79	-16.1	163.7	3.9
Site3	2014/03/03	10:00:40	4.87	438	270.000	0.285	0.21	94.1	12.04	6.8	-16.5	164	4
Site3	2014/03/03	10:30:40	4.9	442	272.000	0.287	0.21	94.4	12.07	6.81	-17	165.3	4.2
Site3	2014/03/03	11:00:40	4.92	447	275.000	0.29	0.22	94.6	12.09	6.81	-17.1	166.4	4.2
Site3	2014/03/03	11:30:40	5.04	435	269.000	0.283	0.21	95.7	12.2	6.8	-16.8	149.7	4.6
Site3	2014/03/03	12:00:40	5.03	446	276.000	0.29	0.21	96.4	12.29	6.8	-16.7	150	4.4
Site3	2014/03/03	12:30:40	5.15	443	275.000	0.288	0.21	97.4	12.37	6.81	-17.2	150.6	5
Site3	2014/03/03	13:00:40	5.25	440	274.000	0.286	0.21	98.4	12.47	6.79	-16.2	137.8	10.1
Site3	2014/03/03	13:30:40	5.36	415	260.000	0.27	0.2	99.5	12.58	6.8	-16.7	139	8
Site3	2014/03/03	14:00:40	5.34	417	261.000	0.271	0.2	101.1	12.78	6.78	-15.6	137	8.9
Site3	2014/03/03	14:30:40	5.49	395	248.000	0.257	0.19	100.2	12.62	6.79	-15.8	137.3	7.3
Site3	2014/03/03	15:00:40	5.24	466	290.000	0.303	0.22	100.2	12.7	6.81	-17	143.1	7.6
Site3	2014/03/03	15:30:40	5.31	464	289.000	0.301	0.22	100	12.65	6.8	-16.3	143.5	8.9
Site3	2014/03/03	16:00:40	5.2	494	307.000	0.321	0.24	99.7	12.65	6.8	-16.7	150.3	7.7
Site3	2014/03/03	16:30:40	5.2	500	311.000	0.325	0.24	99.7	12.65	6.81	-17.2	155.5	7.5
Site3	2014/03/03	17:00:40	5.2	506	314.000	0.329	0.24	99.1	12.57	6.8	-16.5	159.3	7.3
Site3	2014/03/03	17:30:40	5.44	459	287.000	0.298	0.22	98.9	12.48	6.75	-13.8	156.4	7.3
Site3	2014/03/03	18:00:40	5.23	500	311.000	0.325	0.24	98.6	12.5	6.76	-14.3	160.8	7.3
Site3	2014/03/03	18:30:40	5.31	486	303.000	0.316	0.23	98.3	12.44	6.77	-14.8	161.1	7.2
Site3	2014/03/03	19:00:40	5.2	484	301.000	0.314	0.23	98.5	12.49	6.76	-14.3	163.8	7.2
Site3	2014/03/03	19:30:40	5.18	470	292.000	0.305	0.23	97.6	12.39	6.73	-12.9	167.5	7



## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/03	20:00:40	5.17	461	287.000	0.3	0.22	98.3	12.47	6.73	-13	170.7	7
Site3	2014/03/03	20:30:40	5.18	447	278.000	0.291	0.22	98.1	12.45	6.73	-13.1	171.6	7.3
Site3	2014/03/03	21:00:40	5.18	424	264.000	0.276	0.2	98.6	12.52	6.71	-11.8	171	8.1
Site3	2014/03/03	21:30:40	5.2	414	257.000	0.269	0.2	98.9	12.55	6.73	-12.9	168.5	7.3
Site3	2014/03/03	22:00:40	5.22	406	253.000	0.264	0.2	98	12.42	6.72	-12.3	168.1	6.7
Site3	2014/03/03	22:30:40	5.22	406	252.000	0.264	0.19	97.9	12.42	6.71	-11.8	170.2	6.8
Site3	2014/03/03	23:00:40	5.21	406	252.000	0.264	0.19	98.3	12.47	6.72	-12.6	172	6.6
Site3	2014/03/03	23:30:40	5.17	414	257.000	0.269	0.2	99.2	12.59	6.76	-14.4	176.7	6.8
Site3	2014/03/04	00:00:40	5.18	413	257.000	0.268	0.2	98.8	12.54	6.76	-14.5	181	6.5
Site3	2014/03/04	00:30:40	5.18	412	256.000	0.268	0.2	98.4	12.49	6.76	-14.3	184.4	6.8
Site3	2014/03/04	01:00:40	5.19	412	256.000	0.268	0.2	98.1	12.46	6.76	-14.5	186.7	6.4
Site3	2014/03/04	01:30:40	5.19	407	253.000	0.264	0.2	97.2	12.34	6.76	-14.2	187.5	6.2
Site3	2014/03/04	02:00:40	5.19	399	248.000	0.259	0.19	97.1	12.32	6.74	-13.4	188.4	6
Site3	2014/03/04	02:30:40	5.17	399	248.000	0.259	0.19	98	12.45	6.75	-13.7	189.9	6.2
Site3	2014/03/04	03:00:40	5.17	395	246.000	0.257	0.19	97	12.32	6.73	-13.2	192	6.1
Site3	2014/03/04	03:30:40	5.15	392	243.000	0.255	0.19	96.3	12.24	6.73	-12.7	193.2	6.1
Site3	2014/03/04	04:00:40	5.15	392	243.000	0.255	0.19	96.5	12.26	6.73	-12.9	193.8	6
Site3	2014/03/04	04:30:40	5.12	386	240.000	0.251	0.19	96.3	12.25	6.73	-12.8	195.4	5.9
Site3	2014/03/04	05:00:40	5.13	385	239.000	0.251	0.18	95.7	12.17	6.71	-12	197.6	6
Site3	2014/03/04	05:30:40	5.09	383	237.000	0.249	0.18	95.7	12.18	6.71	-12	198.5	5.6
Site3	2014/03/04	06:00:40	5.11	384	238.000	0.25	0.18	96.6	12.29	6.72	-12.5	199.7	5.9
Site3	2014/03/04	06:30:40	5.11	383	237.000	0.249	0.18	95.5	12.15	6.71	-12.1	201.5	5.8
Site3	2014/03/04	07:00:40	5.07	385	238.000	0.25	0.18	96	12.22	6.72	-12.3	202.7	5.9
Site3	2014/03/04	07:30:40	5.06	397	246.000	0.258	0.19	96.9	12.34	6.73	-12.7	201.7	6.1
Site3	2014/03/04	08:00:40	5.05	402	249.000	0.262	0.19	96.9	12.34	6.74	-13.3	198.5	6.2
Site3	2014/03/04	08:30:40	5.06	399	247.000	0.26	0.19	95.6	12.17	6.72	-12.5	190.9	6.4
Site3	2014/03/04	09:00:40	5.1	402	249.000	0.261	0.19	96.4	12.26	6.73	-12.8	192.3	6.1
Site3	2014/03/04	09:30:40	5.14	396	246.000	0.257	0.19	96.2	12.23	6.71	-12	189.6	6.3
Site3	2014/03/04	10:00:40	5.21	381	237.000	0.248	0.18	95.1	12.06	6.7	-11.5	187.7	6.1
Site3	2014/03/04	10:30:40	5.22	386	240.000	0.251	0.19	96.9	12.29	6.72	-12.5	185.6	6.1
Site3	2014/03/04	11:00:40	5.26	380	237.000	0.247	0.18	97.7	12.39	6.72	-12.5	181.4	6.8
Site3	2014/03/04	11:30:40	5.27	374	233.000	0.243	0.18	98.3	12.46	6.73	-12.9	179.6	7.1
Site3	2014/03/04	12:00:40	5.35	369	231.000	0.24	0.18	98.5	12.45	6.73	-12.9	180.8	6.5
Site3	2014/03/04	12:30:40	5.31	370	231.000	0.24	0.18	98.8	12.51	6.74	-13.4	184.4	6.1
Site3	2014/03/04	13:00:40	5.39	363	227.000	0.236	0.17	99.3	12.54	6.74	-13.4	183.3	7.8
Site3	2014/03/04	13:30:40	5.49	358	224.000	0.232	0.17	100	12.6	6.74	-13.6	182.3	6.2
Site3	2014/03/04	14:00:40	5.48	353	221.000	0.229	0.17	100.3	12.64	6.75	-14.2	180.7	5.8
Site3	2014/03/04	14:30:40	5.63	340	214.000	0.221	0.16	101.3	12.71	6.75	-14	175.5	6.8
Site3	2014/03/04	15:00:40	5.61	330	208.000	0.214	0.16	101.7	12.78	6.76	-14.2	174.7	6.5
Site3	2014/03/04	15:30:40	5.6	322	203.000	0.209	0.15	102.8	12.92	6.75	-13.7	165.8	6.7
Site3	2014/03/04	16:00:40	5.6	324	204.000	0.211	0.16	103.1	12.95	6.76	-14.3	162.8	6.2
Site3	2014/03/04	16:30:40	5.57	323	203.000	0.21	0.15	103.1	12.97	6.76	-14.6	164.7	7.3
Site3	2014/03/04	17:00:40	5.78	289	183.000	0.188	0.14	103.2	12.91	6.76	-14.5	166.3	7.3
Site3	2014/03/04	17:30:40	5.61	305	192.000	0.198	0.15	102.8	12.91	6.75	-13.7	169.6	6.8
Site3	2014/03/04	18:00:40	5.65	303	191.000	0.197	0.14	102.4	12.85	6.73	-12.8	172.8	7.3
Site3	2014/03/04	18:30:40	5.59	312	196.000	0.203	0.15	101.8	12.79	6.7	-11.5	176.7	6.8
Site3	2014/03/04	19:00:40	5.61	304	191.000	0.198	0.15	101.4	12.74	6.71	-11.6	179.2	7.3
Site3	2014/03/04	19:30:40	5.59	313	197.000	0.203	0.15	101.5	12.76	6.72	-12.3	182.6	7.5
Site3	2014/03/04	20:00:40	5.57	310	195.000	0.201	0.15	101	12.7	6.71	-12.1	186.4	7.7
Site3	2014/03/04	20:30:40	5.57	309	194.000	0.201	0.15	100.5	12.63	6.71	-11.8	187.8	7.8
Site3	2014/03/04	21:00:40	5.56	307	193.000	0.2	0.15	100.2	12.61	6.7	-11.1	189.9	6.9

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/04	21:30:40	5.55	308	193.000	0.2	0.15	99.7	12.54	6.69	-10.9	193.4	6.9
Site3	2014/03/04	22:00:40	5.54	304	191.000	0.197	0.15	98.9	12.45	6.68	-10.3	193.1	7.3
Site3	2014/03/04	22:30:40	5.51	299	188.000	0.194	0.14	97.6	12.29	6.66	-9.5	194	7.2
Site3	2014/03/04	23:00:40	5.51	303	190.000	0.197	0.14	98.4	12.39	6.67	-10	195	6.8
Site3	2014/03/04	23:30:40	5.51	309	194.000	0.201	0.15	99.4	12.53	6.69	-10.9	201.2	6.8
Site3	2014/03/05	00:00:40	5.49	307	192.000	0.199	0.15	99.4	12.53	6.7	-11.4	206.1	7.1
Site3	2014/03/05	00:30:40	5.49	304	191.000	0.198	0.15	99.1	12.49	6.66	-9.4	210	6.4
Site3	2014/03/05	01:00:40	5.44	294	184.000	0.191	0.14	97.4	12.29	6.69	-10.6	213.5	6.5
Site3	2014/03/05	01:30:40	5.51	296	186.000	0.192	0.14	97.1	12.23	6.65	-8.8	213.3	6.8
Site3	2014/03/05	02:00:40	5.51	297	187.000	0.193	0.14	99	12.46	6.7	-11.2	212.6	6.4
Site3	2014/03/05	02:30:40	5.48	291	182.000	0.189	0.14	98.4	12.4	6.69	-10.7	214.5	6.7
Site3	2014/03/05	03:00:40	5.46	279	175.000	0.182	0.13	97.9	12.34	6.68	-10.5	216.3	6.4
Site3	2014/03/05	03:30:40	5.48	281	176.000	0.183	0.13	98.5	12.41	6.69	-11	216.7	6.4
Site3	2014/03/05	04:00:40	5.48	277	174.000	0.18	0.13	100	12.61	6.69	-10.9	200.1	6.4
Site3	2014/03/05	04:30:40	5.48	261	164.000	0.17	0.12	99.2	12.51	6.7	-11.3	203.6	6.6
Site3	2014/03/05	05:00:40	5.48	271	170.000	0.176	0.13	99.4	12.53	6.68	-10.3	200.2	5.7
Site3	2014/03/05	05:30:40	5.49	271	170.000	0.176	0.13	99.2	12.5	6.68	-10.3	198.7	5.6
Site3	2014/03/05	06:00:40	5.49	258	162.000	0.168	0.12	99.5	12.54	6.68	-10.4	200.6	5.5
Site3	2014/03/05	06:30:40	5.5	266	167.000	0.173	0.13	99.4	12.52	6.68	-10.4	202.6	5.4
Site3	2014/03/05	07:00:40	5.51	266	167.000	0.173	0.13	98.9	12.46	6.7	-11.2	205.9	5.9
Site3	2014/03/05	07:30:40	5.57	277	174.000	0.18	0.13	99	12.45	6.69	-10.9	201.9	5.3
Site3	2014/03/05	08:00:40	5.57	259	163.000	0.169	0.12	98.8	12.42	6.69	-11	197.1	5.6
Site3	2014/03/05	08:30:40	5.62	262	165.000	0.17	0.12	97.5	12.25	6.68	-10.1	193.1	5.3
Site3	2014/03/05	09:00:40	5.66	265	167.000	0.172	0.13	98.5	12.36	6.69	-10.6	194.8	5.3
Site3	2014/03/05	09:30:40	5.68	255	161.000	0.166	0.12	98.9	12.41	6.73	-12.7	193.8	5.7
Site3	2014/03/05	10:00:40	5.74	264	167.000	0.172	0.13	98.5	12.33	6.68	-10.5	191.4	5.4
Site3	2014/03/05	10:30:40	5.83	259	164.000	0.169	0.12	98.4	12.29	6.7	-11.2	185.3	5.6
Site3	2014/03/05	11:00:40	5.93	264	168.000	0.171	0.13	99	12.34	6.69	-10.8	186.1	6
Site3	2014/03/05	11:30:40	6.04	260	166.000	0.169	0.12	100.4	12.48	6.71	-11.6	186.5	6.4
Site3	2014/03/05	12:00:40	6.1	249	159.000	0.162	0.12	101.3	12.57	6.67	-9.6	158.6	8.9
Site3	2014/03/05	12:30:40	6.29	245	158.000	0.159	0.12	102	12.6	6.69	-10.6	161.3	8.4
Site3	2014/03/05	13:00:40	6.34	247	159.000	0.161	0.12	102.3	12.61	6.67	-9.7	160.5	9
Site3	2014/03/05	13:30:40	6.33	258	166.000	0.167	0.12	103.3	12.74	6.73	-12.8	171.8	7.3
Site3	2014/03/05	14:00:40	6.34	261	168.000	0.17	0.12	103.7	12.79	6.73	-12.8	178.5	7.8
Site3	2014/03/05	14:30:40	6.48	259	168.000	0.169	0.12	104.3	12.82	6.74	-13.4	186.4	7.2
Site3	2014/03/05	15:00:40	6.65	263	171.000	0.171	0.13	105.4	12.9	6.75	-13.7	188.3	6.7
Site3	2014/03/05	15:30:40	6.77	262	171.000	0.17	0.13	105.5	12.87	6.75	-13.9	194.8	7
Site3	2014/03/05	16:00:40	6.68	266	173.000	0.173	0.13	103.5	12.66	6.73	-13.1	198.4	6.8
Site3	2014/03/05	16:30:40	6.74	267	174.000	0.173	0.13	102.9	12.57	6.72	-12.3	203.9	6.7
Site3	2014/03/05	17:00:40	6.77	267	174.000	0.174	0.13	102.6	12.52	6.72	-12.3	208.3	6.7
Site3	2014/03/05	17:30:40	6.81	267	174.000	0.174	0.13	102.1	12.44	6.71	-11.7	215	6.6
Site3	2014/03/05	18:00:40	6.83	268	175.000	0.174	0.13	101.5	12.36	6.7	-11.3	221.1	6.1
Site3	2014/03/05	18:30:40	6.85	266	174.000	0.173	0.13	101.4	12.34	6.7	-11.2	225.5	6.2
Site3	2014/03/05	19:00:40	6.91	260	170.000	0.169	0.12	100.8	12.25	6.68	-10.4	230	6.2
Site3	2014/03/05	19:30:40	6.82	260	170.000	0.169	0.12	100.8	12.29	6.69	-10.6	233.5	6.3
Site3	2014/03/05	20:00:40	6.81	256	167.000	0.166	0.12	100.6	12.26	6.69	-10.5	237.9	6.2
Site3	2014/03/05	20:30:40	6.77	256	167.000	0.166	0.12	100.1	12.21	6.69	-10.7	242.1	6.4
Site3	2014/03/05	21:00:40	6.7	257	167.000	0.167	0.12	99.3	12.14	6.68	-10.3	246	6.1
Site3	2014/03/05	21:30:40	6.72	256	167.000	0.167	0.12	98.8	12.07	6.69	-10.7	249.7	6.2
Site3	2014/03/05	22:00:40	6.72	255	166.000	0.166	0.12	98.5	12.03	6.68	-10.3	253.1	6.2
Site3	2014/03/05	22:30:40	6.74	251	163.000	0.163	0.12	98.3	12	6.68	-10.1	250.1	6.1

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/05	23:00:40	6.71	247	161.000	0.161	0.12	97.9	11.96	6.67	-9.9	249	5.9
Site3	2014/03/05	23:30:40	6.64	245	159.000	0.159	0.12	98.9	12.11	6.68	-10.3	226.4	6.3
Site3	2014/03/06	00:00:40	6.69	236	154.000	0.154	0.11	97.1	11.88	6.65	-8.7	229.1	5.9
Site3	2014/03/06	00:30:40	6.59	252	163.000	0.164	0.12	97.9	12	6.68	-10.4	232.7	6.9
Site3	2014/03/06	01:00:40	6.61	251	163.000	0.163	0.12	98.4	12.05	6.69	-10.8	235.5	6.4
Site3	2014/03/06	01:30:40	6.62	240	156.000	0.156	0.11	97.9	11.98	6.68	-10.3	235	7
Site3	2014/03/06	02:00:40	6.62	236	153.000	0.154	0.11	97.9	11.99	6.66	-9.3	217	7
Site3	2014/03/06	02:30:40	6.65	222	144.000	0.144	0.11	95.5	11.69	6.63	-7.4	212.6	6.7
Site3	2014/03/06	03:00:40	6.68	222	144.000	0.144	0.11	98.4	12.03	6.65	-8.8	217.7	6
Site3	2014/03/06	03:30:40	6.73	214	139.000	0.139	0.1	98.4	12.02	6.67	-9.5	219.7	5.7
Site3	2014/03/06	04:00:40	6.75	212	138.000	0.138	0.1	99.6	12.16	6.68	-10.3	225.7	5.6
Site3	2014/03/06	04:30:40	6.73	208	135.000	0.135	0.1	99.9	12.2	6.67	-9.7	225.2	5.9
Site3	2014/03/06	05:00:40	6.74	204	133.000	0.132	0.1	99.9	12.2	6.67	-9.5	232.9	6
Site3	2014/03/06	05:30:40	6.77	200	131.000	0.13	0.1	100.1	12.21	6.67	-9.8	238.2	5.8
Site3	2014/03/06	06:00:40	6.79	193	126.000	0.125	0.09	97.7	11.91	6.61	-6.7	242.4	5.5
Site3	2014/03/06	06:30:40	6.77	200	131.000	0.13	0.1	100.5	12.27	6.69	-10.6	250.4	5.9
Site3	2014/03/06	07:00:40	6.78	200	131.000	0.13	0.1	100.6	12.27	6.69	-11	256.8	6.1
Site3	2014/03/06	07:30:40	6.88	193	126.000	0.125	0.09	99.9	12.15	6.67	-9.7	253.5	6
Site3	2014/03/06	08:00:40	6.88	189	123.000	0.123	0.09	99.6	12.12	6.66	-9	246.1	6.5
Site3	2014/03/06	08:30:40	6.97	185	121.000	0.12	0.09	100.9	12.25	6.65	-8.4	205.9	7.7
Site3	2014/03/06	09:00:40	6.96	186	122.000	0.121	0.09	101.7	12.35	6.66	-9	200.8	8.5
Site3	2014/03/06	09:30:40	7.06	174	114.000	0.113	0.08	102	12.35	6.64	-8.2	191.7	29.1
Site3	2014/03/06	10:00:40	7.05	183	120.000	0.119	0.09	102.5	12.42	6.65	-8.8	184.9	13.6
Site3	2014/03/06	10:30:40	7.11	184	121.000	0.12	0.09	102.8	12.44	6.66	-9	177.8	29.1
Site3	2014/03/06	11:00:40	7.21	182	120.000	0.118	0.09	102.3	12.35	6.64	-8	173.5	13
Site3	2014/03/06	11:30:40	7.28	185	123.000	0.12	0.09	101.1	12.18	6.58	-5	170.3	17.8
Site3	2014/03/06	12:00:40	7.37	170	113.000	0.111	0.08	100.8	12.12	6.65	-8.5	166.2	9.7
Site3	2014/03/06	12:30:40	7.48	171	113.000	0.111	0.08	100.3	12.03	6.65	-8.5	161.9	8.7
Site3	2014/03/06	13:00:40	7.46	187	125.000	0.122	0.09	101.6	12.19	6.69	-10.7	166.1	10.5
Site3	2014/03/06	13:30:40	7.58	157	105.000	0.102	0.07	101.5	12.15	6.69	-10.7	171.8	8.2
Site3	2014/03/06	14:00:40	7.5	181	120.000	0.118	0.09	101.5	12.17	6.64	-7.9	173.3	8.4
Site3	2014/03/06	14:30:40	7.61	173	116.000	0.113	0.08	101.4	12.12	6.66	-9.3	174.6	8.4
Site3	2014/03/06	15:00:40	7.63	168	113.000	0.109	0.08	101.7	12.15	6.64	-8.2	173.5	9.6
Site3	2014/03/06	15:30:40	7.75	156	105.000	0.101	0.07	101.5	12.09	6.59	-5.6	166.3	13.1
Site3	2014/03/06	16:00:40	7.77	153	102.000	0.099	0.07	102.1	12.16	6.62	-6.9	166.8	13.6
Site3	2014/03/06	16:30:40	7.79	149	100.000	0.097	0.07	101.6	12.09	6.6	-6.2	172.2	13.1
Site3	2014/03/06	17:00:40	7.74	149	100.000	0.097	0.07	101.6	12.11	6.59	-5.3	176.2	13
Site3	2014/03/06	17:30:40	7.72	147	98.000	0.095	0.07	101.6	12.11	6.66	-9	189.9	10.3
Site3	2014/03/06	18:00:40	7.74	143	96.000	0.093	0.07	100.1	11.93	6.58	-5.1	206.9	10.1
Site3	2014/03/06	18:30:40	7.72	141	94.000	0.092	0.07	101	12.03	6.6	-6.1	211.7	9.1
Site3	2014/03/06	19:00:40	7.73	144	97.000	0.094	0.07	102.2	12.18	6.65	-8.5	221	9.5
Site3	2014/03/06	19:30:40	7.71	143	95.000	0.093	0.07	100	11.93	6.6	-6.2	231.9	9
Site3	2014/03/06	20:00:40	7.7	144	96.000	0.093	0.07	100.1	11.94	6.59	-5.6	238.8	8.2
Site3	2014/03/06	20:30:40	7.69	146	98.000	0.095	0.07	100.2	11.96	6.59	-5.7	242.7	8.2
Site3	2014/03/06	21:00:40	7.67	146	98.000	0.095	0.07	99.9	11.92	6.61	-6.7	246.6	7.5
Site3	2014/03/06	21:30:40	7.66	146	98.000	0.095	0.07	99.7	11.91	6.59	-5.7	251.2	7.8
Site3	2014/03/06	22:00:40	7.62	146	98.000	0.095	0.07	97.9	11.7	6.56	-3.8	256	7.3
Site3	2014/03/06	22:30:40	7.55	145	97.000	0.095	0.07	97.6	11.69	6.55	-3.3	259.9	7.3
Site3	2014/03/06	23:00:40	7.59	148	99.000	0.096	0.07	95	11.36	6.49	-0.1	263.4	7.7
Site3	2014/03/06	23:30:40	7.56	147	98.000	0.096	0.07	97.7	11.7	6.57	-4.4	263.2	7.7
Site3	2014/03/07	00:00:40	7.58	147	98.000	0.095	0.07	98	11.73	6.54	-3.1	266.1	7.4

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/07	00:30:40	7.49	144	96.000	0.094	0.07	97	11.63	6.55	-3.4	267.6	36.5
Site3	2014/03/07	01:00:40	7.54	145	97.000	0.094	0.07	98.2	11.76	6.57	-4.6	270	6.7
Site3	2014/03/07	01:30:40	7.59	146	97.000	0.095	0.07	99.2	11.86	6.62	-7.1	271.5	8.4
Site3	2014/03/07	02:00:40	7.56	146	97.000	0.095	0.07	98.1	11.74	6.59	-5.7	275.4	8
Site3	2014/03/07	02:30:40	7.55	146	97.000	0.095	0.07	98.2	11.76	6.6	-6	278.3	7.7
Site3	2014/03/07	03:00:40	7.54	146	97.000	0.095	0.07	98	11.73	6.6	-5.9	280.5	7.7
Site3	2014/03/07	03:30:40	7.55	147	98.000	0.095	0.07	98.1	11.74	6.59	-5.4	283.1	7
Site3	2014/03/07	04:00:40	7.58	146	98.000	0.095	0.07	98.9	11.83	6.61	-6.6	284.2	7.2
Site3	2014/03/07	04:30:40	7.57	147	98.000	0.095	0.07	98.3	11.76	6.61	-6.3	287.4	7.3
Site3	2014/03/07	05:00:40	7.59	146	97.000	0.095	0.07	98.5	11.77	6.6	-6.1	289.9	7.1
Site3	2014/03/07	05:30:40	7.63	146	97.000	0.095	0.07	98.7	11.8	6.61	-6.7	291.3	7.7
Site3	2014/03/07	06:00:40	7.6	145	97.000	0.094	0.07	98.2	11.74	6.6	-6	294.5	7
Site3	2014/03/07	06:30:40	7.55	145	97.000	0.094	0.07	98.3	11.76	6.6	-6	297.1	7
Site3	2014/03/07	07:00:40	7.59	145	97.000	0.094	0.07	98.6	11.79	6.61	-6.3	299.3	7.4
Site3	2014/03/07	07:30:40	7.57	146	97.000	0.095	0.07	97.8	11.7	6.58	-4.8	290.6	7
Site3	2014/03/07	08:00:40	7.62	145	97.000	0.095	0.07	98.9	11.82	6.61	-6.8	291.6	7
Site3	2014/03/07	08:30:40	7.59	146	97.000	0.095	0.07	98.7	11.8	6.62	-7	294.4	6.6
Site3	2014/03/07	09:00:40	7.67	146	98.000	0.095	0.07	99.3	11.85	6.6	-6.1	289.6	6.5
Site3	2014/03/07	09:30:40	7.71	146	98.000	0.095	0.07	99.7	11.89	6.62	-7.2	292.1	7.1
Site3	2014/03/07	10:00:40	7.8	146	98.000	0.095	0.07	100.7	11.98	6.62	-7.2	297.2	7.2
Site3	2014/03/07	10:30:40	7.93	147	99.000	0.095	0.07	101.1	11.99	6.62	-7.1	301.6	6.4
Site3	2014/03/07	11:00:40	7.98	148	100.000	0.096	0.07	101.3	12	6.64	-8.1	304.7	6.4
Site3	2014/03/07	11:30:40	8	149	100.000	0.097	0.07	101.5	12.02	6.63	-7.7	308.8	6.4
Site3	2014/03/07	12:00:40	8.07	149	101.000	0.097	0.07	101.8	12.03	6.64	-7.9	310.1	6.5
Site3	2014/03/07	12:30:40	8.09	150	102.000	0.097	0.07	103.9	12.27	6.65	-8.5	309	6.4
Site3	2014/03/07	13:00:40	8.21	152	103.000	0.099	0.07	104	12.25	6.63	-7.4	308.6	6.6
Site3	2014/03/07	13:30:40	8.14	151	102.000	0.098	0.07	104.2	12.3	6.67	-9.6	313	6.9
Site3	2014/03/07	14:00:40	8.15	152	103.000	0.099	0.07	105.2	12.41	6.68	-10.2	314.7	6.8
Site3	2014/03/07	14:30:40	8.22	153	104.000	0.099	0.07	103.2	12.15	6.66	-9.3	315.7	6.6
Site3	2014/03/07	15:00:40	8.25	152	104.000	0.099	0.07	102.5	12.06	6.66	-8.9	316.8	6.6
Site3	2014/03/07	15:30:40	8.33	153	104.000	0.099	0.07	103.4	12.14	6.65	-8.9	317.7	6.4
Site3	2014/03/07	16:00:40	8.31	151	103.000	0.098	0.07	103.9	12.21	6.65	-8.8	319	6.8
Site3	2014/03/07	16:30:40	8.33	150	102.000	0.098	0.07	104.1	12.22	6.66	-9.2	320.1	6.7
Site3	2014/03/07	17:00:40	8.37	150	102.000	0.097	0.07	104.4	12.25	6.67	-9.3	320.6	6.5
Site3	2014/03/07	17:30:40	8.34	149	101.000	0.097	0.07	107.5	12.62	6.73	-12.8	322.7	6.2
Site3	2014/03/07	18:00:40	8.33	149	101.000	0.097	0.07	104.9	12.32	6.69	-10.7	323.3	6.4
Site3	2014/03/07	18:30:40	8.31	150	102.000	0.097	0.07	103.3	12.14	6.67	-9.7	323.9	6.3
Site3	2014/03/07	19:00:40	8.28	150	102.000	0.097	0.07	103.6	12.19	6.66	-9.2	325.4	6.1
Site3	2014/03/07	19:30:40	8.24	150	102.000	0.097	0.07	103.7	12.2	6.67	-9.8	325.9	6.3
Site3	2014/03/07	20:00:40	8.2	151	103.000	0.098	0.07	102.6	12.09	6.67	-9.4	326.2	6.2
Site3	2014/03/07	20:30:40	8.15	152	103.000	0.099	0.07	102	12.04	6.65	-8.8	327.3	6
Site3	2014/03/07	21:00:40	8.1	153	104.000	0.099	0.07	102	12.04	6.66	-8.9	328	6.1
Site3	2014/03/07	21:30:40	8.06	154	104.000	0.1	0.07	101.1	11.95	6.64	-8.3	329	6
Site3	2014/03/07	22:00:40	8	155	105.000	0.101	0.07	100.8	11.93	6.64	-8.2	329.5	6
Site3	2014/03/07	22:30:40	7.98	156	105.000	0.102	0.07	99.9	11.83	6.64	-8.1	330.6	5.7
Site3	2014/03/07	23:00:40	7.93	157	106.000	0.102	0.07	99.5	11.8	6.64	-7.9	331.2	6.2
Site3	2014/03/07	23:30:40	7.87	158	107.000	0.103	0.08	99.4	11.8	6.64	-8.2	332.5	6
Site3	2014/03/08	00:00:40	7.86	158	106.000	0.103	0.07	100.2	11.91	6.65	-8.8	333.2	6.4
Site3	2014/03/08	00:30:40	7.83	158	106.000	0.103	0.07	99.8	11.86	6.66	-9	334	5.7
Site3	2014/03/08	01:00:40	7.83	158	106.000	0.102	0.07	100	11.89	6.67	-9.6	333.8	6
Site3	2014/03/08	01:30:40	7.79	157	106.000	0.102	0.07	99.9	11.89	6.67	-9.6	335	5.6

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/08	02:00:40	7.76	158	106.000	0.103	0.07	99.5	11.85	6.67	-9.7	335.3	5.7
Site3	2014/03/08	02:30:40	7.73	159	106.000	0.103	0.08	99.1	11.82	6.66	-9.3	336.4	5.7
Site3	2014/03/08	03:00:40	7.69	160	107.000	0.104	0.08	98.6	11.76	6.66	-9.1	337	5.6
Site3	2014/03/08	03:30:40	7.65	161	108.000	0.105	0.08	98.1	11.72	6.65	-8.9	337.5	5.6
Site3	2014/03/08	04:00:40	7.6	162	108.000	0.105	0.08	97.8	11.69	6.65	-8.5	338	5.4
Site3	2014/03/08	04:30:40	7.58	163	108.000	0.106	0.08	97.8	11.7	6.65	-8.8	338.4	5.6
Site3	2014/03/08	05:00:40	7.55	163	109.000	0.106	0.08	97.8	11.71	6.66	-9.2	338.8	5.6
Site3	2014/03/08	05:30:40	7.53	164	109.000	0.106	0.08	97.4	11.67	6.66	-9	339.1	5.2
Site3	2014/03/08	06:00:40	7.52	164	109.000	0.106	0.08	97.8	11.71	6.66	-9.4	339.5	5.3
Site3	2014/03/08	06:30:40	7.5	164	109.000	0.107	0.08	97.5	11.69	6.66	-9.3	340.5	5.3
Site3	2014/03/08	07:00:40	7.5	164	109.000	0.106	0.08	97.5	11.68	6.66	-9.3	340.1	5.5
Site3	2014/03/08	07:30:40	7.47	165	109.000	0.107	0.08	97.7	11.71	6.67	-9.4	340.1	5.3
Site3	2014/03/08	08:00:40	7.5	165	110.000	0.107	0.08	97.9	11.73	6.67	-9.7	340.2	5.3
Site3	2014/03/08	08:30:40	7.49	165	110.000	0.107	0.08	98	11.75	6.67	-9.6	340.6	5.1
Site3	2014/03/08	09:00:40	7.49	166	110.000	0.108	0.08	97.9	11.74	6.67	-9.8	340.5	5.2
Site3	2014/03/08	09:30:40	7.48	167	111.000	0.108	0.08	98.2	11.77	6.67	-9.9	340.7	5.1
Site3	2014/03/08	10:00:40	7.5	167	111.000	0.109	0.08	98.3	11.78	6.68	-9.9	341.2	5
Site3	2014/03/08	10:30:40	7.5	168	112.000	0.109	0.08	98.3	11.78	6.67	-9.9	341.9	5.1
Site3	2014/03/08	11:00:40	7.51	168	112.000	0.109	0.08	98.5	11.81	6.67	-9.8	342.2	5
Site3	2014/03/08	11:30:40	7.54	169	113.000	0.11	0.08	99.2	11.87	6.69	-10.6	341.7	5.1
Site3	2014/03/08	12:00:40	7.55	169	113.000	0.11	0.08	99.8	11.95	6.69	-10.7	342.4	4.9
Site3	2014/03/08	12:30:40	7.57	170	113.000	0.11	0.08	99.9	11.95	6.69	-10.9	343	4.9
Site3	2014/03/08	13:00:40	7.58	170	114.000	0.111	0.08	100.3	11.99	6.7	-11.2	343.1	4.9
Site3	2014/03/08	13:30:40	7.62	171	114.000	0.111	0.08	101.2	12.09	6.72	-12.1	343.2	5.2
Site3	2014/03/08	14:00:40	7.65	171	114.000	0.111	0.08	101.8	12.16	6.72	-12.2	344.1	5
Site3	2014/03/08	14:30:40	7.66	170	114.000	0.11	0.08	102.5	12.24	6.73	-12.9	344.1	4.9
Site3	2014/03/08	15:00:40	7.73	168	113.000	0.109	0.08	103.4	12.33	6.73	-13	343.8	5
Site3	2014/03/08	15:30:40	7.75	167	112.000	0.109	0.08	102.8	12.25	6.73	-12.6	344.4	4.9
Site3	2014/03/08	16:00:40	7.79	163	109.000	0.106	0.08	102.4	12.19	6.72	-12.3	343.8	5.3
Site3	2014/03/08	16:30:40	7.79	156	105.000	0.101	0.07	101.6	12.1	6.68	-10.4	339.7	6.7
Site3	2014/03/08	17:00:40	7.76	167	112.000	0.108	0.08	103	12.26	6.7	-11.2	340.5	7.5
Site3	2014/03/08	17:30:40	7.82	136	91.000	0.088	0.06	102.8	12.22	6.68	-10.3	336.3	11.7
Site3	2014/03/08	18:00:40	7.74	151	101.000	0.098	0.07	103.2	12.29	6.66	-9	338.1	8.8
Site3	2014/03/08	18:30:40	7.72	153	103.000	0.1	0.07	103.1	12.29	6.64	-7.9	337.5	8.2
Site3	2014/03/08	19:00:40	7.68	155	104.000	0.101	0.07	102.7	12.25	6.64	-8	337.2	7.4
Site3	2014/03/08	19:30:40	7.64	151	101.000	0.098	0.07	102.4	12.23	6.62	-7.3	340.3	6.7
Site3	2014/03/08	20:00:40	7.59	156	104.000	0.101	0.07	102.5	12.26	6.59	-5.3	341.4	7.2
Site3	2014/03/08	20:30:40	7.56	148	98.000	0.096	0.07	101.9	12.2	6.63	-7.6	341.4	7
Site3	2014/03/08	21:00:40	7.56	153	102.000	0.099	0.07	102	12.2	6.59	-5.2	341.1	8.9
Site3	2014/03/08	21:30:40	7.55	156	104.000	0.101	0.07	101.9	12.19	6.59	-5.7	341.2	10.4
Site3	2014/03/08	22:00:40	7.59	173	115.000	0.112	0.08	100.7	12.04	6.62	-7.2	339.9	10
Site3	2014/03/08	22:30:40	7.6	160	107.000	0.104	0.08	99.7	11.92	6.55	-3.7	333.9	14
Site3	2014/03/08	23:00:40	7.72	167	112.000	0.109	0.08	99.8	11.9	6.6	-6.2	330.6	24
Site3	2014/03/08	23:30:40	7.77	160	108.000	0.104	0.08	99.9	11.89	6.58	-5	329.2	19.8
Site3	2014/03/09	00:00:40	7.75	141	95.000	0.092	0.07	100.3	11.95	6.58	-5.1	332	38.5
Site3	2014/03/09	00:30:40	7.72	131	87.000	0.085	0.06	100.3	11.95	6.53	-2.4	321.5	18.1
Site3	2014/03/09	01:00:40	7.77	123	83.000	0.08	0.06	100.9	12.02	6.53	-2.3	341.1	35.7
Site3	2014/03/09	01:30:40	7.73	113	76.000	0.073	0.05	100.2	11.94	6.53	-2.6	344.8	61.3
Site3	2014/03/09	02:00:40	7.82	113	76.000	0.074	0.05	101.6	12.08	6.52	-2	347.1	69.1
Site3	2014/03/09	02:30:40	7.76	110	74.000	0.072	0.05	100.6	11.98	6.53	-2.1	348.2	28.9
Site3	2014/03/09	03:00:40	7.76	109	73.000	0.071	0.05	101	12.03	6.51	-1.5	348.6	47.1

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/09	03:30:40	7.74	108	72.000	0.07	0.05	100.9	12.02	6.51	-1.4	350.1	35.4
Site3	2014/03/09	04:00:40	7.78	107	72.000	0.069	0.05	102.1	12.16	6.54	-3.1	349.8	24.4
Site3	2014/03/09	04:30:40	7.67	107	72.000	0.07	0.05	100.8	12.03	6.52	-1.8	351	311.1
Site3	2014/03/09	05:00:40	7.5	108	72.000	0.07	0.05	99.5	11.92	6.49	-0.5	351.8	230.3
Site3	2014/03/09	05:30:40	7.55	111	74.000	0.072	0.05	99.9	11.96	6.5	-0.8	352	82.1
Site3	2014/03/09	06:00:40	7.52	112	75.000	0.073	0.05	99.7	11.95	6.49	-0.4	352.7	57.4
Site3	2014/03/09	06:30:40	7.51	113	75.000	0.073	0.05	99.6	11.94	6.5	-0.7	353	62.6
Site3	2014/03/09	07:00:40	7.43	113	75.000	0.073	0.05	98.3	11.8	6.48	0.4	354.2	49.6
Site3	2014/03/09	07:30:40	7.39	113	75.000	0.073	0.05	98.9	11.88	6.5	-0.6	353.5	63.4
Site3	2014/03/09	08:00:40	7.43	112	74.000	0.073	0.05	98.8	11.87	6.49	-0.4	353.6	44.6
Site3	2014/03/09	08:30:40	7.27	113	75.000	0.074	0.05	98.6	11.89	6.49	-0.4	354.3	42.6
Site3	2014/03/09	09:00:40	7.47	114	76.000	0.074	0.05	98.7	11.84	6.48	0.2	354.8	34.4
Site3	2014/03/09	09:30:40	7.59	115	77.000	0.075	0.05	101.3	12.12	6.54	-2.7	353.6	35.7
Site3	2014/03/09	10:00:40	7.67	116	78.000	0.076	0.05	101.5	12.12	6.53	-2.4	354.6	47.5
Site3	2014/03/09	10:30:40	7.76	117	78.000	0.076	0.06	102.2	12.17	6.54	-2.7	354.9	47.8
Site3	2014/03/09	11:00:40	7.82	118	79.000	0.076	0.06	102.9	12.24	6.53	-2.1	355.5	34.3
Site3	2014/03/09	11:30:40	7.92	118	80.000	0.077	0.06	106.5	12.64	6.56	-3.7	354.8	39
Site3	2014/03/09	12:00:40	8.02	118	80.000	0.077	0.06	104.2	12.34	6.57	-4.4	354.9	35.3
Site3	2014/03/09	12:30:40	8.26	120	82.000	0.078	0.06	105.2	12.38	6.56	-4.1	355.2	27.5
Site3	2014/03/09	13:00:40	8.4	119	81.000	0.077	0.06	105.2	12.33	6.57	-4.2	355.5	24.3
Site3	2014/03/09	13:30:40	8.36	117	80.000	0.076	0.06	107.8	12.66	6.6	-5.7	354.9	17.2
Site3	2014/03/09	14:00:40	8.57	118	81.000	0.076	0.06	112.1	13.09	6.62	-7	355	16.2
Site3	2014/03/09	14:30:40	8.57	118	81.000	0.077	0.06	110.2	12.87	6.64	-8.1	354.9	17.7
Site3	2014/03/09	15:00:40	8.74	118	81.000	0.076	0.06	110.2	12.82	6.65	-8.7	355.3	16
Site3	2014/03/09	15:30:40	8.77	117	81.000	0.076	0.06	109.1	12.68	6.64	-8.2	355.9	16.3
Site3	2014/03/09	16:00:40	8.86	116	81.000	0.076	0.05	107.5	12.47	6.64	-7.9	356.1	15.9
Site3	2014/03/09	16:30:40	8.92	117	81.000	0.076	0.06	105.6	12.23	6.63	-7.4	357	15.9
Site3	2014/03/09	17:00:40	9.06	118	82.000	0.077	0.06	106.2	12.26	6.62	-7	357.2	15
Site3	2014/03/09	17:30:40	9.1	120	83.000	0.078	0.06	105.1	12.11	6.6	-6	357.2	15.9
Site3	2014/03/09	18:00:40	9.13	120	84.000	0.078	0.06	105	12.1	6.59	-5.4	357.5	15.6
Site3	2014/03/09	18:30:40	9.06	121	84.000	0.078	0.06	104.7	12.08	6.58	-4.6	358.1	15.3
Site3	2014/03/09	19:00:40	8.95	122	84.000	0.079	0.06	103.8	12.01	6.56	-3.6	358.6	21.7
Site3	2014/03/09	19:30:40	8.87	123	85.000	0.08	0.06	103.5	12	6.55	-3.2	358.7	15.3
Site3	2014/03/09	20:00:40	8.75	123	85.000	0.08	0.06	102.6	11.92	6.54	-2.8	359.2	17.7
Site3	2014/03/09	20:30:40	8.65	124	85.000	0.08	0.06	102.5	11.94	6.54	-2.9	359.3	14.2
Site3	2014/03/09	21:00:40	8.54	124	85.000	0.081	0.06	102.2	11.94	6.54	-2.9	359.9	15.1
Site3	2014/03/09	21:30:40	8.41	124	85.000	0.081	0.06	101.5	11.89	6.54	-3	360.4	14.6
Site3	2014/03/09	22:00:40	8.3	125	85.000	0.081	0.06	100.7	11.84	6.54	-2.9	360.8	14.5
Site3	2014/03/09	22:30:40	8.16	125	85.000	0.081	0.06	99.9	11.78	6.54	-2.6	361.3	14.8
Site3	2014/03/09	23:00:40	8.02	126	85.000	0.082	0.06	98.7	11.68	6.53	-2.4	361.8	17.4
Site3	2014/03/09	23:30:40	7.95	127	85.000	0.082	0.06	98.4	11.67	6.54	-2.7	362	14.4
Site3	2014/03/10	00:00:40	7.87	127	86.000	0.083	0.06	98.3	11.68	6.54	-2.7	362.6	15.1
Site3	2014/03/10	00:30:40	7.83	128	86.000	0.083	0.06	97.6	11.6	6.54	-2.7	362.9	14
Site3	2014/03/10	01:00:40	7.8	128	86.000	0.083	0.06	97.5	11.6	6.54	-2.8	363	14.5
Site3	2014/03/10	01:30:40	7.8	128	86.000	0.083	0.06	97.5	11.6	6.54	-2.9	363.3	13.4
Site3	2014/03/10	02:00:40	7.77	128	86.000	0.083	0.06	96.9	11.54	6.54	-2.8	363.7	13.4
Site3	2014/03/10	02:30:40	7.8	128	86.000	0.083	0.06	97.7	11.63	6.54	-3.1	363.6	30
Site3	2014/03/10	03:00:40	7.76	129	86.000	0.084	0.06	97.2	11.58	6.54	-3.1	363.9	29.8
Site3	2014/03/10	03:30:40	7.71	129	86.000	0.084	0.06	96.6	11.51	6.55	-3.2	364.4	30
Site3	2014/03/10	04:00:40	7.6	130	87.000	0.085	0.06	96.5	11.54	6.53	-2.4	364.8	7.3
Site3	2014/03/10	04:30:40	7.63	131	87.000	0.085	0.06	95.7	11.44	6.54	-2.7	364.6	5.9

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/10	05:00:40	7.59	131	88.000	0.085	0.06	95.5	11.42	6.54	-2.8	364.8	5.4
Site3	2014/03/10	05:30:40	7.57	132	88.000	0.086	0.06	95.8	11.46	6.54	-3.1	364.9	5.9
Site3	2014/03/10	06:00:40	7.6	133	88.000	0.086	0.06	96.7	11.56	6.55	-3.5	364.9	5.2
Site3	2014/03/10	06:30:40	7.59	133	89.000	0.086	0.06	97	11.59	6.56	-4.1	364.7	5.3
Site3	2014/03/10	07:00:40	7.62	133	89.000	0.087	0.06	97.9	11.7	6.56	-3.8	364.9	5
Site3	2014/03/10	07:30:40	7.55	134	89.000	0.087	0.06	98.6	11.8	6.56	-3.8	365.1	5.8
Site3	2014/03/10	08:00:40	7.56	135	90.000	0.088	0.06	101	12.09	6.57	-4.4	364.9	3.9
Site3	2014/03/10	08:30:40	7.6	135	90.000	0.088	0.06	105.1	12.57	6.57	-4.3	364.8	4.2
Site3	2014/03/10	09:00:40	7.67	136	91.000	0.088	0.06	109.3	13.04	6.58	-4.9	364.8	19.1
Site3	2014/03/10	09:30:40	7.7	137	92.000	0.089	0.06	105.1	12.53	6.57	-4.5	365.1	4.8
Site3	2014/03/10	10:00:40	7.74	138	93.000	0.09	0.07	103.4	12.31	6.57	-4.3	365.2	7.9
Site3	2014/03/10	10:30:40	8.28	138	94.000	0.09	0.07	110.6	13.01	6.6	-5.9	364.7	24.8
Site3	2014/03/10	11:00:40	8.3	139	94.000	0.09	0.07	119.9	14.1	6.61	-6.3	364.1	120
Site3	2014/03/10	11:30:40	8.47	139	95.000	0.091	0.07	120.1	14.05	6.61	-6.3	364	309.2
Site3	2014/03/10	12:00:40	9.05	140	98.000	0.091	0.07	124.3	14.35	6.63	-7.5	363.2	58.9
Site3	2014/03/10	12:30:40	8.9	141	98.000	0.092	0.07	122.9	14.23	6.62	-6.8	362.7	106.6
Site3	2014/03/10	13:00:40	8.91	142	98.000	0.092	0.07	128	14.83	6.65	-8.3	362.6	4.4
Site3	2014/03/10	13:30:40	9.24	141	99.000	0.092	0.07	124.4	14.29	6.67	-9.5	362.5	32.1
Site3	2014/03/10	14:00:40	9.48	142	100.000	0.092	0.07	123.7	14.13	6.68	-10.1	362.4	36
Site3	2014/03/10	14:30:40	9.93	142	101.000	0.092	0.07	122.1	13.8	6.67	-9.6	361.9	93.6
Site3	2014/03/10	15:00:40	9.69	143	101.000	0.093	0.07	119.8	13.62	6.66	-9	362.6	175.9
Site3	2014/03/10	15:30:40	9.98	143	102.000	0.093	0.07	120	13.55	6.71	-11.4	361.5	3.9
Site3	2014/03/10	16:00:40	10.34	142	103.000	0.093	0.07	114.2	12.78	6.72	-12	361.6	4.5
Site3	2014/03/10	16:30:40	10.16	143	103.000	0.093	0.07	113	12.7	6.72	-12	361.3	205.1
Site3	2014/03/10	17:00:40	9.95	143	102.000	0.093	0.07	113.1	12.78	6.71	-11.4	361.3	19.2
Site3	2014/03/10	17:30:40	10	143	102.000	0.093	0.07	112.1	12.65	6.7	-11.1	361.1	4.7
Site3	2014/03/10	18:00:40	9.92	144	102.000	0.093	0.07	111	12.55	6.7	-11.3	361.2	18.2
Site3	2014/03/10	18:30:40	9.78	144	102.000	0.094	0.07	109.9	12.46	6.7	-11	361.8	3.9
Site3	2014/03/10	19:00:40	9.71	144	102.000	0.094	0.07	108.4	12.32	6.7	-11	361.8	3.8
Site3	2014/03/10	19:30:40	9.65	145	102.000	0.094	0.07	108.3	12.32	6.69	-10.7	361.5	4.2
Site3	2014/03/10	20:00:40	9.58	145	102.000	0.094	0.07	107.6	12.26	6.68	-10.3	361.6	3.8
Site3	2014/03/10	20:30:40	9.42	146	102.000	0.095	0.07	106.5	12.19	6.65	-8.6	361.7	4
Site3	2014/03/10	21:00:40	9.33	146	102.000	0.095	0.07	106.1	12.17	6.66	-9	361.3	4.2
Site3	2014/03/10	21:30:40	9.27	145	102.000	0.094	0.07	105.8	12.14	6.65	-8.8	362.2	4.5
Site3	2014/03/10	22:00:40	9.19	145	101.000	0.094	0.07	104.8	12.05	6.66	-8.9	362.1	4.3
Site3	2014/03/10	22:30:40	9.06	146	102.000	0.095	0.07	104.4	12.04	6.65	-8.5	362.5	4.7
Site3	2014/03/10	23:00:40	8.99	147	102.000	0.096	0.07	103.3	11.94	6.65	-8.3	362.7	4.7
Site3	2014/03/10	23:30:40	8.88	148	102.000	0.096	0.07	102.4	11.87	6.64	-7.9	363	4.6
Site3	2014/03/11	00:00:40	8.76	148	102.000	0.096	0.07	102	11.85	6.63	-7.7	363.5	5
Site3	2014/03/11	00:30:40	8.61	148	102.000	0.096	0.07	101.6	11.85	6.62	-7	363.9	4.9
Site3	2014/03/11	01:00:40	8.47	149	102.000	0.097	0.07	101	11.82	6.61	-6.7	364.1	5
Site3	2014/03/11	01:30:40	8.41	149	101.000	0.097	0.07	101.4	11.89	6.62	-7.2	364.4	5
Site3	2014/03/11	02:00:40	8.33	148	101.000	0.096	0.07	101.3	11.89	6.63	-7.5	364.7	4.8
Site3	2014/03/11	02:30:40	8.3	148	101.000	0.096	0.07	101.3	11.91	6.63	-7.8	365.2	5.1
Site3	2014/03/11	03:00:40	8.22	148	101.000	0.096	0.07	101.4	11.94	6.64	-8.2	365.5	5
Site3	2014/03/11	03:30:40	8.13	149	101.000	0.097	0.07	101.6	11.98	6.65	-8.3	366.3	4.8
Site3	2014/03/11	04:00:40	8.12	149	101.000	0.097	0.07	101.5	11.98	6.65	-8.6	367.7	5
Site3	2014/03/11	04:30:40	8.07	150	101.000	0.097	0.07	101.1	11.95	6.65	-8.7	367.8	4.7
Site3	2014/03/11	05:00:40	8.06	150	101.000	0.098	0.07	101	11.94	6.65	-8.5	368.8	4.9
Site3	2014/03/11	05:30:40	8.05	150	101.000	0.098	0.07	101	11.94	6.65	-8.7	369.4	5
Site3	2014/03/11	06:00:40	8.06	150	102.000	0.098	0.07	100.8	11.92	6.65	-8.8	369.6	4.7

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/11	06:30:40	8.01	150	102.000	0.098	0.07	100.9	11.94	6.65	-8.7	370.2	4.7
Site3	2014/03/11	07:00:40	7.98	151	102.000	0.098	0.07	101.1	11.97	6.65	-8.7	369.9	4.8
Site3	2014/03/11	07:30:40	7.97	151	102.000	0.098	0.07	101.3	12	6.66	-9	369.6	4.7
Site3	2014/03/11	08:00:40	8.01	152	102.000	0.099	0.07	102.7	12.16	6.67	-9.5	369.6	4.8
Site3	2014/03/11	08:30:40	8.03	153	103.000	0.099	0.07	103	12.19	6.67	-9.7	369.4	4.8
Site3	2014/03/11	09:00:40	8.03	155	105.000	0.101	0.07	103.3	12.22	6.67	-9.9	369.2	4.3
Site3	2014/03/11	09:30:40	8.11	157	106.000	0.102	0.07	107.1	12.65	6.69	-10.9	370.2	4.2
Site3	2014/03/11	10:00:40	8.16	158	107.000	0.103	0.07	105.9	12.48	6.7	-11.2	369.6	4.3
Site3	2014/03/11	10:30:40	8.26	159	108.000	0.103	0.08	107.3	12.62	6.72	-12	368.8	4.2
Site3	2014/03/11	11:00:40	8.58	160	110.000	0.104	0.08	114.2	13.34	6.75	-13.9	368.2	4.5
Site3	2014/03/11	11:30:40	8.83	161	111.000	0.104	0.08	115.7	13.43	6.76	-14.2	368.5	4
Site3	2014/03/11	12:00:40	9.14	161	112.000	0.105	0.08	116.6	13.43	6.77	-14.6	367.9	4.3
Site3	2014/03/11	12:30:40	9.57	161	114.000	0.105	0.08	123	14.02	6.78	-15.6	367.9	4.1
Site3	2014/03/11	13:00:40	9	163	113.000	0.106	0.08	123.7	14.29	6.75	-13.5	367.6	4.1
Site3	2014/03/11	13:30:40	9.9	162	115.000	0.105	0.08	128	14.48	6.74	-13.1	367.6	4.2
Site3	2014/03/11	14:00:40	9.91	163	116.000	0.106	0.08	125.5	14.19	6.77	-15	366	4
Site3	2014/03/11	14:30:40	10.04	163	117.000	0.106	0.08	124.4	14.03	6.78	-15.2	366	3.9
Site3	2014/03/11	15:00:40	10.17	163	117.000	0.106	0.08	121.9	13.71	6.79	-16	366.5	4
Site3	2014/03/11	15:30:40	10.14	163	117.000	0.106	0.08	123.6	13.91	6.79	-16	367.1	4.2
Site3	2014/03/11	16:00:40	10.3	163	117.000	0.106	0.08	123.8	13.88	6.81	-17.1	365.7	4
Site3	2014/03/11	16:30:40	10.22	162	116.000	0.105	0.08	122.2	13.71	6.81	-16.9	366	4.1
Site3	2014/03/11	17:00:40	10.25	161	115.000	0.104	0.08	120.2	13.48	6.81	-17	366	4.3
Site3	2014/03/11	17:30:40	10.42	158	114.000	0.103	0.07	118.4	13.22	6.79	-15.8	367.4	4.3
Site3	2014/03/11	18:00:40	10.59	155	113.000	0.101	0.07	118.5	13.18	6.8	-16.2	367.3	4.7
Site3	2014/03/11	18:30:40	10.53	155	112.000	0.1	0.07	118.3	13.18	6.79	-15.6	367.1	4.3
Site3	2014/03/11	19:00:40	10.45	155	112.000	0.101	0.07	115.8	12.94	6.78	-15.5	366.9	4.2
Site3	2014/03/11	19:30:40	10.34	155	112.000	0.101	0.07	114	12.76	6.77	-14.6	369.3	4.5
Site3	2014/03/11	20:00:40	10.29	155	111.000	0.101	0.07	115	12.88	6.75	-13.9	368.3	4.6
Site3	2014/03/11	20:30:40	10.22	155	111.000	0.101	0.07	114.2	12.82	6.75	-13.6	368.5	4.2
Site3	2014/03/11	21:00:40	10.09	156	111.000	0.101	0.07	114.9	12.94	6.74	-13.2	367.7	4.6
Site3	2014/03/11	21:30:40	10	156	112.000	0.102	0.07	115.2	13	6.74	-13.4	368.6	4.3
Site3	2014/03/11	22:00:40	9.9	156	111.000	0.101	0.07	114.7	12.98	6.75	-13.5	367.6	4.3
Site3	2014/03/11	22:30:40	9.78	156	110.000	0.101	0.07	112.3	12.74	6.74	-13.1	367.9	4.4
Site3	2014/03/11	23:00:40	9.63	157	111.000	0.102	0.07	111.7	12.71	6.73	-12.8	368.1	4.5
Site3	2014/03/11	23:30:40	9.51	158	111.000	0.102	0.07	110.9	12.66	6.73	-12.6	368.5	4.4
Site3	2014/03/12	00:00:40	9.42	158	111.000	0.103	0.07	110.8	12.68	6.72	-12.3	368.9	4.2
Site3	2014/03/12	00:30:40	9.3	159	111.000	0.103	0.08	110.4	12.67	6.72	-12.3	368.4	4.2
Site3	2014/03/12	01:00:40	9.23	160	112.000	0.104	0.08	110.1	12.65	6.72	-12.3	368.3	4.5
Site3	2014/03/12	01:30:40	9.14	160	112.000	0.104	0.08	109.6	12.63	6.72	-12.2	369.1	4.3
Site3	2014/03/12	02:00:40	9.04	161	112.000	0.105	0.08	109.5	12.64	6.73	-12.8	369.3	4.2
Site3	2014/03/12	02:30:40	8.96	163	113.000	0.106	0.08	108.7	12.58	6.73	-12.9	367.7	4.3
Site3	2014/03/12	03:00:40	8.83	164	113.000	0.106	0.08	107.9	12.52	6.73	-12.7	368.6	4.3
Site3	2014/03/12	03:30:40	8.74	164	113.000	0.107	0.08	107.3	12.47	6.72	-12.5	369.1	4.2
Site3	2014/03/12	04:00:40	8.67	165	114.000	0.107	0.08	106.7	12.43	6.73	-12.8	368.9	4.3
Site3	2014/03/12	04:30:40	8.57	165	113.000	0.108	0.08	106.5	12.43	6.73	-12.6	369.3	4.3
Site3	2014/03/12	05:00:40	8.52	165	113.000	0.107	0.08	105.7	12.36	6.73	-12.8	369.1	4.3
Site3	2014/03/12	05:30:40	8.42	165	113.000	0.107	0.08	105	12.3	6.73	-12.5	369.1	4.3
Site3	2014/03/12	06:00:40	8.37	165	112.000	0.107	0.08	104.6	12.28	6.72	-12.2	369.3	4.4
Site3	2014/03/12	06:30:40	8.32	165	112.000	0.107	0.08	104.2	12.24	6.72	-12.1	369	4.2
Site3	2014/03/12	07:00:40	8.26	165	112.000	0.107	0.08	103.5	12.17	6.72	-12.1	368.9	4
Site3	2014/03/12	07:30:40	8.19	165	112.000	0.107	0.08	104.9	12.36	6.72	-12	368.4	4.1



Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/12	08:00:40	8.24	165	112.000	0.107	0.08	109.2	12.86	6.73	-12.6	368.3	4.3
Site3	2014/03/12	08:30:40	8.27	166	113.000	0.108	0.08	108.2	12.72	6.76	-14.3	365.8	4.3
Site3	2014/03/12	09:00:40	8.36	166	113.000	0.108	0.08	113.3	13.3	6.8	-16.4	362.7	4.5
Site3	2014/03/12	09:30:40	8.37	167	114.000	0.108	0.08	115.1	13.5	6.79	-16.2	363.3	4.2
Site3	2014/03/12	10:00:40	8.67	167	115.000	0.109	0.08	119.9	13.96	6.8	-16.4	363.9	4
Site3	2014/03/12	10:30:40	9.25	166	116.000	0.108	0.08	126.9	14.58	6.8	-16.2	365	3.9
Site3	2014/03/12	11:00:40	9.59	166	117.000	0.108	0.08	133.2	15.17	6.8	-16.4	364.6	4.2
Site3	2014/03/12	11:30:40	9.47	168	118.000	0.109	0.08	149.2	17.05	6.81	-16.7	363	4.3
Site3	2014/03/12	12:00:40	9.78	167	119.000	0.109	0.08	146.6	16.63	6.82	-17.2	362.1	4.2
Site3	2014/03/12	12:30:40	10.36	168	121.000	0.109	0.08	135.4	15.15	6.82	-17.5	363.1	3.7
Site3	2014/03/12	13:00:40	10.54	169	122.000	0.11	0.08	136.7	15.24	6.82	-17.5	362.2	3.7
Site3	2014/03/12	13:30:40	10.36	170	122.000	0.11	0.08	163.2	18.26	6.8	-16.2	361	3.7
Site3	2014/03/12	14:00:40	11.48	168	125.000	0.109	0.08	142.2	15.49	6.85	-19	361	3.9
Site3	2014/03/12	14:30:40	11.17	170	125.000	0.111	0.08	127.5	14	6.82	-17.5	360.5	4.2
Site3	2014/03/12	15:00:40	10.95	171	125.000	0.111	0.08	130	14.34	6.83	-17.7	359.8	3.9
Site3	2014/03/12	15:30:40	11.22	171	126.000	0.111	0.08	128	14.03	6.85	-18.9	360.3	4
Site3	2014/03/12	16:00:40	10.71	172	125.000	0.112	0.08	119.7	13.28	6.79	-16	361.5	4.1
Site3	2014/03/12	16:30:40	10.69	172	125.000	0.112	0.08	119.6	13.28	6.82	-17.2	361	4
Site3	2014/03/12	17:00:40	10.83	173	126.000	0.112	0.08	119.6	13.24	6.83	-18.2	360.9	3.9
Site3	2014/03/12	17:30:40	10.69	171	124.000	0.111	0.08	118.5	13.16	6.79	-16	361.3	3.9
Site3	2014/03/12	18:00:40	10.73	172	125.000	0.111	0.08	119	13.2	6.82	-17.3	361.3	3.9
Site3	2014/03/12	18:30:40	10.68	172	125.000	0.112	0.08	119	13.22	6.83	-17.8	361.1	3.9
Site3	2014/03/12	19:00:40	10.66	172	125.000	0.112	0.08	118.5	13.16	6.83	-17.8	361	4.3
Site3	2014/03/12	19:30:40	10.53	173	125.000	0.113	0.08	118	13.15	6.83	-17.7	361.1	3.9
Site3	2014/03/12	20:00:40	10.5	173	125.000	0.113	0.08	115.8	12.91	6.82	-17.3	361.2	3.7
Site3	2014/03/12	20:30:40	10.46	174	125.000	0.113	0.08	116.3	12.98	6.82	-17.4	361.9	3.4
Site3	2014/03/12	21:00:40	10.42	173	125.000	0.113	0.08	113.6	12.69	6.81	-16.7	361.4	3.8
Site3	2014/03/12	21:30:40	10.42	173	125.000	0.113	0.08	114	12.74	6.82	-17.2	361	3.8
Site3	2014/03/12	22:00:40	10.35	173	125.000	0.113	0.08	111.6	12.49	6.79	-15.9	361.5	3.6
Site3	2014/03/12	22:30:40	10.35	173	125.000	0.113	0.08	112.6	12.6	6.8	-16.2	361.4	3.7
Site3	2014/03/12	23:00:40	10.27	173	125.000	0.113	0.08	114.9	12.88	6.8	-16.4	361.3	3.9
Site3	2014/03/12	23:30:40	10.23	174	125.000	0.113	0.08	114	12.79	6.81	-16.8	361.1	3.9
Site3	2014/03/13	00:00:40	10.14	174	124.000	0.113	0.08	111.3	12.51	6.8	-16.5	361.3	3.7
Site3	2014/03/13	00:30:40	9.97	175	124.000	0.113	0.08	110.7	12.5	6.8	-16.4	361.4	3.6
Site3	2014/03/13	01:00:40	9.86	175	125.000	0.114	0.08	110.2	12.48	6.79	-15.7	361.9	3.5
Site3	2014/03/13	01:30:40	9.77	176	125.000	0.114	0.08	108.2	12.28	6.78	-15.4	361.9	3.6
Site3	2014/03/13	02:00:40	9.69	176	125.000	0.115	0.08	108.5	12.33	6.77	-14.7	362.2	3.7
Site3	2014/03/13	02:30:40	9.57	177	125.000	0.115	0.08	107.6	12.27	6.76	-14.5	362.2	3.9
Site3	2014/03/13	03:00:40	9.47	177	124.000	0.115	0.08	106.8	12.21	6.76	-14.5	362.1	3.7
Site3	2014/03/13	03:30:40	9.43	177	124.000	0.115	0.08	103.7	11.86	6.75	-13.7	362.4	3.6
Site3	2014/03/13	04:00:40	9.38	177	124.000	0.115	0.08	103.6	11.87	6.73	-12.9	362.6	3.7
Site3	2014/03/13	04:30:40	9.36	177	124.000	0.115	0.08	104.3	11.95	6.73	-12.9	362.4	3.6
Site3	2014/03/13	05:00:40	9.36	177	124.000	0.115	0.08	104.5	11.97	6.73	-12.8	362.4	3.8
Site3	2014/03/13	05:30:40	9.32	177	124.000	0.115	0.08	104.7	12.01	6.73	-12.8	362.8	3.7
Site3	2014/03/13	06:00:40	9.17	177	124.000	0.115	0.08	106.4	12.24	6.76	-14	362.4	3.9
Site3	2014/03/13	06:30:40	9.1	178	124.000	0.115	0.08	105.2	12.13	6.74	-13.2	363.2	4
Site3	2014/03/13	07:00:40	9.08	179	124.000	0.116	0.08	105.4	12.16	6.75	-13.7	362.9	4.4
Site3	2014/03/13	07:30:40	9.09	178	124.000	0.116	0.08	105.5	12.16	6.77	-14.6	362.7	5.5
Site3	2014/03/13	08:00:40	9.14	177	123.000	0.115	0.08	105.8	12.18	6.75	-13.9	362.6	5.9
Site3	2014/03/13	08:30:40	9.15	176	123.000	0.115	0.08	106.8	12.29	6.77	-15.1	362	4.5
Site3	2014/03/13	09:00:40	9.18	176	123.000	0.115	0.08	110	12.65	6.79	-15.6	361.4	4.5

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/13	09:30:40	9.24	177	123.000	0.115	0.08	116.6	13.4	6.8	-16.5	360.7	4.1
Site3	2014/03/13	10:00:40	9.4	176	124.000	0.115	0.08	134.2	15.36	6.82	-17.6	360.2	4.2
Site3	2014/03/13	10:30:40	9.47	176	124.000	0.114	0.08	120.3	13.75	6.82	-17.5	360.7	4.2
Site3	2014/03/13	11:00:40	10.03	175	125.000	0.114	0.08	123.7	13.95	6.85	-18.9	359.4	3.7
Site3	2014/03/13	11:30:40	10.12	175	125.000	0.114	0.08	155.8	17.53	6.87	-19.8	359.7	4.3
Site3	2014/03/13	12:00:40	9.77	176	125.000	0.114	0.08	122.5	13.9	6.81	-17	360	4.8
Site3	2014/03/13	12:30:40	10.25	179	129.000	0.117	0.09	134.3	15.06	6.92	-22.5	360.2	4
Site3	2014/03/13	13:00:40	11.56	176	131.000	0.114	0.08	148.9	16.2	6.94	-23.7	356.6	3.8
Site3	2014/03/13	13:30:40	10.81	175	128.000	0.114	0.08	141.3	15.64	6.85	-19.1	358.1	4.2
Site3	2014/03/13	14:00:40	10.98	175	128.000	0.114	0.08	129.9	14.33	6.86	-19.5	357.5	6
Site3	2014/03/13	14:30:40	11.45	175	130.000	0.114	0.08	159.9	17.45	6.9	-21.6	357.2	3.9
Site3	2014/03/13	15:00:40	11.2	176	129.000	0.114	0.08	154.5	16.96	6.9	-21.9	356.6	3.6
Site3	2014/03/13	15:30:40	11.2	175	129.000	0.114	0.08	127.4	13.98	6.89	-20.9	356.6	3.8
Site3	2014/03/13	16:00:40	11.41	176	130.000	0.114	0.08	129.2	14.11	6.88	-20.4	356.8	3.9
Site3	2014/03/13	16:30:40	11.59	175	130.000	0.114	0.08	126	13.7	6.88	-20.4	356.6	3.8
Site3	2014/03/13	17:00:40	11.6	175	130.000	0.114	0.08	124	13.48	6.9	-21.4	356.8	3.9
Site3	2014/03/13	17:30:40	11.68	174	130.000	0.113	0.08	123.6	13.41	6.9	-21.4	356.7	4.5
Site3	2014/03/13	18:00:40	11.62	174	130.000	0.113	0.08	122.9	13.35	6.89	-21.2	356.3	4.7
Site3	2014/03/13	18:30:40	11.58	174	129.000	0.113	0.08	121.9	13.25	6.88	-20.5	356.6	3.8
Site3	2014/03/13	19:00:40	11.48	174	129.000	0.113	0.08	120.9	13.18	6.87	-19.8	357.2	3.7
Site3	2014/03/13	19:30:40	11.36	174	129.000	0.113	0.08	117.5	12.85	6.86	-19.6	356.9	3.4
Site3	2014/03/13	20:00:40	11.3	174	128.000	0.113	0.08	113.5	12.43	6.82	-17.5	357.5	3.8
Site3	2014/03/13	20:30:40	11.21	172	127.000	0.112	0.08	119.6	13.11	6.85	-18.8	357.1	4.3
Site3	2014/03/13	21:00:40	11.16	172	127.000	0.112	0.08	117.2	12.87	6.81	-17	357.3	3.6
Site3	2014/03/13	21:30:40	11.08	173	127.000	0.112	0.08	117.6	12.94	6.81	-16.8	357.4	3.7
Site3	2014/03/13	22:00:40	11.03	173	127.000	0.113	0.08	117.9	12.98	6.82	-17.5	357.7	4.3
Site3	2014/03/13	22:30:40	10.89	172	126.000	0.112	0.08	117.3	12.96	6.82	-17.6	358.2	4
Site3	2014/03/13	23:00:40	10.63	173	126.000	0.113	0.08	113.8	12.65	6.82	-17.5	358	4
Site3	2014/03/13	23:30:40	10.49	174	125.000	0.113	0.08	113.2	12.62	6.8	-16.5	358.5	3.8
Site3	2014/03/14	00:00:40	10.42	174	125.000	0.113	0.08	113.9	12.73	6.81	-17	358.5	4.1
Site3	2014/03/14	00:30:40	10.41	174	126.000	0.113	0.08	115.1	12.86	6.84	-18.2	358	4.4
Site3	2014/03/14	01:00:40	10.28	175	126.000	0.114	0.08	114.4	12.82	6.82	-17.2	358.6	4
Site3	2014/03/14	01:30:40	10.2	175	125.000	0.114	0.08	113.2	12.71	6.81	-16.7	358.8	4
Site3	2014/03/14	02:00:40	10.13	175	125.000	0.114	0.08	112.7	12.68	6.8	-16.6	359.1	4.1
Site3	2014/03/14	02:30:40	10.05	176	126.000	0.114	0.08	112.4	12.67	6.82	-17.2	358.7	4
Site3	2014/03/14	03:00:40	9.99	175	125.000	0.114	0.08	111.6	12.59	6.82	-17.3	359	4.2
Site3	2014/03/14	03:30:40	9.77	178	126.000	0.115	0.08	108.3	12.29	6.79	-15.9	359.7	4.3
Site3	2014/03/14	04:00:40	9.77	176	125.000	0.114	0.08	108	12.25	6.8	-16.1	359.5	4.1
Site3	2014/03/14	04:30:40	9.67	173	122.000	0.112	0.08	108.4	12.32	6.79	-15.7	360.4	5.1
Site3	2014/03/14	05:00:40	9.33	165	116.000	0.107	0.08	106.2	12.18	6.73	-12.9	361.6	8.3
Site3	2014/03/14	05:30:40	9.18	164	114.000	0.107	0.08	105.2	12.1	6.74	-13.4	362.3	7.8
Site3	2014/03/14	06:00:40	8.98	152	105.000	0.099	0.07	104.9	12.13	6.71	-11.8	363.6	11.9
Site3	2014/03/14	06:30:40	9.04	160	111.000	0.104	0.08	103	11.9	6.68	-10.3	365.2	9.2
Site3	2014/03/14	07:00:40	8.97	159	110.000	0.103	0.08	103	11.91	6.68	-10.1	365.8	9.4
Site3	2014/03/14	07:30:40	9.21	174	122.000	0.113	0.08	103.5	11.9	6.69	-10.9	366.6	7.9
Site3	2014/03/14	08:00:40	9.26	178	124.000	0.115	0.08	102.6	11.78	6.67	-9.7	366.5	6.6
Site3	2014/03/14	08:30:40	9.41	188	132.000	0.122	0.09	103.7	11.87	6.71	-11.4	366.8	5.9
Site3	2014/03/14	09:00:40	9.35	185	129	0.12	0.09	104.8	12.01	6.7	-11.3	362.9	5
Site3	2014/03/14	09:30:40	9.42	186	131	0.121	0.09	105	12.01	6.69	-10.5	363.3	5
Site3	2014/03/14	10:00:40	9.56	186	131	0.121	0.09	106.5	12.15	6.69	-10.7	364.5	4.9
Site3	2014/03/14	10:30:40	9.67	195	138	0.127	0.09	105.8	12.03	6.69	-10.8	366.6	4.7

Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/14	11:00:40	9.92	194	138	0.126	0.09	120.5	13.62	6.75	-13.6	365.7	4.5
Site3	2014/03/14	11:30:40	10.55	185	134	0.121	0.09	116	12.92	6.72	-12.3	365.5	4.3
Site3	2014/03/14	12:00:40	10.69	190	138	0.123	0.09	124.3	13.8	6.73	-12.6	366.5	5.6
Site3	2014/03/14	12:30:40	10.54	197	142	0.128	0.09	112.8	12.57	6.71	-11.6	366.6	4.5
Site3	2014/03/14	13:00:40	10.22	197	141	0.128	0.09	105	11.78	6.69	-10.6	367.1	4.5
Site3	2014/03/14	13:30:40	10.27	196	141	0.127	0.09	127	14.24	6.72	-12.3	367.3	4.5
Site3	2014/03/14	14:00:40	10.58	192	139	0.125	0.09	142.1	15.82	6.74	-13	367.7	5
Site3	2014/03/14	14:30:40	10.69	191	138	0.124	0.09	133.5	14.83	6.74	-13	368.2	4.4
Site3	2014/03/14	15:00:40	11.23	185	136	0.12	0.09	114	12.5	6.72	-12	368.3	4.2
Site3	2014/03/14	15:30:40	11.21	183	135	0.119	0.09	117	12.83	6.71	-11.4	368.3	4
Site3	2014/03/14	16:00:40	11.51	182	135	0.118	0.09	119.1	12.97	6.74	-13	367.9	4
Site3	2014/03/14	16:30:40	11.44	184	136	0.119	0.09	118	12.87	6.74	-13.2	367.6	4.3
Site3	2014/03/14	17:00:40	11.33	185	137	0.12	0.09	112.6	12.32	6.74	-13	368.3	4.2
Site3	2014/03/14	17:30:40	11.31	183	135	0.119	0.09	109.1	11.94	6.74	-13.4	367.9	4
Site3	2014/03/14	18:00:40	11.25	187	138	0.121	0.09	106.2	11.64	6.74	-13.1	368.6	4.2
Site3	2014/03/14	18:30:40	11.25	184	136	0.12	0.09	104.8	11.49	6.72	-11.8	369.6	4.3
Site3	2014/03/14	19:00:40	11.2	189	139	0.123	0.09	104.5	11.46	6.73	-12.8	369.3	4.2
Site3	2014/03/14	19:30:40	11.09	186	136	0.121	0.09	103.6	11.39	6.67	-9.5	370.2	5.2
Site3	2014/03/14	20:00:40	11.02	187	137	0.121	0.09	102.3	11.27	6.68	-10.1	371	4
Site3	2014/03/14	20:30:40	10.9	186	136	0.121	0.09	101.7	11.23	6.67	-9.4	371.5	7.8
Site3	2014/03/14	21:00:40	10.82	189	137	0.123	0.09	101.2	11.21	6.68	-9.9	371.8	6.7
Site3	2014/03/14	21:30:40	10.73	189	138	0.123	0.09	100.7	11.17	6.68	-9.8	371.9	5.8
Site3	2014/03/14	22:00:40	10.59	189	137	0.123	0.09	100.1	11.14	6.68	-10	372.2	5
Site3	2014/03/14	22:30:40	10.49	189	136	0.123	0.09	99.6	11.1	6.67	-9.4	372.9	4.7
Site3	2014/03/14	23:00:40	10.35	188	135	0.122	0.09	99.2	11.1	6.67	-9.7	372.9	5.4
Site3	2014/03/14	23:30:40	10.25	187	134	0.122	0.09	98.3	11.03	6.67	-9.5	373.7	5.1
Site3	2014/03/15	00:00:40	10.15	186	133	0.121	0.09	96.7	10.87	6.65	-8.5	374.5	5.3
Site3	2014/03/15	00:30:40	10.06	186	133	0.121	0.09	96	10.81	6.66	-8.7	374.8	5.1
Site3	2014/03/15	01:00:40	9.95	186	132	0.121	0.09	96.1	10.85	6.65	-8.7	375	5.4
Site3	2014/03/15	01:30:40	9.89	185	132	0.12	0.09	96.9	10.96	6.67	-9.5	375.4	5.2
Site3	2014/03/15	02:00:40	9.88	183	130	0.119	0.09	98.4	11.14	6.67	-9.8	375.4	4.8
Site3	2014/03/15	02:30:40	9.85	181	128	0.117	0.09	98.6	11.16	6.7	-11.2	375.1	4.9
Site3	2014/03/15	03:00:40	9.79	179	127	0.117	0.09	98.7	11.19	6.69	-10.8	375.7	4.7
Site3	2014/03/15	03:30:40	9.77	178	126	0.116	0.08	98.7	11.2	6.7	-10.9	376	5
Site3	2014/03/15	04:00:40	9.7	177	126	0.115	0.08	98	11.13	6.7	-10.9	376.2	4.7
Site3	2014/03/15	04:30:40	9.64	176	124	0.114	0.08	97.7	11.12	6.7	-10.9	376.5	5
Site3	2014/03/15	05:00:40	9.57	174	123	0.113	0.08	97.4	11.1	6.69	-10.4	377.3	5.1
Site3	2014/03/15	05:30:40	9.5	174	122	0.113	0.08	96.9	11.06	6.69	-10.6	377.3	5.3
Site3	2014/03/15	06:00:40	9.47	173	122	0.113	0.08	96.2	10.99	6.68	-10.2	377.6	5.3
Site3	2014/03/15	06:30:40	9.4	173	122	0.113	0.08	95.2	10.9	6.66	-9.1	378.8	5.4
Site3	2014/03/15	07:00:40	9.38	174	122	0.113	0.08	95.1	10.89	6.68	-9.8	378.7	5.3
Site3	2014/03/15	07:30:40	9.37	175	123	0.114	0.08	95.6	10.95	6.67	-9.8	379	5.1
Site3	2014/03/15	08:00:40	9.38	177	124	0.115	0.08	95.9	10.98	6.67	-9.5	379.6	5.1
Site3	2014/03/15	08:30:40	9.42	179	125	0.116	0.08	97.4	11.14	6.67	-9.7	380.1	5.4
Site3	2014/03/15	09:00:40	9.42	180	126	0.117	0.09	96.8	11.07	6.68	-10.3	379.8	5.3
Site3	2014/03/15	09:30:40	9.42	181	127	0.117	0.09	99.2	11.34	6.7	-10.9	380.1	5.2
Site3	2014/03/15	10:00:40	9.52	181	127	0.118	0.09	101	11.52	6.7	-11.2	380.5	4.8
Site3	2014/03/15	10:30:40	9.43	181	127	0.117	0.09	97.5	11.15	6.69	-10.7	380.5	5.3
Site3	2014/03/15	11:00:40	9.39	181	127	0.117	0.09	97.3	11.14	6.7	-10.9	380.9	5.2
Site3	2014/03/15	11:30:40	9.37	181	127	0.117	0.09	97.1	11.12	6.68	-10.3	381	5.5
Site3	2014/03/15	12:00:40	9.38	180	127	0.117	0.09	97	11.1	6.68	-10.3	381.5	5.2

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/15	12:30:40	9.38	180	127	0.117	0.09	98.7	11.3	6.7	-11.2	381.5	5.1
Site3	2014/03/15	13:00:40	9.35	180	126	0.117	0.09	97.6	11.19	6.7	-10.9	381.6	5.2
Site3	2014/03/15	13:30:40	9.33	180	126	0.117	0.09	98.5	11.29	6.71	-11.6	381.9	5.3
Site3	2014/03/15	14:00:40	9.3	180	126	0.117	0.09	98.6	11.32	6.69	-10.8	382.8	5.3
Site3	2014/03/15	14:30:40	9.26	176	123	0.115	0.08	98.5	11.31	6.7	-11	383.2	5.6
Site3	2014/03/15	15:00:40	9.17	172	120	0.112	0.08	100	11.51	6.69	-10.7	383.4	5.3
Site3	2014/03/15	15:30:40	9.27	173	121	0.113	0.08	101.3	11.63	6.71	-11.8	384.4	5.3
Site3	2014/03/15	16:00:40	9.11	158	110	0.103	0.08	101.7	11.72	6.7	-11.3	385.7	6.3
Site3	2014/03/15	16:30:40	8.94	148	103	0.096	0.07	100.7	11.65	6.67	-9.8	387.7	6.4
Site3	2014/03/15	17:00:40	8.84	143	99	0.093	0.07	100.9	11.7	6.65	-8.4	389	7
Site3	2014/03/15	17:30:40	8.9	141	97	0.091	0.07	101.5	11.75	6.6	-5.7	391	7.3
Site3	2014/03/15	18:00:40	8.88	138	96	0.09	0.07	100.5	11.64	6.6	-5.7	391.8	9.3
Site3	2014/03/15	18:30:40	8.85	134	93	0.087	0.06	100.2	11.62	6.59	-5.5	392.4	8.6
Site3	2014/03/15	19:00:40	8.83	131	91	0.085	0.06	99.8	11.57	6.59	-5.1	392.6	7.9
Site3	2014/03/15	19:30:40	8.95	134	93	0.087	0.06	99.8	11.55	6.6	-5.7	393.1	7.9
Site3	2014/03/15	20:00:40	8.82	126	87	0.082	0.06	99.5	11.54	6.55	-3.5	393.9	7.5
Site3	2014/03/15	20:30:40	8.92	132	92	0.086	0.06	98.5	11.4	6.45	2	398	7.6
Site3	2014/03/15	21:00:40	8.82	131	91	0.085	0.06	98.1	11.38	6.51	-1.3	394.7	7.5
Site3	2014/03/15	21:30:40	8.71	131	91	0.085	0.06	97.4	11.34	6.5	-0.6	396.1	7.5
Site3	2014/03/15	22:00:40	8.72	139	95	0.09	0.07	96.4	11.21	6.5	-0.8	396.8	6.6
Site3	2014/03/15	22:30:40	8.65	142	97	0.092	0.07	95.6	11.14	6.51	-1	396.4	7
Site3	2014/03/15	23:00:40	8.6	149	102	0.097	0.07	95.4	11.14	6.52	-1.8	396.7	6.4
Site3	2014/03/15	23:30:40	8.49	154	105	0.1	0.07	94.7	11.08	6.52	-1.8	397.2	5.8
Site3	2014/03/16	00:00:40	8.43	157	107	0.102	0.07	94.2	11.03	6.52	-1.7	398.1	6.8
Site3	2014/03/16	00:30:40	8.35	154	105	0.1	0.07	94.9	11.14	6.53	-2.4	397.5	7.1
Site3	2014/03/16	01:00:40	8.33	148	101	0.096	0.07	95.5	11.22	6.53	-2.6	397.5	8.1
Site3	2014/03/16	01:30:40	8.29	140	96	0.091	0.07	95.9	11.28	6.55	-3.2	397.4	8.1
Site3	2014/03/16	02:00:40	8.26	134	91	0.087	0.06	95.9	11.29	6.5	-0.6	399.3	8.7
Site3	2014/03/16	02:30:40	8.22	131	89	0.085	0.06	96	11.3	6.52	-1.6	399	10
Site3	2014/03/16	09:00:40	7.95	115	77	0.075	0.05	99.4	11.79	6.48	0.1	400.7	85
Site3	2014/03/16	09:30:40	7.97	114	77	0.074	0.05	104.9	12.43	6.49	-0.2	400.1	209.7
Site3	2014/03/16	10:00:40	8.02	114	77	0.074	0.05	99.5	11.77	6.48	0.2	400.1	71.9
Site3	2014/03/16	10:30:40	8.03	114	77	0.074	0.05	101.3	11.98	6.47	0.9	400.9	175
Site3	2014/03/16	11:00:40	8.01	114	77	0.074	0.05	96.7	11.45	6.43	2.9	402.2	201.1
Site3	2014/03/16	11:30:40	8.06	113	77	0.074	0.05	100.6	11.9	6.46	1.1	401.6	519.1
Site3	2014/03/16	12:00:40	8.08	113	76	0.073	0.05	99.6	11.77	6.46	1.2	402.2	525.4
Site3	2014/03/16	12:30:40	8	116	79	0.076	0.05	96.3	11.41	6.39	4.9	403.1	18.7
Site3	2014/03/16	13:00:40	7.94	114	77	0.074	0.05	95.1	11.27	6.38	5.7	403.9	20.4
Site3	2014/03/16	20:00:40	8	123	83	0.08	0.06	90.7	10.74	6.46	1.3	403.6	20.3
Site3	2014/03/16	20:30:40	8.09	123	83	0.08	0.06	90.7	10.72	6.45	1.6	403.9	102.5
Site3	2014/03/16	21:00:40	8.08	122	83	0.079	0.06	91.1	10.76	6.45	2	403.9	33.8
Site3	2014/03/16	21:30:40	8.08	122	82	0.079	0.06	94.6	11.18	6.42	3.4	405	7
Site3	2014/03/16	22:00:40	7.93	122	82	0.079	0.06	93.1	11.04	6.4	4.6	405.6	9.8
Site3	2014/03/16	22:30:40	7.85	122	82	0.079	0.06	92.5	10.99	6.41	4	405.8	305.4
Site3	2014/03/16	23:00:40	7.81	125	84	0.081	0.06	93.3	11.1	6.42	3.3	405.8	101.5
Site3	2014/03/16	23:30:40	7.79	127	85	0.083	0.06	93.8	11.16	6.44	2.4	406	488
Site3	2014/03/17	00:00:40	7.74	125	84	0.081	0.06	92.8	11.06	6.43	2.9	406.6	6.7
Site3	2014/03/17	00:30:40	7.7	125	84	0.081	0.06	89.2	10.64	6.45	1.6	406.7	5.6
Site3	2014/03/17	01:00:40	7.64	125	84	0.082	0.06	87.9	10.5	6.44	2.1	407	5.9
Site3	2014/03/17	01:30:40	7.63	125	84	0.081	0.06	88.7	10.6	6.44	2.1	407.5	8.9
Site3	2014/03/17	02:00:40	7.49	123	82	0.08	0.06	90.3	10.83	6.4	4.3	427.4	10.2

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/17	02:30:40	7.56	124	83	0.081	0.06	89.9	10.76	6.43	2.7	408	7.2
Site3	2014/03/17	03:00:40	7.58	124	82	0.08	0.06	88.9	10.64	6.44	2.4	407.9	6.8
Site3	2014/03/17	03:30:40	7.3	125	83	0.081	0.06	89.7	10.8	6.37	5.9	408.3	8.3
Site3	2014/03/17	04:00:40	7.09	125	82	0.081	0.06	86.4	10.46	6.4	4.3	408.8	6
Site3	2014/03/17	04:30:40	7.12	125	82	0.081	0.06	87.6	10.6	6.41	4.1	409.2	5.3
Site3	2014/03/17	05:00:40	7.17	124	82	0.081	0.06	84.6	10.23	6.43	3	409.2	5.6
Site3	2014/03/17	05:30:40	7.2	125	82	0.081	0.06	90.2	10.89	6.45	2	408.5	9
Site3	2014/03/17	06:00:40	7.19	125	82	0.081	0.06	88.7	10.71	6.46	1.5	408.3	7.6
Site3	2014/03/17	06:30:40	7.16	125	82	0.081	0.06	87	10.52	6.48	0.1	408.2	5.9
Site3	2014/03/17	07:00:40	7.19	125	82	0.081	0.06	89.1	10.76	6.5	-0.9	407.5	6.7
Site3	2014/03/17	07:30:40	7.19	125	83	0.081	0.06	92.1	11.12	6.5	-1	407.6	6.4
Site3	2014/03/17	08:00:40	7.19	125	82	0.081	0.06	94.7	11.44	6.51	-1.4	407.7	6.8
Site3	2014/03/17	08:30:40	7.17	125	82	0.081	0.06	95.8	11.58	6.51	-1.1	407.7	6.9
Site3	2014/03/17	09:00:40	7.16	125	82	0.081	0.06	96.7	11.69	6.51	-1.1	408	6.4
Site3	2014/03/17	09:30:40	7.21	125	83	0.082	0.06	104	12.55	6.53	-2.3	407.7	6.7
Site3	2014/03/17	10:00:40	7.29	126	83	0.082	0.06	108.1	13.02	6.54	-2.9	407.8	6.6
Site3	2014/03/17	10:30:40	7.64	125	84	0.081	0.06	127	15.18	6.59	-5.4	406.7	5.9
Site3	2014/03/17	11:00:40	7.63	126	84	0.082	0.06	137.1	16.38	6.6	-5.8	406.3	5.9
Site3	2014/03/17	11:30:40	7.78	126	85	0.082	0.06	132.9	15.82	6.61	-6.5	406.4	5.9
Site3	2014/03/17	12:00:40	8.07	125	85	0.081	0.06	108.3	12.8	6.55	-3.2	408	6.8
Site3	2014/03/17	12:30:40	8.25	127	86	0.082	0.06	106.4	12.52	6.54	-2.6	407.5	8
Site3	2014/03/17	13:00:40	8.18	128	87	0.083	0.06	116.5	13.73	6.57	-4.5	407.1	5.5
Site3	2014/03/17	13:30:40	8.05	129	87	0.084	0.06	105.1	12.43	6.59	-5.5	407.2	5.4
Site3	2014/03/17	14:00:40	8.01	130	88	0.084	0.06	109.6	12.97	6.57	-4.5	408.1	5.2
Site3	2014/03/17	14:30:40	8.21	133	90	0.086	0.06	124.6	14.68	6.6	-5.9	407.1	5.6
Site3	2014/03/17	15:00:40	8.5	135	92	0.088	0.06	131.3	15.35	6.68	-10.1	407	5.1
Site3	2014/03/17	15:30:40	8.48	135	92	0.088	0.06	127	14.87	6.66	-9	406.7	5.3
Site3	2014/03/17	16:00:40	8.41	134	91	0.087	0.06	158.9	18.63	6.69	-10.9	406.4	5.1
Site3	2014/03/17	16:30:40	8.53	134	92	0.087	0.06	154.9	18.11	6.72	-12.1	406.3	4.8
Site3	2014/03/17	17:00:40	8.51	134	92	0.087	0.06	125.1	14.62	6.71	-11.5	406.9	4.9
Site3	2014/03/17	17:30:40	8.53	134	92	0.087	0.06	103.6	12.11	6.61	-6.4	407.2	4.8
Site3	2014/03/17	18:00:40	8.46	135	93	0.088	0.06	97.6	11.43	6.57	-4.5	407.5	5.1
Site3	2014/03/17	18:30:40	8.5	135	92	0.088	0.06	95.8	11.21	6.57	-4.5	408	5.2
Site3	2014/03/17	19:00:40	8.47	135	93	0.088	0.06	95.3	11.16	6.57	-4.6	407.5	4.7
Site3	2014/03/17	19:30:40	8.38	135	92	0.088	0.06	93.2	10.93	6.56	-3.8	408.1	4.5
Site3	2014/03/17	20:00:40	8.3	136	92	0.088	0.06	94.2	11.07	6.55	-3.5	408.4	4.8
Site3	2014/03/17	20:30:40	8.37	135	92	0.088	0.06	94.4	11.08	6.58	-4.8	407.7	5.2
Site3	2014/03/17	21:00:40	8.47	136	93	0.088	0.06	97.8	11.45	6.59	-5.6	410.2	4.7
Site3	2014/03/17	21:30:40	8.45	137	94	0.089	0.06	99.5	11.65	6.59	-5.4	413.5	4.6
Site3	2014/03/17	22:00:40	8.33	137	93	0.089	0.06	98.3	11.55	6.57	-4.3	408.5	5.3
Site3	2014/03/17	22:30:40	8.22	138	94	0.09	0.07	97.2	11.44	6.57	-4.5	408.4	4.8
Site3	2014/03/17	23:00:40	8.16	138	94	0.09	0.07	96.3	11.35	6.57	-4.6	408.7	4.7
Site3	2014/03/17	23:30:40	8.1	137	93	0.089	0.06	96.9	11.44	6.56	-4.1	408.8	5
Site3	2014/03/18	00:00:40	8.01	137	93	0.089	0.06	95.7	11.33	6.56	-4.1	408.9	4.7
Site3	2014/03/18	00:30:40	8	139	94	0.09	0.07	95.5	11.31	6.57	-4.6	408.7	4.8
Site3	2014/03/18	01:00:40	7.95	140	94	0.091	0.07	96.5	11.44	6.58	-5	408.7	4.4
Site3	2014/03/18	01:30:40	7.91	141	95	0.091	0.07	96.6	11.46	6.59	-5.7	408.4	4.6
Site3	2014/03/18	02:00:40	7.95	142	96	0.092	0.07	97.5	11.56	6.61	-6.6	407.8	4.3
Site3	2014/03/18	02:30:40	7.92	144	97	0.093	0.07	98	11.63	6.63	-7.6	406.7	4.3
Site3	2014/03/18	03:00:40	7.88	146	98	0.095	0.07	98	11.64	6.63	-7.8	406.6	4.2
Site3	2014/03/18	03:30:40	7.78	148	100	0.096	0.07	97.6	11.62	6.64	-8.1	407.7	4.4

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/18	04:00:40	7.73	151	101	0.098	0.07	98.2	11.7	6.65	-8.8	407.5	4.4
Site3	2014/03/18	04:30:40	7.69	152	102	0.099	0.07	97.7	11.65	6.66	-9.4	407.5	4.3
Site3	2014/03/18	05:00:40	7.61	152	102	0.099	0.07	98.1	11.73	6.67	-9.5	407.5	4.2
Site3	2014/03/18	05:30:40	7.61	151	101	0.098	0.07	97.3	11.63	6.66	-9.4	408	4.5
Site3	2014/03/18	06:00:40	7.58	149	100	0.097	0.07	97.1	11.61	6.66	-9.1	408	4.6
Site3	2014/03/18	06:30:40	7.55	148	98	0.096	0.07	96.8	11.59	6.65	-8.5	411.6	4.7
Site3	2014/03/18	07:00:40	7.52	146	97	0.095	0.07	96.7	11.58	6.64	-8.3	408.6	4.7
Site3	2014/03/18	07:30:40	7.49	145	96	0.094	0.07	98	11.75	6.64	-8.2	408.5	5
Site3	2014/03/18	08:00:40	7.48	145	96	0.094	0.07	100.5	12.05	6.65	-8.6	408.1	4.7
Site3	2014/03/18	08:30:40	7.48	144	96	0.094	0.07	103.1	12.36	6.66	-8.9	407.4	4.8
Site3	2014/03/18	09:00:40	7.52	145	96	0.094	0.07	108.6	13.01	6.67	-9.6	407.5	4.7
Site3	2014/03/18	09:30:40	7.55	145	97	0.094	0.07	109.1	13.06	6.67	-9.8	407.7	4.8
Site3	2014/03/18	10:00:40	7.66	146	97	0.095	0.07	122	14.57	6.69	-10.9	407.3	4.7
Site3	2014/03/18	10:30:40	7.71	145	97	0.094	0.07	113.6	13.54	6.68	-10.2	407.3	5
Site3	2014/03/18	11:00:40	7.68	145	97	0.094	0.07	108.5	12.95	6.67	-9.5	407.9	4.7
Site3	2014/03/18	11:30:40	7.69	146	98	0.095	0.07	105.5	12.59	6.66	-9	408.1	5
Site3	2014/03/18	12:00:40	7.82	151	101	0.098	0.07	112.5	13.38	6.68	-10.4	407.8	4.9
Site3	2014/03/18	12:30:40	7.95	151	102	0.098	0.07	122.8	14.56	6.7	-11.4	407.3	4.8
Site3	2014/03/18	13:00:40	8.2	152	103	0.099	0.07	141.4	16.67	6.75	-14	406.8	4.9
Site3	2014/03/18	13:30:40	8.16	153	104	0.099	0.07	129.2	15.23	6.71	-11.6	407.3	4.8
Site3	2014/03/18	14:00:40	8.46	153	104	0.099	0.07	112.1	13.12	6.69	-10.7	407.3	5
Site3	2014/03/18	14:30:40	8.61	154	106	0.1	0.07	109.7	12.79	6.69	-10.8	407.2	4.7
Site3	2014/03/18	15:00:40	8.81	153	106	0.1	0.07	122.7	14.24	6.71	-11.6	407.6	5.2
Site3	2014/03/18	15:30:40	8.67	154	106	0.1	0.07	113.6	13.24	6.69	-10.8	406.7	4.8
Site3	2014/03/18	16:00:40	9.07	155	108	0.1	0.07	115.1	13.28	6.71	-11.8	406.4	5
Site3	2014/03/18	16:30:40	8.77	156	107	0.101	0.07	107.8	12.53	6.69	-10.6	405.8	4.9
Site3	2014/03/18	17:00:40	8.7	156	107	0.101	0.07	105.3	12.25	6.68	-10.1	406.1	4.6
Site3	2014/03/18	17:30:40	8.6	156	107	0.102	0.07	102.1	11.91	6.66	-9.2	406.6	4.3
Site3	2014/03/18	18:00:40	8.63	156	107	0.101	0.07	101	11.78	6.67	-9.7	405.9	4.5
Site3	2014/03/18	18:30:40	8.59	159	109	0.104	0.08	100.4	11.72	6.67	-9.8	406.5	4
Site3	2014/03/18	19:00:40	8.57	158	109	0.103	0.08	97.5	11.39	6.66	-9.1	406.1	4
Site3	2014/03/18	19:30:40	8.56	159	109	0.103	0.08	96.6	11.28	6.65	-8.4	406.2	4
Site3	2014/03/18	20:00:40	8.5	158	108	0.103	0.08	98.3	11.5	6.65	-8.4	406.6	4
Site3	2014/03/18	20:30:40	8.5	159	109	0.103	0.08	96.5	11.28	6.63	-7.6	406.1	3.9
Site3	2014/03/18	21:00:40	8.5	160	109	0.104	0.08	94.5	11.05	6.64	-7.9	406.1	4.1
Site3	2014/03/18	21:30:40	8.54	158	108	0.103	0.07	100.9	11.79	6.66	-9.3	405.5	4.5
Site3	2014/03/18	22:00:40	8.57	158	108	0.103	0.07	100.1	11.69	6.66	-9.2	405.6	4.3
Site3	2014/03/18	22:30:40	8.51	158	108	0.103	0.07	99.7	11.65	6.66	-9	405.4	4.5
Site3	2014/03/18	23:00:40	8.49	159	109	0.103	0.08	99.9	11.69	6.66	-8.9	405.7	4.5
Site3	2014/03/18	23:30:40	8.49	158	108	0.103	0.08	99.8	11.67	6.66	-8.9	405.8	4.5
Site3	2014/03/19	00:00:40	8.48	159	109	0.103	0.08	98.8	11.56	6.66	-8.9	405.4	4.5
Site3	2014/03/19	00:30:40	8.5	159	109	0.103	0.08	98.9	11.57	6.66	-9	405.5	4.5
Site3	2014/03/19	01:00:40	8.48	158	108	0.103	0.07	98.4	11.51	6.66	-9	405.5	4.5
Site3	2014/03/19	01:30:40	8.39	156	107	0.101	0.07	99.1	11.63	6.65	-8.4	405.7	4.7
Site3	2014/03/19	02:00:40	8.35	156	106	0.101	0.07	98.5	11.56	6.65	-8.7	405.5	4.5
Site3	2014/03/19	02:30:40	8.27	154	105	0.1	0.07	97.7	11.49	6.65	-8.4	405.6	4.6
Site3	2014/03/19	03:00:40	8.18	153	104	0.099	0.07	97	11.43	6.64	-7.8	405.8	4.5
Site3	2014/03/19	03:30:40	8.01	148	100	0.097	0.07	96.6	11.44	6.62	-7.1	406.2	4.7
Site3	2014/03/19	04:00:40	7.84	145	97	0.094	0.07	96.6	11.48	6.63	-7.8	405.9	4.5
Site3	2014/03/19	04:30:40	7.91	150	101	0.097	0.07	98.3	11.66	6.61	-6.3	406.3	7.9
Site3	2014/03/19	05:00:40	7.85	150	101	0.097	0.07	98.8	11.74	6.63	-7.6	406.3	6.9

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/19	05:30:40	7.81	149	100	0.097	0.07	100.2	11.91	6.61	-6.3	407.3	7.7
Site3	2014/03/19	06:00:40	7.67	142	95	0.092	0.07	99	11.82	6.63	-7.4	407.5	9.4
Site3	2014/03/19	06:30:40	7.79	154	103	0.1	0.07	99.3	11.82	6.66	-9	407.4	7.1
Site3	2014/03/19	07:00:40	7.76	153	102	0.099	0.07	99.2	11.81	6.64	-8	408.1	5.5
Site3	2014/03/19	07:30:40	7.85	165	111	0.107	0.08	98.5	11.71	6.64	-8.2	408.4	5.3
Site3	2014/03/19	08:00:40	7.96	174	117	0.113	0.08	98.3	11.65	6.66	-9.3	408.4	4.8
Site3	2014/03/19	08:30:40	7.88	169	114	0.11	0.08	99.2	11.78	6.66	-9.1	408.4	4.7
Site3	2014/03/19	09:00:40	7.82	161	108	0.104	0.08	99.9	11.88	6.64	-7.9	409.1	4.4
Site3	2014/03/19	09:30:40	7.85	162	109	0.105	0.08	99.9	11.87	6.64	-8.2	409.1	4.7
Site3	2014/03/19	10:00:40	7.9	161	108	0.105	0.08	101.1	11.99	6.65	-8.4	408.7	5.1
Site3	2014/03/19	10:30:40	8.02	169	114	0.11	0.08	104.9	12.41	6.66	-9.1	409.2	5.1
Site3	2014/03/19	11:00:40	8.15	165	112	0.107	0.08	104.5	12.33	6.64	-7.9	410.3	5.5
Site3	2014/03/19	11:30:40	8.37	168	115	0.11	0.08	107.1	12.56	6.66	-8.9	410	5.3
Site3	2014/03/19	12:00:40	8.48	168	115	0.109	0.08	114.4	13.39	6.68	-9.9	410.3	4.9
Site3	2014/03/19	12:30:40	8.55	175	120	0.114	0.08	110.2	12.88	6.65	-8.5	410.9	5
Site3	2014/03/19	13:00:40	8.8	167	115	0.108	0.08	113.5	13.18	6.67	-9.8	410.6	4.3
Site3	2014/03/19	13:30:40	9.15	163	114	0.106	0.08	122	14.05	6.7	-11	410.2	5.6
Site3	2014/03/19	14:00:40	9.25	170	119	0.111	0.08	118	13.55	6.71	-11.4	409.3	6.6
Site3	2014/03/19	14:30:40	9.29	169	119	0.11	0.08	117.5	13.48	6.7	-10.9	409.3	5
Site3	2014/03/19	15:00:40	9.11	176	123	0.115	0.08	114.4	13.19	6.67	-9.8	409.9	8.9
Site3	2014/03/19	15:30:40	9.33	167	117	0.109	0.08	122	13.98	6.68	-10.3	409.5	4.9
Site3	2014/03/19	16:00:40	9.19	179	125	0.117	0.09	108.2	12.44	6.69	-10.5	409.4	24.1
Site3	2014/03/19	16:30:40	9.22	175	122	0.114	0.08	109.1	12.53	6.72	-12.2	408.4	7.3
Site3	2014/03/19	17:00:40	9	176	122	0.114	0.08	106.4	12.3	6.74	-13.1	407.7	6.7
Site3	2014/03/19	17:30:40	8.94	173	120	0.112	0.08	106.5	12.32	6.74	-13.1	407.2	6.6
Site3	2014/03/19	18:00:40	8.87	168	116	0.109	0.08	103.8	12.03	6.76	-14.2	406.9	9.3
Site3	2014/03/19	18:30:40	8.74	164	113	0.107	0.08	104	12.09	6.73	-12.6	407.5	7.5
Site3	2014/03/19	19:00:40	8.67	162	112	0.105	0.08	101.8	11.85	6.74	-13.4	407.6	7.9
Site3	2014/03/19	19:30:40	8.61	161	110	0.104	0.08	100.6	11.73	6.75	-13.6	407.1	8.5
Site3	2014/03/19	20:00:40	8.34	157	107	0.102	0.07	101.5	11.92	6.71	-11.8	408	7.2
Site3	2014/03/19	20:30:40	8.4	157	108	0.102	0.07	99.8	11.7	6.74	-13.1	407.6	8
Site3	2014/03/19	21:00:40	8.28	156	106	0.102	0.07	100.5	11.82	6.73	-12.8	407.3	7.3
Site3	2014/03/19	21:30:40	8.21	156	106	0.101	0.07	99.7	11.74	6.73	-12.8	407.5	7.9
Site3	2014/03/19	22:00:40	8.12	155	105	0.101	0.07	99.7	11.77	6.73	-12.6	407.6	7.4
Site3	2014/03/19	22:30:40	7.87	154	103	0.1	0.07	100.3	11.91	6.7	-11.1	408.1	7
Site3	2014/03/19	23:00:40	7.76	153	103	0.099	0.07	101.3	12.07	6.72	-12	407.9	6.4
Site3	2014/03/19	23:30:40	7.56	152	101	0.099	0.07	100.6	12.04	6.71	-11.6	408	5.9
Site3	2014/03/20	00:00:40	7.49	144	96	0.094	0.07	101.2	12.14	6.72	-12.1	407.7	6.2
Site3	2014/03/20	00:30:40	7.37	136	90	0.089	0.06	99.7	11.99	6.72	-12.5	407.3	6.1
Site3	2014/03/20	01:00:40	7.31	131	87	0.085	0.06	100.7	12.12	6.72	-12.1	407.5	6.5
Site3	2014/03/20	01:30:40	7.19	131	86	0.085	0.06	99.9	12.07	6.7	-11.2	408	6.5
Site3	2014/03/20	02:00:40	7.12	129	85	0.084	0.06	99.9	12.09	6.7	-11.1	408.1	6.1
Site3	2014/03/20	02:30:40	7.06	129	85	0.084	0.06	99.9	12.1	6.69	-11	408	5.9
Site3	2014/03/20	03:00:40	6.99	128	84	0.083	0.06	99.9	12.12	6.68	-10.4	408.7	6
Site3	2014/03/20	03:30:40	7	128	84	0.084	0.06	99.3	12.05	6.68	-10.2	408.9	6.3
Site3	2014/03/20	04:00:40	7	130	86	0.085	0.06	98.7	11.98	6.68	-10	409.1	5.9
Site3	2014/03/20	04:30:40	6.96	132	87	0.086	0.06	98.1	11.92	6.68	-10.3	408.9	5.9
Site3	2014/03/20	05:00:40	6.95	134	88	0.087	0.06	98.3	11.95	6.68	-10.3	408.8	5.9
Site3	2014/03/20	05:30:40	6.97	138	90	0.089	0.06	98.1	11.92	6.69	-10.7	408.4	5.3
Site3	2014/03/20	06:00:40	6.92	141	92	0.091	0.07	97.8	11.89	6.69	-10.5	408.4	6.1
Site3	2014/03/20	06:30:40	6.73	138	90	0.09	0.07	99.3	12.13	6.66	-9.4	409.2	5.5

## Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/20	07:00:40	6.82	143	93	0.093	0.07	100.9	12.3	6.69	-10.7	408.8	5.7
Site3	2014/03/20	07:30:40	6.77	145	95	0.094	0.07	103.2	12.6	6.7	-11.1	408.2	6.1
Site3	2014/03/20	08:00:40	6.84	149	97	0.097	0.07	108.3	13.2	6.71	-11.7	408.3	5.7
Site3	2014/03/20	08:30:40	6.9	151	99	0.098	0.07	120.4	14.65	6.74	-13.2	407.5	5.5
Site3	2014/03/20	09:00:40	7.01	156	102	0.101	0.07	140.9	17.1	6.8	-16.7	406.7	5.8
Site3	2014/03/20	09:30:40	7.22	158	104	0.102	0.07	148.2	17.88	6.83	-18.1	406.3	5.1
Site3	2014/03/20	10:00:40	7.51	153	102	0.1	0.07	154.7	18.54	6.82	-17.7	406.7	5.1
Site3	2014/03/20	10:30:40	7.64	146	98	0.095	0.07	128.4	15.34	6.68	-10.1	409.4	5.1
Site3	2014/03/20	11:00:40	7.59	164	109	0.106	0.08	120.2	14.37	6.7	-11.3	408.1	5.3
Site3	2014/03/20	11:30:40	7.25	164	108	0.107	0.08	108.7	13.11	6.96	-24.8	389	4.9
Site3	2014/03/20	12:00:40	7.44	162	108	0.105	0.08	147.5	17.7	6.91	-22.1	403	4.5
Site3	2014/03/20	12:30:40	7.71	162	109	0.105	0.08	131.9	15.72	6.84	-18.6	404.5	4.6
Site3	2014/03/20	13:00:40	7.96	161	109	0.105	0.08	145.2	17.21	6.87	-20.3	404.3	5
Site3	2014/03/20	13:30:40	8.3	162	110	0.105	0.08	127.9	15.03	6.86	-19.4	403.9	4.8
Site3	2014/03/20	14:00:40	8.47	162	111	0.106	0.08	141.6	16.57	6.85	-19	403.7	4.8
Site3	2014/03/20	14:30:40	8.63	168	115	0.109	0.08	142.8	16.65	6.9	-21.6	403.3	4.3
Site3	2014/03/20	15:00:40	8.75	157	108	0.102	0.07	154.9	18	6.92	-22.6	402.7	4.6
Site3	2014/03/20	15:30:40	8.69	161	111	0.105	0.08	139.8	16.27	6.9	-21.7	402.6	4.7
Site3	2014/03/20	16:00:40	8.73	162	112	0.105	0.08	120.7	14.04	6.86	-19.8	402.3	4.7
Site3	2014/03/20	16:30:40	8.73	163	112	0.106	0.08	122.5	14.24	6.86	-19.7	402.6	4.7
Site3	2014/03/20	17:00:40	8.73	167	115	0.109	0.08	110.5	12.85	6.81	-17	402.6	4.5
Site3	2014/03/20	17:30:40	8.69	168	116	0.109	0.08	108.2	12.6	6.79	-16.1	402.6	4.5
Site3	2014/03/20	18:00:40	8.7	168	116	0.109	0.08	106.6	12.41	6.79	-15.9	402.3	4.6
Site3	2014/03/20	18:30:40	8.66	165	113	0.107	0.08	103.8	12.09	6.79	-15.7	402.3	4.5
Site3	2014/03/20	19:00:40	8.71	162	112	0.105	0.08	103.8	12.08	6.8	-16.3	402.3	5
Site3	2014/03/20	19:30:40	8.77	163	112	0.106	0.08	105	12.2	6.82	-17.6	401.6	5.6
Site3	2014/03/20	20:00:40	8.75	162	112	0.105	0.08	105.3	12.24	6.83	-18.2	400.9	4.8
Site3	2014/03/20	20:30:40	8.75	165	114	0.107	0.08	105.3	12.24	6.84	-18.4	400.9	4.8
Site3	2014/03/20	21:00:40	8.73	163	113	0.106	0.08	104.8	12.19	6.84	-18.4	400.6	9.1
Site3	2014/03/20	21:30:40	8.62	162	112	0.106	0.08	105.4	12.28	6.84	-18.3	400.4	4.8
Site3	2014/03/20	22:00:40	8.52	161	111	0.105	0.08	104.8	12.25	6.83	-18.2	400.3	5.1
Site3	2014/03/20	22:30:40	8.43	160	109	0.104	0.08	104.7	12.26	6.83	-18.1	400.3	5.1
Site3	2014/03/20	23:00:40	8.31	158	108	0.103	0.08	104.2	12.25	6.83	-17.9	400.5	5
Site3	2014/03/20	23:30:40	8.25	157	107	0.102	0.07	104.2	12.27	6.82	-17.6	400.9	5.5
Site3	2014/03/21	00:00:40	8.21	155	105	0.101	0.07	104.5	12.3	6.81	-17.2	400.8	5.4
Site3	2014/03/21	00:30:40	8.2	154	104	0.1	0.07	104	12.25	6.81	-17	400.9	5.4
Site3	2014/03/21	01:00:40	8.15	152	103	0.099	0.07	103.4	12.19	6.8	-16.2	401.1	5.4
Site3	2014/03/21	01:30:40	8.03	151	102	0.098	0.07	102.7	12.15	6.79	-15.9	401	5.6
Site3	2014/03/21	02:00:40	7.94	151	101	0.098	0.07	102.6	12.16	6.78	-15.3	401.1	6
Site3	2014/03/21	02:30:40	7.75	151	101	0.098	0.07	101.3	12.07	6.77	-14.7	401.2	5.6
Site3	2014/03/21	03:00:40	7.59	151	101	0.098	0.07	100.1	11.97	6.75	-13.9	401.4	5.7
Site3	2014/03/21	03:30:40	7.5	151	101	0.098	0.07	99.3	11.9	6.75	-14	401.6	5.7
Site3	2014/03/21	04:00:40	7.36	152	101	0.099	0.07	98.6	11.86	6.74	-13.4	402	5.8
Site3	2014/03/21	04:30:40	7.26	153	101	0.099	0.07	97.6	11.77	6.73	-12.8	402.3	5.7
Site3	2014/03/21	05:00:40	7.13	153	101	0.1	0.07	96.8	11.71	6.73	-12.9	402.4	5.4
Site3	2014/03/21	05:30:40	7.04	155	102	0.101	0.07	96.7	11.72	6.73	-12.6	402.6	5.6
Site3	2014/03/21	06:00:40	6.94	156	102	0.101	0.07	95.7	11.63	6.73	-12.8	402.7	5.5
Site3	2014/03/21	06:30:40	6.84	152	100	0.099	0.07	97.4	11.87	6.74	-13.2	402.6	5.4
Site3	2014/03/21	07:00:40	6.84	153	100	0.1	0.07	99.7	12.14	6.75	-13.7	402.6	5
Site3	2014/03/21	07:30:40	6.72	154	100	0.1	0.07	101.5	12.41	6.75	-13.8	402.4	5.7
Site3	2014/03/21	08:00:40	6.73	155	101	0.101	0.07	103.8	12.68	6.77	-14.8	402.2	5.3



Appendix 3: Sonde data - Burnaby Lake u/s - Site 3

Site#	Date	Sonde Time	Temp	SpCond	Cond	TDS	Sal	DOsat	DO	pH	pH	Orp	Turbid
Site3	2014/03/21	08:30:40	6.81	155	101	0.101	0.07	106.6	12.99	6.79	-16.1	401.9	5.6
Site3	2014/03/21	09:00:40	6.84	151	99	0.098	0.07	111.5	13.59	6.81	-16.8	401.9	5.6
Site3	2014/03/21	09:30:40	6.97	153	100	0.099	0.07	117.4	14.25	6.82	-17.5	401.4	5.2
Site3	2014/03/21	10:00:40	7.05	153	100	0.099	0.07	115	13.94	6.81	-16.8	401.4	5.3
Site3	2014/03/21	10:30:40	7.49	152	101	0.099	0.07	130.3	15.62	6.91	-22	400.8	4.9
Site3	2014/03/21	11:00:40	8.53	-	-	-	-	126.5	14.79	7.13	-33.7	397.6	

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030043
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-03-14 13:39 / 0°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-05-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Sara Gulenchyn For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Silver Creek (4030043-01) [Water] Sampled: Mar-02-14 11:00**

CT1

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	29	2	mg/L	N/A	Mar-04-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	29	2	mg/L	N/A	Mar-04-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Chloride	1010	0.10	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrate as N	0.548	0.010	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-04-14	
Sulfate	8.9	1.0	mg/L	N/A	Mar-04-14	

**General Parameters**

Carbon, Total Organic	10.2	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Inorganic	5.0	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Organic	6.0	0.5	mg/L	N/A	Mar-04-14	
Nitrogen, Ammonia as N, Total	0.380	0.020	mg/L	N/A	Mar-04-14	
pH	7.30	0.01	pH units	N/A	Mar-03-14	
Solids, Total Dissolved	1880	10	mg/L	N/A	Mar-04-14	
Solids, Total Suspended	53	2	mg/L	N/A	Mar-03-14	
Sulfide	0.03	0.01	mg/L	N/A	Mar-04-14	

**Calculated Parameters**

LEPHw	1280	100	ug/L	N/A	N/A	
HEPHw	671	100	ug/L	N/A	N/A	
Total PAH	0.34	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	67.1	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	56	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.548	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	21	1	ug/L	N/A	Mar-03-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-03-14	
Arsenic, dissolved	0.38	0.05	ug/L	N/A	Mar-03-14	
Barium, dissolved	60.6	0.1	ug/L	N/A	Mar-03-14	
Beryllium, dissolved	0.01	0.01	ug/L	N/A	Mar-03-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Boron, dissolved	7	1	ug/L	N/A	Mar-03-14	
Cadmium, dissolved	0.208	0.002	ug/L	N/A	Mar-03-14	
Calcium, dissolved	17800	40	ug/L	N/A	Mar-03-14	
Chromium, dissolved	0.5	0.1	ug/L	N/A	Mar-03-14	
Cobalt, dissolved	0.179	0.005	ug/L	N/A	Mar-03-14	
Copper, dissolved	4.8	0.1	ug/L	N/A	Mar-03-14	
Iron, dissolved	166	2	ug/L	N/A	Mar-03-14	
Lead, dissolved	0.32	0.05	ug/L	N/A	Mar-03-14	
Lithium, dissolved	1.31	0.05	ug/L	N/A	Mar-03-14	
Magnesium, dissolved	2890	5	ug/L	N/A	Mar-03-14	
Manganese, dissolved	48.9	0.05	ug/L	N/A	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Silver Creek (4030043-01) [Water] Sampled: Mar-02-14 11:00, Continued**

CT1

***Dissolved Metals, Continued***

Molybdenum, dissolved	1.46	0.01	ug/L	N/A	Mar-03-14	
Nickel, dissolved	0.57	0.02	ug/L	N/A	Mar-03-14	
Phosphorus, dissolved	24	10	ug/L	N/A	Mar-03-14	
Potassium, dissolved	1680	10	ug/L	N/A	Mar-03-14	
Selenium, dissolved	0.2	0.1	ug/L	N/A	Mar-03-14	
Silicon, dissolved	2190	50	ug/L	N/A	Mar-03-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Sodium, dissolved	507000	10	ug/L	N/A	Mar-03-14	
Strontium, dissolved	128	0.1	ug/L	N/A	Mar-03-14	
Sulfur, dissolved	3950	500	ug/L	N/A	Mar-03-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-03-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-03-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Tin, dissolved	0.06	0.05	ug/L	N/A	Mar-03-14	
Titanium, dissolved	0.5	0.2	ug/L	N/A	Mar-03-14	
Uranium, dissolved	0.017	0.001	ug/L	N/A	Mar-03-14	
Vanadium, dissolved	0.9	0.2	ug/L	N/A	Mar-03-14	
Zinc, dissolved	41	1	ug/L	N/A	Mar-03-14	
Zirconium, dissolved	0.04	0.01	ug/L	N/A	Mar-03-14	

***Total Recoverable Metals***

Aluminum, total	731	1	ug/L	Mar-03-14	Mar-03-14	
Antimony, total	0.8	0.05	ug/L	Mar-03-14	Mar-03-14	
Arsenic, total	1.49	0.05	ug/L	Mar-03-14	Mar-03-14	
Barium, total	84.7	0.1	ug/L	Mar-03-14	Mar-03-14	
Beryllium, total	0.03	0.01	ug/L	Mar-03-14	Mar-03-14	
Bismuth, total	0.04	0.01	ug/L	Mar-03-14	Mar-03-14	
Boron, total	9	1	ug/L	Mar-03-14	Mar-03-14	
Cadmium, total	0.311	0.002	ug/L	Mar-03-14	Mar-03-14	
Calcium, total	21000	40	ug/L	Mar-03-14	Mar-03-14	
Chromium, total	2.4	0.1	ug/L	Mar-03-14	Mar-03-14	
Cobalt, total	0.620	0.005	ug/L	Mar-03-14	Mar-03-14	
Copper, total	16.3	0.1	ug/L	Mar-03-14	Mar-03-14	
Iron, total	1780	2	ug/L	Mar-03-14	Mar-03-14	
Lead, total	7.17	0.05	ug/L	Mar-03-14	Mar-03-14	
Lithium, total	2.07	0.05	ug/L	Mar-03-14	Mar-03-14	
Magnesium, total	3570	5.0	ug/L	Mar-03-14	Mar-03-14	
Manganese, total	76.8	0.05	ug/L	Mar-03-14	Mar-03-14	
Mercury, total	0.02	0.01	ug/L	Mar-03-14	Mar-03-14	
Molybdenum, total	1.57	0.01	ug/L	Mar-03-14	Mar-03-14	
Nickel, total	1.44	0.02	ug/L	Mar-03-14	Mar-03-14	
Phosphorus, total	88	10	ug/L	Mar-03-14	Mar-03-14	
Potassium, total	2050	10	ug/L	Mar-03-14	Mar-03-14	
Selenium, total	0.3	0.1	ug/L	Mar-03-14	Mar-03-14	
Silicon, total	4000	50	ug/L	Mar-03-14	Mar-03-14	
Silver, total	0.03	0.01	ug/L	Mar-03-14	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
<b>Sample ID: Silver Creek (4030043-01) [Water] Sampled: Mar-02-14 11:00, Continued</b>						CT1
<b>Total Recoverable Metals, Continued</b>						
Sodium, total	626000	10	ug/L	Mar-03-14	Mar-03-14	
Strontium, total	150	0.1	ug/L	Mar-03-14	Mar-03-14	
Sulfur, total	4300	500	ug/L	Mar-03-14	Mar-03-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-03-14	Mar-03-14	
Thallium, total	0.007	0.004	ug/L	Mar-03-14	Mar-03-14	
Thorium, total	0.02	0.01	ug/L	Mar-03-14	Mar-03-14	
Tin, total	0.43	0.05	ug/L	Mar-03-14	Mar-03-14	
Titanium, total	42.8	0.2	ug/L	Mar-03-14	Mar-03-14	
Uranium, total	0.059	0.001	ug/L	Mar-03-14	Mar-03-14	
Vanadium, total	2.7	0.2	ug/L	Mar-03-14	Mar-03-14	
Zinc, total	103	1	ug/L	Mar-03-14	Mar-03-14	
Zirconium, total	0.97	0.01	ug/L	Mar-03-14	Mar-03-14	
<b>Aggregate Organic Parameters</b>						
EPHw (10-19)	1280	100	ug/L	Mar-03-14	Mar-04-14	
EPHw (19-32)	671	100	ug/L	Mar-03-14	Mar-04-14	
<b>Polycyclic Aromatic Hydrocarbons (PAH)</b>						
Acenaphthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acridine	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Anthracene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) anthracene	0.02	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) pyrene	0.02	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (b) fluoranthene	0.03	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (g,h,i) perylene	0.06	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (k) fluoranthene	0.03	0.02	ug/L	Mar-03-14	Mar-04-14	
Chrysene	0.05	0.02	ug/L	Mar-03-14	Mar-04-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluoranthene	0.09	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluorene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Indeno (1,2,3-cd) pyrene	0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Phenanthrene	0.07	0.05	ug/L	Mar-03-14	Mar-04-14	
Pyrene	0.12	0.02	ug/L	Mar-03-14	Mar-04-14	
Quinoline	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Surrogate: Naphthalene-d8	75 %	40-96		Mar-03-14	Mar-04-14	
Surrogate: Acenaphthene-d10	78 %	45-92		Mar-03-14	Mar-04-14	
Surrogate: Phenanthrene-d10	77 %	48-90		Mar-03-14	Mar-04-14	
Surrogate: Chrysene-d12	78 %	41-96		Mar-03-14	Mar-04-14	
Surrogate: Perylene-d12	78 %	47-104		Mar-03-14	Mar-04-14	

**Sample / Analysis Qualifiers:**

CT1 Incorrect Container(s) supplied for Dissolved Hg analysis

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0006**

**Blank (B4C0006-BLK1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4C0006-BS2)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

EPHw (10-19)	2350	100 ug/L	3470		68	63-123			
EPHw (19-32)	3240	100 ug/L	4970		65	51-102			

**Anions, Batch B4C0078**

**Blank (B4C0078-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**LCS (B4C0078-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Alkalinity, Total as CaCO3	2390	2 mg/L	2500		96	81-109			
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**Duplicate (B4C0078-DUP1)**

Source: 4030043-01

Prepared: Mar-04-14, Analyzed: Mar-04-14

Alkalinity, Total as CaCO3	29	2 mg/L		29			< 1	12	
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Bicarbonate as CaCO3	29	2 mg/L		29			< 1	12	
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L		< 2				12	

**Anions, Batch B4C0106**

**Blank (B4C0106-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C0106, Continued</b>									
<b>Blank (B4C0106-BLK1), Continued</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Sulfate	< 1.0	1.0 mg/L							
<b>LCS (B4C0106-BS1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Chloride	16.1	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.02	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			
<b>Duplicate (B4C0106-DUP1)</b>			<b>Source: 4030043-01</b>		Prepared: Mar-04-14, Analyzed: Mar-04-14				
Chloride	1010	0.10 mg/L		1010			< 1	10	
Nitrogen, Nitrate as N	0.547	0.010 mg/L		0.548			< 1	10	
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L		< 0.010				10	
Sulfate	8.9	1.0 mg/L		8.9			< 1	10	
<b>Dissolved Metals, Batch B4C0053</b>									
<b>Blank (B4C0053-BLK1)</b>					Prepared: Mar-03-14, Analyzed: Mar-03-14				
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							
<b>Duplicate (B4C0053-DUP1)</b>			<b>Source: 4030043-01</b>		Prepared: Mar-03-14, Analyzed: Mar-03-14				
Aluminum, dissolved	21	1 ug/L		21			3	14	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0053, Continued**

<b>Duplicate (B4C0053-DUP1), Continued</b>		<b>Source: 4030043-01</b>		<b>Prepared: Mar-03-14, Analyzed: Mar-03-14</b>					
Antimony, dissolved	0.4	0.05 ug/L		0.4			1	31	
Arsenic, dissolved	0.38	0.05 ug/L		0.38			< 1	13	
Barium, dissolved	59.9	0.1 ug/L		60.6			1	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	7	1 ug/L		7			< 1	14	
Cadmium, dissolved	0.209	0.002 ug/L		0.208			< 1	16	
Calcium, dissolved	17500	40 ug/L		17800			2	10	
Chromium, dissolved	0.5	0.1 ug/L		0.5			3	11	
Cobalt, dissolved	0.170	0.005 ug/L		0.179			5	16	
Copper, dissolved	4.8	0.1 ug/L		4.8			< 1	27	
Iron, dissolved	165	2 ug/L		166			< 1	14	
Lead, dissolved	0.33	0.05 ug/L		0.32			2	20	
Lithium, dissolved	1.27	0.05 ug/L		1.31			3	20	
Magnesium, dissolved	2840	5 ug/L		2890			2	11	
Manganese, dissolved	47.9	0.05 ug/L		48.9			2	15	
Molybdenum, dissolved	1.42	0.01 ug/L		1.46			3	17	
Nickel, dissolved	0.61	0.02 ug/L		0.57			7	23	
Phosphorus, dissolved	19	10 ug/L		24				15	
Potassium, dissolved	1590	10 ug/L		1680			5	10	
Selenium, dissolved	0.2	0.1 ug/L		0.2				22	
Silicon, dissolved	2110	50 ug/L		2190			4	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	500000	10 ug/L		507000			1	10	
Strontium, dissolved	124	0.1 ug/L		128			3	12	
Sulfur, dissolved	3390	500 ug/L		3950			15	21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	0.06	0.05 ug/L		0.06				30	
Titanium, dissolved	0.4	0.2 ug/L		0.5				15	
Uranium, dissolved	0.018	0.001 ug/L		0.017			6	16	
Vanadium, dissolved	0.8	0.2 ug/L		0.9				10	
Zinc, dissolved	42	1 ug/L		41			3	15	
Zirconium, dissolved	0.04	0.01 ug/L		0.04				39	

<b>Matrix Spike (B4C0053-MS1)</b>		<b>Source: 4030043-01</b>		<b>Prepared: Mar-03-14, Analyzed: Mar-03-14</b>					
Antimony, dissolved	42.0	0.05 ug/L	40.0	0.4	104	81-114			
Arsenic, dissolved	21.6	0.05 ug/L	20.0	0.38	106	89-115			
Barium, dissolved	163	0.1 ug/L	100	60.6	103	86-115			
Beryllium, dissolved	10.6	0.01 ug/L	10.0	0.01	106	77-124			
Cadmium, dissolved	10.0	0.002 ug/L	10.0	0.208	98	82-126			
Chromium, dissolved	43.9	0.1 ug/L	40.0	0.5	108	85-117			
Cobalt, dissolved	42.3	0.005 ug/L	40.0	0.179	105	76-131			
Copper, dissolved	46.3	0.1 ug/L	40.0	4.8	104	88-113			
Iron, dissolved	384	2 ug/L	200	166	109	80-115			
Lead, dissolved	19.2	0.05 ug/L	20.0	0.32	95	84-121			
Manganese, dissolved	91.9	0.05 ug/L	40.0	48.9	107	75-135			
Nickel, dissolved	41.6	0.02 ug/L	40.0	0.57	103	83-121			
Selenium, dissolved	11.0	0.1 ug/L	10.0	0.2	109	91-122			
Silver, dissolved	9.60	0.01 ug/L	10.0	< 0.01	96	74-120			
Thallium, dissolved	9.48	0.004 ug/L	10.0	< 0.004	95	79-119			
Vanadium, dissolved	45.6	0.2 ug/L	40.0	0.9	112	80-115			
Zinc, dissolved	142	1 ug/L	100	41	101	89-123			

<b>Reference (B4C0053-SRM1)</b>		<b>Prepared: Mar-03-14, Analyzed: Mar-03-14</b>							
Aluminum, dissolved	25	1 ug/L	23.3		106	58-142			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0053, Continued**

**Reference (B4C0053-SRM1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Antimony, dissolved	5.3	0.05 ug/L	4.30		124	75-125			
Arsenic, dissolved	44.7	0.05 ug/L	43.8		102	81-119			
Barium, dissolved	353	0.1 ug/L	335		105	83-117			
Beryllium, dissolved	21.9	0.01 ug/L	21.3		103	80-120			
Boron, dissolved	185	1 ug/L	174		106	74-117			
Cadmium, dissolved	22.4	0.002 ug/L	22.4		100	83-117			
Calcium, dissolved	866	40 ug/L	769		113	76-124			
Chromium, dissolved	45.9	0.1 ug/L	43.7		105	81-119			
Cobalt, dissolved	13.7	0.005 ug/L	12.8		107	76-124			
Copper, dissolved	94.2	0.1 ug/L	84.4		112	84-116			
Iron, dissolved	139	2 ug/L	129		108	74-126			
Lead, dissolved	11.3	0.05 ug/L	11.2		101	72-128			
Lithium, dissolved	10.6	0.05 ug/L	10.4		102	60-140			
Magnesium, dissolved	742	5 ug/L	692		107	81-119			
Manganese, dissolved	36.8	0.05 ug/L	34.5		107	84-116			
Molybdenum, dissolved	43.9	0.01 ug/L	42.6		103	83-117			
Nickel, dissolved	89.1	0.02 ug/L	84.0		106	74-126			
Phosphorus, dissolved	54	10 ug/L	49.5		109	68-132			
Potassium, dissolved	379	10 ug/L	319		119	74-126			
Selenium, dissolved	3.5	0.1 ug/L	3.31		106	70-130			
Sodium, dissolved	2270	10 ug/L	1910		119	72-128			
Strontium, dissolved	97.5	0.1 ug/L	91.6		106	84-113			
Thallium, dissolved	3.94	0.004 ug/L	3.93		100	57-143			
Uranium, dissolved	26.7	0.001 ug/L	26.6		100	85-115			
Vanadium, dissolved	91.6	0.2 ug/L	86.9		105	87-113			
Zinc, dissolved	91	1 ug/L	88.1		103	72-128			

**General Parameters, Batch B4C0061**

**Blank (B4C0061-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0061-BS1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Solids, Total Suspended	47	2 mg/L	48.8		96	83-107			
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**General Parameters, Batch B4C0064**

**Blank (B4C0064-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Solids, Total Dissolved	17	10 mg/L							BLK
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**Reference (B4C0064-SRM1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Solids, Total Dissolved	232	10 mg/L	240		97	70-130			
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**General Parameters, Batch B4C0065**

**Reference (B4C0065-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

pH	7.03	0.01 pH units	7.00		100	98-102			
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**General Parameters, Batch B4C0083**

**Blank (B4C0083-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0083, Continued**

**LCS (B4C0083-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Total Organic	9.3	0.5 mg/L	10.0		93	78-116			
Carbon, Dissolved Organic	10.6	0.5 mg/L	10.0		106	80-120			

**General Parameters, Batch B4C0093**

**Blank (B4C0093-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Sulfide	< 0.01	0.01 mg/L							
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**LCS (B4C0093-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Sulfide	0.33	0.01 mg/L	0.385		84	36-114			
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**General Parameters, Batch B4C0094**

**Blank (B4C0094-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**LCS (B4C0094-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Nitrogen, Ammonia as N, Total	9.99	0.020 mg/L	10.0		100	86-111			
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**General Parameters, Batch B4C0097**

**Blank (B4C0097-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C0097-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	10.5	0.5 mg/L	10.0		105	80-120			
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**Duplicate (B4C0097-DUP1)**

Source: 4030043-01

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	5.4	0.5 mg/L		5.0			8	20	
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006**

**Blank (B4C0006-BLK1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	< 0.05	0.05 ug/L							
Acenaphthylene	< 0.05	0.05 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.05	0.05 ug/L							
Benzo (k) fluoranthene	< 0.05	0.05 ug/L							
Chrysene	< 0.05	0.05 ug/L							
Dibenz (a,h) anthracene	< 0.05	0.05 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.650	ug/L	1.02		64	40-96			
Surrogate: Acenaphthene-d10	0.660	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.666	ug/L	0.970		69	48-90			
Surrogate: Chrysene-d12	0.680	ug/L	0.950		72	41-96			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006, Continued**

**Blank (B4C0006-BLK1), Continued**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Surrogate: Perylene-d12	0.693	ug/L	0.990		70	47-104			
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**LCS (B4C0006-BS1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.64	0.05 ug/L	1.00		64	54-92			
Acenaphthylene	0.69	0.02 ug/L	1.00		69	54-95			
Acridine	0.63	0.05 ug/L	1.00		63	49-87			
Anthracene	0.67	0.05 ug/L	1.00		67	53-94			
Benzo (a) anthracene	0.62	0.01 ug/L	1.00		62	52-95			
Benzo (a) pyrene	0.64	0.01 ug/L	1.00		64	52-103			
Benzo (b) fluoranthene	0.63	0.05 ug/L	1.00		63	49-94			
Benzo (g,h,i) perylene	0.65	0.02 ug/L	1.00		65	51-98			
Benzo (k) fluoranthene	0.58	0.05 ug/L	1.00		58	49-105			
Chrysene	0.61	0.05 ug/L	1.00		61	50-104			
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96			
Fluoranthene	0.68	0.02 ug/L	1.00		68	53-102			
Fluorene	0.66	0.05 ug/L	1.00		66	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.63	0.05 ug/L	1.00		63	51-91			
Phenanthrene	0.64	0.10 ug/L	1.00		64	56-96			
Pyrene	0.66	0.10 ug/L	1.00		66	51-105			
Quinoline	0.66	0.05 ug/L	1.00		66	48-126			
Surrogate: Naphthalene-d8	0.670	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.661	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.675	ug/L	0.970		70	48-90			
Surrogate: Chrysene-d12	0.635	ug/L	0.950		67	41-96			
Surrogate: Perylene-d12	0.636	ug/L	0.990		64	47-104			

**LCS Dup (B4C0006-BSD1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.69	0.05 ug/L	1.00		69	54-92	7	20	
Acenaphthylene	0.75	0.02 ug/L	1.00		75	54-95	8	20	
Acridine	0.63	0.05 ug/L	1.00		63	49-87	< 1	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	7	20	
Benzo (a) anthracene	0.67	0.01 ug/L	1.00		67	52-95	8	20	
Benzo (a) pyrene	0.70	0.01 ug/L	1.00		70	52-103	8	20	
Benzo (b) fluoranthene	0.63	0.05 ug/L	1.00		63	49-94	< 1	20	
Benzo (g,h,i) perylene	0.69	0.05 ug/L	1.00		69	51-98	7	20	
Benzo (k) fluoranthene	0.63	0.05 ug/L	1.00		63	49-105	8	20	
Chrysene	0.68	0.05 ug/L	1.00		68	50-104	10	20	
Dibenz (a,h) anthracene	0.69	0.05 ug/L	1.00		69	49-96	6	20	
Fluoranthene	0.72	0.02 ug/L	1.00		72	53-102	6	20	
Fluorene	0.71	0.02 ug/L	1.00		71	54-91	8	20	
Indeno (1,2,3-cd) pyrene	0.72	0.05 ug/L	1.00		72	51-99	6	20	
Naphthalene	0.68	0.30 ug/L	1.00		68	51-91	8	20	
Phenanthrene	0.69	0.10 ug/L	1.00		69	56-96	8	20	
Pyrene	0.70	0.02 ug/L	1.00		70	51-105	6	20	
Quinoline	0.67	0.10 ug/L	1.00		67	48-126	< 1	20	
Surrogate: Naphthalene-d8	0.715	ug/L	1.02		70	40-96			
Surrogate: Acenaphthene-d10	0.703	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.711	ug/L	0.970		73	48-90			
Surrogate: Chrysene-d12	0.677	ug/L	0.950		71	41-96			
Surrogate: Perylene-d12	0.716	ug/L	0.990		72	47-104			

**Total Recoverable Metals, Batch B4C0055**

**Blank (B4C0055-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	< 1	1 ug/L							
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0055, Continued**

**Blank (B4C0055-BLK1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Duplicate (B4C0055-DUP1)**

**Source: 4030043-01**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	675	1 ug/L		731			8	28	
Antimony, total	0.9	0.05 ug/L		0.8			< 1	36	
Arsenic, total	1.39	0.05 ug/L		1.49			7	18	
Barium, total	83.4	0.1 ug/L		84.7			2	8	
Beryllium, total	0.02	0.01 ug/L		0.03				29	
Bismuth, total	0.03	0.01 ug/L		0.04				46	
Boron, total	9	1 ug/L		9			< 1	40	
Cadmium, total	0.329	0.002 ug/L		0.311			6	43	
Calcium, total	20700	40 ug/L		21000			1	10	
Chromium, total	2.4	0.1 ug/L		2.4			< 1	23	
Cobalt, total	0.577	0.005 ug/L		0.620			7	18	
Copper, total	16.0	0.1 ug/L		16.3			2	33	
Iron, total	1620	2 ug/L		1780			9	16	
Lead, total	6.68	0.05 ug/L		7.17			7	26	
Lithium, total	1.95	0.05 ug/L		2.07			6	20	
Magnesium, total	3530	5.0 ug/L		3570			1	7	
Manganese, total	75.0	0.05 ug/L		76.8			2	10	
Mercury, total	< 0.01	0.01 ug/L		0.02				40	
Molybdenum, total	1.84	0.01 ug/L		1.57			16	26	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0055, Continued**

Duplicate (B4C0055-DUP1), Continued	Source: 4030043-01		Prepared: Mar-03-14, Analyzed: Mar-03-14						
Nickel, total	1.34	0.02 ug/L		1.44			7	20	
Phosphorus, total	78	10 ug/L		88			13	32	
Potassium, total	2000	10 ug/L		2050			2	15	
Selenium, total	0.3	0.1 ug/L		0.3				25	
Silicon, total	3590	50 ug/L		4010			11	14	
Silver, total	0.03	0.01 ug/L		0.03				35	
Sodium, total	630000	10 ug/L		626000			< 1	11	
Strontium, total	152	0.1 ug/L		150			1	8	
Sulfur, total	4500	500 ug/L		4300			3	20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	0.006	0.004 ug/L		0.007				30	
Thorium, total	0.02	0.01 ug/L		0.02				50	
Tin, total	0.36	0.05 ug/L		0.43			16	19	
Titanium, total	32.0	0.2 ug/L		42.8			29	42	
Uranium, total	0.056	0.001 ug/L		0.059			5	12	
Vanadium, total	2.5	0.2 ug/L		2.7			7	21	
Zinc, total	108	1 ug/L		103			4	33	
Zirconium, total	0.67	0.01 ug/L		0.97			37	41	

Matrix Spike (B4C0055-MS1)	Source: 4030043-01		Prepared: Mar-03-14, Analyzed: Mar-03-14						
Antimony, total	39.4	0.05 ug/L	40.0	0.8	96		80-120		
Arsenic, total	21.7	0.05 ug/L	20.0	1.49	101		80-120		
Barium, total	183	0.1 ug/L	100	84.7	98		80-120		
Beryllium, total	10.0	0.01 ug/L	10.0	0.03	100		80-120		
Cadmium, total	9.85	0.002 ug/L	10.0	0.311	95		80-120		
Chromium, total	44.6	0.1 ug/L	40.0	2.4	106		80-120		
Cobalt, total	41.7	0.005 ug/L	40.0	0.620	103		80-120		
Copper, total	56.5	0.1 ug/L	40.0	16.3	100		80-120		
Iron, total	1960	2 ug/L	200	1780	94		80-120		
Lead, total	26.4	0.05 ug/L	20.0	7.17	96		80-120		
Manganese, total	117	0.05 ug/L	40.0	76.8	100		80-120		
Nickel, total	41.6	0.02 ug/L	40.0	1.44	100		80-120		
Selenium, total	10.3	0.1 ug/L	10.0	0.3	100		80-120		
Silver, total	9.10	0.01 ug/L	10.0	0.03	91		80-120		
Thallium, total	9.27	0.004 ug/L	10.0	0.007	93		80-120		
Vanadium, total	45.8	0.2 ug/L	40.0	2.7	108		80-120		
Zinc, total	201	1 ug/L	100	103	98		80-120		

Reference (B4C0055-SRM1)	Prepared: Mar-03-14, Analyzed: Mar-03-14								
Aluminum, total	61	1 ug/L	59.2		103		81-129		
Antimony, total	10.6	0.05 ug/L	10.1		105		88-114		
Arsenic, total	24.3	0.05 ug/L	24.4		100		88-114		
Barium, total	149	0.1 ug/L	155		96		72-104		
Beryllium, total	9.79	0.01 ug/L	9.76		100		76-131		
Boron, total	719	1 ug/L	680		106		75-121		
Cadmium, total	9.72	0.002 ug/L	9.80		99		89-111		
Calcium, total	2150	40 ug/L	2040		105		86-121		
Chromium, total	49.6	0.1 ug/L	48.4		102		89-114		
Cobalt, total	7.79	0.005 ug/L	7.32		106		91-113		
Copper, total	105	0.1 ug/L	97.4		108		91-115		
Iron, total	103	2 ug/L	93.8		109		77-124		
Lead, total	39.8	0.05 ug/L	38.6		103		92-113		
Lithium, total	79.4	0.05 ug/L	78.0		102		85-115		
Magnesium, total	701	5.0 ug/L	662		106		78-120		
Manganese, total	22.2	0.05 ug/L	21.8		102		90-114		
Mercury, total	0.69	0.01 ug/L	0.912		76		50-150		
Molybdenum, total	39.7	0.01 ug/L	39.4		101		90-111		

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030043  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0055, Continued**

**Reference (B4C0055-SRM1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Nickel, total	50.2	0.02 ug/L	48.4		104	90-111			
Phosphorus, total	46	10 ug/L	46.6		99	85-115			
Potassium, total	1340	10 ug/L	1190		113	84-113			
Selenium, total	23.4	0.1 ug/L	23.0		102	85-115			
Sodium, total	1690	10 ug/L	1530		111	82-123			
Strontium, total	74.7	0.1 ug/L	72.6		103	88-112			
Thallium, total	16.6	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.76	0.001 ug/L	3.84		98	85-120			
Vanadium, total	75.6	0.2 ug/L	75.2		100	86-111			
Zinc, total	504	1 ug/L	484		104	85-111			

**QC Qualifiers:**

BLK Analyte concentration in the Method Blank is above the Method Reporting Limit (MRL).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030045
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-03-14 13:39 / 0°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-05-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

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Issued By:

**Sara Gulenchyn For Brent Coates, BSc**  
Business Manager, Richmond

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - U/S (4030045-01) [Water] Sampled: Mar-02-14 11:00**

CT1

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	43	2	mg/L	N/A	Mar-04-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	43	2	mg/L	N/A	Mar-04-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Chloride	152	0.10	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrate as N	0.628	0.010	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-04-14	
Sulfate	6.5	1.0	mg/L	N/A	Mar-04-14	

**General Parameters**

Carbon, Total Organic	7.0	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Inorganic	8.2	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Organic	6.5	0.5	mg/L	N/A	Mar-04-14	
Nitrogen, Ammonia as N, Total	0.119	0.020	mg/L	N/A	Mar-04-14	
pH	7.06	0.01	pH units	N/A	Mar-03-14	
Solids, Total Dissolved	323	10	mg/L	N/A	Mar-04-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-03-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-04-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	55.9	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	56	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.628	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	29	1	ug/L	N/A	Mar-03-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-03-14	
Arsenic, dissolved	0.50	0.05	ug/L	N/A	Mar-03-14	
Barium, dissolved	26.2	0.1	ug/L	N/A	Mar-03-14	
Beryllium, dissolved	0.02	0.01	ug/L	N/A	Mar-03-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Boron, dissolved	13	1	ug/L	N/A	Mar-03-14	
Cadmium, dissolved	0.020	0.002	ug/L	N/A	Mar-03-14	
Calcium, dissolved	17700	40	ug/L	N/A	Mar-03-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Mar-03-14	
Cobalt, dissolved	0.131	0.005	ug/L	N/A	Mar-03-14	
Copper, dissolved	2.9	0.1	ug/L	N/A	Mar-03-14	
Iron, dissolved	342	2	ug/L	N/A	Mar-03-14	
Lead, dissolved	0.40	0.05	ug/L	N/A	Mar-03-14	
Lithium, dissolved	0.47	0.05	ug/L	N/A	Mar-03-14	
Magnesium, dissolved	2830	5	ug/L	N/A	Mar-03-14	
Manganese, dissolved	66.3	0.05	ug/L	N/A	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - U/S (4030045-01) [Water] Sampled: Mar-02-14 11:00, Continued**

CT1

***Dissolved Metals, Continued***

Molybdenum, dissolved	0.50	0.01	ug/L	N/A	Mar-03-14	
Nickel, dissolved	0.55	0.02	ug/L	N/A	Mar-03-14	
Phosphorus, dissolved	< 10	10	ug/L	N/A	Mar-03-14	
Potassium, dissolved	2110	10	ug/L	N/A	Mar-03-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-03-14	
Silicon, dissolved	4360	50	ug/L	N/A	Mar-03-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Sodium, dissolved	95200	10	ug/L	N/A	Mar-03-14	
Strontium, dissolved	109	0.1	ug/L	N/A	Mar-03-14	
Sulfur, dissolved	3070	500	ug/L	N/A	Mar-03-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-03-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-03-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-03-14	
Titanium, dissolved	0.6	0.2	ug/L	N/A	Mar-03-14	
Uranium, dissolved	0.021	0.001	ug/L	N/A	Mar-03-14	
Vanadium, dissolved	0.5	0.2	ug/L	N/A	Mar-03-14	
Zinc, dissolved	15	1	ug/L	N/A	Mar-03-14	
Zirconium, dissolved	0.06	0.01	ug/L	N/A	Mar-03-14	

***Total Recoverable Metals***

Aluminum, total	97	1	ug/L	Mar-03-14	Mar-03-14	
Antimony, total	0.4	0.05	ug/L	Mar-03-14	Mar-03-14	
Arsenic, total	0.60	0.05	ug/L	Mar-03-14	Mar-03-14	
Barium, total	27.2	0.1	ug/L	Mar-03-14	Mar-03-14	
Beryllium, total	0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Boron, total	13	1	ug/L	Mar-03-14	Mar-03-14	
Cadmium, total	0.028	0.002	ug/L	Mar-03-14	Mar-03-14	
Calcium, total	17700	40	ug/L	Mar-03-14	Mar-03-14	
Chromium, total	0.4	0.1	ug/L	Mar-03-14	Mar-03-14	
Cobalt, total	0.168	0.005	ug/L	Mar-03-14	Mar-03-14	
Copper, total	3.6	0.1	ug/L	Mar-03-14	Mar-03-14	
Iron, total	564	2	ug/L	Mar-03-14	Mar-03-14	
Lead, total	0.84	0.05	ug/L	Mar-03-14	Mar-03-14	
Lithium, total	0.47	0.05	ug/L	Mar-03-14	Mar-03-14	
Magnesium, total	2850	5.0	ug/L	Mar-03-14	Mar-03-14	
Manganese, total	70.4	0.05	ug/L	Mar-03-14	Mar-03-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Molybdenum, total	0.50	0.01	ug/L	Mar-03-14	Mar-03-14	
Nickel, total	0.62	0.02	ug/L	Mar-03-14	Mar-03-14	
Phosphorus, total	30	10	ug/L	Mar-03-14	Mar-03-14	
Potassium, total	2140	10	ug/L	Mar-03-14	Mar-03-14	
Selenium, total	0.1	0.1	ug/L	Mar-03-14	Mar-03-14	
Silicon, total	4500	50	ug/L	Mar-03-14	Mar-03-14	
Silver, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
<b>Sample ID: Site 3 - U/S (4030045-01) [Water] Sampled: Mar-02-14 11:00, Continued</b>						CT1
<b>Total Recoverable Metals, Continued</b>						
Sodium, total	95300	10	ug/L	Mar-03-14	Mar-03-14	
Strontium, total	108	0.1	ug/L	Mar-03-14	Mar-03-14	
Sulfur, total	2700	500	ug/L	Mar-03-14	Mar-03-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-03-14	Mar-03-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-03-14	Mar-03-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Tin, total	0.05	0.05	ug/L	Mar-03-14	Mar-03-14	
Titanium, total	3.8	0.2	ug/L	Mar-03-14	Mar-03-14	
Uranium, total	0.026	0.001	ug/L	Mar-03-14	Mar-03-14	
Vanadium, total	0.6	0.2	ug/L	Mar-03-14	Mar-03-14	
Zinc, total	17	1	ug/L	Mar-03-14	Mar-03-14	
Zirconium, total	0.10	0.01	ug/L	Mar-03-14	Mar-03-14	
<b>Aggregate Organic Parameters</b>						
EPHw (10-19)	< 100	100	ug/L	Mar-03-14	Mar-04-14	
EPHw (19-32)	< 100	100	ug/L	Mar-03-14	Mar-04-14	
<b>Polycyclic Aromatic Hydrocarbons (PAH)</b>						
Acenaphthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acridine	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Anthracene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Chrysene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluorene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Pyrene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Quinoline	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Surrogate: Naphthalene-d8	76 %	40-96		Mar-03-14	Mar-04-14	
Surrogate: Acenaphthene-d10	77 %	45-92		Mar-03-14	Mar-04-14	
Surrogate: Phenanthrene-d10	80 %	48-90		Mar-03-14	Mar-04-14	
Surrogate: Chrysene-d12	89 %	41-96		Mar-03-14	Mar-04-14	
Surrogate: Perylene-d12	84 %	47-104		Mar-03-14	Mar-04-14	

**Sample / Analysis Qualifiers:**

CT1 Incorrect Container(s) supplied for Dissolved Hg analysis

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4435-029

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0006**

<b>Blank (B4C0006-BLK1)</b>									
Prepared: Mar-02-14, Analyzed: Mar-03-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0006-BS2)</b>									
Prepared: Mar-02-14, Analyzed: Mar-03-14									
EPHw (10-19)	2350	100 ug/L	3470		68	63-123			
EPHw (19-32)	3240	100 ug/L	4970		65	51-102			

**Anions, Batch B4C0078**

<b>Blank (B4C0078-BLK1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							
<b>LCS (B4C0078-BS1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Alkalinity, Total as CaCO3	2390	2 mg/L	2500		96	81-109			

**Anions, Batch B4C0106**

<b>Blank (B4C0106-BLK1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>LCS (B4C0106-BS1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Chloride	16.1	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.02	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0053**

**Blank (B4C0053-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Reference (B4C0053-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, dissolved	25	1 ug/L	23.3	106	58-142
Antimony, dissolved	5.3	0.05 ug/L	4.30	124	75-125
Arsenic, dissolved	44.7	0.05 ug/L	43.8	102	81-119
Barium, dissolved	353	0.1 ug/L	335	105	83-117
Beryllium, dissolved	21.9	0.01 ug/L	21.3	103	80-120
Boron, dissolved	185	1 ug/L	174	106	74-117
Cadmium, dissolved	22.4	0.002 ug/L	22.4	100	83-117
Calcium, dissolved	866	40 ug/L	769	113	76-124
Chromium, dissolved	45.9	0.1 ug/L	43.7	105	81-119
Cobalt, dissolved	13.7	0.005 ug/L	12.8	107	76-124
Copper, dissolved	94.2	0.1 ug/L	84.4	112	84-116
Iron, dissolved	139	2 ug/L	129	108	74-126
Lead, dissolved	11.3	0.05 ug/L	11.2	101	72-128
Lithium, dissolved	10.6	0.05 ug/L	10.4	102	60-140
Magnesium, dissolved	742	5 ug/L	692	107	81-119
Manganese, dissolved	36.8	0.05 ug/L	34.5	107	84-116
Molybdenum, dissolved	43.9	0.01 ug/L	42.6	103	83-117
Nickel, dissolved	89.1	0.02 ug/L	84.0	106	74-126

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0053, Continued**

**Reference (B4C0053-SRM1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Phosphorus, dissolved	54	10 ug/L	49.5		109	68-132			
Potassium, dissolved	379	10 ug/L	319		119	74-126			
Selenium, dissolved	3.5	0.1 ug/L	3.31		106	70-130			
Sodium, dissolved	2270	10 ug/L	1910		119	72-128			
Strontium, dissolved	97.5	0.1 ug/L	91.6		106	84-113			
Thallium, dissolved	3.94	0.004 ug/L	3.93		100	57-143			
Uranium, dissolved	26.7	0.001 ug/L	26.6		100	85-115			
Vanadium, dissolved	91.6	0.2 ug/L	86.9		105	87-113			
Zinc, dissolved	91	1 ug/L	88.1		103	72-128			

**General Parameters, Batch B4C0061**

**Blank (B4C0061-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0061-BS1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Solids, Total Suspended	47	2 mg/L	48.8		96	83-107			
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**Duplicate (B4C0061-DUP1)**

Source: 4030045-01

Prepared: Mar-03-14, Analyzed: Mar-03-14

Solids, Total Suspended	< 2	2 mg/L		< 2				26	
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**General Parameters, Batch B4C0064**

**Blank (B4C0064-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Solids, Total Dissolved	17	10 mg/L							BLK
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**Duplicate (B4C0064-DUP1)**

Source: 4030045-01

Prepared: Mar-04-14, Analyzed: Mar-04-14

Solids, Total Dissolved	322	10 mg/L	323		< 1			11	
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**Reference (B4C0064-SRM1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Solids, Total Dissolved	232	10 mg/L	240		97	70-130			
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**General Parameters, Batch B4C0065**

**Duplicate (B4C0065-DUP1)**

Source: 4030045-01

Prepared: Mar-03-14, Analyzed: Mar-03-14

pH	7.06	0.01 pH units	7.06		< 1			4	
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**Reference (B4C0065-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

pH	7.03	0.01 pH units	7.00		100	98-102			
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**General Parameters, Batch B4C0083**

**Blank (B4C0083-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0083-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Total Organic	9.3	0.5 mg/L	10.0		93	78-116			
Carbon, Dissolved Organic	10.6	0.5 mg/L	10.0		106	80-120			

**General Parameters, Batch B4C0093**

**Blank (B4C0093-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Sulfide	< 0.01	0.01 mg/L							
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4435-029

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0093, Continued**

**LCS (B4C0093-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Sulfide	0.33	0.01 mg/L	0.385		84	36-114			
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**General Parameters, Batch B4C0094**

**Blank (B4C0094-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**LCS (B4C0094-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Nitrogen, Ammonia as N, Total	9.99	0.020 mg/L	10.0		100	86-111			
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**General Parameters, Batch B4C0097**

**Blank (B4C0097-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C0097-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	10.5	0.5 mg/L	10.0		105	80-120			
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006**

**Blank (B4C0006-BLK1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	< 0.05	0.05 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.05	0.05 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.30	0.30 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.10	0.10 ug/L							
Surrogate: Naphthalene-d8	0.650	ug/L	1.02		64	40-96			
Surrogate: Acenaphthene-d10	0.660	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.666	ug/L	0.970		69	48-90			
Surrogate: Chrysene-d12	0.680	ug/L	0.950		72	41-96			
Surrogate: Perylene-d12	0.693	ug/L	0.990		70	47-104			

**LCS (B4C0006-BS1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.64	0.02 ug/L	1.00		64	54-92			
Acenaphthylene	0.69	0.05 ug/L	1.00		69	54-95			
Acridine	0.63	0.05 ug/L	1.00		63	49-87			
Anthracene	0.67	0.01 ug/L	1.00		67	53-94			
Benzo (a) anthracene	0.62	0.01 ug/L	1.00		62	52-95			
Benzo (a) pyrene	0.64	0.01 ug/L	1.00		64	52-103			
Benzo (b) fluoranthene	0.63	0.05 ug/L	1.00		63	49-94			
Benzo (g,h,i) perylene	0.65	0.05 ug/L	1.00		65	51-98			
Benzo (k) fluoranthene	0.58	0.02 ug/L	1.00		58	49-105			



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006, Continued**

**LCS (B4C0006-BS1), Continued**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Chrysene	0.61	0.05 ug/L	1.00		61	50-104			
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96			
Fluoranthene	0.68	0.02 ug/L	1.00		68	53-102			
Fluorene	0.66	0.02 ug/L	1.00		66	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.63	0.30 ug/L	1.00		63	51-91			
Phenanthrene	0.64	0.05 ug/L	1.00		64	56-96			
Pyrene	0.66	0.10 ug/L	1.00		66	51-105			
Quinoline	0.66	0.05 ug/L	1.00		66	48-126			
Surrogate: Naphthalene-d8	0.670	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.661	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.675	ug/L	0.970		70	48-90			
Surrogate: Chrysene-d12	0.635	ug/L	0.950		67	41-96			
Surrogate: Perylene-d12	0.636	ug/L	0.990		64	47-104			

**LCS Dup (B4C0006-BSD1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.69	0.02 ug/L	1.00		69	54-92	7	20	
Acenaphthylene	0.75	0.02 ug/L	1.00		75	54-95	8	20	
Acridine	0.63	0.05 ug/L	1.00		63	49-87	< 1	20	
Anthracene	0.72	0.05 ug/L	1.00		72	53-94	7	20	
Benzo (a) anthracene	0.67	0.05 ug/L	1.00		67	52-95	8	20	
Benzo (a) pyrene	0.70	0.01 ug/L	1.00		70	52-103	8	20	
Benzo (b) fluoranthene	0.63	0.05 ug/L	1.00		63	49-94	< 1	20	
Benzo (g,h,i) perylene	0.69	0.05 ug/L	1.00		69	51-98	7	20	
Benzo (k) fluoranthene	0.63	0.02 ug/L	1.00		63	49-105	8	20	
Chrysene	0.68	0.05 ug/L	1.00		68	50-104	10	20	
Dibenz (a,h) anthracene	0.69	0.02 ug/L	1.00		69	49-96	6	20	
Fluoranthene	0.72	0.05 ug/L	1.00		72	53-102	6	20	
Fluorene	0.71	0.02 ug/L	1.00		71	54-91	8	20	
Indeno (1,2,3-cd) pyrene	0.72	0.05 ug/L	1.00		72	51-99	6	20	
Naphthalene	0.68	0.30 ug/L	1.00		68	51-91	8	20	
Phenanthrene	0.69	0.10 ug/L	1.00		69	56-96	8	20	
Pyrene	0.70	0.02 ug/L	1.00		70	51-105	6	20	
Quinoline	0.67	0.10 ug/L	1.00		67	48-126	< 1	20	
Surrogate: Naphthalene-d8	0.715	ug/L	1.02		70	40-96			
Surrogate: Acenaphthene-d10	0.703	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.711	ug/L	0.970		73	48-90			
Surrogate: Chrysene-d12	0.677	ug/L	0.950		71	41-96			
Surrogate: Perylene-d12	0.716	ug/L	0.990		72	47-104			

**Total Recoverable Metals, Batch B4C0055**

**Blank (B4C0055-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0055, Continued**

**Blank (B4C0055-BLK1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0055-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	61	1 ug/L	59.2		103	81-129			
Antimony, total	10.6	0.05 ug/L	10.1		105	88-114			
Arsenic, total	24.3	0.05 ug/L	24.4		100	88-114			
Barium, total	149	0.1 ug/L	155		96	72-104			
Beryllium, total	9.79	0.01 ug/L	9.76		100	76-131			
Boron, total	719	1 ug/L	680		106	75-121			
Cadmium, total	9.72	0.002 ug/L	9.80		99	89-111			
Calcium, total	2150	40 ug/L	2040		105	86-121			
Chromium, total	49.6	0.1 ug/L	48.4		102	89-114			
Cobalt, total	7.79	0.005 ug/L	7.32		106	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	103	2 ug/L	93.8		109	77-124			
Lead, total	39.8	0.05 ug/L	38.6		103	92-113			
Lithium, total	79.4	0.05 ug/L	78.0		102	85-115			
Magnesium, total	701	5.0 ug/L	662		106	78-120			
Manganese, total	22.2	0.05 ug/L	21.8		102	90-114			
Mercury, total	0.69	0.01 ug/L	0.912		76	50-150			
Molybdenum, total	39.7	0.01 ug/L	39.4		101	90-111			
Nickel, total	50.2	0.02 ug/L	48.4		104	90-111			
Phosphorus, total	46	10 ug/L	46.6		99	85-115			
Potassium, total	1340	10 ug/L	1190		113	84-113			
Selenium, total	23.4	0.1 ug/L	23.0		102	85-115			
Sodium, total	1690	10 ug/L	1530		111	82-123			
Strontium, total	74.7	0.1 ug/L	72.6		103	88-112			
Thallium, total	16.6	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.76	0.001 ug/L	3.84		98	85-120			
Vanadium, total	75.6	0.2 ug/L	75.2		100	86-111			
Zinc, total	504	1 ug/L	484		104	85-111			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030045  
Mar-05-14

**QC Qualifiers:**

BLK Analyte concentration in the Method Blank is above the Method Reporting Limit (MRL).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030047
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-03-14 13:39 / 0°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-05-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

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Issued By:

**Sara Gulenchyn For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - D/S (4030047-01) [Water] Sampled: Mar-02-14 11:00**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	42	2	mg/L	N/A	Mar-04-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	42	2	mg/L	N/A	Mar-04-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-04-14	
Chloride	165	0.10	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrate as N	0.623	0.010	mg/L	N/A	Mar-04-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-04-14	
Sulfate	6.4	1.0	mg/L	N/A	Mar-04-14	

**General Parameters**

Carbon, Total Organic	7.6	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Inorganic	8.2	0.5	mg/L	N/A	Mar-04-14	
Carbon, Dissolved Organic	6.6	0.5	mg/L	N/A	Mar-04-14	
Nitrogen, Ammonia as N, Total	0.109	0.020	mg/L	N/A	Mar-04-14	
pH	6.99	0.01	pH units	N/A	Mar-03-14	
Solids, Total Dissolved	347	10	mg/L	N/A	Mar-04-14	
Solids, Total Suspended	2	2	mg/L	N/A	Mar-03-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-04-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	55.3	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	55	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.623	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	30	1	ug/L	N/A	Mar-03-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-03-14	
Arsenic, dissolved	0.50	0.05	ug/L	N/A	Mar-03-14	
Barium, dissolved	26.2	0.1	ug/L	N/A	Mar-03-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Boron, dissolved	12	1	ug/L	N/A	Mar-03-14	
Cadmium, dissolved	0.020	0.002	ug/L	N/A	Mar-03-14	
Calcium, dissolved	17400	40	ug/L	N/A	Mar-03-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Mar-03-14	
Cobalt, dissolved	0.139	0.005	ug/L	N/A	Mar-03-14	
Copper, dissolved	3.1	0.1	ug/L	N/A	Mar-03-14	
Iron, dissolved	342	2	ug/L	N/A	Mar-03-14	
Lead, dissolved	0.35	0.05	ug/L	N/A	Mar-03-14	
Lithium, dissolved	0.45	0.05	ug/L	N/A	Mar-03-14	
Magnesium, dissolved	2810	5	ug/L	N/A	Mar-03-14	
Manganese, dissolved	63.1	0.05	ug/L	N/A	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - D/S (4030047-01) [Water] Sampled: Mar-02-14 11:00, Continued**

***Dissolved Metals, Continued***

Molybdenum, dissolved	0.55	0.01	ug/L	N/A	Mar-03-14	
Nickel, dissolved	0.52	0.02	ug/L	N/A	Mar-03-14	
Phosphorus, dissolved	< 10	10	ug/L	N/A	Mar-03-14	
Potassium, dissolved	2060	10	ug/L	N/A	Mar-03-14	
Selenium, dissolved	0.2	0.1	ug/L	N/A	Mar-03-14	
Silicon, dissolved	4420	50	ug/L	N/A	Mar-03-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Sodium, dissolved	96900	10	ug/L	N/A	Mar-03-14	
Strontium, dissolved	106	0.1	ug/L	N/A	Mar-03-14	
Sulfur, dissolved	2820	500	ug/L	N/A	Mar-03-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-03-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-03-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-03-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-03-14	
Titanium, dissolved	0.7	0.2	ug/L	N/A	Mar-03-14	
Uranium, dissolved	0.021	0.001	ug/L	N/A	Mar-03-14	
Vanadium, dissolved	0.5	0.2	ug/L	N/A	Mar-03-14	
Zinc, dissolved	17	1	ug/L	N/A	Mar-03-14	
Zirconium, dissolved	0.06	0.01	ug/L	N/A	Mar-03-14	

***Total Recoverable Metals***

Aluminum, total	86	1	ug/L	Mar-03-14	Mar-03-14	
Antimony, total	0.4	0.05	ug/L	Mar-03-14	Mar-03-14	
Arsenic, total	0.58	0.05	ug/L	Mar-03-14	Mar-03-14	
Barium, total	26.7	0.1	ug/L	Mar-03-14	Mar-03-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Boron, total	12	1	ug/L	Mar-03-14	Mar-03-14	
Cadmium, total	0.026	0.002	ug/L	Mar-03-14	Mar-03-14	
Calcium, total	17400	40	ug/L	Mar-03-14	Mar-03-14	
Chromium, total	0.4	0.1	ug/L	Mar-03-14	Mar-03-14	
Cobalt, total	0.155	0.005	ug/L	Mar-03-14	Mar-03-14	
Copper, total	3.3	0.1	ug/L	Mar-03-14	Mar-03-14	
Iron, total	542	2	ug/L	Mar-03-14	Mar-03-14	
Lead, total	0.66	0.05	ug/L	Mar-03-14	Mar-03-14	
Lithium, total	0.44	0.05	ug/L	Mar-03-14	Mar-03-14	
Magnesium, total	2850	5.0	ug/L	Mar-03-14	Mar-03-14	
Manganese, total	68.0	0.05	ug/L	Mar-03-14	Mar-03-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Molybdenum, total	0.54	0.01	ug/L	Mar-03-14	Mar-03-14	
Nickel, total	0.61	0.02	ug/L	Mar-03-14	Mar-03-14	
Phosphorus, total	24	10	ug/L	Mar-03-14	Mar-03-14	
Potassium, total	2090	10	ug/L	Mar-03-14	Mar-03-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-03-14	Mar-03-14	
Silicon, total	4500	50	ug/L	Mar-03-14	Mar-03-14	
Silver, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - D/S (4030047-01) [Water] Sampled: Mar-02-14 11:00, Continued**

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
<b>Total Recoverable Metals, Continued</b>						
Sodium, total	97600	10	ug/L	Mar-03-14	Mar-03-14	
Strontium, total	105	0.1	ug/L	Mar-03-14	Mar-03-14	
Sulfur, total	3100	500	ug/L	Mar-03-14	Mar-03-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-03-14	Mar-03-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-03-14	Mar-03-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-03-14	Mar-03-14	
Tin, total	< 0.05	0.05	ug/L	Mar-03-14	Mar-03-14	
Titanium, total	4.4	0.2	ug/L	Mar-03-14	Mar-03-14	
Uranium, total	0.022	0.001	ug/L	Mar-03-14	Mar-03-14	
Vanadium, total	0.6	0.2	ug/L	Mar-03-14	Mar-03-14	
Zinc, total	20	1	ug/L	Mar-03-14	Mar-03-14	
Zirconium, total	0.13	0.01	ug/L	Mar-03-14	Mar-03-14	
<b>Aggregate Organic Parameters</b>						
EPHw (10-19)	< 100	100	ug/L	Mar-03-14	Mar-04-14	
EPHw (19-32)	< 100	100	ug/L	Mar-03-14	Mar-04-14	
<b>Polycyclic Aromatic Hydrocarbons (PAH)</b>						
Acenaphthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Acridine	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Anthracene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-03-14	Mar-04-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Chrysene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Fluorene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Pyrene	< 0.02	0.02	ug/L	Mar-03-14	Mar-04-14	
Quinoline	< 0.05	0.05	ug/L	Mar-03-14	Mar-04-14	
Surrogate: Naphthalene-d8	74 %	40-96		Mar-03-14	Mar-04-14	
Surrogate: Acenaphthene-d10	76 %	45-92		Mar-03-14	Mar-04-14	
Surrogate: Phenanthrene-d10	79 %	48-90		Mar-03-14	Mar-04-14	
Surrogate: Chrysene-d12	86 %	41-96		Mar-03-14	Mar-04-14	
Surrogate: Perylene-d12	77 %	47-104		Mar-03-14	Mar-04-14	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0006**

<b>Blank (B4C0006-BLK1)</b>									
Prepared: Mar-02-14, Analyzed: Mar-03-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0006-BS2)</b>									
Prepared: Mar-02-14, Analyzed: Mar-03-14									
EPHw (10-19)	2350	100 ug/L	3470		68	63-123			
EPHw (19-32)	3240	100 ug/L	4970		65	51-102			

**Anions, Batch B4C0078**

<b>Blank (B4C0078-BLK1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							
<b>LCS (B4C0078-BS1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Alkalinity, Total as CaCO3	2390	2 mg/L	2500		96	81-109			

**Anions, Batch B4C0106**

<b>Blank (B4C0106-BLK1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>LCS (B4C0106-BS1)</b>									
Prepared: Mar-04-14, Analyzed: Mar-04-14									
Chloride	16.1	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.02	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0053**

**Blank (B4C0053-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Reference (B4C0053-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, dissolved	25	1 ug/L	23.3	106	58-142
Antimony, dissolved	5.3	0.05 ug/L	4.30	124	75-125
Arsenic, dissolved	44.7	0.05 ug/L	43.8	102	81-119
Barium, dissolved	353	0.1 ug/L	335	105	83-117
Beryllium, dissolved	21.9	0.01 ug/L	21.3	103	80-120
Boron, dissolved	185	1 ug/L	174	106	74-117
Cadmium, dissolved	22.4	0.002 ug/L	22.4	100	83-117
Calcium, dissolved	866	40 ug/L	769	113	76-124
Chromium, dissolved	45.9	0.1 ug/L	43.7	105	81-119
Cobalt, dissolved	13.7	0.005 ug/L	12.8	107	76-124
Copper, dissolved	94.2	0.1 ug/L	84.4	112	84-116
Iron, dissolved	139	2 ug/L	129	108	74-126
Lead, dissolved	11.3	0.05 ug/L	11.2	101	72-128
Lithium, dissolved	10.6	0.05 ug/L	10.4	102	60-140
Magnesium, dissolved	742	5 ug/L	692	107	81-119
Manganese, dissolved	36.8	0.05 ug/L	34.5	107	84-116
Molybdenum, dissolved	43.9	0.01 ug/L	42.6	103	83-117
Nickel, dissolved	89.1	0.02 ug/L	84.0	106	74-126

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Dissolved Metals, Batch B4C0053, Continued</b>									
<b>Reference (B4C0053-SRM1), Continued</b>					Prepared: Mar-03-14, Analyzed: Mar-03-14				
Phosphorus, dissolved	54	10 ug/L	49.5		109	68-132			
Potassium, dissolved	379	10 ug/L	319		119	74-126			
Selenium, dissolved	3.5	0.1 ug/L	3.31		106	70-130			
Sodium, dissolved	2270	10 ug/L	1910		119	72-128			
Strontium, dissolved	97.5	0.1 ug/L	91.6		106	84-113			
Thallium, dissolved	3.94	0.004 ug/L	3.93		100	57-143			
Uranium, dissolved	26.7	0.001 ug/L	26.6		100	85-115			
Vanadium, dissolved	91.6	0.2 ug/L	86.9		105	87-113			
Zinc, dissolved	91	1 ug/L	88.1		103	72-128			

**General Parameters, Batch B4C0061**

<b>Blank (B4C0061-BLK1)</b>					Prepared: Mar-03-14, Analyzed: Mar-03-14				
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0061-BS1)</b>					Prepared: Mar-03-14, Analyzed: Mar-03-14				
Solids, Total Suspended	47	2 mg/L	48.8		96	83-107			

**General Parameters, Batch B4C0064**

<b>Blank (B4C0064-BLK1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Solids, Total Dissolved	17	10 mg/L							BLK
<b>Reference (B4C0064-SRM1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Solids, Total Dissolved	232	10 mg/L	240		97	70-130			

**General Parameters, Batch B4C0065**

<b>Reference (B4C0065-SRM1)</b>					Prepared: Mar-03-14, Analyzed: Mar-03-14				
pH	7.03	0.01 pH units	7.00		100	98-102			

**General Parameters, Batch B4C0083**

<b>Blank (B4C0083-BLK1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							
<b>LCS (B4C0083-BS1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Carbon, Total Organic	9.3	0.5 mg/L	10.0		93	78-116			
Carbon, Dissolved Organic	10.6	0.5 mg/L	10.0		106	80-120			

**General Parameters, Batch B4C0093**

<b>Blank (B4C0093-BLK1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0093-BS1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Sulfide	0.33	0.01 mg/L	0.385		84	36-114			

**General Parameters, Batch B4C0094**

<b>Blank (B4C0094-BLK1)</b>					Prepared: Mar-04-14, Analyzed: Mar-04-14				
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0094, Continued**

**LCS (B4C0094-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Nitrogen, Ammonia as N, Total	9.99	0.020 mg/L	10.0		100	86-111			
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**General Parameters, Batch B4C0097**

**Blank (B4C0097-BLK1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C0097-BS1)**

Prepared: Mar-04-14, Analyzed: Mar-04-14

Carbon, Dissolved Inorganic	10.5	0.5 mg/L	10.0		105	80-120			
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006**

**Blank (B4C0006-BLK1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.05	0.05 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.05	0.05 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.05	0.05 ug/L							
Naphthalene	< 0.30	0.30 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.650	ug/L	1.02		64	40-96			
Surrogate: Acenaphthene-d10	0.660	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.666	ug/L	0.970		69	48-90			
Surrogate: Chrysene-d12	0.680	ug/L	0.950		72	41-96			
Surrogate: Perylene-d12	0.693	ug/L	0.990		70	47-104			

**LCS (B4C0006-BS1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.64	0.02 ug/L	1.00		64	54-92			
Acenaphthylene	0.69	0.02 ug/L	1.00		69	54-95			
Acridine	0.63	0.10 ug/L	1.00		63	49-87			
Anthracene	0.67	0.05 ug/L	1.00		67	53-94			
Benzo (a) anthracene	0.62	0.01 ug/L	1.00		62	52-95			
Benzo (a) pyrene	0.64	0.01 ug/L	1.00		64	52-103			
Benzo (b) fluoranthene	0.63	0.02 ug/L	1.00		63	49-94			
Benzo (g,h,i) perylene	0.65	0.02 ug/L	1.00		65	51-98			
Benzo (k) fluoranthene	0.58	0.02 ug/L	1.00		58	49-105			
Chrysene	0.61	0.05 ug/L	1.00		61	50-104			
Dibenz (a,h) anthracene	0.65	0.05 ug/L	1.00		65	49-96			
Fluoranthene	0.68	0.05 ug/L	1.00		68	53-102			
Fluorene	0.66	0.02 ug/L	1.00		66	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.05 ug/L	1.00		68	51-99			
Naphthalene	0.63	0.05 ug/L	1.00		63	51-91			
Phenanthrene	0.64	0.10 ug/L	1.00		64	56-96			
Pyrene	0.66	0.10 ug/L	1.00		66	51-105			
Quinoline	0.66	0.10 ug/L	1.00		66	48-126			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0006, Continued**

**LCS (B4C0006-BS1), Continued**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Surrogate: Naphthalene-d8	0.670	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.661	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.675	ug/L	0.970		70	48-90			
Surrogate: Chrysene-d12	0.635	ug/L	0.950		67	41-96			
Surrogate: Perylene-d12	0.636	ug/L	0.990		64	47-104			

**LCS Dup (B4C0006-BSD1)**

Prepared: Mar-02-14, Analyzed: Mar-03-14

Acenaphthene	0.69	0.02 ug/L	1.00		69	54-92	7	20	
Acenaphthylene	0.75	0.02 ug/L	1.00		75	54-95	8	20	
Acridine	0.63	0.05 ug/L	1.00		63	49-87	< 1	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	7	20	
Benzo (a) anthracene	0.67	0.05 ug/L	1.00		67	52-95	8	20	
Benzo (a) pyrene	0.70	0.01 ug/L	1.00		70	52-103	8	20	
Benzo (b) fluoranthene	0.63	0.05 ug/L	1.00		63	49-94	< 1	20	
Benzo (g,h,i) perylene	0.69	0.02 ug/L	1.00		69	51-98	7	20	
Benzo (k) fluoranthene	0.63	0.02 ug/L	1.00		63	49-105	8	20	
Chrysene	0.68	0.05 ug/L	1.00		68	50-104	10	20	
Dibenz (a,h) anthracene	0.69	0.05 ug/L	1.00		69	49-96	6	20	
Fluoranthene	0.72	0.05 ug/L	1.00		72	53-102	6	20	
Fluorene	0.71	0.05 ug/L	1.00		71	54-91	8	20	
Indeno (1,2,3-cd) pyrene	0.72	0.02 ug/L	1.00		72	51-99	6	20	
Naphthalene	0.68	0.30 ug/L	1.00		68	51-91	8	20	
Phenanthrene	0.69	0.05 ug/L	1.00		69	56-96	8	20	
Pyrene	0.70	0.10 ug/L	1.00		70	51-105	6	20	
Quinoline	0.67	0.05 ug/L	1.00		67	48-126	< 1	20	
Surrogate: Naphthalene-d8	0.715	ug/L	1.02		70	40-96			
Surrogate: Acenaphthene-d10	0.703	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.711	ug/L	0.970		73	48-90			
Surrogate: Chrysene-d12	0.677	ug/L	0.950		71	41-96			
Surrogate: Perylene-d12	0.716	ug/L	0.990		72	47-104			

**Total Recoverable Metals, Batch B4C0055**

**Blank (B4C0055-BLK1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030047  
Mar-05-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0055, Continued**

**Blank (B4C0055-BLK1), Continued**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0055-SRM1)**

Prepared: Mar-03-14, Analyzed: Mar-03-14

Aluminum, total	61	1 ug/L	59.2		103	81-129			
Antimony, total	10.6	0.05 ug/L	10.1		105	88-114			
Arsenic, total	24.3	0.05 ug/L	24.4		100	88-114			
Barium, total	149	0.1 ug/L	155		96	72-104			
Beryllium, total	9.79	0.01 ug/L	9.76		100	76-131			
Boron, total	719	1 ug/L	680		106	75-121			
Cadmium, total	9.72	0.002 ug/L	9.80		99	89-111			
Calcium, total	2150	40 ug/L	2040		105	86-121			
Chromium, total	49.6	0.1 ug/L	48.4		102	89-114			
Cobalt, total	7.79	0.005 ug/L	7.32		106	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	103	2 ug/L	93.8		109	77-124			
Lead, total	39.8	0.05 ug/L	38.6		103	92-113			
Lithium, total	79.4	0.05 ug/L	78.0		102	85-115			
Magnesium, total	701	5.0 ug/L	662		106	78-120			
Manganese, total	22.2	0.05 ug/L	21.8		102	90-114			
Mercury, total	0.69	0.01 ug/L	0.912		76	50-150			
Molybdenum, total	39.7	0.01 ug/L	39.4		101	90-111			
Nickel, total	50.2	0.02 ug/L	48.4		104	90-111			
Phosphorus, total	46	10 ug/L	46.6		99	85-115			
Potassium, total	1340	10 ug/L	1190		113	84-113			
Selenium, total	23.4	0.1 ug/L	23.0		102	85-115			
Sodium, total	1690	10 ug/L	1530		111	82-123			
Strontium, total	74.7	0.1 ug/L	72.6		103	88-112			
Thallium, total	16.6	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.76	0.001 ug/L	3.84		98	85-120			
Vanadium, total	75.6	0.2 ug/L	75.2		100	86-111			
Zinc, total	504	1 ug/L	484		104	85-111			

**QC Qualifiers:**

BLK Analyte concentration in the Method Blank is above the Method Reporting Limit (MRL).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030384
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-08-14 13:20 / 4°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-12-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate+Nitrite-N in Water	N/A	APHA 4500-NO3- F	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - D/S (4030384-01) [Water] Sampled: Mar-07-14 16:30**

**Anions**

Alkalinity, Total as CaCO3	27	2	mg/L	N/A	Mar-11-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Bicarbonate as CaCO3	27	2	mg/L	N/A	Mar-11-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Chloride	27.7	0.10	mg/L	N/A	Mar-11-14	
Sulfate	3.9	1.0	mg/L	N/A	Mar-11-14	

**General Parameters**

Carbon, Total Organic	6.1	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Inorganic	4.7	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Organic	4.9	0.5	mg/L	Mar-10-14	Mar-11-14	HT
Nitrogen, Ammonia as N, Total	0.025	0.020	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrate+Nitrite as N	0.02	0.01	mg/L	N/A	Mar-12-14	
pH	7.07	0.01	pH units	N/A	Mar-10-14	
Solids, Total Dissolved	96	10	mg/L	Mar-10-14	Mar-11-14	
Solids, Total Suspended	4	2	mg/L	Mar-10-14	Mar-11-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-11-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	29.8	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	29	0.1	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	42	1	ug/L	N/A	Mar-10-14	
Antimony, dissolved	0.3	0.05	ug/L	N/A	Mar-10-14	
Arsenic, dissolved	0.50	0.05	ug/L	N/A	Mar-10-14	
Barium, dissolved	15.8	0.1	ug/L	N/A	Mar-10-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Boron, dissolved	8	1	ug/L	N/A	Mar-10-14	
Cadmium, dissolved	0.019	0.002	ug/L	N/A	Mar-10-14	
Calcium, dissolved	9070	40	ug/L	N/A	Mar-10-14	
Chromium, dissolved	0.4	0.1	ug/L	N/A	Mar-10-14	
Cobalt, dissolved	0.110	0.005	ug/L	N/A	Mar-10-14	
Copper, dissolved	2.8	0.1	ug/L	N/A	Mar-10-14	
Iron, dissolved	165	2	ug/L	N/A	Mar-10-14	
Lead, dissolved	0.22	0.05	ug/L	N/A	Mar-10-14	
Lithium, dissolved	0.22	0.05	ug/L	N/A	Mar-10-14	
Magnesium, dissolved	1600	5	ug/L	N/A	Mar-10-14	
Manganese, dissolved	34.2	0.05	ug/L	N/A	Mar-10-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Molybdenum, dissolved	1.08	0.01	ug/L	N/A	Mar-10-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - D/S (4030384-01) [Water] Sampled: Mar-07-14 16:30, Continued**

***Dissolved Metals, Continued***

Nickel, dissolved	0.42	0.02	ug/L	N/A	Mar-10-14	
Phosphorus, dissolved	11	10	ug/L	N/A	Mar-10-14	
Potassium, dissolved	1170	10	ug/L	N/A	Mar-10-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-10-14	
Silicon, dissolved	2980	50	ug/L	N/A	Mar-10-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Sodium, dissolved	18100	10	ug/L	N/A	Mar-10-14	
Strontium, dissolved	57.5	0.1	ug/L	N/A	Mar-10-14	
Sulfur, dissolved	1970	500	ug/L	N/A	Mar-10-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-10-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Titanium, dissolved	1.0	0.2	ug/L	N/A	Mar-10-14	
Uranium, dissolved	0.012	0.001	ug/L	N/A	Mar-10-14	
Vanadium, dissolved	0.4	0.2	ug/L	N/A	Mar-10-14	
Zinc, dissolved	11	1	ug/L	N/A	Mar-10-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Mar-10-14	

***Total Recoverable Metals***

Aluminum, total	303	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	0.4	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	0.74	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	19.4	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	7	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.037	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	9130	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.7	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.211	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	4.6	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	518	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	1.50	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	0.26	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1700	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	46.3	0.05	ug/L	Mar-10-14	Mar-10-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	1.13	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	0.55	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	29	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	1240	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	3700	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Sodium, total	18700	10	ug/L	Mar-10-14	Mar-10-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Site 1 - D/S (4030384-01) [Water] Sampled: Mar-07-14 16:30, Continued

**Total Recoverable Metals, Continued**

Strontium, total	59.3	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1900	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	0.07	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	10.6	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.024	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	1.1	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	16	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.16	0.01	ug/L	Mar-10-14	Mar-10-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-10-14	Mar-11-14	
EPHw (19-32)	< 100	100	ug/L	Mar-10-14	Mar-11-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Acridine	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Anthracene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Chrysene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Fluorene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Pyrene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Quinoline	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Surrogate: Naphthalene-d8	62 %	40-96		Mar-10-14	Mar-11-14	
Surrogate: Acenaphthene-d10	62 %	45-92		Mar-10-14	Mar-11-14	
Surrogate: Phenanthrene-d10	67 %	48-90		Mar-10-14	Mar-11-14	
Surrogate: Chrysene-d12	73 %	41-96		Mar-10-14	Mar-11-14	
Surrogate: Perylene-d12	69 %	47-104		Mar-10-14	Mar-11-14	

**Sample / Analysis Qualifiers:**

HT The sample was prepared / analyzed past the recommended holding time.

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0293**

**Blank (B4C0293-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4C0293-BS2)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

EPHw (10-19)	2780	100 ug/L	3470		80	63-123			
EPHw (19-32)	3660	100 ug/L	4970		74	51-102			

**Anions, Batch B4C0345**

**Blank (B4C0345-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**LCS (B4C0345-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Alkalinity, Total as CaCO3	2380	2 mg/L	2500		95	81-109			
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**Duplicate (B4C0345-DUP1)**

Source: 4030384-01

Prepared: Mar-11-14, Analyzed: Mar-11-14

Alkalinity, Total as CaCO3	28	2 mg/L		27			4	12	
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Bicarbonate as CaCO3	28	2 mg/L		27			4	12	
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L		< 2				12	

**Anions, Batch B4C0360**

**Blank (B4C0360-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C0360, Continued</b>									
<b>LCS (B4C0360-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Sulfate	15.5	1.0 mg/L	16.0		97	85-115			
<b>Duplicate (B4C0360-DUP1)</b>			<b>Source: 4030384-01</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14			
Chloride	27.7	0.10 mg/L		27.7			< 1	10	
Sulfate	3.8	1.0 mg/L		3.9				10	

**Dissolved Metals, Batch B4C0296**

<b>Blank (B4C0296-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							
<b>Duplicate (B4C0296-DUP1)</b>			<b>Source: 4030384-01</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14			
Aluminum, dissolved	39	1 ug/L		42			8	14	
Antimony, dissolved	0.3	0.05 ug/L		0.3			1	31	
Arsenic, dissolved	0.47	0.05 ug/L		0.50			6	13	
Barium, dissolved	14.9	0.1 ug/L		15.8			6	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	8	1 ug/L		8			1	14	

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

Duplicate (B4C0296-DUP1), Continued	Source: 4030384-01		Prepared: Mar-10-14, Analyzed: Mar-10-14						
Cadmium, dissolved	0.020	0.002 ug/L		0.019			9	16	
Calcium, dissolved	9220	40 ug/L		9070			2	10	
Chromium, dissolved	0.5	0.1 ug/L		0.4			26	11	RPD
Cobalt, dissolved	0.101	0.005 ug/L		0.110			9	16	
Copper, dissolved	2.7	0.1 ug/L		2.8			4	27	
Iron, dissolved	155	2 ug/L		165			6	14	
Lead, dissolved	0.24	0.05 ug/L		0.22				20	
Lithium, dissolved	0.22	0.05 ug/L		0.22				20	
Magnesium, dissolved	1510	5 ug/L		1600			6	11	
Manganese, dissolved	32.0	0.05 ug/L		34.2			6	15	
Mercury, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Molybdenum, dissolved	1.03	0.01 ug/L		1.08			5	17	
Nickel, dissolved	0.45	0.02 ug/L		0.42			5	23	
Phosphorus, dissolved	13	10 ug/L		11				15	
Potassium, dissolved	1100	10 ug/L		1170			6	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	2790	50 ug/L		2980			7	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	17100	10 ug/L		18100			6	10	
Strontium, dissolved	55.0	0.1 ug/L		57.5			4	12	
Sulfur, dissolved	1420	500 ug/L		1970				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Titanium, dissolved	0.9	0.2 ug/L		1.0			4	15	
Uranium, dissolved	0.011	0.001 ug/L		0.012			5	16	
Vanadium, dissolved	0.4	0.2 ug/L		0.4				10	
Zinc, dissolved	18	1 ug/L		11			54	15	RPD
Zirconium, dissolved	0.07	0.01 ug/L		0.07			2	39	

Reference (B4C0296-SRM1)	Prepared: Mar-10-14, Analyzed: Mar-10-14								
Aluminum, dissolved	24	1 ug/L	23.3	104	58-142				
Antimony, dissolved	5.4	0.05 ug/L	4.30	125	75-125				
Arsenic, dissolved	45.3	0.05 ug/L	43.8	103	81-119				
Barium, dissolved	355	0.1 ug/L	335	106	83-117				
Beryllium, dissolved	22.9	0.01 ug/L	21.3	107	80-120				
Boron, dissolved	194	1 ug/L	174	111	74-117				
Cadmium, dissolved	23.4	0.002 ug/L	22.4	104	83-117				
Calcium, dissolved	879	40 ug/L	769	114	76-124				
Chromium, dissolved	45.1	0.1 ug/L	43.7	103	81-119				
Cobalt, dissolved	13.5	0.005 ug/L	12.8	106	76-124				
Copper, dissolved	93.4	0.1 ug/L	84.4	111	84-116				
Iron, dissolved	139	2 ug/L	129	107	74-126				
Lead, dissolved	12.1	0.05 ug/L	11.2	108	72-128				
Lithium, dissolved	11.4	0.05 ug/L	10.4	110	60-140				
Magnesium, dissolved	716	5 ug/L	692	103	81-119				
Manganese, dissolved	36.6	0.05 ug/L	34.5	106	84-116				
Molybdenum, dissolved	44.8	0.01 ug/L	42.6	105	83-117				
Nickel, dissolved	90.1	0.02 ug/L	84.0	107	74-126				
Phosphorus, dissolved	50	10 ug/L	49.5	102	68-132				
Potassium, dissolved	326	10 ug/L	319	102	74-126				
Selenium, dissolved	3.6	0.1 ug/L	3.31	108	70-130				
Sodium, dissolved	1990	10 ug/L	1910	104	72-128				
Strontium, dissolved	92.6	0.1 ug/L	91.6	101	84-113				
Thallium, dissolved	4.27	0.004 ug/L	3.93	109	57-143				
Uranium, dissolved	29.2	0.001 ug/L	26.6	110	85-115				

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

**Reference (B4C0296-SRM1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Vanadium, dissolved	86.9	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	92	1 ug/L	88.1		104	72-128			

**General Parameters, Batch B4C0294**

**Blank (B4C0294-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**Blank (B4C0294-BLK2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0294-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	9.2	0.5 mg/L	10.0		92	80-120			

**LCS (B4C0294-BS2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	8.3	0.5 mg/L	10.0		83	80-120			

**Duplicate (B4C0294-DUP2)**

Source: 4030384-01

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	5.8	0.5 mg/L		6.1			6	16	
Carbon, Dissolved Organic	5.0	0.5 mg/L		4.9			2	15	

**General Parameters, Batch B4C0303**

**Blank (B4C0303-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Reference (B4C0303-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	228	10 mg/L	240		95	70-130			
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**General Parameters, Batch B4C0331**

**Blank (B4C0331-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	< 2	2 mg/L							
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**Blank (B4C0331-BLK2)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	< 2	2 mg/L							
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**Blank (B4C0331-BLK3)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0331-BS1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	20	2 mg/L	23.2		88	83-107			
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**LCS (B4C0331-BS2)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	27	2 mg/L	28.8		95	83-107			
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**LCS (B4C0331-BS3)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	23	2 mg/L	24.0		94	83-107			
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**Duplicate (B4C0331-DUP2)**

Source: 4030384-01

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	5	2 mg/L		4				26	
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0336**

**Reference (B4C0336-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

pH	7.03	0.01 pH units	7.00		100	98-102			
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**General Parameters, Batch B4C0355**

**Blank (B4C0355-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**LCS (B4C0355-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Nitrogen, Ammonia as N, Total	10.0	0.020 mg/L	10.0		100	86-111			
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**Duplicate (B4C0355-DUP1)**

**Source: 4030384-01**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Nitrogen, Ammonia as N, Total	0.027	0.020 mg/L		0.025				15	
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**General Parameters, Batch B4C0357**

**Blank (B4C0357-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Sulfide	< 0.01	0.01 mg/L							
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**Blank (B4C0357-BLK2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Sulfide	< 0.01	0.01 mg/L							
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**LCS (B4C0357-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Sulfide	0.31	0.01 mg/L	0.385		80	36-114			
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**General Parameters, Batch B4C0362**

**Blank (B4C0362-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C0362-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Dissolved Inorganic	8.6	0.5 mg/L	10.0		86	80-120			
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**Duplicate (B4C0362-DUP1)**

**Source: 4030384-01**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Dissolved Inorganic	4.8	0.5 mg/L		4.7			< 1	20	
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**General Parameters, Batch B4C0434**

**Blank (B4C0434-BLK1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Nitrogen, Nitrate+Nitrite as N	< 0.01	0.01 mg/L							
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**LCS (B4C0434-BS1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Nitrogen, Nitrate+Nitrite as N	98.8	0.01 mg/L	100		99	91-108			
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0293**

**Blank (B4C0293-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.05	0.05 ug/L							



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0293, Continued</b>									
<b>Blank (B4C0293-BLK1), Continued</b>					Prepared: Mar-10-14, Analyzed: Mar-11-14				
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.667	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.669	ug/L	0.995		67	45-92			
Surrogate: Phenanthrene-d10	0.691	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.765	ug/L	0.950		81	41-96			
Surrogate: Perylene-d12	0.745	ug/L	0.990		75	47-104			
<b>LCS (B4C0293-BS1)</b>					Prepared: Mar-10-14, Analyzed: Mar-11-14				
Acenaphthene	0.62	0.02 ug/L	1.00		62	54-92			
Acenaphthylene	0.69	0.05 ug/L	1.00		69	54-95			
Acridine	0.62	0.05 ug/L	1.00		62	49-87			
Anthracene	0.67	0.05 ug/L	1.00		67	53-94			
Benzo (a) anthracene	0.68	0.01 ug/L	1.00		68	52-95			
Benzo (a) pyrene	0.68	0.01 ug/L	1.00		68	52-103			
Benzo (b) fluoranthene	0.67	0.02 ug/L	1.00		67	49-94			
Benzo (g,h,i) perylene	0.66	0.02 ug/L	1.00		66	51-98			
Benzo (k) fluoranthene	0.68	0.02 ug/L	1.00		68	49-105			
Chrysene	0.71	0.02 ug/L	1.00		71	50-104			
Dibenz (a,h) anthracene	0.63	0.02 ug/L	1.00		63	49-96			
Fluoranthene	0.69	0.05 ug/L	1.00		69	53-102			
Fluorene	0.65	0.05 ug/L	1.00		65	54-91			
Indeno (1,2,3-cd) pyrene	0.67	0.05 ug/L	1.00		67	51-99			
Naphthalene	0.62	0.30 ug/L	1.00		62	51-91			
Phenanthrene	0.64	0.10 ug/L	1.00		64	56-96			
Pyrene	0.67	0.02 ug/L	1.00		67	51-105			
Quinoline	0.64	0.10 ug/L	1.00		64	48-126			
Surrogate: Naphthalene-d8	0.660	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.653	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.686	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.729	ug/L	0.950		77	41-96			
Surrogate: Perylene-d12	0.740	ug/L	0.990		75	47-104			
<b>LCS Dup (B4C0293-BSD1)</b>					Prepared: Mar-10-14, Analyzed: Mar-11-14				
Acenaphthene	0.66	0.05 ug/L	1.00		66	54-92	5	20	
Acenaphthylene	0.73	0.02 ug/L	1.00		73	54-95	5	20	
Acridine	0.64	0.05 ug/L	1.00		64	49-87	3	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	6	20	
Benzo (a) anthracene	0.74	0.01 ug/L	1.00		74	52-95	9	20	
Benzo (a) pyrene	0.74	0.01 ug/L	1.00		74	52-103	8	20	
Benzo (b) fluoranthene	0.65	0.05 ug/L	1.00		65	49-94	3	20	
Benzo (g,h,i) perylene	0.72	0.05 ug/L	1.00		72	51-98	9	20	
Benzo (k) fluoranthene	0.73	0.05 ug/L	1.00		73	49-105	8	20	
Chrysene	0.78	0.02 ug/L	1.00		78	50-104	8	20	
Dibenz (a,h) anthracene	0.69	0.05 ug/L	1.00		69	49-96	9	20	
Fluoranthene	0.74	0.02 ug/L	1.00		74	53-102	7	20	
Fluorene	0.69	0.05 ug/L	1.00		69	54-91	5	20	
Indeno (1,2,3-cd) pyrene	0.73	0.05 ug/L	1.00		73	51-99	9	20	
Naphthalene	0.66	0.05 ug/L	1.00		66	51-91	7	20	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0293, Continued**

**LCS Dup (B4C0293-BSD1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Phenanthrene	0.68	0.05 ug/L	1.00		68	56-96	6	20	
Pyrene	0.72	0.02 ug/L	1.00		72	51-105	7	20	
Quinoline	0.68	0.05 ug/L	1.00		68	48-126	6	20	
Surrogate: Naphthalene-d8	0.684	ug/L	1.02		67	40-96			
Surrogate: Acenaphthene-d10	0.666	ug/L	0.995		67	45-92			
Surrogate: Phenanthrene-d10	0.713	ug/L	0.970		73	48-90			
Surrogate: Chrysene-d12	0.775	ug/L	0.950		82	41-96			
Surrogate: Perylene-d12	0.723	ug/L	0.990		73	47-104			

**Total Recoverable Metals, Batch B4C0297**

**Blank (B4C0297-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Duplicate (B4C0297-DUP1)**

Source: 4030384-01

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	289	1 ug/L		303		5	28	
Antimony, total	0.4	0.05 ug/L		0.4		9	36	
Arsenic, total	0.68	0.05 ug/L		0.74		9	18	
Barium, total	18.6	0.1 ug/L		19.4		4	8	
Beryllium, total	< 0.01	0.01 ug/L		< 0.01			29	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0297, Continued**

Duplicate (B4C0297-DUP1), Continued		Source: 4030384-01		Prepared: Mar-10-14, Analyzed: Mar-10-14					
Bismuth, total	0.01	0.01 ug/L		0.01				46	
Boron, total	8	1 ug/L		7			3	40	
Cadmium, total	0.035	0.002 ug/L		0.037			4	43	
Calcium, total	9400	40 ug/L		9130			3	10	
Chromium, total	0.7	0.1 ug/L		0.7			3	23	
Cobalt, total	0.191	0.005 ug/L		0.211			10	18	
Copper, total	4.4	0.1 ug/L		4.6			6	33	
Iron, total	490	2 ug/L		518			6	16	
Lead, total	1.63	0.05 ug/L		1.50			8	26	
Lithium, total	0.27	0.05 ug/L		0.26			2	20	
Magnesium, total	1580	5.0 ug/L		1700			7	7	
Manganese, total	42.9	0.05 ug/L		46.3			8	10	
Mercury, total	< 0.01	0.01 ug/L		< 0.01				40	
Molybdenum, total	1.07	0.01 ug/L		1.13			5	26	
Nickel, total	0.53	0.02 ug/L		0.55			3	20	
Phosphorus, total	25	10 ug/L		29				32	
Potassium, total	1150	10 ug/L		1240			8	15	
Selenium, total	< 0.1	0.1 ug/L		< 0.1				25	
Silicon, total	3190	50 ug/L		3660			14	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	17500	10 ug/L		18700			6	11	
Strontium, total	55.4	0.1 ug/L		59.3			7	8	
Sulfur, total	1300	500 ug/L		1900				20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	< 0.004	0.004 ug/L		< 0.004				30	
Thorium, total	0.02	0.01 ug/L		< 0.01				50	
Tin, total	0.07	0.05 ug/L		0.07				19	
Titanium, total	8.7	0.2 ug/L		10.6			20	42	
Uranium, total	0.024	0.001 ug/L		0.024			< 1	12	
Vanadium, total	1.0	0.2 ug/L		1.1			7	21	
Zinc, total	16	1 ug/L		16			3	33	
Zirconium, total	0.34	0.01 ug/L		0.16			69	41	RPD

Reference (B4C0297-SRM1)		Prepared: Mar-10-14, Analyzed: Mar-10-14							
Aluminum, total	61	1 ug/L		59.2	104	81-129			
Antimony, total	11.1	0.05 ug/L		10.1	110	88-114			
Arsenic, total	25.1	0.05 ug/L		24.4	103	88-114			
Barium, total	159	0.1 ug/L		155	103	72-104			
Beryllium, total	9.40	0.01 ug/L		9.76	96	76-131			
Boron, total	677	1 ug/L		680	100	75-121			
Cadmium, total	10.2	0.002 ug/L		9.80	104	89-111			
Calcium, total	2000	40 ug/L		2040	98	86-121			
Chromium, total	49.4	0.1 ug/L		48.4	102	89-114			
Cobalt, total	7.78	0.005 ug/L		7.32	106	91-113			
Copper, total	105	0.1 ug/L		97.4	108	91-115			
Iron, total	98	2 ug/L		93.8	105	77-124			
Lead, total	38.5	0.05 ug/L		38.6	100	92-113			
Lithium, total	76.8	0.05 ug/L		78.0	99	85-115			
Magnesium, total	701	5.0 ug/L		662	106	78-120			
Manganese, total	23.2	0.05 ug/L		21.8	107	90-114			
Mercury, total	0.60	0.01 ug/L		0.912	66	50-150			
Molybdenum, total	40.5	0.01 ug/L		39.4	103	90-111			
Nickel, total	51.2	0.02 ug/L		48.4	106	90-111			
Phosphorus, total	48	10 ug/L		46.6	103	85-115			
Potassium, total	1270	10 ug/L		1190	107	84-113			
Selenium, total	24.3	0.1 ug/L		23.0	106	85-115			
Sodium, total	1610	10 ug/L		1530	105	82-123			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030384  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0297, Continued**

**Reference (B4C0297-SRM1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Strontium, total	76.7	0.1 ug/L	72.6		106	88-112			
Thallium, total	16.2	0.004 ug/L	15.9		102	91-114			
Uranium, total	3.67	0.001 ug/L	3.84		96	85-120			
Vanadium, total	74.4	0.2 ug/L	75.2		99	86-111			
Zinc, total	506	1 ug/L	484		105	85-111			

**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030386
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-08-14 13:20 / 4°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-12-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

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Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate+Nitrite-N in Water	N/A	APHA 4500-NO3- F	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4030386  
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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030386-01) [Water] Sampled: Mar-07-14 16:25**

**Anions**

Alkalinity, Total as CaCO3	66	2	mg/L	N/A	Mar-11-14	
Alkalinity, Phenolphthalein as CaCO3	6	2	mg/L	N/A	Mar-11-14	
Alkalinity, Bicarbonate as CaCO3	54	2	mg/L	N/A	Mar-11-14	
Alkalinity, Carbonate as CaCO3	12	2	mg/L	N/A	Mar-11-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Chloride	33.6	0.10	mg/L	N/A	Mar-11-14	
Sulfate	2.2	1.0	mg/L	N/A	Mar-11-14	

**General Parameters**

Carbon, Total Organic	0.9	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Inorganic	11.6	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Organic	0.8	0.5	mg/L	N/A	Mar-11-14	HT
Nitrogen, Ammonia as N, Total	0.148	0.020	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrate+Nitrite as N	0.78	0.01	mg/L	N/A	Mar-12-14	
pH	9.21	0.01	pH units	N/A	Mar-08-14	
Solids, Total Dissolved	138	10	mg/L	Mar-10-14	Mar-11-14	
Solids, Total Suspended	< 2	2	mg/L	Mar-10-14	Mar-11-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-11-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	24.7	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	25	0.1	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	63	1	ug/L	N/A	Mar-10-14	
Antimony, dissolved	1.4	0.05	ug/L	N/A	Mar-10-14	
Arsenic, dissolved	5.67	0.05	ug/L	N/A	Mar-10-14	
Barium, dissolved	13.9	0.1	ug/L	N/A	Mar-10-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Boron, dissolved	1	1	ug/L	N/A	Mar-10-14	
Cadmium, dissolved	0.004	0.002	ug/L	N/A	Mar-10-14	
Calcium, dissolved	6930	40	ug/L	N/A	Mar-10-14	
Chromium, dissolved	0.2	0.1	ug/L	N/A	Mar-10-14	
Cobalt, dissolved	0.195	0.005	ug/L	N/A	Mar-10-14	
Copper, dissolved	0.2	0.1	ug/L	N/A	Mar-10-14	
Iron, dissolved	34	2	ug/L	N/A	Mar-10-14	
Lead, dissolved	0.13	0.05	ug/L	N/A	Mar-10-14	
Lithium, dissolved	2.33	0.05	ug/L	N/A	Mar-10-14	
Magnesium, dissolved	1760	5	ug/L	N/A	Mar-10-14	
Manganese, dissolved	7.77	0.05	ug/L	N/A	Mar-10-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Molybdenum, dissolved	0.68	0.01	ug/L	N/A	Mar-10-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030386-01) [Water] Sampled: Mar-07-14 16:25, Continued**

***Dissolved Metals, Continued***

Nickel, dissolved	2.05	0.02	ug/L	N/A	Mar-10-14	
Phosphorus, dissolved	348	10	ug/L	N/A	Mar-10-14	
Potassium, dissolved	22400	10	ug/L	N/A	Mar-10-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-10-14	
Silicon, dissolved	4480	50	ug/L	N/A	Mar-10-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Sodium, dissolved	26600	10	ug/L	N/A	Mar-10-14	
Strontium, dissolved	67.5	0.1	ug/L	N/A	Mar-10-14	
Sulfur, dissolved	1290	500	ug/L	N/A	Mar-10-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-10-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Titanium, dissolved	0.7	0.2	ug/L	N/A	Mar-10-14	
Uranium, dissolved	0.007	0.001	ug/L	N/A	Mar-10-14	
Vanadium, dissolved	0.6	0.2	ug/L	N/A	Mar-10-14	
Zinc, dissolved	2	1	ug/L	N/A	Mar-10-14	
Zirconium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	

***Total Recoverable Metals***

Aluminum, total	103	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	1.4	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	4.72	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	15.7	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	< 1	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.015	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	7130	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.2	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.242	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	1.0	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	89	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	4.83	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	2.26	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1680	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	9.89	0.05	ug/L	Mar-10-14	Mar-10-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	0.59	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	2.49	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	230	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	21300	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	4100	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Sodium, total	26900	10	ug/L	Mar-10-14	Mar-10-14	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030386-01) [Water] Sampled: Mar-07-14 16:25, Continued**

**Total Recoverable Metals, Continued**

Strontium, total	68.2	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1200	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	2.4	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.007	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	0.6	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	11	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.03	0.01	ug/L	Mar-10-14	Mar-10-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-10-14	Mar-11-14	
EPHw (19-32)	< 100	100	ug/L	Mar-10-14	Mar-11-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Acridine	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Anthracene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-10-14	Mar-11-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Chrysene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Fluorene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Pyrene	< 0.02	0.02	ug/L	Mar-10-14	Mar-11-14	
Quinoline	< 0.05	0.05	ug/L	Mar-10-14	Mar-11-14	
Surrogate: Naphthalene-d8	64 %	40-96		Mar-10-14	Mar-11-14	
Surrogate: Acenaphthene-d10	66 %	45-92		Mar-10-14	Mar-11-14	
Surrogate: Phenanthrene-d10	69 %	48-90		Mar-10-14	Mar-11-14	
Surrogate: Chrysene-d12	75 %	41-96		Mar-10-14	Mar-11-14	
Surrogate: Perylene-d12	71 %	47-104		Mar-10-14	Mar-11-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated Dup Metals (4030386-02) [Water] Sampled: Mar-07-14 16:25** CT1

**Calculated Parameters**

Hardness, Total (Total as CaCO3)	24.2	0.1	mg/L	N/A	N/A	
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**Total Recoverable Metals**

Aluminum, total	110	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	1.4	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	4.72	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	15.6	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	< 1	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.014	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	6910	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.2	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.252	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	1.3	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	93	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	4.74	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	2.22	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1680	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	10.0	0.05	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	0.59	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	2.60	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	230	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	21500	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	4200	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Sodium, total	27000	10	ug/L	Mar-10-14	Mar-10-14	
Strontium, total	68.3	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1300	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	3.2	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.008	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	0.6	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	12	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.03	0.01	ug/L	Mar-10-14	Mar-10-14	

**Sample / Analysis Qualifiers:**

CT1 Incorrect Container(s) supplied for Mercury analysis  
HT The sample was prepared / analyzed past the recommended holding time.

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0293**

**Blank (B4C0293-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4C0293-BS2)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

EPHw (10-19)	2780	100 ug/L	3470		80	63-123			
EPHw (19-32)	3660	100 ug/L	4970		74	51-102			

**Anions, Batch B4C0345**

**Blank (B4C0345-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**LCS (B4C0345-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Alkalinity, Total as CaCO3	2380	2 mg/L	2500		95	81-109			
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**Anions, Batch B4C0360**

**Blank (B4C0360-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**LCS (B4C0360-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Sulfate	15.5	1.0 mg/L	16.0		97	85-115			

**Dissolved Metals, Batch B4C0296**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

**Blank (B4C0296-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Matrix Spike (B4C0296-MS1)**

Source: 4030386-01

Prepared: Mar-10-14, Analyzed: Mar-10-14

Antimony, dissolved	45.2	0.05 ug/L	40.0	1.4	110	81-114
Arsenic, dissolved	26.9	0.05 ug/L	20.0	5.67	106	89-115
Barium, dissolved	121	0.1 ug/L	100	13.9	107	86-115
Beryllium, dissolved	10.0	0.01 ug/L	10.0	< 0.01	100	77-124
Cadmium, dissolved	10.8	0.002 ug/L	10.0	0.004	108	82-126
Chromium, dissolved	42.2	0.1 ug/L	40.0	0.2	105	85-117
Cobalt, dissolved	42.6	0.005 ug/L	40.0	0.195	106	76-131
Copper, dissolved	43.1	0.1 ug/L	40.0	0.2	107	88-113
Iron, dissolved	254	2 ug/L	200	34	110	80-115
Lead, dissolved	19.5	0.05 ug/L	20.0	0.13	97	84-121
Manganese, dissolved	50.2	0.05 ug/L	40.0	7.77	106	75-135
Nickel, dissolved	44.9	0.02 ug/L	40.0	2.05	107	83-121
Selenium, dissolved	11.1	0.1 ug/L	10.0	< 0.1	110	91-122
Silver, dissolved	9.95	0.01 ug/L	10.0	< 0.01	99	74-120
Thallium, dissolved	9.82	0.004 ug/L	10.0	< 0.004	98	79-119
Vanadium, dissolved	42.4	0.2 ug/L	40.0	0.6	105	80-115
Zinc, dissolved	113	1 ug/L	100	2	111	89-123

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

**Reference (B4C0296-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, dissolved	24	1 ug/L	23.3		104	58-142			
Antimony, dissolved	5.4	0.05 ug/L	4.30		125	75-125			
Arsenic, dissolved	45.3	0.05 ug/L	43.8		103	81-119			
Barium, dissolved	355	0.1 ug/L	335		106	83-117			
Beryllium, dissolved	22.9	0.01 ug/L	21.3		107	80-120			
Boron, dissolved	194	1 ug/L	174		111	74-117			
Cadmium, dissolved	23.4	0.002 ug/L	22.4		104	83-117			
Calcium, dissolved	879	40 ug/L	769		114	76-124			
Chromium, dissolved	45.1	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.5	0.005 ug/L	12.8		106	76-124			
Copper, dissolved	93.4	0.1 ug/L	84.4		111	84-116			
Iron, dissolved	139	2 ug/L	129		107	74-126			
Lead, dissolved	12.1	0.05 ug/L	11.2		108	72-128			
Lithium, dissolved	11.4	0.05 ug/L	10.4		110	60-140			
Magnesium, dissolved	716	5 ug/L	692		103	81-119			
Manganese, dissolved	36.6	0.05 ug/L	34.5		106	84-116			
Molybdenum, dissolved	44.8	0.01 ug/L	42.6		105	83-117			
Nickel, dissolved	90.1	0.02 ug/L	84.0		107	74-126			
Phosphorus, dissolved	50	10 ug/L	49.5		102	68-132			
Potassium, dissolved	326	10 ug/L	319		102	74-126			
Selenium, dissolved	3.6	0.1 ug/L	3.31		108	70-130			
Sodium, dissolved	1990	10 ug/L	1910		104	72-128			
Strontium, dissolved	92.6	0.1 ug/L	91.6		101	84-113			
Thallium, dissolved	4.27	0.004 ug/L	3.93		109	57-143			
Uranium, dissolved	29.2	0.001 ug/L	26.6		110	85-115			
Vanadium, dissolved	86.9	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	92	1 ug/L	88.1		104	72-128			

**General Parameters, Batch B4C0294**

**Blank (B4C0294-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**Blank (B4C0294-BLK2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0294-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	9.2	0.5 mg/L	10.0		92	80-120			

**LCS (B4C0294-BS2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	8.3	0.5 mg/L	10.0		83	80-120			

**General Parameters, Batch B4C0303**

**Blank (B4C0303-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Duplicate (B4C0303-DUP1)**

Source: 4030386-01

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	127	10 mg/L		138			8	11	
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**Reference (B4C0303-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	228	10 mg/L	240		95	70-130			
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0331</b>									
<b>Blank (B4C0331-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0331-BLK2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0331-BLK3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0331-BS1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	20	2 mg/L	23.2		88	83-107			
<b>LCS (B4C0331-BS2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	27	2 mg/L	28.8		95	83-107			
<b>LCS (B4C0331-BS3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	23	2 mg/L	24.0		94	83-107			
<b>General Parameters, Batch B4C0336</b>									
<b>Reference (B4C0336-SRM1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
pH	7.03	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C0355</b>									
<b>Blank (B4C0355-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C0355-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	10.0	0.020 mg/L	10.0		100	86-111			
<b>General Parameters, Batch B4C0357</b>									
<b>Blank (B4C0357-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0357-BLK2)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0357-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	0.31	0.01 mg/L	0.385		80	36-114			
<b>Duplicate (B4C0357-DUP1)</b>			<b>Source: 4030386-01</b> Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	0.03	0.01 mg/L		0.02				9	
<b>General Parameters, Batch B4C0362</b>									
<b>Blank (B4C0362-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0362-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	8.6	0.5 mg/L	10.0		86	80-120			
<b>General Parameters, Batch B4C0434</b>									

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0434, Continued**

**Blank (B4C0434-BLK1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Nitrogen, Nitrate+Nitrite as N < 0.01 0.01 mg/L

**LCS (B4C0434-BS1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Nitrogen, Nitrate+Nitrite as N 98.8 0.01 mg/L 100 99 91-108

**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0293**

**Blank (B4C0293-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Acenaphthene	< 0.05	0.05 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.05	0.05 ug/L							
Benzo (k) fluoranthene	< 0.05	0.05 ug/L							
Chrysene	< 0.05	0.05 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.05	0.05 ug/L							
Naphthalene	< 0.30	0.30 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.667	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.669	ug/L	0.995		67	45-92			
Surrogate: Phenanthrene-d10	0.691	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.765	ug/L	0.950		81	41-96			
Surrogate: Perylene-d12	0.745	ug/L	0.990		75	47-104			

**LCS (B4C0293-BS1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Acenaphthene	0.62	0.05 ug/L	1.00		62	54-92			
Acenaphthylene	0.69	0.02 ug/L	1.00		69	54-95			
Acridine	0.62	0.10 ug/L	1.00		62	49-87			
Anthracene	0.67	0.01 ug/L	1.00		67	53-94			
Benzo (a) anthracene	0.68	0.05 ug/L	1.00		68	52-95			
Benzo (a) pyrene	0.68	0.01 ug/L	1.00		68	52-103			
Benzo (b) fluoranthene	0.67	0.02 ug/L	1.00		67	49-94			
Benzo (g,h,i) perylene	0.66	0.05 ug/L	1.00		66	51-98			
Benzo (k) fluoranthene	0.68	0.05 ug/L	1.00		68	49-105			
Chrysene	0.71	0.02 ug/L	1.00		71	50-104			
Dibenz (a,h) anthracene	0.63	0.02 ug/L	1.00		63	49-96			
Fluoranthene	0.69	0.05 ug/L	1.00		69	53-102			
Fluorene	0.65	0.05 ug/L	1.00		65	54-91			
Indeno (1,2,3-cd) pyrene	0.67	0.02 ug/L	1.00		67	51-99			
Naphthalene	0.62	0.30 ug/L	1.00		62	51-91			
Phenanthrene	0.64	0.10 ug/L	1.00		64	56-96			
Pyrene	0.67	0.10 ug/L	1.00		67	51-105			
Quinoline	0.64	0.10 ug/L	1.00		64	48-126			
Surrogate: Naphthalene-d8	0.660	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.653	ug/L	0.995		66	45-92			
Surrogate: Phenanthrene-d10	0.686	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.729	ug/L	0.950		77	41-96			
Surrogate: Perylene-d12	0.740	ug/L	0.990		75	47-104			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0293, Continued**

**LCS Dup (B4C0293-BSD1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Acenaphthene	0.66	0.02 ug/L	1.00		66	54-92	5	20	
Acenaphthylene	0.73	0.02 ug/L	1.00		73	54-95	5	20	
Acridine	0.64	0.05 ug/L	1.00		64	49-87	3	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	6	20	
Benzo (a) anthracene	0.74	0.01 ug/L	1.00		74	52-95	9	20	
Benzo (a) pyrene	0.74	0.01 ug/L	1.00		74	52-103	8	20	
Benzo (b) fluoranthene	0.65	0.02 ug/L	1.00		65	49-94	3	20	
Benzo (g,h,i) perylene	0.72	0.02 ug/L	1.00		72	51-98	9	20	
Benzo (k) fluoranthene	0.73	0.02 ug/L	1.00		73	49-105	8	20	
Chrysene	0.78	0.02 ug/L	1.00		78	50-104	8	20	
Dibenz (a,h) anthracene	0.69	0.05 ug/L	1.00		69	49-96	9	20	
Fluoranthene	0.74	0.02 ug/L	1.00		74	53-102	7	20	
Fluorene	0.69	0.02 ug/L	1.00		69	54-91	5	20	
Indeno (1,2,3-cd) pyrene	0.73	0.05 ug/L	1.00		73	51-99	9	20	
Naphthalene	0.66	0.05 ug/L	1.00		66	51-91	7	20	
Phenanthrene	0.68	0.05 ug/L	1.00		68	56-96	6	20	
Pyrene	0.72	0.10 ug/L	1.00		72	51-105	7	20	
Quinoline	0.68	0.05 ug/L	1.00		68	48-126	6	20	
Surrogate: Naphthalene-d8	0.684	ug/L	1.02		67	40-96			
Surrogate: Acenaphthene-d10	0.666	ug/L	0.995		67	45-92			
Surrogate: Phenanthrene-d10	0.713	ug/L	0.970		73	48-90			
Surrogate: Chrysene-d12	0.775	ug/L	0.950		82	41-96			
Surrogate: Perylene-d12	0.723	ug/L	0.990		73	47-104			

**Total Recoverable Metals, Batch B4C0297**

**Blank (B4C0297-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0297, Continued**

**Blank (B4C0297-BLK1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Matrix Spike (B4C0297-MS1)**

Source: 4030386-01

Prepared: Mar-10-14, Analyzed: Mar-10-14

Antimony, total	43.7	0.05 ug/L	40.0	1.4	106	80-120			
Arsenic, total	25.2	0.05 ug/L	20.0	4.72	102	80-120			
Barium, total	121	0.1 ug/L	100	15.7	105	80-120			
Beryllium, total	9.59	0.01 ug/L	10.0	0.01	96	80-120			
Cadmium, total	10.3	0.002 ug/L	10.0	0.015	103	80-120			
Chromium, total	40.6	0.1 ug/L	40.0	0.2	101	80-120			
Cobalt, total	40.9	0.005 ug/L	40.0	0.242	102	80-120			
Copper, total	42.0	0.1 ug/L	40.0	1.0	102	80-120			
Iron, total	299	2 ug/L	200	89	105	80-120			
Lead, total	24.0	0.05 ug/L	20.0	4.83	96	80-120			
Manganese, total	51.6	0.05 ug/L	40.0	9.89	104	80-120			
Nickel, total	43.3	0.02 ug/L	40.0	2.49	102	80-120			
Selenium, total	10.7	0.1 ug/L	10.0	< 0.1	107	80-120			
Silver, total	8.91	0.01 ug/L	10.0	< 0.01	89	80-120			
Thallium, total	9.39	0.004 ug/L	10.0	< 0.004	94	80-120			
Vanadium, total	41.1	0.2 ug/L	40.0	0.6	101	80-120			
Zinc, total	110	1 ug/L	100	11	99	80-120			

**Reference (B4C0297-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	61	1 ug/L	59.2		104	81-129			
Antimony, total	11.1	0.05 ug/L	10.1		110	88-114			
Arsenic, total	25.1	0.05 ug/L	24.4		103	88-114			
Barium, total	159	0.1 ug/L	155		103	72-104			
Beryllium, total	9.40	0.01 ug/L	9.76		96	76-131			
Boron, total	677	1 ug/L	680		100	75-121			
Cadmium, total	10.2	0.002 ug/L	9.80		104	89-111			
Calcium, total	2000	40 ug/L	2040		98	86-121			
Chromium, total	49.4	0.1 ug/L	48.4		102	89-114			
Cobalt, total	7.78	0.005 ug/L	7.32		106	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	98	2 ug/L	93.8		105	77-124			
Lead, total	38.5	0.05 ug/L	38.6		100	92-113			
Lithium, total	76.8	0.05 ug/L	78.0		99	85-115			
Magnesium, total	701	5.0 ug/L	662		106	78-120			
Manganese, total	23.2	0.05 ug/L	21.8		107	90-114			
Mercury, total	0.60	0.01 ug/L	0.912		66	50-150			
Molybdenum, total	40.5	0.01 ug/L	39.4		103	90-111			
Nickel, total	51.2	0.02 ug/L	48.4		106	90-111			
Phosphorus, total	48	10 ug/L	46.6		103	85-115			
Potassium, total	1270	10 ug/L	1190		107	84-113			
Selenium, total	24.3	0.1 ug/L	23.0		106	85-115			
Sodium, total	1610	10 ug/L	1530		105	82-123			
Strontium, total	76.7	0.1 ug/L	72.6		106	88-112			
Thallium, total	16.2	0.004 ug/L	15.9		102	91-114			
Uranium, total	3.67	0.001 ug/L	3.84		96	85-120			
Vanadium, total	74.4	0.2 ug/L	75.2		99	86-111			
Zinc, total	506	1 ug/L	484		105	85-111			

**QUALITY CONTROL DATA**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030386  
Mar-12-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030396
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-08-14 13:20 / 4°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-17-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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Edmonton, AB T5S 1H7  
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Fluoride in Water by IC	N/A	APHA 4110 B	Kelowna
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate+Nitrite-N in Water	N/A	APHA 4500-NO3- F	Kelowna
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water, colorimetric	N/A	APHA 4500-NO2 H	Kelowna
Orthophosphate as P by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Potability, IH Comprehensive Pkg	N/A	APHA 1030 E	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Silver Creek (4030396-01) [Water] Sampled: Mar-07-14 13:35**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	24	2	mg/L	N/A	Mar-11-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	24	2	mg/L	N/A	Mar-11-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Chloride	35.0	0.10	mg/L	N/A	Mar-11-14	
Sulfate	3.6	1.0	mg/L	N/A	Mar-11-14	

**General Parameters**

Carbon, Total Organic	4.2	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Inorganic	4.0	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Organic	3.9	0.5	mg/L	N/A	Mar-11-14	HT
Nitrogen, Ammonia as N, Total	0.033	0.020	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrate+Nitrite as N	1.28	0.01	mg/L	N/A	Mar-12-14	
pH	7.25	0.01	pH units	N/A	Mar-10-14	
Solids, Total Dissolved	102	10	mg/L	Mar-10-14	Mar-11-14	
Solids, Total Suspended	< 2	2	mg/L	Mar-10-14	Mar-11-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-11-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	29.8	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	29	0.1	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	44	1	ug/L	N/A	Mar-10-14	
Antimony, dissolved	0.2	0.05	ug/L	N/A	Mar-10-14	
Arsenic, dissolved	0.36	0.05	ug/L	N/A	Mar-10-14	
Barium, dissolved	19.2	0.1	ug/L	N/A	Mar-10-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Boron, dissolved	6	1	ug/L	N/A	Mar-10-14	
Cadmium, dissolved	0.034	0.002	ug/L	N/A	Mar-10-14	
Calcium, dissolved	8780	40	ug/L	N/A	Mar-10-14	
Chromium, dissolved	0.2	0.1	ug/L	N/A	Mar-10-14	
Cobalt, dissolved	0.087	0.005	ug/L	N/A	Mar-10-14	
Copper, dissolved	1.5	0.1	ug/L	N/A	Mar-10-14	
Iron, dissolved	211	2	ug/L	N/A	Mar-10-14	
Lead, dissolved	0.12	0.05	ug/L	N/A	Mar-10-14	
Lithium, dissolved	0.14	0.05	ug/L	N/A	Mar-10-14	
Magnesium, dissolved	1690	5	ug/L	N/A	Mar-10-14	
Manganese, dissolved	31.9	0.05	ug/L	N/A	Mar-10-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Molybdenum, dissolved	2.55	0.01	ug/L	N/A	Mar-10-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Silver Creek (4030396-01) [Water] Sampled: Mar-07-14 13:35, Continued**

***Dissolved Metals, Continued***

Nickel, dissolved	0.22	0.02	ug/L	N/A	Mar-10-14	
Phosphorus, dissolved	< 10	10	ug/L	N/A	Mar-10-14	
Potassium, dissolved	778	10	ug/L	N/A	Mar-10-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-10-14	
Silicon, dissolved	3360	50	ug/L	N/A	Mar-10-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Sodium, dissolved	21500	10	ug/L	N/A	Mar-10-14	
Strontium, dissolved	59.5	0.1	ug/L	N/A	Mar-10-14	
Sulfur, dissolved	1960	500	ug/L	N/A	Mar-10-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-10-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Titanium, dissolved	0.9	0.2	ug/L	N/A	Mar-10-14	
Uranium, dissolved	0.009	0.001	ug/L	N/A	Mar-10-14	
Vanadium, dissolved	0.3	0.2	ug/L	N/A	Mar-10-14	
Zinc, dissolved	7	1	ug/L	N/A	Mar-10-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Mar-10-14	

***Total Recoverable Metals***

Aluminum, total	132	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	0.2	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	0.46	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	20.4	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	6	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.036	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	9110	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.3	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.118	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	1.9	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	354	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	0.37	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	0.15	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1720	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	35.2	0.05	ug/L	Mar-10-14	Mar-10-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	2.55	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	0.30	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	< 10	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	805	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	3500	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Sodium, total	22000	10	ug/L	Mar-10-14	Mar-10-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Silver Creek (4030396-01) [Water] Sampled: Mar-07-14 13:35, Continued**

**Total Recoverable Metals, Continued**

Strontium, total	58.9	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1600	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	4.1	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.013	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	0.5	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	11	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.27	0.01	ug/L	Mar-10-14	Mar-10-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-11-14	Mar-13-14	
EPHw (19-32)	< 100	100	ug/L	Mar-11-14	Mar-13-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acridine	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Chrysene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluorene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Quinoline	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Surrogate: Naphthalene-d8	60 %	40-96		Mar-11-14	Mar-13-14	
Surrogate: Acenaphthene-d10	61 %	45-92		Mar-11-14	Mar-13-14	
Surrogate: Phenanthrene-d10	68 %	48-90		Mar-11-14	Mar-13-14	
Surrogate: Chrysene-d12	75 %	41-96		Mar-11-14	Mar-13-14	
Surrogate: Perylene-d12	72 %	47-104		Mar-11-14	Mar-13-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: City Outfall (4030396-02) [Water] Sampled: Mar-07-14 14:40**

**Anions**

Alkalinity, Total as CaCO3	24	2	mg/L	N/A	Mar-11-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Bicarbonate as CaCO3	24	2	mg/L	N/A	Mar-11-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	N/A	Mar-11-14	
Chloride	34.8	0.10	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrite as N	< 0.01	0.01	mg/L	N/A	Mar-10-14	
Sulfate	3.6	1.0	mg/L	N/A	Mar-11-14	

**General Parameters**

Carbon, Total Organic	4.1	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Inorganic	4.0	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Organic	3.9	0.5	mg/L	N/A	Mar-11-14	HT
Nitrogen, Ammonia as N, Total	0.167	0.020	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrate+Nitrite as N	1.25	0.01	mg/L	N/A	Mar-12-14	
pH	7.35	0.01	pH units	N/A	Mar-10-14	
Solids, Total Dissolved	109	10	mg/L	Mar-10-14	Mar-11-14	
Solids, Total Suspended	3	2	mg/L	Mar-10-14	Mar-11-14	
Sulfide	0.03	0.01	mg/L	N/A	Mar-11-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	30.5	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	30	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate as N	1.25	0.03	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	34	1	ug/L	N/A	Mar-10-14	
Antimony, dissolved	0.1	0.05	ug/L	N/A	Mar-10-14	
Arsenic, dissolved	0.37	0.05	ug/L	N/A	Mar-10-14	
Barium, dissolved	19.6	0.1	ug/L	N/A	Mar-10-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Boron, dissolved	6	1	ug/L	N/A	Mar-10-14	
Cadmium, dissolved	0.014	0.002	ug/L	N/A	Mar-10-14	
Calcium, dissolved	8920	40	ug/L	N/A	Mar-10-14	
Chromium, dissolved	0.2	0.1	ug/L	N/A	Mar-10-14	
Cobalt, dissolved	0.070	0.005	ug/L	N/A	Mar-10-14	
Copper, dissolved	1.1	0.1	ug/L	N/A	Mar-10-14	
Iron, dissolved	210	2	ug/L	N/A	Mar-10-14	
Lead, dissolved	0.07	0.05	ug/L	N/A	Mar-10-14	
Lithium, dissolved	0.12	0.05	ug/L	N/A	Mar-10-14	
Magnesium, dissolved	1790	5	ug/L	N/A	Mar-10-14	
Manganese, dissolved	30.6	0.05	ug/L	N/A	Mar-10-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: City Outfall (4030396-02) [Water] Sampled: Mar-07-14 14:40, Continued**

***Dissolved Metals, Continued***

Molybdenum, dissolved	2.90	0.01	ug/L	N/A	Mar-10-14	
Nickel, dissolved	0.21	0.02	ug/L	N/A	Mar-10-14	
Phosphorus, dissolved	< 10	10	ug/L	N/A	Mar-10-14	
Potassium, dissolved	723	10	ug/L	N/A	Mar-10-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-10-14	
Silicon, dissolved	3430	50	ug/L	N/A	Mar-10-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Sodium, dissolved	21800	10	ug/L	N/A	Mar-10-14	
Strontium, dissolved	60.8	0.1	ug/L	N/A	Mar-10-14	
Sulfur, dissolved	2060	500	ug/L	N/A	Mar-10-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-10-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Titanium, dissolved	0.4	0.2	ug/L	N/A	Mar-10-14	
Uranium, dissolved	0.010	0.001	ug/L	N/A	Mar-10-14	
Vanadium, dissolved	0.3	0.2	ug/L	N/A	Mar-10-14	
Zinc, dissolved	5	1	ug/L	N/A	Mar-10-14	
Zirconium, dissolved	0.06	0.01	ug/L	N/A	Mar-10-14	

***Total Recoverable Metals***

Aluminum, total	144	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	0.1	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	0.45	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	21.9	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	5	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.018	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	9150	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.2	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.113	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	1.6	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	333	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	0.27	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	0.14	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1850	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	35.3	0.05	ug/L	Mar-10-14	Mar-10-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	2.93	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	0.25	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	10	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	750	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	3700	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: City Outfall (4030396-02) [Water] Sampled: Mar-07-14 14:40, Continued

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
<b>Total Recoverable Metals, Continued</b>						
Sodium, total	22500	10	ug/L	Mar-10-14	Mar-10-14	
Strontium, total	62.3	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1700	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	4.5	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.013	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	0.5	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	8	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.09	0.01	ug/L	Mar-10-14	Mar-10-14	
<b>Aggregate Organic Parameters</b>						
EPHw (10-19)	< 100	100	ug/L	Mar-11-14	Mar-13-14	
EPHw (19-32)	< 100	100	ug/L	Mar-11-14	Mar-13-14	
<b>Polycyclic Aromatic Hydrocarbons (PAH)</b>						
Acenaphthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acridine	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Chrysene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluorene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Quinoline	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Surrogate: Naphthalene-d8	55 %	40-96		Mar-11-14	Mar-13-14	
Surrogate: Acenaphthene-d10	57 %	45-92		Mar-11-14	Mar-13-14	
Surrogate: Phenanthrene-d10	63 %	48-90		Mar-11-14	Mar-13-14	
Surrogate: Chrysene-d12	68 %	41-96		Mar-11-14	Mar-13-14	
Surrogate: Perylene-d12	65 %	47-104		Mar-11-14	Mar-13-14	

**Sample / Analysis Qualifiers:**

HT The sample was prepared / analyzed past the recommended holding time.

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0359**

<b>Blank (B4C0359-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-13-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0359-BS2)</b>									
Prepared: Mar-11-14, Analyzed: Mar-13-14									
EPHw (10-19)	2850	100 ug/L	3470		82	63-123			
EPHw (19-32)	4070	100 ug/L	4970		82	51-102			

**Anions, Batch B4C0345**

<b>Blank (B4C0345-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							
<b>LCS (B4C0345-BS1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Alkalinity, Total as CaCO3	2380	2 mg/L	2500		95	81-109			

**Anions, Batch B4C0397**

<b>Blank (B4C0397-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0397-BLK2)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0397-BLK3)</b>									
Prepared: Mar-12-14, Analyzed: Mar-12-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C0397, Continued</b>									
<b>LCS (B4C0397-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Sulfate	15.6	1.0 mg/L	16.0		98	85-115			
<b>LCS (B4C0397-BS2)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Chloride	15.7	0.10 mg/L	16.0		98	85-115			
Sulfate	15.5	1.0 mg/L	16.0		97	85-115			
<b>LCS (B4C0397-BS3)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Chloride	15.9	0.10 mg/L	16.0		99	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			
<b>Duplicate (B4C0397-DUP1)</b>			<b>Source: 4030396-01</b>		Prepared: Mar-11-14, Analyzed: Mar-11-14				
Chloride	35.1	0.10 mg/L		35.0			< 1	10	
Sulfate	3.6	1.0 mg/L		3.6				10	
<b>Anions, Batch B4C0544</b>									
<b>Blank (B4C0544-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Nitrogen, Nitrite as N	< 0.01	0.01 mg/L							
<b>LCS (B4C0544-BS1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Nitrogen, Nitrite as N	0.10	0.01 mg/L	0.100		102	80-120			
<b>Duplicate (B4C0544-DUP1)</b>			<b>Source: 4030396-02</b>		Prepared: Mar-10-14, Analyzed: Mar-10-14				
Nitrogen, Nitrite as N	< 0.01	0.01 mg/L		< 0.01				18	
<b>Dissolved Metals, Batch B4C0296</b>									
<b>Blank (B4C0296-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

**Blank (B4C0296-BLK1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Reference (B4C0296-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, dissolved	24	1 ug/L	23.3		104	58-142			
Antimony, dissolved	5.4	0.05 ug/L	4.30		125	75-125			
Arsenic, dissolved	45.3	0.05 ug/L	43.8		103	81-119			
Barium, dissolved	355	0.1 ug/L	335		106	83-117			
Beryllium, dissolved	22.9	0.01 ug/L	21.3		107	80-120			
Boron, dissolved	194	1 ug/L	174		111	74-117			
Cadmium, dissolved	23.4	0.002 ug/L	22.4		104	83-117			
Calcium, dissolved	879	40 ug/L	769		114	76-124			
Chromium, dissolved	45.1	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.5	0.005 ug/L	12.8		106	76-124			
Copper, dissolved	93.4	0.1 ug/L	84.4		111	84-116			
Iron, dissolved	139	2 ug/L	129		107	74-126			
Lead, dissolved	12.1	0.05 ug/L	11.2		108	72-128			
Lithium, dissolved	11.4	0.05 ug/L	10.4		110	60-140			
Magnesium, dissolved	716	5 ug/L	692		103	81-119			
Manganese, dissolved	36.6	0.05 ug/L	34.5		106	84-116			
Molybdenum, dissolved	44.8	0.01 ug/L	42.6		105	83-117			
Nickel, dissolved	90.1	0.02 ug/L	84.0		107	74-126			
Phosphorus, dissolved	50	10 ug/L	49.5		102	68-132			
Potassium, dissolved	326	10 ug/L	319		102	74-126			
Selenium, dissolved	3.6	0.1 ug/L	3.31		108	70-130			
Sodium, dissolved	1990	10 ug/L	1910		104	72-128			
Strontium, dissolved	92.6	0.1 ug/L	91.6		101	84-113			
Thallium, dissolved	4.27	0.004 ug/L	3.93		109	57-143			
Uranium, dissolved	29.2	0.001 ug/L	26.6		110	85-115			
Vanadium, dissolved	86.9	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	92	1 ug/L	88.1		104	72-128			

**General Parameters, Batch B4C0294**

**Blank (B4C0294-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**Blank (B4C0294-BLK2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0294-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	9.2	0.5 mg/L	10.0		92	80-120			

**LCS (B4C0294-BS2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0294, Continued</b>									
<b>LCS (B4C0294-BS2), Continued</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Organic	8.3	0.5 mg/L	10.0		83	80-120			
<b>General Parameters, Batch B4C0303</b>									
<b>Blank (B4C0303-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Dissolved	< 10	10 mg/L							
<b>Reference (B4C0303-SRM1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Dissolved	228	10 mg/L	240		95	70-130			
<b>General Parameters, Batch B4C0331</b>									
<b>Blank (B4C0331-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0331-BLK2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0331-BLK3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0331-BS1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	20	2 mg/L	23.2		88	83-107			
<b>LCS (B4C0331-BS2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	27	2 mg/L	28.8		95	83-107			
<b>LCS (B4C0331-BS3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	23	2 mg/L	24.0		94	83-107			
<b>Duplicate (B4C0331-DUP3)</b>			<b>Source: 4030396-01</b>		Prepared: Mar-10-14, Analyzed: Mar-11-14				
Solids, Total Suspended	2	2 mg/L		2				26	
<b>General Parameters, Batch B4C0336</b>									
<b>Duplicate (B4C0336-DUP1)</b>			<b>Source: 4030396-02</b>		Prepared: Mar-10-14, Analyzed: Mar-10-14				
pH	7.23	0.01 pH units		7.35			2	4	
<b>Reference (B4C0336-SRM1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
pH	7.03	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C0357</b>									
<b>Blank (B4C0357-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0357-BLK2)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0357-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	0.31	0.01 mg/L	0.385		80	36-114			
<b>General Parameters, Batch B4C0362</b>									

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0362, Continued**

<b>Blank (B4C0362-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0362-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	8.6	0.5 mg/L	10.0		86	80-120			

**General Parameters, Batch B4C0381**

<b>Blank (B4C0381-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C0381-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	9.84	0.020 mg/L	10.0		98	86-111			
<b>Duplicate (B4C0381-DUP1)</b>			<b>Source: 4030396-01</b>		Prepared: Mar-11-14, Analyzed: Mar-11-14				
Nitrogen, Ammonia as N, Total	0.032	0.020 mg/L		0.033				15	

**General Parameters, Batch B4C0434**

<b>Blank (B4C0434-BLK1)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Nitrogen, Nitrate+Nitrite as N	< 0.01	0.01 mg/L							
<b>LCS (B4C0434-BS1)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Nitrogen, Nitrate+Nitrite as N	98.8	0.01 mg/L	100		99	91-108			
<b>Duplicate (B4C0434-DUP1)</b>			<b>Source: 4030396-01</b>		Prepared: Mar-12-14, Analyzed: Mar-12-14				
Nitrogen, Nitrate+Nitrite as N	1.25	0.01 mg/L		1.28			2	15	

**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359**

<b>Blank (B4C0359-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-13-14						
Acenaphthene	< 0.05	0.05 ug/L							
Acenaphthylene	< 0.05	0.05 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.05	0.05 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.05	0.05 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.05	0.05 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.722	ug/L	1.02		71	40-96			
Surrogate: Acenaphthene-d10	0.726	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.734	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.839	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.858	ug/L	0.990		87	47-104			
<b>LCS (B4C0359-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-13-14						
Acenaphthene	0.68	0.05 ug/L	1.00		68	54-92			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359, Continued**

**LCS (B4C0359-BS1), Continued**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Acenaphthylene	0.75	0.02 ug/L	1.00		75	54-95			
Acridine	0.61	0.05 ug/L	1.00		61	49-87			
Anthracene	0.71	0.01 ug/L	1.00		71	53-94			
Benzo (a) anthracene	0.74	0.01 ug/L	1.00		74	52-95			
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103			
Benzo (b) fluoranthene	0.72	0.02 ug/L	1.00		72	49-94			
Benzo (g,h,i) perylene	0.73	0.02 ug/L	1.00		73	51-98			
Benzo (k) fluoranthene	0.76	0.02 ug/L	1.00		76	49-105			
Chrysene	0.80	0.02 ug/L	1.00		80	50-104			
Dibenz (a,h) anthracene	0.72	0.02 ug/L	1.00		72	49-96			
Fluoranthene	0.75	0.02 ug/L	1.00		75	53-102			
Fluorene	0.71	0.02 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.72	0.02 ug/L	1.00		72	51-99			
Naphthalene	0.68	0.05 ug/L	1.00		68	51-91			
Phenanthrene	0.70	0.05 ug/L	1.00		70	56-96			
Pyrene	0.72	0.10 ug/L	1.00		72	51-105			
Quinoline	0.62	0.05 ug/L	1.00		62	48-126			
Surrogate: Naphthalene-d8	0.742	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.713	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.753	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.832	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.771	ug/L	0.990		78	47-104			

**LCS Dup (B4C0359-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Acenaphthene	0.58	0.05 ug/L	1.00		58	54-92	16	20	
Acenaphthylene	0.64	0.05 ug/L	1.00		64	54-95	17	20	
Acridine	0.54	0.10 ug/L	1.00		54	49-87	13	20	
Anthracene	0.59	0.01 ug/L	1.00		59	53-94	18	20	
Benzo (a) anthracene	0.64	0.05 ug/L	1.00		64	52-95	14	20	
Benzo (a) pyrene	0.65	0.01 ug/L	1.00		65	52-103	13	20	
Benzo (b) fluoranthene	0.61	0.02 ug/L	1.00		61	49-94	17	20	
Benzo (g,h,i) perylene	0.62	0.05 ug/L	1.00		62	51-98	16	20	
Benzo (k) fluoranthene	0.66	0.02 ug/L	1.00		66	49-105	13	20	
Chrysene	0.70	0.05 ug/L	1.00		70	50-104	13	20	
Dibenz (a,h) anthracene	0.62	0.05 ug/L	1.00		62	49-96	14	20	
Fluoranthene	0.62	0.02 ug/L	1.00		62	53-102	18	20	
Fluorene	0.60	0.05 ug/L	1.00		60	54-91	16	20	
Indeno (1,2,3-cd) pyrene	0.66	0.02 ug/L	1.00		66	51-99	9	20	
Naphthalene	0.58	0.30 ug/L	1.00		58	51-91	16	20	
Phenanthrene	0.58	0.10 ug/L	1.00		58	56-96	18	20	
Pyrene	0.60	0.02 ug/L	1.00		60	51-105	18	20	
Quinoline	0.55	0.05 ug/L	1.00		55	48-126	11	20	
Surrogate: Naphthalene-d8	0.603	ug/L	1.02		59	40-96			
Surrogate: Acenaphthene-d10	0.584	ug/L	0.995		59	45-92			
Surrogate: Phenanthrene-d10	0.609	ug/L	0.970		63	48-90			
Surrogate: Chrysene-d12	0.712	ug/L	0.950		75	41-96			
Surrogate: Perylene-d12	0.672	ug/L	0.990		68	47-104			

**Total Recoverable Metals, Batch B4C0297**

**Blank (B4C0297-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0297, Continued**

**Blank (B4C0297-BLK1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0297-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	61	1 ug/L	59.2		104	81-129			
Antimony, total	11.1	0.05 ug/L	10.1		110	88-114			
Arsenic, total	25.1	0.05 ug/L	24.4		103	88-114			
Barium, total	159	0.1 ug/L	155		103	72-104			
Beryllium, total	9.40	0.01 ug/L	9.76		96	76-131			
Boron, total	677	1 ug/L	680		100	75-121			
Cadmium, total	10.2	0.002 ug/L	9.80		104	89-111			
Calcium, total	2000	40 ug/L	2040		98	86-121			
Chromium, total	49.4	0.1 ug/L	48.4		102	89-114			
Cobalt, total	7.78	0.005 ug/L	7.32		106	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	98	2 ug/L	93.8		105	77-124			
Lead, total	38.5	0.05 ug/L	38.6		100	92-113			
Lithium, total	76.8	0.05 ug/L	78.0		99	85-115			
Magnesium, total	701	5.0 ug/L	662		106	78-120			
Manganese, total	23.2	0.05 ug/L	21.8		107	90-114			
Mercury, total	0.60	0.01 ug/L	0.912		66	50-150			
Molybdenum, total	40.5	0.01 ug/L	39.4		103	90-111			
Nickel, total	51.2	0.02 ug/L	48.4		106	90-111			
Phosphorus, total	48	10 ug/L	46.6		103	85-115			
Potassium, total	1270	10 ug/L	1190		107	84-113			
Selenium, total	24.3	0.1 ug/L	23.0		106	85-115			
Sodium, total	1610	10 ug/L	1530		105	82-123			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030396  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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*Total Recoverable Metals, Batch B4C0297, Continued*

**Reference (B4C0297-SRM1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Strontium, total	76.7	0.1 ug/L	72.6		106	88-112			
Thallium, total	16.2	0.004 ug/L	15.9		102	91-114			
Uranium, total	3.67	0.001 ug/L	3.84		96	85-120			
Vanadium, total	74.4	0.2 ug/L	75.2		99	86-111			
Zinc, total	506	1 ug/L	484		105	85-111			

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030397
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-08-14 13:20 / 4°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-17-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030397  
Mar-17-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate+Nitrite-N in Water	N/A	APHA 4500-NO3- F	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Potability, IH Comprehensive Pkg	N/A	APHA 1030 E	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030397  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030397-01) [Water] Sampled: Mar-07-14 17:20**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	29	2	mg/L	N/A	Mar-11-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	29	2	mg/L	N/A	Mar-11-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-11-14	
Chloride	23.6	0.10	mg/L	N/A	Mar-11-14	
Sulfate	3.9	1.0	mg/L	N/A	Mar-11-14	

**General Parameters**

Carbon, Total Organic	6.4	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Inorganic	4.8	0.5	mg/L	N/A	Mar-11-14	
Carbon, Dissolved Organic	5.8	0.5	mg/L	N/A	Mar-11-14	HT
Nitrogen, Ammonia as N, Total	0.034	0.020	mg/L	N/A	Mar-11-14	
Nitrogen, Nitrate+Nitrite as N	0.62	0.01	mg/L	N/A	Mar-12-14	
pH	6.87	0.01	pH units	N/A	Mar-08-14	
Solids, Total Dissolved	94	10	mg/L	Mar-10-14	Mar-11-14	
Solids, Total Suspended	4	2	mg/L	Mar-10-14	Mar-11-14	
Sulfide	0.03	0.01	mg/L	N/A	Mar-11-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	30.5	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	30	0.1	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	42	1	ug/L	N/A	Mar-10-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-10-14	
Arsenic, dissolved	0.56	0.05	ug/L	N/A	Mar-10-14	
Barium, dissolved	13.6	0.1	ug/L	N/A	Mar-10-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Boron, dissolved	9	1	ug/L	N/A	Mar-10-14	
Cadmium, dissolved	0.016	0.002	ug/L	N/A	Mar-10-14	
Calcium, dissolved	9450	40	ug/L	N/A	Mar-10-14	
Chromium, dissolved	0.5	0.1	ug/L	N/A	Mar-10-14	
Cobalt, dissolved	0.105	0.005	ug/L	N/A	Mar-10-14	
Copper, dissolved	3.5	0.1	ug/L	N/A	Mar-10-14	
Iron, dissolved	152	2	ug/L	N/A	Mar-10-14	
Lead, dissolved	0.28	0.05	ug/L	N/A	Mar-10-14	
Lithium, dissolved	0.26	0.05	ug/L	N/A	Mar-10-14	
Magnesium, dissolved	1530	5	ug/L	N/A	Mar-10-14	
Manganese, dissolved	29.0	0.05	ug/L	N/A	Mar-10-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Molybdenum, dissolved	0.38	0.01	ug/L	N/A	Mar-10-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030397  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030397-01) [Water] Sampled: Mar-07-14 17:20, Continued**

***Dissolved Metals, Continued***

Nickel, dissolved	0.47	0.02	ug/L	N/A	Mar-10-14	
Phosphorus, dissolved	15	10	ug/L	N/A	Mar-10-14	
Potassium, dissolved	1220	10	ug/L	N/A	Mar-10-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-10-14	
Silicon, dissolved	2700	50	ug/L	N/A	Mar-10-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Sodium, dissolved	15900	10	ug/L	N/A	Mar-10-14	
Strontium, dissolved	56.4	0.1	ug/L	N/A	Mar-10-14	
Sulfur, dissolved	2780	500	ug/L	N/A	Mar-10-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-10-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-10-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-10-14	
Titanium, dissolved	0.9	0.2	ug/L	N/A	Mar-10-14	
Uranium, dissolved	0.013	0.001	ug/L	N/A	Mar-10-14	
Vanadium, dissolved	0.4	0.2	ug/L	N/A	Mar-10-14	
Zinc, dissolved	17	1	ug/L	N/A	Mar-10-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Mar-10-14	

***Total Recoverable Metals***

Aluminum, total	218	1	ug/L	Mar-10-14	Mar-10-14	
Antimony, total	0.4	0.05	ug/L	Mar-10-14	Mar-10-14	
Arsenic, total	0.66	0.05	ug/L	Mar-10-14	Mar-10-14	
Barium, total	14.6	0.1	ug/L	Mar-10-14	Mar-10-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Boron, total	9	1	ug/L	Mar-10-14	Mar-10-14	
Cadmium, total	0.022	0.002	ug/L	Mar-10-14	Mar-10-14	
Calcium, total	9770	40	ug/L	Mar-10-14	Mar-10-14	
Chromium, total	0.7	0.1	ug/L	Mar-10-14	Mar-10-14	
Cobalt, total	0.149	0.005	ug/L	Mar-10-14	Mar-10-14	
Copper, total	4.5	0.1	ug/L	Mar-10-14	Mar-10-14	
Iron, total	337	2	ug/L	Mar-10-14	Mar-10-14	
Lead, total	0.93	0.05	ug/L	Mar-10-14	Mar-10-14	
Lithium, total	0.29	0.05	ug/L	Mar-10-14	Mar-10-14	
Magnesium, total	1470	5.0	ug/L	Mar-10-14	Mar-10-14	
Manganese, total	31.7	0.05	ug/L	Mar-10-14	Mar-10-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Molybdenum, total	0.39	0.01	ug/L	Mar-10-14	Mar-10-14	
Nickel, total	0.56	0.02	ug/L	Mar-10-14	Mar-10-14	
Phosphorus, total	18	10	ug/L	Mar-10-14	Mar-10-14	
Potassium, total	1140	10	ug/L	Mar-10-14	Mar-10-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-10-14	Mar-10-14	
Silicon, total	2800	50	ug/L	Mar-10-14	Mar-10-14	
Silver, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Sodium, total	15200	10	ug/L	Mar-10-14	Mar-10-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030397-01) [Water] Sampled: Mar-07-14 17:20, Continued**

**Total Recoverable Metals, Continued**

Strontium, total	52.9	0.1	ug/L	Mar-10-14	Mar-10-14	
Sulfur, total	1700	500	ug/L	Mar-10-14	Mar-10-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-10-14	Mar-10-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-10-14	Mar-10-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-10-14	Mar-10-14	
Tin, total	0.06	0.05	ug/L	Mar-10-14	Mar-10-14	
Titanium, total	7.9	0.2	ug/L	Mar-10-14	Mar-10-14	
Uranium, total	0.018	0.001	ug/L	Mar-10-14	Mar-10-14	
Vanadium, total	0.7	0.2	ug/L	Mar-10-14	Mar-10-14	
Zinc, total	22	1	ug/L	Mar-10-14	Mar-10-14	
Zirconium, total	0.27	0.01	ug/L	Mar-10-14	Mar-10-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-11-14	Mar-13-14	
EPHw (19-32)	< 100	100	ug/L	Mar-11-14	Mar-13-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Acridine	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-11-14	Mar-13-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Chrysene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Fluorene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Pyrene	< 0.02	0.02	ug/L	Mar-11-14	Mar-13-14	
Quinoline	< 0.05	0.05	ug/L	Mar-11-14	Mar-13-14	
Surrogate: Naphthalene-d8	54 %	40-96		Mar-11-14	Mar-13-14	
Surrogate: Acenaphthene-d10	59 %	45-92		Mar-11-14	Mar-13-14	
Surrogate: Phenanthrene-d10	69 %	48-90		Mar-11-14	Mar-13-14	
Surrogate: Chrysene-d12	74 %	41-96		Mar-11-14	Mar-13-14	
Surrogate: Perylene-d12	71 %	47-104		Mar-11-14	Mar-13-14	

**Sample / Analysis Qualifiers:**

HT The sample was prepared / analyzed past the recommended holding time.

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0359**

<b>Blank (B4C0359-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-13-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0359-BS2)</b>									
Prepared: Mar-11-14, Analyzed: Mar-13-14									
EPHw (10-19)	2850	100 ug/L	3470		82	63-123			
EPHw (19-32)	4070	100 ug/L	4970		82	51-102			

**Anions, Batch B4C0345**

<b>Blank (B4C0345-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							
<b>LCS (B4C0345-BS1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Alkalinity, Total as CaCO3	2380	2 mg/L	2500		95	81-109			

**Anions, Batch B4C0397**

<b>Blank (B4C0397-BLK1)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0397-BLK2)</b>									
Prepared: Mar-11-14, Analyzed: Mar-11-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0397-BLK3)</b>									
Prepared: Mar-12-14, Analyzed: Mar-12-14									
Chloride	< 0.10	0.10 mg/L							
Sulfate	< 1.0	1.0 mg/L							



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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C0397, Continued</b>									
<b>LCS (B4C0397-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Sulfate	15.6	1.0 mg/L	16.0		98	85-115			
<b>LCS (B4C0397-BS2)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Chloride	15.7	0.10 mg/L	16.0		98	85-115			
Sulfate	15.5	1.0 mg/L	16.0		97	85-115			
<b>LCS (B4C0397-BS3)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Chloride	15.9	0.10 mg/L	16.0		99	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			
<b>Dissolved Metals, Batch B4C0296</b>									
<b>Blank (B4C0296-BLK1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							
<b>Reference (B4C0296-SRM1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
Aluminum, dissolved	24	1 ug/L	23.3		104	58-142			
Antimony, dissolved	5.4	0.05 ug/L	4.30		125	75-125			
Arsenic, dissolved	45.3	0.05 ug/L	43.8		103	81-119			

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0296, Continued**

**Reference (B4C0296-SRM1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Barium, dissolved	355	0.1 ug/L	335		106	83-117			
Beryllium, dissolved	22.9	0.01 ug/L	21.3		107	80-120			
Boron, dissolved	194	1 ug/L	174		111	74-117			
Cadmium, dissolved	23.4	0.002 ug/L	22.4		104	83-117			
Calcium, dissolved	879	40 ug/L	769		114	76-124			
Chromium, dissolved	45.1	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.5	0.005 ug/L	12.8		106	76-124			
Copper, dissolved	93.4	0.1 ug/L	84.4		111	84-116			
Iron, dissolved	139	2 ug/L	129		107	74-126			
Lead, dissolved	12.1	0.05 ug/L	11.2		108	72-128			
Lithium, dissolved	11.4	0.05 ug/L	10.4		110	60-140			
Magnesium, dissolved	716	5 ug/L	692		103	81-119			
Manganese, dissolved	36.6	0.05 ug/L	34.5		106	84-116			
Molybdenum, dissolved	44.8	0.01 ug/L	42.6		105	83-117			
Nickel, dissolved	90.1	0.02 ug/L	84.0		107	74-126			
Phosphorus, dissolved	50	10 ug/L	49.5		102	68-132			
Potassium, dissolved	326	10 ug/L	319		102	74-126			
Selenium, dissolved	3.6	0.1 ug/L	3.31		108	70-130			
Sodium, dissolved	1990	10 ug/L	1910		104	72-128			
Strontium, dissolved	92.6	0.1 ug/L	91.6		101	84-113			
Thallium, dissolved	4.27	0.004 ug/L	3.93		109	57-143			
Uranium, dissolved	29.2	0.001 ug/L	26.6		110	85-115			
Vanadium, dissolved	86.9	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	92	1 ug/L	88.1		104	72-128			

**General Parameters, Batch B4C0294**

**Blank (B4C0294-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**Blank (B4C0294-BLK2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0294-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	9.2	0.5 mg/L	10.0		92	80-120			

**LCS (B4C0294-BS2)**

Prepared: Mar-11-14, Analyzed: Mar-11-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
Carbon, Dissolved Organic	8.3	0.5 mg/L	10.0		83	80-120			

**General Parameters, Batch B4C0303**

**Blank (B4C0303-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Reference (B4C0303-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Dissolved	228	10 mg/L	240		95	70-130			
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**General Parameters, Batch B4C0331**

**Blank (B4C0331-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-11-14

Solids, Total Suspended	< 2	2 mg/L							
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0331, Continued</b>									
<b>Blank (B4C0331-BLK2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0331-BLK3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0331-BS1)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	20	2 mg/L	23.2		88	83-107			
<b>LCS (B4C0331-BS2)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	27	2 mg/L	28.8		95	83-107			
<b>LCS (B4C0331-BS3)</b>			Prepared: Mar-10-14, Analyzed: Mar-11-14						
Solids, Total Suspended	23	2 mg/L	24.0		94	83-107			
<b>General Parameters, Batch B4C0336</b>									
<b>Reference (B4C0336-SRM1)</b>			Prepared: Mar-10-14, Analyzed: Mar-10-14						
pH	7.03	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C0357</b>									
<b>Blank (B4C0357-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0357-BLK2)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0357-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Sulfide	0.31	0.01 mg/L	0.385		80	36-114			
<b>General Parameters, Batch B4C0362</b>									
<b>Blank (B4C0362-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0362-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Carbon, Dissolved Inorganic	8.6	0.5 mg/L	10.0		86	80-120			
<b>General Parameters, Batch B4C0381</b>									
<b>Blank (B4C0381-BLK1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C0381-BS1)</b>			Prepared: Mar-11-14, Analyzed: Mar-11-14						
Nitrogen, Ammonia as N, Total	9.84	0.020 mg/L	10.0		98	86-111			
<b>General Parameters, Batch B4C0434</b>									
<b>Blank (B4C0434-BLK1)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Nitrogen, Nitrate+Nitrite as N	< 0.01	0.01 mg/L							
<b>LCS (B4C0434-BS1)</b>			Prepared: Mar-12-14, Analyzed: Mar-12-14						
Nitrogen, Nitrate+Nitrite as N	98.8	0.01 mg/L	100		99	91-108			

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359</b>									
<b>Blank (B4C0359-BLK1)</b>					Prepared: Mar-11-14, Analyzed: Mar-13-14				
Acenaphthene	< 0.05	0.05 ug/L							
Acenaphthylene	< 0.05	0.05 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.05	0.05 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.05	0.05 ug/L							
Chrysene	< 0.05	0.05 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.722	ug/L	1.02		71	40-96			
Surrogate: Acenaphthene-d10	0.726	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.734	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.839	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.858	ug/L	0.990		87	47-104			
<b>LCS (B4C0359-BS1)</b>					Prepared: Mar-11-14, Analyzed: Mar-13-14				
Acenaphthene	0.68	0.02 ug/L	1.00		68	54-92			
Acenaphthylene	0.75	0.05 ug/L	1.00		75	54-95			
Acridine	0.61	0.05 ug/L	1.00		61	49-87			
Anthracene	0.71	0.01 ug/L	1.00		71	53-94			
Benzo (a) anthracene	0.74	0.05 ug/L	1.00		74	52-95			
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103			
Benzo (b) fluoranthene	0.72	0.02 ug/L	1.00		72	49-94			
Benzo (g,h,i) perylene	0.73	0.02 ug/L	1.00		73	51-98			
Benzo (k) fluoranthene	0.76	0.05 ug/L	1.00		76	49-105			
Chrysene	0.80	0.05 ug/L	1.00		80	50-104			
Dibenz (a,h) anthracene	0.72	0.05 ug/L	1.00		72	49-96			
Fluoranthene	0.75	0.05 ug/L	1.00		75	53-102			
Fluorene	0.71	0.02 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.72	0.05 ug/L	1.00		72	51-99			
Naphthalene	0.68	0.30 ug/L	1.00		68	51-91			
Phenanthrene	0.70	0.10 ug/L	1.00		70	56-96			
Pyrene	0.72	0.10 ug/L	1.00		72	51-105			
Quinoline	0.62	0.05 ug/L	1.00		62	48-126			
Surrogate: Naphthalene-d8	0.742	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.713	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.753	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.832	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.771	ug/L	0.990		78	47-104			
<b>LCS Dup (B4C0359-BSD1)</b>					Prepared: Mar-11-14, Analyzed: Mar-13-14				
Acenaphthene	0.58	0.05 ug/L	1.00		58	54-92	16	20	
Acenaphthylene	0.64	0.05 ug/L	1.00		64	54-95	17	20	
Acridine	0.54	0.10 ug/L	1.00		54	49-87	13	20	
Anthracene	0.59	0.01 ug/L	1.00		59	53-94	18	20	
Benzo (a) anthracene	0.64	0.05 ug/L	1.00		64	52-95	14	20	
Benzo (a) pyrene	0.65	0.01 ug/L	1.00		65	52-103	13	20	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030397  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359, Continued**

**LCS Dup (B4C0359-BSD1), Continued**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Benzo (b) fluoranthene	0.61	0.02 ug/L	1.00		61	49-94	17	20	
Benzo (g,h,i) perylene	0.62	0.02 ug/L	1.00		62	51-98	16	20	
Benzo (k) fluoranthene	0.66	0.02 ug/L	1.00		66	49-105	13	20	
Chrysene	0.70	0.02 ug/L	1.00		70	50-104	13	20	
Dibenz (a,h) anthracene	0.62	0.05 ug/L	1.00		62	49-96	14	20	
Fluoranthene	0.62	0.05 ug/L	1.00		62	53-102	18	20	
Fluorene	0.60	0.05 ug/L	1.00		60	54-91	16	20	
Indeno (1,2,3-cd) pyrene	0.66	0.05 ug/L	1.00		66	51-99	9	20	
Naphthalene	0.58	0.30 ug/L	1.00		58	51-91	16	20	
Phenanthrene	0.58	0.05 ug/L	1.00		58	56-96	18	20	
Pyrene	0.60	0.10 ug/L	1.00		60	51-105	18	20	
Quinoline	0.55	0.05 ug/L	1.00		55	48-126	11	20	
Surrogate: Naphthalene-d8	0.603	ug/L	1.02		59	40-96			
Surrogate: Acenaphthene-d10	0.584	ug/L	0.995		59	45-92			
Surrogate: Phenanthrene-d10	0.609	ug/L	0.970		63	48-90			
Surrogate: Chrysene-d12	0.712	ug/L	0.950		75	41-96			
Surrogate: Perylene-d12	0.672	ug/L	0.990		68	47-104			

**Total Recoverable Metals, Batch B4C0297**

**Blank (B4C0297-BLK1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030397  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0297, Continued**

**Blank (B4C0297-BLK1), Continued**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0297-SRM1)**

Prepared: Mar-10-14, Analyzed: Mar-10-14

Aluminum, total	61	1 ug/L	59.2		104	81-129			
Antimony, total	11.1	0.05 ug/L	10.1		110	88-114			
Arsenic, total	25.1	0.05 ug/L	24.4		103	88-114			
Barium, total	159	0.1 ug/L	155		103	72-104			
Beryllium, total	9.40	0.01 ug/L	9.76		96	76-131			
Boron, total	677	1 ug/L	680		100	75-121			
Cadmium, total	10.2	0.002 ug/L	9.80		104	89-111			
Calcium, total	2000	40 ug/L	2040		98	86-121			
Chromium, total	49.4	0.1 ug/L	48.4		102	89-114			
Cobalt, total	7.78	0.005 ug/L	7.32		106	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	98	2 ug/L	93.8		105	77-124			
Lead, total	38.5	0.05 ug/L	38.6		100	92-113			
Lithium, total	76.8	0.05 ug/L	78.0		99	85-115			
Magnesium, total	701	5.0 ug/L	662		106	78-120			
Manganese, total	23.2	0.05 ug/L	21.8		107	90-114			
Mercury, total	0.60	0.01 ug/L	0.912		66	50-150			
Molybdenum, total	40.5	0.01 ug/L	39.4		103	90-111			
Nickel, total	51.2	0.02 ug/L	48.4		106	90-111			
Phosphorus, total	48	10 ug/L	46.6		103	85-115			
Potassium, total	1270	10 ug/L	1190		107	84-113			
Selenium, total	24.3	0.1 ug/L	23.0		106	85-115			
Sodium, total	1610	10 ug/L	1530		105	82-123			
Strontium, total	76.7	0.1 ug/L	72.6		106	88-112			
Thallium, total	16.2	0.004 ug/L	15.9		102	91-114			
Uranium, total	3.67	0.001 ug/L	3.84		96	85-120			
Vanadium, total	74.4	0.2 ug/L	75.2		99	86-111			
Zinc, total	506	1 ug/L	484		105	85-111			

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030613
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-12-14 12:20 / 4°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-14-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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17225 109 Avenue  
Edmonton, AB T5S 1H7  
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[www.caro.ca](http://www.caro.ca)

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Richmond
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre
uS/cm	Microsiemens per centimeter



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030613-01) [Water] Sampled: Mar-11-14 15:00**

**Anions**

Alkalinity, Total as CaCO3	52	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Bicarbonate as CaCO3	52	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Chloride	15.8	0.10	mg/L	N/A	Mar-13-14	
Nitrogen, Nitrate as N	< 0.010	0.010	mg/L	N/A	Mar-13-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-13-14	
Sulfate	< 1.0	1.0	mg/L	N/A	Mar-13-14	

**General Parameters**

Carbon, Total Organic	< 0.5	0.5	mg/L	N/A	Mar-13-14	
Carbon, Dissolved Inorganic	12.9	0.5	mg/L	N/A	Mar-13-14	
Carbon, Dissolved Organic	< 0.5	0.5	mg/L	N/A	Mar-13-14	
Conductivity (EC)	158	2	uS/cm	Mar-13-14	Mar-13-14	
Nitrogen, Ammonia as N, Total	0.186	0.020	mg/L	N/A	Mar-13-14	
pH	6.68	0.01	pH units	N/A	Mar-13-14	
Solids, Total Dissolved	94	10	mg/L	N/A	Mar-13-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-13-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-13-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	30.9	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	30	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.020	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	25	1	ug/L	N/A	Mar-12-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-12-14	
Arsenic, dissolved	1.42	0.05	ug/L	N/A	Mar-12-14	
Barium, dissolved	23.0	0.1	ug/L	N/A	Mar-12-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	
Boron, dissolved	< 1	1	ug/L	N/A	Mar-12-14	
Cadmium, dissolved	< 0.002	0.002	ug/L	N/A	Mar-12-14	
Calcium, dissolved	8990	40	ug/L	N/A	Mar-12-14	
Chromium, dissolved	0.1	0.1	ug/L	N/A	Mar-12-14	
Cobalt, dissolved	0.494	0.005	ug/L	N/A	Mar-12-14	
Copper, dissolved	0.1	0.1	ug/L	N/A	Mar-12-14	
Iron, dissolved	9	2	ug/L	N/A	Mar-12-14	
Lead, dissolved	0.08	0.05	ug/L	N/A	Mar-12-14	
Lithium, dissolved	0.70	0.05	ug/L	N/A	Mar-12-14	
Magnesium, dissolved	1840	5	ug/L	N/A	Mar-12-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030613-01) [Water] Sampled: Mar-11-14 15:00, Continued**

***Dissolved Metals, Continued***

Manganese, dissolved	116	0.05	ug/L	N/A	Mar-12-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	
Molybdenum, dissolved	0.18	0.01	ug/L	N/A	Mar-12-14	
Nickel, dissolved	2.36	0.02	ug/L	N/A	Mar-12-14	
Phosphorus, dissolved	69	10	ug/L	N/A	Mar-12-14	
Potassium, dissolved	3020	10	ug/L	N/A	Mar-12-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-12-14	
Silicon, dissolved	3540	50	ug/L	N/A	Mar-12-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	
Sodium, dissolved	17800	10	ug/L	N/A	Mar-12-14	
Strontium, dissolved	69.3	0.1	ug/L	N/A	Mar-12-14	
Sulfur, dissolved	< 500	500	ug/L	N/A	Mar-12-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-12-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-12-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	
Tin, dissolved	0.10	0.05	ug/L	N/A	Mar-12-14	
Titanium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-12-14	
Uranium, dissolved	0.001	0.001	ug/L	N/A	Mar-12-14	
Vanadium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-12-14	
Zinc, dissolved	4	1	ug/L	N/A	Mar-12-14	
Zirconium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-12-14	

***Total Recoverable Metals***

Aluminum, total	37	1	ug/L	Mar-12-14	Mar-12-14	
Antimony, total	0.4	0.05	ug/L	Mar-12-14	Mar-12-14	
Arsenic, total	1.48	0.05	ug/L	Mar-12-14	Mar-12-14	
Barium, total	23.1	0.1	ug/L	Mar-12-14	Mar-12-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	
Boron, total	< 1	1	ug/L	Mar-12-14	Mar-12-14	
Cadmium, total	< 0.002	0.002	ug/L	Mar-12-14	Mar-12-14	
Calcium, total	9280	40	ug/L	Mar-12-14	Mar-12-14	
Chromium, total	< 0.1	0.1	ug/L	Mar-12-14	Mar-12-14	
Cobalt, total	0.497	0.005	ug/L	Mar-12-14	Mar-12-14	
Copper, total	0.2	0.1	ug/L	Mar-12-14	Mar-12-14	
Iron, total	25	2	ug/L	Mar-12-14	Mar-12-14	
Lead, total	0.15	0.05	ug/L	Mar-12-14	Mar-12-14	
Lithium, total	0.78	0.05	ug/L	Mar-12-14	Mar-12-14	
Magnesium, total	1880	5.0	ug/L	Mar-12-14	Mar-12-14	
Manganese, total	113	0.05	ug/L	Mar-12-14	Mar-12-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	
Molybdenum, total	0.17	0.01	ug/L	Mar-12-14	Mar-12-14	
Nickel, total	2.61	0.02	ug/L	Mar-12-14	Mar-12-14	
Phosphorus, total	75	10	ug/L	Mar-12-14	Mar-12-14	
Potassium, total	2810	10	ug/L	Mar-12-14	Mar-12-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-12-14	Mar-12-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030613-01) [Water] Sampled: Mar-11-14 15:00, Continued**

**Total Recoverable Metals, Continued**

Silicon, total	3600	50	ug/L	Mar-12-14	Mar-12-14	
Silver, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	
Sodium, total	18100	10	ug/L	Mar-12-14	Mar-12-14	
Strontium, total	71.8	0.1	ug/L	Mar-12-14	Mar-12-14	
Sulfur, total	< 500	500	ug/L	Mar-12-14	Mar-12-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-12-14	Mar-12-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-12-14	Mar-12-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	
Tin, total	0.08	0.05	ug/L	Mar-12-14	Mar-12-14	
Titanium, total	0.7	0.2	ug/L	Mar-12-14	Mar-12-14	
Uranium, total	0.002	0.001	ug/L	Mar-12-14	Mar-12-14	
Vanadium, total	< 0.2	0.2	ug/L	Mar-12-14	Mar-12-14	
Zinc, total	2	1	ug/L	Mar-12-14	Mar-12-14	
Zirconium, total	< 0.01	0.01	ug/L	Mar-12-14	Mar-12-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Acridine	< 0.05	0.05	ug/L	Mar-12-14	Mar-13-14	
Anthracene	< 0.01	0.01	ug/L	Mar-12-14	Mar-13-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-12-14	Mar-13-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-12-14	Mar-13-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Chrysene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Fluorene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-12-14	Mar-13-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-12-14	Mar-13-14	
Pyrene	< 0.02	0.02	ug/L	Mar-12-14	Mar-13-14	
Quinoline	< 0.05	0.05	ug/L	Mar-12-14	Mar-13-14	
Surrogate: Naphthalene-d8	80 %	40-96		Mar-12-14	Mar-13-14	
Surrogate: Acenaphthene-d10	81 %	45-92		Mar-12-14	Mar-13-14	
Surrogate: Phenanthrene-d10	84 %	48-90		Mar-12-14	Mar-13-14	
Surrogate: Chrysene-d12	88 %	41-96		Mar-12-14	Mar-13-14	
Surrogate: Perylene-d12	90 %	47-104		Mar-12-14	Mar-13-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0359**

**Blank (B4C0359-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4C0359-BS2)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

EPHw (10-19)	2850	100 ug/L	3470		82	63-123			
EPHw (19-32)	4070	100 ug/L	4970		82	51-102			

**Anions, Batch B4C0499**

**Blank (B4C0499-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Duplicate (B4C0499-DUP1)**

Source: 4030613-01

Prepared: Mar-13-14, Analyzed: Mar-13-14

Alkalinity, Total as CaCO3	54	2 mg/L	52				2	12	
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L	< 2					12	
Alkalinity, Bicarbonate as CaCO3	54	2 mg/L	52				2	12	
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L	< 2					12	
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L	< 2					12	

**Anions, Batch B4C0508**

**Blank (B4C0508-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Anions, Batch B4C0508, Continued**

**LCS (B4C0508-BS1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	3.98	0.010 mg/L	4.00		99	85-115			
Nitrogen, Nitrite as N	1.84	0.010 mg/L	2.00		92	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			

**Duplicate (B4C0508-DUP1)**

Source: 4030613-01

Prepared: Mar-13-14, Analyzed: Mar-13-14

Chloride	15.9	0.10 mg/L		15.8			< 1	10	
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L		< 0.010				10	
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L		< 0.010				10	
Sulfate	< 1.0	1.0 mg/L		< 1.0				10	

**Dissolved Metals, Batch B4C0447**

**Blank (B4C0447-BLK1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Duplicate (B4C0447-DUP1)**

Source: 4030613-01

Prepared: Mar-12-14, Analyzed: Mar-12-14

Aluminum, dissolved	26	1 ug/L		25			1	14	
Antimony, dissolved	0.4	0.05 ug/L		0.4			3	31	
Arsenic, dissolved	1.43	0.05 ug/L		1.42			< 1	13	

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Dissolved Metals, Batch B4C0447, Continued</b>									
<b>Duplicate (B4C0447-DUP1), Continued</b>		<b>Source: 4030613-01</b>		<b>Prepared: Mar-12-14, Analyzed: Mar-12-14</b>					
Barium, dissolved	23.5	0.1 ug/L		23.0			2	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	< 1	1 ug/L		< 1				14	
Cadmium, dissolved	0.002	0.002 ug/L		0.002				16	
Calcium, dissolved	9210	40 ug/L		8990			2	10	
Chromium, dissolved	0.1	0.1 ug/L		0.1				11	
Cobalt, dissolved	0.503	0.005 ug/L		0.494			2	16	
Copper, dissolved	0.1	0.1 ug/L		0.1				27	
Iron, dissolved	9	2 ug/L		9				14	
Lead, dissolved	0.07	0.05 ug/L		0.08				20	
Lithium, dissolved	0.73	0.05 ug/L		0.70			4	20	
Magnesium, dissolved	1900	5 ug/L		1840			3	11	
Manganese, dissolved	119	0.05 ug/L		116			2	15	
Mercury, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Molybdenum, dissolved	0.18	0.01 ug/L		0.18			3	17	
Nickel, dissolved	2.44	0.02 ug/L		2.36			3	23	
Phosphorus, dissolved	73	10 ug/L		69			6	15	
Potassium, dissolved	3100	10 ug/L		3020			3	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	3640	50 ug/L		3540			3	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	18300	10 ug/L		17800			3	10	
Strontium, dissolved	71.1	0.1 ug/L		69.3			3	12	
Sulfur, dissolved	< 500	500 ug/L		< 500				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	0.10	0.05 ug/L		0.10				30	
Titanium, dissolved	< 0.2	0.2 ug/L		0.2				15	
Uranium, dissolved	0.001	0.001 ug/L		0.001				16	
Vanadium, dissolved	0.2	0.2 ug/L		0.2				10	
Zinc, dissolved	2	1 ug/L		4				15	
Zirconium, dissolved	< 0.01	0.01 ug/L		< 0.01				39	
<b>Matrix Spike (B4C0447-MS1)</b>		<b>Source: 4030613-01</b>		<b>Prepared: Mar-12-14, Analyzed: Mar-12-14</b>					
Antimony, dissolved	41.1	0.05 ug/L	40.0	0.4	102	81-114			
Arsenic, dissolved	21.0	0.05 ug/L	20.0	1.42	98	89-115			
Barium, dissolved	121	0.1 ug/L	100	23.0	98	86-115			
Beryllium, dissolved	9.70	0.01 ug/L	10.0	< 0.01	97	77-124			
Cadmium, dissolved	9.87	0.002 ug/L	10.0	0.002	99	82-126			
Chromium, dissolved	40.2	0.1 ug/L	40.0	0.1	100	85-117			
Cobalt, dissolved	40.6	0.005 ug/L	40.0	0.494	100	76-131			
Copper, dissolved	40.3	0.1 ug/L	40.0	0.1	101	88-113			
Iron, dissolved	212	2 ug/L	200	9	101	80-115			
Lead, dissolved	18.5	0.05 ug/L	20.0	0.08	92	84-121			
Manganese, dissolved	158	0.05 ug/L	40.0	116	104	75-135			
Nickel, dissolved	41.6	0.02 ug/L	40.0	2.36	98	83-121			
Selenium, dissolved	10.5	0.1 ug/L	10.0	< 0.1	105	91-122			
Silver, dissolved	9.52	0.01 ug/L	10.0	< 0.01	95	74-120			
Thallium, dissolved	9.27	0.004 ug/L	10.0	< 0.004	93	79-119			
Vanadium, dissolved	40.4	0.2 ug/L	40.0	0.2	101	80-115			
Zinc, dissolved	102	1 ug/L	100	4	98	89-123			
<b>Reference (B4C0447-SRM1)</b>				<b>Prepared: Mar-12-14, Analyzed: Mar-12-14</b>					
Aluminum, dissolved	24	1 ug/L	23.3		105	58-142			
Antimony, dissolved	5.2	0.05 ug/L	4.30		122	75-125			

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0447, Continued**

**Reference (B4C0447-SRM1), Continued**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Arsenic, dissolved	44.3	0.05 ug/L	43.8		101	81-119			
Barium, dissolved	355	0.1 ug/L	335		106	83-117			
Beryllium, dissolved	21.6	0.01 ug/L	21.3		101	80-120			
Boron, dissolved	191	1 ug/L	174		110	74-117			
Cadmium, dissolved	22.2	0.002 ug/L	22.4		99	83-117			
Calcium, dissolved	812	40 ug/L	769		106	76-124			
Chromium, dissolved	44.8	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.4	0.005 ug/L	12.8		105	76-124			
Copper, dissolved	91.0	0.1 ug/L	84.4		108	84-116			
Iron, dissolved	135	2 ug/L	129		105	74-126			
Lead, dissolved	10.9	0.05 ug/L	11.2		98	72-128			
Lithium, dissolved	10.8	0.05 ug/L	10.4		104	60-140			
Magnesium, dissolved	717	5 ug/L	692		104	81-119			
Manganese, dissolved	35.6	0.05 ug/L	34.5		103	84-116			
Molybdenum, dissolved	43.4	0.01 ug/L	42.6		102	83-117			
Nickel, dissolved	86.4	0.02 ug/L	84.0		103	74-126			
Phosphorus, dissolved	51	10 ug/L	49.5		103	68-132			
Potassium, dissolved	328	10 ug/L	319		103	74-126			
Selenium, dissolved	3.3	0.1 ug/L	3.31		100	70-130			
Sodium, dissolved	2030	10 ug/L	1910		106	72-128			
Strontium, dissolved	92.7	0.1 ug/L	91.6		101	84-113			
Thallium, dissolved	3.83	0.004 ug/L	3.93		98	57-143			
Uranium, dissolved	26.2	0.001 ug/L	26.6		99	85-115			
Vanadium, dissolved	89.2	0.2 ug/L	86.9		103	87-113			
Zinc, dissolved	90	1 ug/L	88.1		102	72-128			

**General Parameters, Batch B4C0440**

**Blank (B4C0440-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0440-BS1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Solids, Total Suspended	47	2 mg/L	50.0		94	83-107			
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**General Parameters, Batch B4C0465**

**Blank (B4C0465-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Duplicate (B4C0465-DUP1)**

Source: 4030613-01

Prepared: Mar-13-14, Analyzed: Mar-13-14

Solids, Total Dissolved	96	10 mg/L	94		2	11			
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**Reference (B4C0465-SRM1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Solids, Total Dissolved	251	10 mg/L	240		105	70-130			
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**General Parameters, Batch B4C0482**

**Blank (B4C0482-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**Blank (B4C0482-BLK2)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**LCS (B4C0482-BS1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Nitrogen, Ammonia as N, Total	10.1	0.020 mg/L	10.0		101	86-111			
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0482, Continued</b>									
<b>LCS (B4C0482-BS2)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L	10.0			86-111			
<b>General Parameters, Batch B4C0496</b>									
<b>Blank (B4C0496-BLK1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	< 2	2 uS/cm							
<b>LCS (B4C0496-BS1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	149	2 uS/cm	147		101	88-112			
<b>LCS (B4C0496-BS2)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	1400	2 uS/cm	1410		99	88-112			
<b>Reference (B4C0496-SRM1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	504	2 uS/cm	500		101	90-110			
<b>General Parameters, Batch B4C0497</b>									
<b>Reference (B4C0497-SRM1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
pH	7.03	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C0505</b>									
<b>Blank (B4C0505-BLK1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0505-BLK2)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0505-BS1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Sulfide	0.35	0.01 mg/L	0.385		91	36-114			
<b>Matrix Spike (B4C0505-MS1)</b>			<b>Source: 4030613-01</b>		Prepared: Mar-13-14, Analyzed: Mar-13-14				
Sulfide	0.28	0.01 mg/L	0.250	0.02	107	77-117			
<b>General Parameters, Batch B4C0528</b>									
<b>Blank (B4C0528-BLK1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							
<b>LCS (B4C0528-BS1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Carbon, Total Organic	8.4	0.5 mg/L	10.0		84	78-116			
Carbon, Dissolved Organic	9.8	0.5 mg/L	10.0		98	80-120			
<b>Duplicate (B4C0528-DUP1)</b>			<b>Source: 4030613-01</b>		Prepared: Mar-13-14, Analyzed: Mar-13-14				
Carbon, Total Organic	< 0.5	0.5 mg/L		< 0.5				16	
Carbon, Dissolved Organic	< 0.5	0.5 mg/L		< 0.5				15	
<b>General Parameters, Batch B4C0529</b>									
<b>Blank (B4C0529-BLK1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							



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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0529, Continued**

**LCS (B4C0529-BS1)**

Prepared: Mar-13-14, Analyzed: Mar-13-14

Carbon, Dissolved Inorganic	9.3	0.5 mg/L	10.0		93	80-120			
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**Duplicate (B4C0529-DUP1)**

Source: 4030613-01

Prepared: Mar-13-14, Analyzed: Mar-13-14

Carbon, Dissolved Inorganic	12.8	0.5 mg/L		12.9			< 1	20	
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359**

**Blank (B4C0359-BLK1)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.05	0.05 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.05	0.05 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.05	0.05 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.05	0.05 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.05	0.05 ug/L							
Naphthalene	< 0.30	0.30 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.722	ug/L	1.02		71	40-96			
Surrogate: Acenaphthene-d10	0.726	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.734	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.839	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.858	ug/L	0.990		87	47-104			

**LCS (B4C0359-BS1)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Acenaphthene	0.68	0.02 ug/L	1.00		68	54-92			
Acenaphthylene	0.75	0.05 ug/L	1.00		75	54-95			
Acridine	0.61	0.10 ug/L	1.00		61	49-87			
Anthracene	0.71	0.05 ug/L	1.00		71	53-94			
Benzo (a) anthracene	0.74	0.05 ug/L	1.00		74	52-95			
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103			
Benzo (b) fluoranthene	0.72	0.05 ug/L	1.00		72	49-94			
Benzo (g,h,i) perylene	0.73	0.02 ug/L	1.00		73	51-98			
Benzo (k) fluoranthene	0.76	0.05 ug/L	1.00		76	49-105			
Chrysene	0.80	0.05 ug/L	1.00		80	50-104			
Dibenz (a,h) anthracene	0.72	0.05 ug/L	1.00		72	49-96			
Fluoranthene	0.75	0.02 ug/L	1.00		75	53-102			
Fluorene	0.71	0.05 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.72	0.05 ug/L	1.00		72	51-99			
Naphthalene	0.68	0.05 ug/L	1.00		68	51-91			
Phenanthrene	0.70	0.05 ug/L	1.00		70	56-96			
Pyrene	0.72	0.10 ug/L	1.00		72	51-105			
Quinoline	0.62	0.05 ug/L	1.00		62	48-126			
Surrogate: Naphthalene-d8	0.742	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.713	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.753	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.832	ug/L	0.950		88	41-96			
Surrogate: Perylene-d12	0.771	ug/L	0.990		78	47-104			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0359, Continued**

**LCS Dup (B4C0359-BSD1)**

Prepared: Mar-11-14, Analyzed: Mar-13-14

Acenaphthene	0.58	0.02 ug/L	1.00		58	54-92	16	20	
Acenaphthylene	0.64	0.02 ug/L	1.00		64	54-95	17	20	
Acridine	0.54	0.10 ug/L	1.00		54	49-87	13	20	
Anthracene	0.59	0.05 ug/L	1.00		59	53-94	18	20	
Benzo (a) anthracene	0.64	0.05 ug/L	1.00		64	52-95	14	20	
Benzo (a) pyrene	0.65	0.01 ug/L	1.00		65	52-103	13	20	
Benzo (b) fluoranthene	0.61	0.05 ug/L	1.00		61	49-94	17	20	
Benzo (g,h,i) perylene	0.62	0.05 ug/L	1.00		62	51-98	16	20	
Benzo (k) fluoranthene	0.66	0.05 ug/L	1.00		66	49-105	13	20	
Chrysene	0.70	0.05 ug/L	1.00		70	50-104	13	20	
Dibenz (a,h) anthracene	0.62	0.05 ug/L	1.00		62	49-96	14	20	
Fluoranthene	0.62	0.02 ug/L	1.00		62	53-102	18	20	
Fluorene	0.60	0.02 ug/L	1.00		60	54-91	16	20	
Indeno (1,2,3-cd) pyrene	0.66	0.02 ug/L	1.00		66	51-99	9	20	
Naphthalene	0.58	0.05 ug/L	1.00		58	51-91	16	20	
Phenanthrene	0.58	0.05 ug/L	1.00		58	56-96	18	20	
Pyrene	0.60	0.10 ug/L	1.00		60	51-105	18	20	
Quinoline	0.55	0.10 ug/L	1.00		55	48-126	11	20	
Surrogate: Naphthalene-d8	0.603	ug/L	1.02		59	40-96			
Surrogate: Acenaphthene-d10	0.584	ug/L	0.995		59	45-92			
Surrogate: Phenanthrene-d10	0.609	ug/L	0.970		63	48-90			
Surrogate: Chrysene-d12	0.712	ug/L	0.950		75	41-96			
Surrogate: Perylene-d12	0.672	ug/L	0.990		68	47-104			

**Total Recoverable Metals, Batch B4C0448**

**Blank (B4C0448-BLK1)**

Prepared: Mar-12-14, Analyzed: Mar-12-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Total Recoverable Metals, Batch B4C0448, Continued</b>									
<b>Blank (B4C0448-BLK1), Continued</b>					Prepared: Mar-12-14, Analyzed: Mar-12-14				
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							
<b>Duplicate (B4C0448-DUP1)</b>			<b>Source: 4030613-01</b>		Prepared: Mar-12-14, Analyzed: Mar-12-14				
Aluminum, total	38	1 ug/L		37			< 1	28	
Antimony, total	0.5	0.05 ug/L		0.4			2	36	
Arsenic, total	1.47	0.05 ug/L		1.48			< 1	18	
Barium, total	22.7	0.1 ug/L		23.1			2	8	
Beryllium, total	< 0.01	0.01 ug/L		< 0.01				29	
Bismuth, total	< 0.01	0.01 ug/L		< 0.01				46	
Boron, total	< 1	1 ug/L		< 1				40	
Cadmium, total	0.003	0.002 ug/L		0.002				43	
Calcium, total	9260	40 ug/L		9280			< 1	10	
Chromium, total	< 0.1	0.1 ug/L		< 0.1				23	
Cobalt, total	0.493	0.005 ug/L		0.497			< 1	18	
Copper, total	0.2	0.1 ug/L		0.2				33	
Iron, total	25	2 ug/L		25			4	16	
Lead, total	0.15	0.05 ug/L		0.15				26	
Lithium, total	0.77	0.05 ug/L		0.78			< 1	20	
Magnesium, total	1860	5.0 ug/L		1880			1	7	
Manganese, total	113	0.05 ug/L		113			< 1	10	
Mercury, total	< 0.01	0.01 ug/L		< 0.01				40	
Molybdenum, total	0.18	0.01 ug/L		0.17			3	26	
Nickel, total	2.58	0.02 ug/L		2.61			1	20	
Phosphorus, total	75	10 ug/L		75			< 1	32	
Potassium, total	2800	10 ug/L		2810			< 1	15	
Selenium, total	< 0.1	0.1 ug/L		< 0.1				25	
Silicon, total	3580	50 ug/L		3620			1	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	18000	10 ug/L		18100			< 1	11	
Strontium, total	71.7	0.1 ug/L		71.8			< 1	8	
Sulfur, total	< 500	500 ug/L		< 500				20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	< 0.004	0.004 ug/L		< 0.004				30	
Thorium, total	< 0.01	0.01 ug/L		< 0.01				50	
Tin, total	0.09	0.05 ug/L		0.08				19	
Titanium, total	0.5	0.2 ug/L		0.7				42	
Uranium, total	0.002	0.001 ug/L		0.002				12	
Vanadium, total	0.2	0.2 ug/L		0.2				21	
Zinc, total	5	1 ug/L		2			68	33	RPD
Zirconium, total	0.02	0.01 ug/L		< 0.01				41	
<b>Matrix Spike (B4C0448-MS1)</b>			<b>Source: 4030613-01</b>		Prepared: Mar-12-14, Analyzed: Mar-12-14				
Antimony, total	40.0	0.05 ug/L	40.0	0.4	99	80-120			
Arsenic, total	20.6	0.05 ug/L	20.0	1.48	96	80-120			
Barium, total	119	0.1 ug/L	100	23.1	96	80-120			
Beryllium, total	9.63	0.01 ug/L	10.0	< 0.01	96	80-120			
Cadmium, total	9.68	0.002 ug/L	10.0	0.002	97	80-120			
Chromium, total	39.4	0.1 ug/L	40.0	< 0.1	98	80-120			
Cobalt, total	39.8	0.005 ug/L	40.0	0.497	98	80-120			
Copper, total	39.8	0.1 ug/L	40.0	0.2	99	80-120			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030613  
Mar-14-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0448, Continued**

Matrix Spike (B4C0448-MS1), Continued	Source: 4030613-01		Prepared: Mar-12-14, Analyzed: Mar-12-14						
Iron, total	226	2 ug/L	200	25	100	80-120			
Lead, total	18.5	0.05 ug/L	20.0	0.15	92	80-120			
Manganese, total	156	0.05 ug/L	40.0	113	107	80-120			
Nickel, total	41.3	0.02 ug/L	40.0	2.61	97	80-120			
Selenium, total	9.8	0.1 ug/L	10.0	< 0.1	98	80-120			
Silver, total	9.28	0.01 ug/L	10.0	< 0.01	93	80-120			
Thallium, total	9.20	0.004 ug/L	10.0	< 0.004	92	80-120			
Vanadium, total	39.8	0.2 ug/L	40.0	0.2	99	80-120			
Zinc, total	100	1 ug/L	100	2	98	80-120			

Reference (B4C0448-SRM1)	Prepared: Mar-12-14, Analyzed: Mar-12-14								
Aluminum, total	63	1 ug/L	59.2		106	81-129			
Antimony, total	11.0	0.05 ug/L	10.1		109	88-114			
Arsenic, total	25.5	0.05 ug/L	24.4		105	88-114			
Barium, total	157	0.1 ug/L	155		101	72-104			
Beryllium, total	10.2	0.01 ug/L	9.76		104	76-131			
Boron, total	756	1 ug/L	680		111	75-121			
Cadmium, total	10.0	0.002 ug/L	9.80		102	89-111			
Calcium, total	2140	40 ug/L	2040		105	86-121			
Chromium, total	50.7	0.1 ug/L	48.4		105	89-114			
Cobalt, total	7.93	0.005 ug/L	7.32		108	91-113			
Copper, total	105	0.1 ug/L	97.4		108	91-115			
Iron, total	103	2 ug/L	93.8		110	77-124			
Lead, total	39.8	0.05 ug/L	38.6		103	92-113			
Lithium, total	84.2	0.05 ug/L	78.0		108	85-115			
Magnesium, total	718	5.0 ug/L	662		108	78-120			
Manganese, total	22.5	0.05 ug/L	21.8		103	90-114			
Mercury, total	0.73	0.01 ug/L	0.912		80	50-150			
Molybdenum, total	40.6	0.01 ug/L	39.4		103	90-111			
Nickel, total	50.8	0.02 ug/L	48.4		105	90-111			
Phosphorus, total	43	10 ug/L	46.6		92	85-115			
Potassium, total	1290	10 ug/L	1190		109	84-113			
Selenium, total	24.3	0.1 ug/L	23.0		106	85-115			
Sodium, total	1680	10 ug/L	1530		110	82-123			
Strontium, total	77.0	0.1 ug/L	72.6		106	88-112			
Thallium, total	16.7	0.004 ug/L	15.9		105	91-114			
Uranium, total	3.78	0.001 ug/L	3.84		98	85-120			
Vanadium, total	77.8	0.2 ug/L	75.2		104	86-111			
Zinc, total	512	1 ug/L	484		106	85-111			

**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030674
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-13-14 10:57 / 1°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-17-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Potability, IH Comprehensive Pkg	N/A	APHA 1030 E	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030674-01) [Water] Sampled: Mar-12-14 14:15**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	33	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	33	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Chloride	23.3	0.10	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrate as N	0.624	0.010	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-14-14	
Sulfate	5.0	1.0	mg/L	N/A	Mar-14-14	

**General Parameters**

Carbon, Total Organic	8.9	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Inorganic	7.1	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Organic	8.5	0.5	mg/L	N/A	Mar-14-14	
Nitrogen, Ammonia as N, Total	< 0.020	0.020	mg/L	N/A	Mar-14-14	
pH	7.00	0.01	pH units	N/A	Mar-14-14	
Solids, Total Dissolved	78	10	mg/L	N/A	Mar-15-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-15-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-14-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	40.0	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	38	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.624	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	52	1	ug/L	N/A	Mar-14-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-14-14	
Arsenic, dissolved	0.53	0.05	ug/L	N/A	Mar-14-14	
Barium, dissolved	14.2	0.1	ug/L	N/A	Mar-14-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Boron, dissolved	11	1	ug/L	N/A	Mar-14-14	
Cadmium, dissolved	0.009	0.002	ug/L	N/A	Mar-14-14	
Calcium, dissolved	12300	40	ug/L	N/A	Mar-14-14	
Chromium, dissolved	0.4	0.1	ug/L	N/A	Mar-14-14	
Cobalt, dissolved	0.099	0.005	ug/L	N/A	Mar-14-14	
Copper, dissolved	2.6	0.1	ug/L	N/A	Mar-14-14	
Iron, dissolved	231	2	ug/L	N/A	Mar-14-14	
Lead, dissolved	0.45	0.05	ug/L	N/A	Mar-14-14	
Lithium, dissolved	0.28	0.05	ug/L	N/A	Mar-14-14	
Magnesium, dissolved	1880	5	ug/L	N/A	Mar-14-14	
Manganese, dissolved	31.0	0.05	ug/L	N/A	Mar-14-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030674-01) [Water] Sampled: Mar-12-14 14:15, Continued**

***Dissolved Metals, Continued***

Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Molybdenum, dissolved	0.44	0.01	ug/L	N/A	Mar-14-14	
Nickel, dissolved	0.49	0.02	ug/L	N/A	Mar-14-14	
Phosphorus, dissolved	16	10	ug/L	N/A	Mar-14-14	
Potassium, dissolved	1420	10	ug/L	N/A	Mar-14-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-14-14	
Silicon, dissolved	3270	50	ug/L	N/A	Mar-14-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Sodium, dissolved	15200	10	ug/L	N/A	Mar-14-14	
Strontium, dissolved	64.0	0.1	ug/L	N/A	Mar-14-14	
Sulfur, dissolved	1610	500	ug/L	N/A	Mar-14-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-14-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-14-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-14-14	
Titanium, dissolved	1.0	0.2	ug/L	N/A	Mar-14-14	
Uranium, dissolved	0.019	0.001	ug/L	N/A	Mar-14-14	
Vanadium, dissolved	0.6	0.2	ug/L	N/A	Mar-14-14	
Zinc, dissolved	7	1	ug/L	N/A	Mar-14-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Mar-14-14	

***Total Recoverable Metals***

Aluminum, total	128	1	ug/L	Mar-13-14	Mar-15-14	
Antimony, total	0.4	0.05	ug/L	Mar-13-14	Mar-15-14	
Arsenic, total	0.62	0.05	ug/L	Mar-13-14	Mar-15-14	
Barium, total	15.4	0.1	ug/L	Mar-13-14	Mar-15-14	
Beryllium, total	0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Boron, total	11	1	ug/L	Mar-13-14	Mar-15-14	
Cadmium, total	0.014	0.002	ug/L	Mar-13-14	Mar-15-14	
Calcium, total	12800	40	ug/L	Mar-13-14	Mar-15-14	
Chromium, total	0.4	0.1	ug/L	Mar-13-14	Mar-15-14	
Cobalt, total	0.137	0.005	ug/L	Mar-13-14	Mar-15-14	
Copper, total	3.0	0.1	ug/L	Mar-13-14	Mar-15-14	
Iron, total	385	2	ug/L	Mar-13-14	Mar-15-14	
Lead, total	0.89	0.05	ug/L	Mar-13-14	Mar-15-14	
Lithium, total	0.32	0.05	ug/L	Mar-13-14	Mar-15-14	
Magnesium, total	1930	5.0	ug/L	Mar-13-14	Mar-15-14	
Manganese, total	40.3	0.05	ug/L	Mar-13-14	Mar-15-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Molybdenum, total	0.50	0.01	ug/L	Mar-13-14	Mar-15-14	
Nickel, total	0.49	0.02	ug/L	Mar-13-14	Mar-15-14	
Phosphorus, total	23	10	ug/L	Mar-13-14	Mar-15-14	
Potassium, total	1410	10	ug/L	Mar-13-14	Mar-15-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-13-14	Mar-15-14	
Silicon, total	3300	50	ug/L	Mar-13-14	Mar-15-14	



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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 3 - u/s (4030674-01) [Water] Sampled: Mar-12-14 14:15, Continued**

**Total Recoverable Metals, Continued**

Silver, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Sodium, total	<b>15500</b>	10	ug/L	Mar-13-14	Mar-15-14	
Strontium, total	<b>64.2</b>	0.1	ug/L	Mar-13-14	Mar-15-14	
Sulfur, total	<b>1400</b>	500	ug/L	Mar-13-14	Mar-15-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-13-14	Mar-15-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Tin, total	< 0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Titanium, total	<b>5.0</b>	0.2	ug/L	Mar-13-14	Mar-15-14	
Uranium, total	<b>0.022</b>	0.001	ug/L	Mar-13-14	Mar-15-14	
Vanadium, total	<b>0.9</b>	0.2	ug/L	Mar-13-14	Mar-15-14	
Zinc, total	<b>9</b>	1	ug/L	Mar-13-14	Mar-15-14	
Zirconium, total	<b>0.11</b>	0.01	ug/L	Mar-13-14	Mar-15-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-14-14	Mar-15-14	
EPHw (19-32)	< 100	100	ug/L	Mar-14-14	Mar-15-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acridine	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Chrysene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluorene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Quinoline	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Surrogate: Naphthalene-d8	60 %	40-96		Mar-14-14	Mar-15-14	
Surrogate: Acenaphthene-d10	64 %	45-92		Mar-14-14	Mar-15-14	
Surrogate: Phenanthrene-d10	69 %	48-90		Mar-14-14	Mar-15-14	
Surrogate: Chrysene-d12	81 %	41-96		Mar-14-14	Mar-15-14	
Surrogate: Perylene-d12	75 %	47-104		Mar-14-14	Mar-15-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0551**

<b>Blank (B4C0551-BLK1)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-15-14						
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0551-BS2)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-15-14						
EPHw (10-19)	2620	100 ug/L	3470		75	63-123			
EPHw (19-32)	3610	100 ug/L	4970		73	51-102			

**Anions, Batch B4C0499**

<b>Blank (B4C0499-BLK1)</b>									
			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Anions, Batch B4C0598**

<b>Blank (B4C0598-BLK1)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK2)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK3)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Anions, Batch B4C0598, Continued**

**Blank (B4C0598-BLK3), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**LCS (B4C0598-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.04	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.06	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS3)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.07	0.010 mg/L	4.00		102	85-115			
Nitrogen, Nitrite as N	1.91	0.010 mg/L	2.00		96	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			

**Dissolved Metals, Batch B4C0519**

**Blank (B4C0519-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0519, Continued**

**Blank (B4C0519-BLK1), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Duplicate (B4C0519-DUP1)**

Source: 4030674-01

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	53	1 ug/L		52			2	14	
Antimony, dissolved	0.3	0.05 ug/L		0.4			12	31	
Arsenic, dissolved	0.50	0.05 ug/L		0.53			5	13	
Barium, dissolved	14.2	0.1 ug/L		14.2			< 1	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	10	1 ug/L		11			7	14	
Cadmium, dissolved	0.007	0.002 ug/L		0.009				16	
Calcium, dissolved	12200	40 ug/L		12300			< 1	10	
Chromium, dissolved	0.4	0.1 ug/L		0.4				11	
Cobalt, dissolved	0.103	0.005 ug/L		0.099			4	16	
Copper, dissolved	2.6	0.1 ug/L		2.6			< 1	27	
Iron, dissolved	234	2 ug/L		231			2	14	
Lead, dissolved	0.45	0.05 ug/L		0.45			< 1	20	
Lithium, dissolved	0.27	0.05 ug/L		0.28			4	20	
Magnesium, dissolved	1860	5 ug/L		1880			1	11	
Manganese, dissolved	30.7	0.05 ug/L		31.0			< 1	15	
Mercury, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Molybdenum, dissolved	0.43	0.01 ug/L		0.44			1	17	
Nickel, dissolved	0.48	0.02 ug/L		0.49			1	23	
Phosphorus, dissolved	15	10 ug/L		16				15	
Potassium, dissolved	1390	10 ug/L		1420			2	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	3220	50 ug/L		3270			2	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	15100	10 ug/L		15200			1	10	
Strontium, dissolved	63.5	0.1 ug/L		64.0			< 1	12	
Sulfur, dissolved	1480	500 ug/L		1610				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Titanium, dissolved	0.9	0.2 ug/L		1.0			6	15	
Uranium, dissolved	0.018	0.001 ug/L		0.019			5	16	
Vanadium, dissolved	0.6	0.2 ug/L		0.6				10	
Zinc, dissolved	10	1 ug/L		7			28	15	RPD
Zirconium, dissolved	0.07	0.01 ug/L		0.07			1	39	

**Reference (B4C0519-SRM1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	23	1 ug/L	23.3	101	58-142
Antimony, dissolved	5.0	0.05 ug/L	4.30	117	75-125
Arsenic, dissolved	43.9	0.05 ug/L	43.8	100	81-119
Barium, dissolved	330	0.1 ug/L	335	99	83-117
Beryllium, dissolved	20.7	0.01 ug/L	21.3	97	80-120
Boron, dissolved	179	1 ug/L	174	103	74-117
Cadmium, dissolved	22.2	0.002 ug/L	22.4	99	83-117
Calcium, dissolved	761	40 ug/L	769	99	76-124
Chromium, dissolved	45.0	0.1 ug/L	43.7	103	81-119
Cobalt, dissolved	13.4	0.005 ug/L	12.8	105	76-124

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0519, Continued**

**Reference (B4C0519-SRM1), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Copper, dissolved	92.5	0.1 ug/L	84.4		110	84-116			
Iron, dissolved	138	2 ug/L	129		107	74-126			
Lead, dissolved	11.4	0.05 ug/L	11.2		102	72-128			
Lithium, dissolved	10.7	0.05 ug/L	10.4		103	60-140			
Magnesium, dissolved	713	5 ug/L	692		103	81-119			
Manganese, dissolved	34.9	0.05 ug/L	34.5		101	84-116			
Molybdenum, dissolved	43.9	0.01 ug/L	42.6		103	83-117			
Nickel, dissolved	88.0	0.02 ug/L	84.0		105	74-126			
Phosphorus, dissolved	62	10 ug/L	49.5		124	68-132			
Potassium, dissolved	338	10 ug/L	319		106	74-126			
Selenium, dissolved	3.3	0.1 ug/L	3.31		99	70-130			
Sodium, dissolved	2030	10 ug/L	1910		106	72-128			
Strontium, dissolved	89.1	0.1 ug/L	91.6		97	84-113			
Thallium, dissolved	3.98	0.004 ug/L	3.93		101	57-143			
Uranium, dissolved	27.7	0.001 ug/L	26.6		104	85-115			
Vanadium, dissolved	86.7	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	89	1 ug/L	88.1		101	72-128			

**General Parameters, Batch B4C0510**

**Blank (B4C0510-BLK1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended < 2 2 mg/L

**Blank (B4C0510-BLK2)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended < 2 2 mg/L

**LCS (B4C0510-BS1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended 49 2 mg/L 50.0 97 83-107

**LCS (B4C0510-BS2)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended 49 2 mg/L 50.0 97 83-107

**General Parameters, Batch B4C0548**

**Blank (B4C0548-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Ammonia as N, Total < 0.020 0.020 mg/L

**Blank (B4C0548-BLK2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Ammonia as N, Total < 0.020 0.020 mg/L

**LCS (B4C0548-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Ammonia as N, Total 10.0 0.020 mg/L 10.0 100 86-111

**LCS (B4C0548-BS2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Ammonia as N, Total 10.1 0.020 mg/L 10.0 101 86-111

**General Parameters, Batch B4C0556**

**Blank (B4C0556-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Sulfide < 0.01 0.01 mg/L

**Blank (B4C0556-BLK2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Sulfide < 0.01 0.01 mg/L

**LCS (B4C0556-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Sulfide 0.33 0.01 mg/L 0.385 86 36-114

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0573**

**Blank (B4C0573-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C0573-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Carbon, Total Organic	8.9	0.5 mg/L	10.0		89	78-116			
Carbon, Dissolved Organic	8.9	0.5 mg/L	10.0		89	80-120			

**General Parameters, Batch B4C0574**

**Blank (B4C0574-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C0574-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Carbon, Dissolved Inorganic	10.6	0.5 mg/L	10.0		106	80-120			
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**General Parameters, Batch B4C0577**

**Blank (B4C0577-BLK1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Reference (B4C0577-SRM1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Dissolved	245	10 mg/L	240		102	70-130			
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**General Parameters, Batch B4C0584**

**Reference (B4C0584-SRM1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

pH	7.03	0.01 pH units	7.00		100	98-102			
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551**

**Blank (B4C0551-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-15-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.05	0.05 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.05	0.05 ug/L							
Naphthalene	< 0.30	0.30 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.759	ug/L	1.02		74	40-96			
Surrogate: Acenaphthene-d10	0.742	ug/L	0.995		75	45-92			
Surrogate: Phenanthrene-d10	0.761	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.867	ug/L	0.950		91	41-96			
Surrogate: Perylene-d12	0.746	ug/L	0.990		75	47-104			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551, Continued**

**LCS (B4C0551-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-15-14

Acenaphthene	0.68	0.02 ug/L	1.00		68	54-92			
Acenaphthylene	0.74	0.02 ug/L	1.00		74	54-95			
Acridine	0.61	0.05 ug/L	1.00		61	49-87			
Anthracene	0.72	0.01 ug/L	1.00		72	53-94			
Benzo (a) anthracene	0.72	0.05 ug/L	1.00		72	52-95			
Benzo (a) pyrene	0.80	0.01 ug/L	1.00		80	52-103			
Benzo (b) fluoranthene	0.65	0.05 ug/L	1.00		65	49-94			
Benzo (g,h,i) perylene	0.69	0.02 ug/L	1.00		69	51-98			
Benzo (k) fluoranthene	0.72	0.02 ug/L	1.00		72	49-105			
Chrysene	0.82	0.05 ug/L	1.00		82	50-104			
Dibenz (a,h) anthracene	0.71	0.05 ug/L	1.00		71	49-96			
Fluoranthene	0.74	0.02 ug/L	1.00		74	53-102			
Fluorene	0.71	0.02 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.70	0.05 ug/L	1.00		70	51-91			
Phenanthrene	0.71	0.05 ug/L	1.00		71	56-96			
Pyrene	0.71	0.10 ug/L	1.00		71	51-105			
Quinoline	0.64	0.05 ug/L	1.00		64	48-126			
Surrogate: Naphthalene-d8	0.738	ug/L	1.02		72	40-96			
Surrogate: Acenaphthene-d10	0.706	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.744	ug/L	0.970		77	48-90			
Surrogate: Chrysene-d12	0.897	ug/L	0.950		94	41-96			
Surrogate: Perylene-d12	0.764	ug/L	0.990		77	47-104			

**LCS Dup (B4C0551-BSD1)**

Prepared: Mar-14-14, Analyzed: Mar-15-14

Acenaphthene	0.70	0.02 ug/L	1.00		70	54-92	3	20	
Acenaphthylene	0.75	0.05 ug/L	1.00		75	54-95	1	20	
Acridine	0.57	0.10 ug/L	1.00		57	49-87	8	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	1	20	
Benzo (a) anthracene	0.71	0.05 ug/L	1.00		71	52-95	2	20	
Benzo (a) pyrene	0.78	0.01 ug/L	1.00		78	52-103	3	20	
Benzo (b) fluoranthene	0.64	0.05 ug/L	1.00		64	49-94	2	20	
Benzo (g,h,i) perylene	0.68	0.05 ug/L	1.00		68	51-98	1	20	
Benzo (k) fluoranthene	0.68	0.02 ug/L	1.00		68	49-105	6	20	
Chrysene	0.79	0.02 ug/L	1.00		79	50-104	4	20	
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96	8	20	
Fluoranthene	0.75	0.02 ug/L	1.00		75	53-102	< 1	20	
Fluorene	0.72	0.05 ug/L	1.00		72	54-91	< 1	20	
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99	< 1	20	
Naphthalene	0.71	0.05 ug/L	1.00		71	51-91	1	20	
Phenanthrene	0.72	0.10 ug/L	1.00		72	56-96	< 1	20	
Pyrene	0.72	0.02 ug/L	1.00		72	51-105	1	20	
Quinoline	0.63	0.05 ug/L	1.00		63	48-126	3	20	
Surrogate: Naphthalene-d8	0.748	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.714	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.756	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.859	ug/L	0.950		90	41-96			
Surrogate: Perylene-d12	0.717	ug/L	0.990		72	47-104			

**Total Recoverable Metals, Batch B4C0521**

**Blank (B4C0521-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0521, Continued**

**Blank (B4C0521-BLK1), Continued**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Duplicate (B4C0521-DUP1)**

Source: 4030674-01

Prepared: Mar-13-14, Analyzed: Mar-14-14

Aluminum, total	131	1 ug/L		128			2	28	
Antimony, total	0.4	0.05 ug/L		0.4			1	36	
Arsenic, total	0.62	0.05 ug/L		0.62			< 1	18	
Barium, total	15.4	0.1 ug/L		15.4			< 1	8	
Beryllium, total	< 0.01	0.01 ug/L		0.01				29	
Bismuth, total	< 0.01	0.01 ug/L		< 0.01				46	
Boron, total	11	1 ug/L		11			3	40	
Cadmium, total	0.015	0.002 ug/L		0.014			6	43	
Calcium, total	12700	40 ug/L		12800			1	10	
Chromium, total	0.4	0.1 ug/L		0.4				23	
Cobalt, total	0.136	0.005 ug/L		0.137			< 1	18	
Copper, total	3.0	0.1 ug/L		3.0			< 1	33	
Iron, total	391	2 ug/L		385			2	16	
Lead, total	0.88	0.05 ug/L		0.89			2	26	
Lithium, total	0.29	0.05 ug/L		0.32			11	20	
Magnesium, total	1940	5.0 ug/L		1930			< 1	7	
Manganese, total	40.7	0.05 ug/L		40.3			1	10	
Mercury, total	< 0.01	0.01 ug/L		< 0.01				40	
Molybdenum, total	0.50	0.01 ug/L		0.50			< 1	26	
Nickel, total	0.49	0.02 ug/L		0.49			1	20	
Phosphorus, total	28	10 ug/L		23				32	
Potassium, total	1440	10 ug/L		1410			2	15	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030674  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0521, Continued**

Duplicate (B4C0521-DUP1), Continued	Source: 4030674-01		Prepared: Mar-13-14, Analyzed: Mar-14-14						
Selenium, total	< 0.1	0.1 ug/L		< 0.1					25
Silicon, total	3470	50 ug/L		3350			4		14
Silver, total	< 0.01	0.01 ug/L		< 0.01					35
Sodium, total	15500	10 ug/L		15500			< 1		11
Strontium, total	65.7	0.1 ug/L		64.2			2		8
Sulfur, total	1600	500 ug/L		1400					20
Tellurium, total	< 0.05	0.05 ug/L		< 0.05					20
Thallium, total	< 0.004	0.004 ug/L		< 0.004					30
Thorium, total	< 0.01	0.01 ug/L		< 0.01					50
Tin, total	< 0.05	0.05 ug/L		< 0.05					19
Titanium, total	4.3	0.2 ug/L		5.0			14		42
Uranium, total	0.022	0.001 ug/L		0.022			< 1		12
Vanadium, total	0.9	0.2 ug/L		0.9					21
Zinc, total	12	1 ug/L		9			30		33
Zirconium, total	0.09	0.01 ug/L		0.11			15		41

Reference (B4C0521-SRM1)	Prepared: Mar-13-14, Analyzed: Mar-14-14								
Aluminum, total	61	1 ug/L	59.2		103		81-129		
Antimony, total	10.8	0.05 ug/L	10.1		107		88-114		
Arsenic, total	24.9	0.05 ug/L	24.4		102		88-114		
Barium, total	152	0.1 ug/L	155		98		72-104		
Beryllium, total	9.55	0.01 ug/L	9.76		98		76-131		
Boron, total	705	1 ug/L	680		104		75-121		
Cadmium, total	9.98	0.002 ug/L	9.80		102		89-111		
Calcium, total	2060	40 ug/L	2040		101		86-121		
Chromium, total	50.5	0.1 ug/L	48.4		104		89-114		
Cobalt, total	7.92	0.005 ug/L	7.32		108		91-113		
Copper, total	108	0.1 ug/L	97.4		111		91-115		
Iron, total	100	2 ug/L	93.8		106		77-124		
Lead, total	40.8	0.05 ug/L	38.6		106		92-113		
Lithium, total	80.5	0.05 ug/L	78.0		103		85-115		
Magnesium, total	714	5.0 ug/L	662		108		78-120		
Manganese, total	22.3	0.05 ug/L	21.8		102		90-114		
Mercury, total	0.81	0.01 ug/L	0.912		89		50-150		
Molybdenum, total	41.0	0.01 ug/L	39.4		104		90-111		
Nickel, total	51.1	0.02 ug/L	48.4		106		90-111		
Phosphorus, total	50	10 ug/L	46.6		108		85-115		
Potassium, total	1330	10 ug/L	1190		112		84-113		
Selenium, total	23.2	0.1 ug/L	23.0		101		85-115		
Sodium, total	1680	10 ug/L	1530		110		82-123		
Strontium, total	74.4	0.1 ug/L	72.6		103		88-112		
Thallium, total	16.5	0.004 ug/L	15.9		104		91-114		
Uranium, total	3.82	0.001 ug/L	3.84		100		85-120		
Vanadium, total	75.8	0.2 ug/L	75.2		101		86-111		
Zinc, total	516	1 ug/L	484		107		85-111		

**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030675
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-13-14 10:57 / 1°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-17-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Richmond
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Potability, IH Comprehensive Pkg	N/A	APHA 1030 E	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

*Note: The numbers in brackets represent the year that the method was published/approved*

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre
uS/cm	Microsiemens per centimeter

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030675-01) [Water] Sampled: Mar-12-14 12:45**

**Anions**

Alkalinity, Total as CaCO3	52	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Bicarbonate as CaCO3	52	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Chloride	18.2	0.10	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrate as N	< 0.010	0.010	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-14-14	
Sulfate	< 1.0	1.0	mg/L	N/A	Mar-14-14	

**General Parameters**

Carbon, Total Organic	< 0.5	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Inorganic	10.3	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Organic	< 0.5	0.5	mg/L	N/A	Mar-14-14	
Conductivity (EC)	164	2	uS/cm	Mar-13-14	Mar-13-14	
Nitrogen, Ammonia as N, Total	0.166	0.020	mg/L	N/A	Mar-14-14	
pH	8.46	0.01	pH units	N/A	Mar-14-14	
Solids, Total Dissolved	87	10	mg/L	N/A	Mar-15-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-15-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-14-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	33.6	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	33	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.020	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	23	1	ug/L	N/A	Mar-14-14	
Antimony, dissolved	0.5	0.05	ug/L	N/A	Mar-14-14	
Arsenic, dissolved	1.24	0.05	ug/L	N/A	Mar-14-14	
Barium, dissolved	21.8	0.1	ug/L	N/A	Mar-14-14	
Beryllium, dissolved	0.01	0.01	ug/L	N/A	Mar-14-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Boron, dissolved	1	1	ug/L	N/A	Mar-14-14	
Cadmium, dissolved	< 0.002	0.002	ug/L	N/A	Mar-14-14	
Calcium, dissolved	10100	40	ug/L	N/A	Mar-14-14	
Chromium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-14-14	
Cobalt, dissolved	0.577	0.005	ug/L	N/A	Mar-14-14	
Copper, dissolved	0.1	0.1	ug/L	N/A	Mar-14-14	
Iron, dissolved	2	2	ug/L	N/A	Mar-14-14	
Lead, dissolved	0.05	0.05	ug/L	N/A	Mar-14-14	
Lithium, dissolved	0.58	0.05	ug/L	N/A	Mar-14-14	
Magnesium, dissolved	1880	5	ug/L	N/A	Mar-14-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4030675-01) [Water] Sampled: Mar-12-14 12:45, Continued**

***Dissolved Metals, Continued***

Manganese, dissolved	93.4	0.05	ug/L	N/A	Mar-14-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Molybdenum, dissolved	0.17	0.01	ug/L	N/A	Mar-14-14	
Nickel, dissolved	3.49	0.02	ug/L	N/A	Mar-14-14	
Phosphorus, dissolved	69	10	ug/L	N/A	Mar-14-14	
Potassium, dissolved	2330	10	ug/L	N/A	Mar-14-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-14-14	
Silicon, dissolved	3520	50	ug/L	N/A	Mar-14-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Sodium, dissolved	18200	10	ug/L	N/A	Mar-14-14	
Strontium, dissolved	67.5	0.1	ug/L	N/A	Mar-14-14	
Sulfur, dissolved	508	500	ug/L	N/A	Mar-14-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-14-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-14-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Tin, dissolved	0.05	0.05	ug/L	N/A	Mar-14-14	
Titanium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-14-14	
Uranium, dissolved	0.001	0.001	ug/L	N/A	Mar-14-14	
Vanadium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-14-14	
Zinc, dissolved	3	1	ug/L	N/A	Mar-14-14	
Zirconium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	

***Total Recoverable Metals***

Aluminum, total	22	1	ug/L	Mar-13-14	Mar-15-14	
Antimony, total	0.5	0.05	ug/L	Mar-13-14	Mar-15-14	
Arsenic, total	1.26	0.05	ug/L	Mar-13-14	Mar-15-14	
Barium, total	21.7	0.1	ug/L	Mar-13-14	Mar-15-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Boron, total	< 1	1	ug/L	Mar-13-14	Mar-15-14	
Cadmium, total	< 0.002	0.002	ug/L	Mar-13-14	Mar-15-14	
Calcium, total	10300	40	ug/L	Mar-13-14	Mar-15-14	
Chromium, total	< 0.1	0.1	ug/L	Mar-13-14	Mar-15-14	
Cobalt, total	0.597	0.005	ug/L	Mar-13-14	Mar-15-14	
Copper, total	< 0.1	0.1	ug/L	Mar-13-14	Mar-15-14	
Iron, total	2	2	ug/L	Mar-13-14	Mar-15-14	
Lead, total	0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Lithium, total	0.60	0.05	ug/L	Mar-13-14	Mar-15-14	
Magnesium, total	1910	5.0	ug/L	Mar-13-14	Mar-15-14	
Manganese, total	92.3	0.05	ug/L	Mar-13-14	Mar-15-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Molybdenum, total	0.16	0.01	ug/L	Mar-13-14	Mar-15-14	
Nickel, total	3.40	0.02	ug/L	Mar-13-14	Mar-15-14	
Phosphorus, total	72	10	ug/L	Mar-13-14	Mar-15-14	
Potassium, total	2310	10	ug/L	Mar-13-14	Mar-15-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-13-14	Mar-15-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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Sample ID: Treated (4030675-01) [Water] Sampled: Mar-12-14 12:45, Continued

**Total Recoverable Metals, Continued**

Silicon, total	3500	50	ug/L	Mar-13-14	Mar-15-14	
Silver, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Sodium, total	18500	10	ug/L	Mar-13-14	Mar-15-14	
Strontium, total	67.0	0.1	ug/L	Mar-13-14	Mar-15-14	
Sulfur, total	< 500	500	ug/L	Mar-13-14	Mar-15-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-13-14	Mar-15-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Tin, total	0.06	0.05	ug/L	Mar-13-14	Mar-15-14	
Titanium, total	< 0.2	0.2	ug/L	Mar-13-14	Mar-15-14	
Uranium, total	0.001	0.001	ug/L	Mar-13-14	Mar-15-14	
Vanadium, total	< 0.2	0.2	ug/L	Mar-13-14	Mar-15-14	
Zinc, total	2	1	ug/L	Mar-13-14	Mar-15-14	
Zirconium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-14-14	Mar-15-14	
EPHw (19-32)	< 100	100	ug/L	Mar-14-14	Mar-15-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acridine	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Chrysene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluorene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Quinoline	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Surrogate: Naphthalene-d8	62 %	40-96		Mar-14-14	Mar-15-14	
Surrogate: Acenaphthene-d10	68 %	45-92		Mar-14-14	Mar-15-14	
Surrogate: Phenanthrene-d10	73 %	48-90		Mar-14-14	Mar-15-14	
Surrogate: Chrysene-d12	78 %	41-96		Mar-14-14	Mar-15-14	
Surrogate: Perylene-d12	69 %	47-104		Mar-14-14	Mar-15-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0551**

<b>Blank (B4C0551-BLK1)</b>									
Prepared: Mar-14-14, Analyzed: Mar-15-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0551-BS2)</b>									
Prepared: Mar-14-14, Analyzed: Mar-15-14									
EPHw (10-19)	2620	100 ug/L	3470		75	63-123			
EPHw (19-32)	3610	100 ug/L	4970		73	51-102			

**Anions, Batch B4C0499**

<b>Blank (B4C0499-BLK1)</b>									
Prepared: Mar-13-14, Analyzed: Mar-13-14									
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Anions, Batch B4C0598**

<b>Blank (B4C0598-BLK1)</b>									
Prepared: Mar-14-14, Analyzed: Mar-14-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK2)</b>									
Prepared: Mar-14-14, Analyzed: Mar-14-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK3)</b>									
Prepared: Mar-14-14, Analyzed: Mar-14-14									
Chloride	< 0.10	0.10 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Anions, Batch B4C0598, Continued**

**Blank (B4C0598-BLK3), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**LCS (B4C0598-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.04	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.06	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS3)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.07	0.010 mg/L	4.00		102	85-115			
Nitrogen, Nitrite as N	1.91	0.010 mg/L	2.00		96	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			

**Dissolved Metals, Batch B4C0519**

**Blank (B4C0519-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							



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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0519, Continued**

**Blank (B4C0519-BLK1), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Matrix Spike (B4C0519-MS1)**

Source: 4030675-01

Prepared: Mar-14-14, Analyzed: Mar-14-14

Antimony, dissolved	40.2	0.05 ug/L	40.0	0.5	99	81-114			
Arsenic, dissolved	20.3	0.05 ug/L	20.0	1.24	95	89-115			
Barium, dissolved	116	0.1 ug/L	100	21.8	94	86-115			
Beryllium, dissolved	9.72	0.01 ug/L	10.0	0.01	97	77-124			
Cadmium, dissolved	9.66	0.002 ug/L	10.0	0.002	97	82-126			
Chromium, dissolved	39.8	0.1 ug/L	40.0	< 0.1	99	85-117			
Cobalt, dissolved	40.4	0.005 ug/L	40.0	0.577	100	76-131			
Copper, dissolved	40.4	0.1 ug/L	40.0	0.1	101	88-113			
Iron, dissolved	210	2 ug/L	200	2	104	80-115			
Lead, dissolved	19.8	0.05 ug/L	20.0	0.05	99	84-121			
Manganese, dissolved	130	0.05 ug/L	40.0	93.4	91	75-135			
Nickel, dissolved	43.1	0.02 ug/L	40.0	3.49	99	83-121			
Selenium, dissolved	9.6	0.1 ug/L	10.0	< 0.1	96	91-122			
Silver, dissolved	9.69	0.01 ug/L	10.0	< 0.01	97	74-120			
Thallium, dissolved	9.92	0.004 ug/L	10.0	< 0.004	99	79-119			
Vanadium, dissolved	39.5	0.2 ug/L	40.0	0.2	98	80-115			
Zinc, dissolved	99	1 ug/L	100	3	97	89-123			

**Reference (B4C0519-SRM1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	23	1 ug/L	23.3		101	58-142			
Antimony, dissolved	5.0	0.05 ug/L	4.30		117	75-125			
Arsenic, dissolved	43.9	0.05 ug/L	43.8		100	81-119			
Barium, dissolved	330	0.1 ug/L	335		99	83-117			
Beryllium, dissolved	20.7	0.01 ug/L	21.3		97	80-120			
Boron, dissolved	179	1 ug/L	174		103	74-117			
Cadmium, dissolved	22.2	0.002 ug/L	22.4		99	83-117			
Calcium, dissolved	761	40 ug/L	769		99	76-124			
Chromium, dissolved	45.0	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.4	0.005 ug/L	12.8		105	76-124			
Copper, dissolved	92.5	0.1 ug/L	84.4		110	84-116			
Iron, dissolved	138	2 ug/L	129		107	74-126			
Lead, dissolved	11.4	0.05 ug/L	11.2		102	72-128			
Lithium, dissolved	10.7	0.05 ug/L	10.4		103	60-140			
Magnesium, dissolved	713	5 ug/L	692		103	81-119			
Manganese, dissolved	34.9	0.05 ug/L	34.5		101	84-116			
Molybdenum, dissolved	43.9	0.01 ug/L	42.6		103	83-117			
Nickel, dissolved	88.0	0.02 ug/L	84.0		105	74-126			
Phosphorus, dissolved	62	10 ug/L	49.5		124	68-132			
Potassium, dissolved	338	10 ug/L	319		106	74-126			
Selenium, dissolved	3.3	0.1 ug/L	3.31		99	70-130			
Sodium, dissolved	2030	10 ug/L	1910		106	72-128			
Strontium, dissolved	89.1	0.1 ug/L	91.6		97	84-113			
Thallium, dissolved	3.98	0.004 ug/L	3.93		101	57-143			
Uranium, dissolved	27.7	0.001 ug/L	26.6		104	85-115			
Vanadium, dissolved	86.7	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	89	1 ug/L	88.1		101	72-128			

**General Parameters, Batch B4C0496**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4030675  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0496, Continued</b>									
<b>Blank (B4C0496-BLK1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	< 2	2 uS/cm							
<b>LCS (B4C0496-BS1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	149	2 uS/cm	147		101	88-112			
<b>LCS (B4C0496-BS2)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	1400	2 uS/cm	1410		99	88-112			
<b>Reference (B4C0496-SRM1)</b>			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Conductivity (EC)	504	2 uS/cm	500		101	90-110			
<b>General Parameters, Batch B4C0510</b>									
<b>Blank (B4C0510-BLK1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>Blank (B4C0510-BLK2)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0510-BS1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Suspended	49	2 mg/L	50.0		97	83-107			
<b>LCS (B4C0510-BS2)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Suspended	49	2 mg/L	50.0		97	83-107			
<b>General Parameters, Batch B4C0548</b>									
<b>Blank (B4C0548-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C0548-BLK2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C0548-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Nitrogen, Ammonia as N, Total	10.0	0.020 mg/L	10.0		100	86-111			
<b>LCS (B4C0548-BS2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Nitrogen, Ammonia as N, Total	10.1	0.020 mg/L	10.0		101	86-111			
<b>General Parameters, Batch B4C0556</b>									
<b>Blank (B4C0556-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0556-BLK2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0556-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Sulfide	0.33	0.01 mg/L	0.385		86	36-114			
<b>General Parameters, Batch B4C0573</b>									
<b>Blank (B4C0573-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C0573, Continued**

<b>LCS (B4C0573-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Total Organic	8.9	0.5 mg/L	10.0		89	78-116			
Carbon, Dissolved Organic	8.9	0.5 mg/L	10.0		89	80-120			
<b>Duplicate (B4C0573-DUP1)</b>			Source: 4030675-01 Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Total Organic	< 0.5	0.5 mg/L		< 0.5					16
Carbon, Dissolved Organic	< 0.5	0.5 mg/L		< 0.5					15

**General Parameters, Batch B4C0574**

<b>Blank (B4C0574-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0574-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Dissolved Inorganic	10.6	0.5 mg/L	10.0		106	80-120			
<b>Duplicate (B4C0574-DUP1)</b>			Source: 4030675-01 Prepared: Mar-14-14, Analyzed: Mar-14-14						
Carbon, Dissolved Inorganic	10.3	0.5 mg/L		10.3			< 1	20	

**General Parameters, Batch B4C0577**

<b>Blank (B4C0577-BLK1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Dissolved	< 10	10 mg/L							
<b>Duplicate (B4C0577-DUP1)</b>			Source: 4030675-01 Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Dissolved	94	10 mg/L		87			8	11	
<b>Reference (B4C0577-SRM1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14						
Solids, Total Dissolved	245	10 mg/L		240		102	70-130		

**General Parameters, Batch B4C0584**

<b>Reference (B4C0584-SRM1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14						
pH	7.03	0.01 pH units	7.00		100	98-102			

**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551**

<b>Blank (B4C0551-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-15-14						
Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.05	0.05 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.05	0.05 ug/L							
Fluoranthene	< 0.05	0.05 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.10	0.10 ug/L							
Quinoline	< 0.05	0.05 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551, Continued</b>									
<b>Blank (B4C0551-BLK1), Continued</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Surrogate: Naphthalene-d8	0.759	ug/L	1.02		74	40-96			
Surrogate: Acenaphthene-d10	0.742	ug/L	0.995		75	45-92			
Surrogate: Phenanthrene-d10	0.761	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.867	ug/L	0.950		91	41-96			
Surrogate: Perylene-d12	0.746	ug/L	0.990		75	47-104			
<b>LCS (B4C0551-BS1)</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Acenaphthene	0.68	0.02 ug/L	1.00		68	54-92			
Acenaphthylene	0.74	0.02 ug/L	1.00		74	54-95			
Acridine	0.61	0.05 ug/L	1.00		61	49-87			
Anthracene	0.72	0.05 ug/L	1.00		72	53-94			
Benzo (a) anthracene	0.72	0.05 ug/L	1.00		72	52-95			
Benzo (a) pyrene	0.80	0.01 ug/L	1.00		80	52-103			
Benzo (b) fluoranthene	0.65	0.05 ug/L	1.00		65	49-94			
Benzo (g,h,i) perylene	0.69	0.02 ug/L	1.00		69	51-98			
Benzo (k) fluoranthene	0.72	0.05 ug/L	1.00		72	49-105			
Chrysene	0.82	0.05 ug/L	1.00		82	50-104			
Dibenz (a,h) anthracene	0.71	0.02 ug/L	1.00		71	49-96			
Fluoranthene	0.74	0.02 ug/L	1.00		74	53-102			
Fluorene	0.71	0.05 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.70	0.30 ug/L	1.00		70	51-91			
Phenanthrene	0.71	0.10 ug/L	1.00		71	56-96			
Pyrene	0.71	0.10 ug/L	1.00		71	51-105			
Quinoline	0.64	0.10 ug/L	1.00		64	48-126			
Surrogate: Naphthalene-d8	0.738	ug/L	1.02		72	40-96			
Surrogate: Acenaphthene-d10	0.706	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.744	ug/L	0.970		77	48-90			
Surrogate: Chrysene-d12	0.897	ug/L	0.950		94	41-96			
Surrogate: Perylene-d12	0.764	ug/L	0.990		77	47-104			
<b>LCS Dup (B4C0551-BSD1)</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Acenaphthene	0.70	0.02 ug/L	1.00		70	54-92	3	20	
Acenaphthylene	0.75	0.02 ug/L	1.00		75	54-95	1	20	
Acridine	0.57	0.10 ug/L	1.00		57	49-87	8	20	
Anthracene	0.72	0.01 ug/L	1.00		72	53-94	1	20	
Benzo (a) anthracene	0.71	0.05 ug/L	1.00		71	52-95	2	20	
Benzo (a) pyrene	0.78	0.01 ug/L	1.00		78	52-103	3	20	
Benzo (b) fluoranthene	0.64	0.02 ug/L	1.00		64	49-94	2	20	
Benzo (g,h,i) perylene	0.68	0.02 ug/L	1.00		68	51-98	1	20	
Benzo (k) fluoranthene	0.68	0.02 ug/L	1.00		68	49-105	6	20	
Chrysene	0.79	0.05 ug/L	1.00		79	50-104	4	20	
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96	8	20	
Fluoranthene	0.75	0.05 ug/L	1.00		75	53-102	< 1	20	
Fluorene	0.72	0.02 ug/L	1.00		72	54-91	< 1	20	
Indeno (1,2,3-cd) pyrene	0.68	0.05 ug/L	1.00		68	51-99	< 1	20	
Naphthalene	0.71	0.05 ug/L	1.00		71	51-91	1	20	
Phenanthrene	0.72	0.05 ug/L	1.00		72	56-96	< 1	20	
Pyrene	0.72	0.10 ug/L	1.00		72	51-105	1	20	
Quinoline	0.63	0.10 ug/L	1.00		63	48-126	3	20	
Surrogate: Naphthalene-d8	0.748	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.714	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.756	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.859	ug/L	0.950		90	41-96			
Surrogate: Perylene-d12	0.717	ug/L	0.990		72	47-104			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0521**

**Blank (B4C0521-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Matrix Spike (B4C0521-MS1)**

Source: 4030675-01

Prepared: Mar-13-14, Analyzed: Mar-14-14

Antimony, total	41.6	0.05 ug/L	40.0	0.5	103	80-120
Arsenic, total	20.8	0.05 ug/L	20.0	1.26	98	80-120
Barium, total	121	0.1 ug/L	100	21.7	99	80-120
Beryllium, total	9.91	0.01 ug/L	10.0	< 0.01	99	80-120
Cadmium, total	9.98	0.002 ug/L	10.0	< 0.002	100	80-120
Chromium, total	41.0	0.1 ug/L	40.0	< 0.1	102	80-120
Cobalt, total	41.3	0.005 ug/L	40.0	0.597	102	80-120
Copper, total	41.4	0.1 ug/L	40.0	< 0.1	103	80-120
Iron, total	216	2 ug/L	200	2	107	80-120
Lead, total	20.1	0.05 ug/L	20.0	0.05	100	80-120
Manganese, total	134	0.05 ug/L	40.0	92.3	103	80-120
Nickel, total	44.2	0.02 ug/L	40.0	3.40	102	80-120
Selenium, total	9.8	0.1 ug/L	10.0	< 0.1	98	80-120
Silver, total	10.0	0.01 ug/L	10.0	< 0.01	100	80-120
Thallium, total	10.1	0.004 ug/L	10.0	< 0.004	101	80-120
Vanadium, total	40.6	0.2 ug/L	40.0	0.2	101	80-120
Zinc, total	103	1 ug/L	100	2	101	80-120

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030675  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Total Recoverable Metals, Batch B4C0521, Continued</b>									
<b>Reference (B4C0521-SRM1)</b>					Prepared: Mar-13-14, Analyzed: Mar-14-14				
Aluminum, total	61	1 ug/L	59.2		103	81-129			
Antimony, total	10.8	0.05 ug/L	10.1		107	88-114			
Arsenic, total	24.9	0.05 ug/L	24.4		102	88-114			
Barium, total	152	0.1 ug/L	155		98	72-104			
Beryllium, total	9.55	0.01 ug/L	9.76		98	76-131			
Boron, total	705	1 ug/L	680		104	75-121			
Cadmium, total	9.98	0.002 ug/L	9.80		102	89-111			
Calcium, total	2060	40 ug/L	2040		101	86-121			
Chromium, total	50.5	0.1 ug/L	48.4		104	89-114			
Cobalt, total	7.92	0.005 ug/L	7.32		108	91-113			
Copper, total	108	0.1 ug/L	97.4		111	91-115			
Iron, total	100	2 ug/L	93.8		106	77-124			
Lead, total	40.8	0.05 ug/L	38.6		106	92-113			
Lithium, total	80.5	0.05 ug/L	78.0		103	85-115			
Magnesium, total	714	5.0 ug/L	662		108	78-120			
Manganese, total	22.3	0.05 ug/L	21.8		102	90-114			
Mercury, total	0.81	0.01 ug/L	0.912		89	50-150			
Molybdenum, total	41.0	0.01 ug/L	39.4		104	90-111			
Nickel, total	51.1	0.02 ug/L	48.4		106	90-111			
Phosphorus, total	50	10 ug/L	46.6		108	85-115			
Potassium, total	1330	10 ug/L	1190		112	84-113			
Selenium, total	23.2	0.1 ug/L	23.0		101	85-115			
Sodium, total	1680	10 ug/L	1530		110	82-123			
Strontium, total	74.4	0.1 ug/L	72.6		103	88-112			
Thallium, total	16.5	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.82	0.001 ug/L	3.84		100	85-120			
Vanadium, total	75.8	0.2 ug/L	75.2		101	86-111			
Zinc, total	516	1 ug/L	484		107	85-111			

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4030677
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-13-14 10:57 / 1°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-17-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

**Locations:**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water	EPA 3510C	EPA 8270D (2007)	Richmond
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Potability, IH Comprehensive Pkg	N/A	APHA 1030 E	Kelowna
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - d/s (4030677-01) [Water] Sampled: Mar-12-14 13:20**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	35	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	35	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	Mar-13-14	Mar-13-14	
Chloride	23.3	0.10	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrate as N	0.610	0.010	mg/L	N/A	Mar-14-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-14-14	
Sulfate	4.7	1.0	mg/L	N/A	Mar-14-14	

**General Parameters**

Carbon, Total Organic	6.7	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Inorganic	7.6	0.5	mg/L	N/A	Mar-14-14	
Carbon, Dissolved Organic	6.4	0.5	mg/L	N/A	Mar-14-14	
Nitrogen, Ammonia as N, Total	< 0.020	0.020	mg/L	N/A	Mar-14-14	
pH	7.13	0.01	pH units	N/A	Mar-14-14	
Solids, Total Dissolved	96	10	mg/L	N/A	Mar-15-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-15-14	
Sulfide	0.03	0.01	mg/L	N/A	Mar-14-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.30	0.30	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	39.8	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	39	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.610	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	35	1	ug/L	N/A	Mar-14-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-14-14	
Arsenic, dissolved	0.54	0.05	ug/L	N/A	Mar-14-14	
Barium, dissolved	15.4	0.1	ug/L	N/A	Mar-14-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Boron, dissolved	10	1	ug/L	N/A	Mar-14-14	
Cadmium, dissolved	0.008	0.002	ug/L	N/A	Mar-14-14	
Calcium, dissolved	12200	40	ug/L	N/A	Mar-14-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Mar-14-14	
Cobalt, dissolved	0.141	0.005	ug/L	N/A	Mar-14-14	
Copper, dissolved	2.3	0.1	ug/L	N/A	Mar-14-14	
Iron, dissolved	238	2	ug/L	N/A	Mar-14-14	
Lead, dissolved	0.36	0.05	ug/L	N/A	Mar-14-14	
Lithium, dissolved	0.29	0.05	ug/L	N/A	Mar-14-14	
Magnesium, dissolved	1980	5	ug/L	N/A	Mar-14-14	
Manganese, dissolved	39.9	0.05	ug/L	N/A	Mar-14-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - d/s (4030677-01) [Water] Sampled: Mar-12-14 13:20, Continued**

***Dissolved Metals, Continued***

Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Molybdenum, dissolved	<b>0.49</b>	0.01	ug/L	N/A	Mar-14-14	
Nickel, dissolved	<b>0.72</b>	0.02	ug/L	N/A	Mar-14-14	
Phosphorus, dissolved	<b>15</b>	10	ug/L	N/A	Mar-14-14	
Potassium, dissolved	<b>1550</b>	10	ug/L	N/A	Mar-14-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-14-14	
Silicon, dissolved	<b>3410</b>	50	ug/L	N/A	Mar-14-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Sodium, dissolved	<b>16000</b>	10	ug/L	N/A	Mar-14-14	
Strontium, dissolved	<b>67.6</b>	0.1	ug/L	N/A	Mar-14-14	
Sulfur, dissolved	<b>2340</b>	500	ug/L	N/A	Mar-14-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-14-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-14-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-14-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-14-14	
Titanium, dissolved	<b>0.9</b>	0.2	ug/L	N/A	Mar-14-14	
Uranium, dissolved	<b>0.016</b>	0.001	ug/L	N/A	Mar-14-14	
Vanadium, dissolved	<b>0.5</b>	0.2	ug/L	N/A	Mar-14-14	
Zinc, dissolved	<b>13</b>	1	ug/L	N/A	Mar-14-14	
Zirconium, dissolved	<b>0.05</b>	0.01	ug/L	N/A	Mar-14-14	

***Total Recoverable Metals***

Aluminum, total	<b>107</b>	1	ug/L	Mar-13-14	Mar-15-14	
Antimony, total	<b>0.3</b>	0.05	ug/L	Mar-13-14	Mar-15-14	
Arsenic, total	<b>0.59</b>	0.05	ug/L	Mar-13-14	Mar-15-14	
Barium, total	<b>15.8</b>	0.1	ug/L	Mar-13-14	Mar-15-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Boron, total	<b>10</b>	1	ug/L	Mar-13-14	Mar-15-14	
Cadmium, total	<b>0.013</b>	0.002	ug/L	Mar-13-14	Mar-15-14	
Calcium, total	<b>12700</b>	40	ug/L	Mar-13-14	Mar-15-14	
Chromium, total	<b>0.4</b>	0.1	ug/L	Mar-13-14	Mar-15-14	
Cobalt, total	<b>0.161</b>	0.005	ug/L	Mar-13-14	Mar-15-14	
Copper, total	<b>2.9</b>	0.1	ug/L	Mar-13-14	Mar-15-14	
Iron, total	<b>401</b>	2	ug/L	Mar-13-14	Mar-15-14	
Lead, total	<b>0.78</b>	0.05	ug/L	Mar-13-14	Mar-15-14	
Lithium, total	<b>0.31</b>	0.05	ug/L	Mar-13-14	Mar-15-14	
Magnesium, total	<b>1980</b>	5.0	ug/L	Mar-13-14	Mar-15-14	
Manganese, total	<b>49.2</b>	0.05	ug/L	Mar-13-14	Mar-15-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Molybdenum, total	<b>0.52</b>	0.01	ug/L	Mar-13-14	Mar-15-14	
Nickel, total	<b>0.62</b>	0.02	ug/L	Mar-13-14	Mar-15-14	
Phosphorus, total	<b>21</b>	10	ug/L	Mar-13-14	Mar-15-14	
Potassium, total	<b>1510</b>	10	ug/L	Mar-13-14	Mar-15-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-13-14	Mar-15-14	
Silicon, total	<b>3400</b>	50	ug/L	Mar-13-14	Mar-15-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - d/s (4030677-01) [Water] Sampled: Mar-12-14 13:20, Continued**

**Total Recoverable Metals, Continued**

Silver, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Sodium, total	<b>15900</b>	10	ug/L	Mar-13-14	Mar-15-14	
Strontium, total	<b>65.9</b>	0.1	ug/L	Mar-13-14	Mar-15-14	
Sulfur, total	<b>1500</b>	500	ug/L	Mar-13-14	Mar-15-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-13-14	Mar-15-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-13-14	Mar-15-14	
Tin, total	< 0.05	0.05	ug/L	Mar-13-14	Mar-15-14	
Titanium, total	<b>3.3</b>	0.2	ug/L	Mar-13-14	Mar-15-14	
Uranium, total	<b>0.021</b>	0.001	ug/L	Mar-13-14	Mar-15-14	
Vanadium, total	<b>0.7</b>	0.2	ug/L	Mar-13-14	Mar-15-14	
Zinc, total	<b>11</b>	1	ug/L	Mar-13-14	Mar-15-14	
Zirconium, total	<b>0.10</b>	0.01	ug/L	Mar-13-14	Mar-15-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-14-14	Mar-15-14	
EPHw (19-32)	< 100	100	ug/L	Mar-14-14	Mar-15-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Acridine	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-14-14	Mar-15-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Chrysene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Fluorene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Pyrene	< 0.02	0.02	ug/L	Mar-14-14	Mar-15-14	
Quinoline	< 0.05	0.05	ug/L	Mar-14-14	Mar-15-14	
Surrogate: Naphthalene-d8	63 %	40-96		Mar-14-14	Mar-15-14	
Surrogate: Acenaphthene-d10	66 %	45-92		Mar-14-14	Mar-15-14	
Surrogate: Phenanthrene-d10	73 %	48-90		Mar-14-14	Mar-15-14	
Surrogate: Chrysene-d12	83 %	41-96		Mar-14-14	Mar-15-14	
Surrogate: Perylene-d12	74 %	47-104		Mar-14-14	Mar-15-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0551**

<b>Blank (B4C0551-BLK1)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-15-14						
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0551-BS2)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-15-14						
EPHw (10-19)	2620	100 ug/L	3470		75	63-123			
EPHw (19-32)	3610	100 ug/L	4970		73	51-102			

**Anions, Batch B4C0499**

<b>Blank (B4C0499-BLK1)</b>									
			Prepared: Mar-13-14, Analyzed: Mar-13-14						
Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Anions, Batch B4C0598**

<b>Blank (B4C0598-BLK1)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK2)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0598-BLK3)</b>									
			Prepared: Mar-14-14, Analyzed: Mar-14-14						
Chloride	< 0.10	0.10 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Anions, Batch B4C0598, Continued**

**Blank (B4C0598-BLK3), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**LCS (B4C0598-BS1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.04	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS2)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	15.8	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.06	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.88	0.010 mg/L	2.00		94	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			

**LCS (B4C0598-BS3)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.07	0.010 mg/L	4.00		102	85-115			
Nitrogen, Nitrite as N	1.91	0.010 mg/L	2.00		96	85-115			
Sulfate	15.7	1.0 mg/L	16.0		98	85-115			

**Dissolved Metals, Batch B4C0519**

**Blank (B4C0519-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0519, Continued**

**Blank (B4C0519-BLK1), Continued**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Reference (B4C0519-SRM1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Aluminum, dissolved	23	1 ug/L	23.3		101	58-142			
Antimony, dissolved	5.0	0.05 ug/L	4.30		117	75-125			
Arsenic, dissolved	43.9	0.05 ug/L	43.8		100	81-119			
Barium, dissolved	330	0.1 ug/L	335		99	83-117			
Beryllium, dissolved	20.7	0.01 ug/L	21.3		97	80-120			
Boron, dissolved	179	1 ug/L	174		103	74-117			
Cadmium, dissolved	22.2	0.002 ug/L	22.4		99	83-117			
Calcium, dissolved	761	40 ug/L	769		99	76-124			
Chromium, dissolved	45.0	0.1 ug/L	43.7		103	81-119			
Cobalt, dissolved	13.4	0.005 ug/L	12.8		105	76-124			
Copper, dissolved	92.5	0.1 ug/L	84.4		110	84-116			
Iron, dissolved	138	2 ug/L	129		107	74-126			
Lead, dissolved	11.4	0.05 ug/L	11.2		102	72-128			
Lithium, dissolved	10.7	0.05 ug/L	10.4		103	60-140			
Magnesium, dissolved	713	5 ug/L	692		103	81-119			
Manganese, dissolved	34.9	0.05 ug/L	34.5		101	84-116			
Molybdenum, dissolved	43.9	0.01 ug/L	42.6		103	83-117			
Nickel, dissolved	88.0	0.02 ug/L	84.0		105	74-126			
Phosphorus, dissolved	62	10 ug/L	49.5		124	68-132			
Potassium, dissolved	338	10 ug/L	319		106	74-126			
Selenium, dissolved	3.3	0.1 ug/L	3.31		99	70-130			
Sodium, dissolved	2030	10 ug/L	1910		106	72-128			
Strontium, dissolved	89.1	0.1 ug/L	91.6		97	84-113			
Thallium, dissolved	3.98	0.004 ug/L	3.93		101	57-143			
Uranium, dissolved	27.7	0.001 ug/L	26.6		104	85-115			
Vanadium, dissolved	86.7	0.2 ug/L	86.9		100	87-113			
Zinc, dissolved	89	1 ug/L	88.1		101	72-128			

**General Parameters, Batch B4C0510**

**Blank (B4C0510-BLK1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended	< 2	2 mg/L							
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**Blank (B4C0510-BLK2)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0510-BS1)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended	49	2 mg/L	50.0		97	83-107			
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**LCS (B4C0510-BS2)**

Prepared: Mar-15-14, Analyzed: Mar-15-14

Solids, Total Suspended	49	2 mg/L	50.0		97	83-107			
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**General Parameters, Batch B4C0548**

**Blank (B4C0548-BLK1)**

Prepared: Mar-14-14, Analyzed: Mar-14-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes	
<b>General Parameters, Batch B4C0548, Continued</b>										
<b>Blank (B4C0548-BLK2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L								
<b>LCS (B4C0548-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Nitrogen, Ammonia as N, Total	10.0	0.020 mg/L	10.0		100	86-111				
<b>LCS (B4C0548-BS2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Nitrogen, Ammonia as N, Total	10.1	0.020 mg/L	10.0		101	86-111				
<b>General Parameters, Batch B4C0556</b>										
<b>Blank (B4C0556-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Sulfide	< 0.01	0.01 mg/L								
<b>Blank (B4C0556-BLK2)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Sulfide	< 0.01	0.01 mg/L								
<b>LCS (B4C0556-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Sulfide	0.33	0.01 mg/L	0.385		86	36-114				
<b>Duplicate (B4C0556-DUP1)</b>			<b>Source: 4030677-01</b>				Prepared: Mar-14-14, Analyzed: Mar-14-14			
Sulfide	0.03	0.01 mg/L		0.03				9		
<b>General Parameters, Batch B4C0573</b>										
<b>Blank (B4C0573-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Carbon, Total Organic	< 0.5	0.5 mg/L								
Carbon, Dissolved Organic	< 0.5	0.5 mg/L								
<b>LCS (B4C0573-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Carbon, Total Organic	8.9	0.5 mg/L	10.0		89	78-116				
Carbon, Dissolved Organic	8.9	0.5 mg/L	10.0		89	80-120				
<b>General Parameters, Batch B4C0574</b>										
<b>Blank (B4C0574-BLK1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L								
<b>LCS (B4C0574-BS1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
Carbon, Dissolved Inorganic	10.6	0.5 mg/L	10.0		106	80-120				
<b>General Parameters, Batch B4C0577</b>										
<b>Blank (B4C0577-BLK1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14							
Solids, Total Dissolved	< 10	10 mg/L								
<b>Reference (B4C0577-SRM1)</b>			Prepared: Mar-15-14, Analyzed: Mar-15-14							
Solids, Total Dissolved	245	10 mg/L	240		102	70-130				
<b>General Parameters, Batch B4C0584</b>										
<b>Reference (B4C0584-SRM1)</b>			Prepared: Mar-14-14, Analyzed: Mar-14-14							
pH	7.03	0.01 pH units	7.00		100	98-102				
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551</b>										

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551, Continued</b>									
<b>Blank (B4C0551-BLK1)</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.10	0.10 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.05	0.05 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.05	0.05 ug/L							
Benzo (g,h,i) perylene	< 0.05	0.05 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.05	0.05 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.05	0.05 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.10	0.10 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.10	0.10 ug/L							
Surrogate: Naphthalene-d8	0.759	ug/L	1.02		74	40-96			
Surrogate: Acenaphthene-d10	0.742	ug/L	0.995		75	45-92			
Surrogate: Phenanthrene-d10	0.761	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.867	ug/L	0.950		91	41-96			
Surrogate: Perylene-d12	0.746	ug/L	0.990		75	47-104			
<b>LCS (B4C0551-BS1)</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Acenaphthene	0.68	0.02 ug/L	1.00		68	54-92			
Acenaphthylene	0.74	0.02 ug/L	1.00		74	54-95			
Acridine	0.61	0.05 ug/L	1.00		61	49-87			
Anthracene	0.72	0.01 ug/L	1.00		72	53-94			
Benzo (a) anthracene	0.72	0.05 ug/L	1.00		72	52-95			
Benzo (a) pyrene	0.80	0.01 ug/L	1.00		80	52-103			
Benzo (b) fluoranthene	0.65	0.05 ug/L	1.00		65	49-94			
Benzo (g,h,i) perylene	0.69	0.02 ug/L	1.00		69	51-98			
Benzo (k) fluoranthene	0.72	0.02 ug/L	1.00		72	49-105			
Chrysene	0.82	0.05 ug/L	1.00		82	50-104			
Dibenz (a,h) anthracene	0.71	0.05 ug/L	1.00		71	49-96			
Fluoranthene	0.74	0.05 ug/L	1.00		74	53-102			
Fluorene	0.71	0.05 ug/L	1.00		71	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.70	0.05 ug/L	1.00		70	51-91			
Phenanthrene	0.71	0.05 ug/L	1.00		71	56-96			
Pyrene	0.71	0.10 ug/L	1.00		71	51-105			
Quinoline	0.64	0.05 ug/L	1.00		64	48-126			
Surrogate: Naphthalene-d8	0.738	ug/L	1.02		72	40-96			
Surrogate: Acenaphthene-d10	0.706	ug/L	0.995		71	45-92			
Surrogate: Phenanthrene-d10	0.744	ug/L	0.970		77	48-90			
Surrogate: Chrysene-d12	0.897	ug/L	0.950		94	41-96			
Surrogate: Perylene-d12	0.764	ug/L	0.990		77	47-104			
<b>LCS Dup (B4C0551-BSD1)</b>					Prepared: Mar-14-14, Analyzed: Mar-15-14				
Acenaphthene	0.70	0.02 ug/L	1.00		70	54-92	3	20	
Acenaphthylene	0.75	0.05 ug/L	1.00		75	54-95	1	20	
Acridine	0.57	0.05 ug/L	1.00		57	49-87	8	20	
Anthracene	0.72	0.05 ug/L	1.00		72	53-94	1	20	
Benzo (a) anthracene	0.71	0.05 ug/L	1.00		71	52-95	2	20	
Benzo (a) pyrene	0.78	0.01 ug/L	1.00		78	52-103	3	20	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0551, Continued**

**LCS Dup (B4C0551-BSD1), Continued**

Prepared: Mar-14-14, Analyzed: Mar-15-14

Benzo (b) fluoranthene	0.64	0.05 ug/L	1.00		64	49-94	2	20	
Benzo (g,h,i) perylene	0.68	0.05 ug/L	1.00		68	51-98	1	20	
Benzo (k) fluoranthene	0.68	0.05 ug/L	1.00		68	49-105	6	20	
Chrysene	0.79	0.02 ug/L	1.00		79	50-104	4	20	
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96	8	20	
Fluoranthene	0.75	0.05 ug/L	1.00		75	53-102	< 1	20	
Fluorene	0.72	0.02 ug/L	1.00		72	54-91	< 1	20	
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99	< 1	20	
Naphthalene	0.71	0.30 ug/L	1.00		71	51-91	1	20	
Phenanthrene	0.72	0.10 ug/L	1.00		72	56-96	< 1	20	
Pyrene	0.72	0.02 ug/L	1.00		72	51-105	1	20	
Quinoline	0.63	0.10 ug/L	1.00		63	48-126	3	20	
Surrogate: Naphthalene-d8	0.748	ug/L	1.02		73	40-96			
Surrogate: Acenaphthene-d10	0.714	ug/L	0.995		72	45-92			
Surrogate: Phenanthrene-d10	0.756	ug/L	0.970		78	48-90			
Surrogate: Chrysene-d12	0.859	ug/L	0.950		90	41-96			
Surrogate: Perylene-d12	0.717	ug/L	0.990		72	47-104			

**Total Recoverable Metals, Batch B4C0521**

**Blank (B4C0521-BLK1)**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4030677  
Mar-17-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0521, Continued**

**Blank (B4C0521-BLK1), Continued**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0521-SRM1)**

Prepared: Mar-13-14, Analyzed: Mar-14-14

Aluminum, total	61	1 ug/L	59.2		103	81-129			
Antimony, total	10.8	0.05 ug/L	10.1		107	88-114			
Arsenic, total	24.9	0.05 ug/L	24.4		102	88-114			
Barium, total	152	0.1 ug/L	155		98	72-104			
Beryllium, total	9.55	0.01 ug/L	9.76		98	76-131			
Boron, total	705	1 ug/L	680		104	75-121			
Cadmium, total	9.98	0.002 ug/L	9.80		102	89-111			
Calcium, total	2060	40 ug/L	2040		101	86-121			
Chromium, total	50.5	0.1 ug/L	48.4		104	89-114			
Cobalt, total	7.92	0.005 ug/L	7.32		108	91-113			
Copper, total	108	0.1 ug/L	97.4		111	91-115			
Iron, total	100	2 ug/L	93.8		106	77-124			
Lead, total	40.8	0.05 ug/L	38.6		106	92-113			
Lithium, total	80.5	0.05 ug/L	78.0		103	85-115			
Magnesium, total	714	5.0 ug/L	662		108	78-120			
Manganese, total	22.3	0.05 ug/L	21.8		102	90-114			
Mercury, total	0.81	0.01 ug/L	0.912		89	50-150			
Molybdenum, total	41.0	0.01 ug/L	39.4		104	90-111			
Nickel, total	51.1	0.02 ug/L	48.4		106	90-111			
Phosphorus, total	50	10 ug/L	46.6		108	85-115			
Potassium, total	1330	10 ug/L	1190		112	84-113			
Selenium, total	23.2	0.1 ug/L	23.0		101	85-115			
Sodium, total	1680	10 ug/L	1530		110	82-123			
Strontium, total	74.4	0.1 ug/L	72.6		103	88-112			
Thallium, total	16.5	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.82	0.001 ug/L	3.84		100	85-120			
Vanadium, total	75.8	0.2 ug/L	75.2		101	86-111			
Zinc, total	516	1 ug/L	484		107	85-111			

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4031125
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-20-14 15:17 / 7°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-27-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

**Please contact CARO if more information is needed or to provide feedback on our services.**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Fluoride in Water by IC	N/A	APHA 4110 B	Kelowna
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
Orthophosphate as P by IC	N/A	APHA 4110 B	Kelowna
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
MAC	Maximum acceptable concentration (health-related guideline)
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - d/s (4031125-01) [Water] Sampled: Mar-20-14 13:55**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	34	2	mg/L	N/A	Mar-25-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-25-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	34	2	mg/L	N/A	Mar-25-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-25-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-25-14	
Chloride	21.5	0.10	mg/L	N/A	Mar-21-14	
Nitrogen, Nitrate as N	0.582	0.010	mg/L	N/A	Mar-21-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-21-14	
Sulfate	4.5	1.0	mg/L	N/A	Mar-21-14	

**General Parameters**

Carbon, Total Organic	3.3	0.5	mg/L	N/A	Mar-21-14	
Carbon, Dissolved Inorganic	5.9	0.5	mg/L	N/A	Mar-21-14	
Carbon, Dissolved Organic	3.2	0.5	mg/L	N/A	Mar-21-14	
Nitrogen, Ammonia as N, Total	0.066	0.020	mg/L	N/A	Mar-25-14	
pH	7.10	0.01	pH units	N/A	Mar-21-14	
Solids, Total Dissolved	99	10	mg/L	N/A	Mar-22-14	
Solids, Total Suspended	2	2	mg/L	N/A	Mar-22-14	
Sulfide	0.03	0.01	mg/L	N/A	Mar-21-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	40.7	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	36	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.582	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	34	1	ug/L	N/A	Mar-24-14	
Antimony, dissolved	0.3	0.05	ug/L	N/A	Mar-24-14	
Arsenic, dissolved	0.44	0.05	ug/L	N/A	Mar-24-14	
Barium, dissolved	16.0	0.1	ug/L	N/A	Mar-24-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Boron, dissolved	10	1	ug/L	N/A	Mar-24-14	
Cadmium, dissolved	0.013	0.002	ug/L	N/A	Mar-24-14	
Calcium, dissolved	11200	40	ug/L	N/A	Mar-24-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Mar-24-14	
Cobalt, dissolved	0.137	0.005	ug/L	N/A	Mar-24-14	
Copper, dissolved	2.5	0.1	ug/L	N/A	Mar-24-14	
Iron, dissolved	312	2	ug/L	N/A	Mar-24-14	
Lead, dissolved	0.37	0.05	ug/L	N/A	Mar-24-14	
Lithium, dissolved	0.24	0.05	ug/L	N/A	Mar-24-14	
Magnesium, dissolved	1950	5	ug/L	N/A	Mar-24-14	
Manganese, dissolved	53.2	0.05	ug/L	N/A	Mar-24-14	

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**Sample ID: Site 1 - d/s (4031125-01) [Water] Sampled: Mar-20-14 13:55, Continued**

***Dissolved Metals, Continued***

Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Molybdenum, dissolved	<b>0.78</b>	0.01	ug/L	N/A	Mar-24-14	
Nickel, dissolved	<b>0.37</b>	0.02	ug/L	N/A	Mar-24-14	
Phosphorus, dissolved	<b>14</b>	10	ug/L	N/A	Mar-24-14	
Potassium, dissolved	<b>1230</b>	10	ug/L	N/A	Mar-24-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-24-14	
Silicon, dissolved	<b>3310</b>	50	ug/L	N/A	Mar-24-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Sodium, dissolved	<b>14300</b>	10	ug/L	N/A	Mar-24-14	
Strontium, dissolved	<b>69.5</b>	0.1	ug/L	N/A	Mar-24-14	
Sulfur, dissolved	<b>1440</b>	500	ug/L	N/A	Mar-24-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-24-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-24-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-24-14	
Titanium, dissolved	<b>0.7</b>	0.2	ug/L	N/A	Mar-24-14	
Uranium, dissolved	<b>0.017</b>	0.001	ug/L	N/A	Mar-24-14	
Vanadium, dissolved	<b>0.4</b>	0.2	ug/L	N/A	Mar-24-14	
Zinc, dissolved	<b>11</b>	1	ug/L	N/A	Mar-24-14	
Zirconium, dissolved	<b>0.04</b>	0.01	ug/L	N/A	Mar-24-14	

***Total Recoverable Metals***

Aluminum, total	<b>126</b>	1	ug/L	Mar-21-14	Mar-24-14	
Antimony, total	<b>0.3</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Arsenic, total	<b>0.53</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Barium, total	<b>15.8</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Boron, total	<b>11</b>	1	ug/L	Mar-21-14	Mar-24-14	
Cadmium, total	<b>0.017</b>	0.002	ug/L	Mar-21-14	Mar-24-14	
Calcium, total	<b>13300</b>	40	ug/L	Mar-21-14	Mar-24-14	
Chromium, total	<b>0.4</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Cobalt, total	<b>0.157</b>	0.005	ug/L	Mar-21-14	Mar-24-14	
Copper, total	<b>3.0</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Iron, total	<b>520</b>	2	ug/L	Mar-21-14	Mar-24-14	
Lead, total	<b>0.93</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Lithium, total	<b>0.32</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Magnesium, total	<b>1830</b>	5.0	ug/L	Mar-21-14	Mar-24-14	
Manganese, total	<b>50.4</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Molybdenum, total	<b>0.73</b>	0.01	ug/L	Mar-21-14	Mar-24-14	
Nickel, total	<b>0.53</b>	0.02	ug/L	Mar-21-14	Mar-24-14	
Phosphorus, total	<b>16</b>	10	ug/L	Mar-21-14	Mar-24-14	
Potassium, total	<b>1160</b>	10	ug/L	Mar-21-14	Mar-24-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-21-14	Mar-24-14	
Silicon, total	<b>3300</b>	50	ug/L	Mar-21-14	Mar-24-14	

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**Sample ID: Site 1 - d/s (4031125-01) [Water] Sampled: Mar-20-14 13:55, Continued**

**Total Recoverable Metals, Continued**

Silver, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Sodium, total	<b>13300</b>	10	ug/L	Mar-21-14	Mar-24-14	
Strontium, total	<b>61.7</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Sulfur, total	< 500	500	ug/L	Mar-21-14	Mar-24-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-21-14	Mar-24-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-21-14	Mar-24-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Tin, total	< 0.05	0.05	ug/L	Mar-21-14	Mar-24-14	
Titanium, total	<b>4.6</b>	0.2	ug/L	Mar-21-14	Mar-24-14	
Uranium, total	<b>0.022</b>	0.001	ug/L	Mar-21-14	Mar-24-14	
Vanadium, total	<b>0.6</b>	0.2	ug/L	Mar-21-14	Mar-24-14	
Zinc, total	<b>10</b>	1	ug/L	Mar-21-14	Mar-24-14	
Zirconium, total	<b>0.07</b>	0.01	ug/L	Mar-21-14	Mar-24-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-21-14	Mar-22-14	
EPHw (19-32)	< 100	100	ug/L	Mar-21-14	Mar-22-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Acridine	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Anthracene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Chrysene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Fluorene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Pyrene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Quinoline	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Surrogate: Naphthalene-d8	64 %	40-96		Mar-21-14	Mar-22-14	
Surrogate: Acenaphthene-d10	67 %	45-92		Mar-21-14	Mar-22-14	
Surrogate: Phenanthrene-d10	75 %	48-90		Mar-21-14	Mar-22-14	
Surrogate: Chrysene-d12	80 %	41-96		Mar-21-14	Mar-22-14	
Surrogate: Perylene-d12	70 %	47-104		Mar-21-14	Mar-22-14	

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**Sample ID: Site 1 - d/s - Duplicate Metals for QA (4031125-02) [Water] Sampled: Mar-20-14 13:55**

**Calculated Parameters**

Hardness, Total (Total as CaCO3)	<b>38.0</b>	0.1	mg/L	N/A	N/A	
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**Total Recoverable Metals**

Aluminum, total	<b>129</b>	1	ug/L	Mar-21-14	Mar-24-14	
Antimony, total	<b>0.3</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Arsenic, total	<b>0.52</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Barium, total	<b>15.8</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Beryllium, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Boron, total	<b>10</b>	1	ug/L	Mar-21-14	Mar-24-14	
Cadmium, total	<b>0.016</b>	0.002	ug/L	Mar-21-14	Mar-24-14	
Calcium, total	<b>12100</b>	40	ug/L	Mar-21-14	Mar-24-14	
Chromium, total	<b>0.4</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Cobalt, total	<b>0.160</b>	0.005	ug/L	Mar-21-14	Mar-24-14	
Copper, total	<b>3.0</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Iron, total	<b>523</b>	2	ug/L	Mar-21-14	Mar-24-14	
Lead, total	<b>0.86</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Lithium, total	<b>0.29</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Magnesium, total	<b>1850</b>	5.0	ug/L	Mar-21-14	Mar-24-14	
Manganese, total	<b>50.7</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Molybdenum, total	<b>0.73</b>	0.01	ug/L	Mar-21-14	Mar-24-14	
Nickel, total	<b>0.50</b>	0.02	ug/L	Mar-21-14	Mar-24-14	
Phosphorus, total	<b>16</b>	10	ug/L	Mar-21-14	Mar-24-14	
Potassium, total	<b>1170</b>	10	ug/L	Mar-21-14	Mar-24-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-21-14	Mar-24-14	
Silicon, total	<b>3300</b>	50	ug/L	Mar-21-14	Mar-24-14	
Silver, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Sodium, total	<b>13400</b>	10	ug/L	Mar-21-14	Mar-24-14	
Strontium, total	<b>62.2</b>	0.1	ug/L	Mar-21-14	Mar-24-14	
Sulfur, total	< 500	500	ug/L	Mar-21-14	Mar-24-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-21-14	Mar-24-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-21-14	Mar-24-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Tin, total	<b>0.05</b>	0.05	ug/L	Mar-21-14	Mar-24-14	
Titanium, total	<b>5.9</b>	0.2	ug/L	Mar-21-14	Mar-24-14	
Uranium, total	<b>0.021</b>	0.001	ug/L	Mar-21-14	Mar-24-14	
Vanadium, total	<b>0.6</b>	0.2	ug/L	Mar-21-14	Mar-24-14	
Zinc, total	<b>12</b>	1	ug/L	Mar-21-14	Mar-24-14	
Zirconium, total	<b>0.12</b>	0.01	ug/L	Mar-21-14	Mar-24-14	



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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0812**

**Blank (B4C0812-BLK1)**

Prepared: Mar-20-14, Analyzed: Mar-22-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4C0812-BS2)**

Prepared: Mar-20-14, Analyzed: Mar-22-14

EPHw (10-19)	2480	100 ug/L	3470		71	63-123			
EPHw (19-32)	3470	100 ug/L	4970		70	51-102			

**Anions, Batch B4C0895**

**Blank (B4C0895-BLK1)**

Prepared: Mar-25-14, Analyzed: Mar-25-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**Blank (B4C0895-BLK2)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**Blank (B4C0895-BLK3)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**Blank (B4C0895-BLK4)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C0895, Continued</b>									
<b>Blank (B4C0895-BLK5)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>LCS (B4C0895-BS1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Chloride	15.9	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.06	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.97	0.010 mg/L	2.00		99	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			
<b>LCS (B4C0895-BS2)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.10	0.010 mg/L	4.00		102	85-115			
Nitrogen, Nitrite as N	2.07	0.010 mg/L	2.00		103	85-115			
Sulfate	16.2	1.0 mg/L	16.0		101	85-115			
<b>LCS (B4C0895-BS3)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Chloride	15.9	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.03	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		97	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			
<b>LCS (B4C0895-BS4)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Chloride	15.9	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.01	0.010 mg/L	4.00		100	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		98	85-115			
Sulfate	16.0	1.0 mg/L	16.0		100	85-115			
<b>LCS (B4C0895-BS5)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.02	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		97	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			
<b>Duplicate (B4C0895-DUP3)</b>			<b>Source: 4031125-01</b>		Prepared: Mar-21-14, Analyzed: Mar-21-14				
Chloride	21.2	0.10 mg/L		21.5			1	10	
Nitrogen, Nitrate as N	0.581	0.010 mg/L		0.582			< 1	10	
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L		< 0.010				10	
Sulfate	4.5	1.0 mg/L		4.5				10	

**Anions, Batch B4C0993**

<b>Blank (B4C0993-BLK1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Alkalinity, Total as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2 mg/L							
<b>Blank (B4C0993-BLK2)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Alkalinity, Total as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0870**

**Blank (B4C0870-BLK1)**

Prepared: Mar-24-14, Analyzed: Mar-24-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Duplicate (B4C0870-DUP1)**

Source: 4031125-01

Prepared: Mar-24-14, Analyzed: Mar-24-14

Aluminum, dissolved	32	1 ug/L		34			7	14	
Antimony, dissolved	0.3	0.05 ug/L		0.3			13	31	
Arsenic, dissolved	0.41	0.05 ug/L		0.44			8	13	
Barium, dissolved	15.1	0.1 ug/L		16.0			6	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	10	1 ug/L		10			2	14	
Cadmium, dissolved	0.011	0.002 ug/L		0.013			17	16	RPD
Calcium, dissolved	11200	40 ug/L		11200			< 1	10	
Chromium, dissolved	0.2	0.1 ug/L		0.3				11	
Cobalt, dissolved	0.127	0.005 ug/L		0.137			8	16	
Copper, dissolved	2.3	0.1 ug/L		2.5			8	27	
Iron, dissolved	291	2 ug/L		312			7	14	
Lead, dissolved	0.36	0.05 ug/L		0.37			2	20	
Lithium, dissolved	0.25	0.05 ug/L		0.24			4	20	
Magnesium, dissolved	1800	5 ug/L		1950			8	11	
Manganese, dissolved	49.5	0.05 ug/L		53.2			7	15	
Molybdenum, dissolved	0.75	0.01 ug/L		0.78			4	17	
Nickel, dissolved	0.33	0.02 ug/L		0.37			13	23	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Dissolved Metals, Batch B4C0870, Continued</b>									
<b>Duplicate (B4C0870-DUP1), Continued</b>		<b>Source: 4031125-01</b>		<b>Prepared: Mar-24-14, Analyzed: Mar-24-14</b>					
Phosphorus, dissolved	< 10	10 ug/L		14				15	
Potassium, dissolved	1120	10 ug/L		1230			9	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	3050	50 ug/L		3310			8	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	13200	10 ug/L		14300			8	10	
Strontium, dissolved	64.4	0.1 ug/L		69.5			8	12	
Sulfur, dissolved	1140	500 ug/L		1440				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Titanium, dissolved	0.8	0.2 ug/L		0.7				15	
Uranium, dissolved	0.017	0.001 ug/L		0.017			< 1	16	
Vanadium, dissolved	0.4	0.2 ug/L		0.4				10	
Zinc, dissolved	9	1 ug/L		11			24	15	RPD
Zirconium, dissolved	0.04	0.01 ug/L		0.04				39	

<b>Reference (B4C0870-SRM1)</b>		<b>Prepared: Mar-24-14, Analyzed: Mar-24-14</b>							
Aluminum, dissolved	24	1 ug/L		23.3	104	58-142			
Antimony, dissolved	5.1	0.05 ug/L		4.30	118	75-125			
Arsenic, dissolved	44.0	0.05 ug/L		43.8	100	81-119			
Barium, dissolved	344	0.1 ug/L		335	103	83-117			
Beryllium, dissolved	21.1	0.01 ug/L		21.3	99	80-120			
Boron, dissolved	177	1 ug/L		174	102	74-117			
Cadmium, dissolved	22.8	0.002 ug/L		22.4	102	83-117			
Calcium, dissolved	807	40 ug/L		769	105	76-124			
Chromium, dissolved	44.7	0.1 ug/L		43.7	102	81-119			
Cobalt, dissolved	13.6	0.005 ug/L		12.8	106	76-124			
Copper, dissolved	89.2	0.1 ug/L		84.4	106	84-116			
Iron, dissolved	134	2 ug/L		129	104	74-126			
Lead, dissolved	11.6	0.05 ug/L		11.2	103	72-128			
Lithium, dissolved	10.7	0.05 ug/L		10.4	103	60-140			
Magnesium, dissolved	711	5 ug/L		692	103	81-119			
Manganese, dissolved	35.5	0.05 ug/L		34.5	103	84-116			
Molybdenum, dissolved	43.7	0.01 ug/L		42.6	103	83-117			
Nickel, dissolved	88.5	0.02 ug/L		84.0	105	74-126			
Phosphorus, dissolved	48	10 ug/L		49.5	98	68-132			
Potassium, dissolved	320	10 ug/L		319	100	74-126			
Selenium, dissolved	3.2	0.1 ug/L		3.31	98	70-130			
Sodium, dissolved	1980	10 ug/L		1910	103	72-128			
Strontium, dissolved	91.7	0.1 ug/L		91.6	100	84-113			
Thallium, dissolved	4.04	0.004 ug/L		3.93	103	57-143			
Uranium, dissolved	26.4	0.001 ug/L		26.6	99	85-115			
Vanadium, dissolved	86.1	0.2 ug/L		86.9	99	87-113			
Zinc, dissolved	90	1 ug/L		88.1	103	72-128			

**General Parameters, Batch B4C0869**

<b>Blank (B4C0869-BLK1)</b>		<b>Prepared: Mar-22-14, Analyzed: Mar-22-14</b>							
Solids, Total Suspended	< 2	2 mg/L							
<b>LCS (B4C0869-BS1)</b>		<b>Prepared: Mar-22-14, Analyzed: Mar-22-14</b>							
Solids, Total Suspended	45	2 mg/L		51.2	88	83-107			

**QUALITY CONTROL DATA**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0877</b>									
<b>Blank (B4C0877-BLK1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Sulfide	< 0.01	0.01 mg/L							
<b>Blank (B4C0877-BLK2)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Sulfide	< 0.01	0.01 mg/L							
<b>LCS (B4C0877-BS1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Sulfide	0.32	0.01 mg/L	0.385		82	36-114			
<b>LCS (B4C0877-BS2)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Sulfide	0.29	0.01 mg/L	0.385		77	36-114			
<b>Matrix Spike (B4C0877-MS2)</b>			<b>Source: 4031125-01</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14			
Sulfide	0.28	0.01 mg/L	0.250	0.03	101	77-117			
<b>General Parameters, Batch B4C0884</b>									
<b>Blank (B4C0884-BLK1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							
<b>LCS (B4C0884-BS1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Total Organic	8.9	0.5 mg/L	10.0		89	78-116			
Carbon, Dissolved Organic	9.4	0.5 mg/L	10.0		94	80-120			
<b>General Parameters, Batch B4C0885</b>									
<b>Blank (B4C0885-BLK1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0885-BS1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Dissolved Inorganic	10.9	0.5 mg/L	10.0		109	80-120			
<b>General Parameters, Batch B4C0894</b>									
<b>Blank (B4C0894-BLK1)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Solids, Total Dissolved	< 10	10 mg/L							
<b>Duplicate (B4C0894-DUP1)</b>			<b>Source: 4031125-01</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14			
Solids, Total Dissolved	90	10 mg/L		99			10	11	
<b>Reference (B4C0894-SRM1)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Solids, Total Dissolved	223	10 mg/L	240		93	70-130			
<b>General Parameters, Batch B4C0906</b>									
<b>Reference (B4C0906-SRM1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
pH	6.99	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C1005</b>									
<b>Blank (B4C1005-BLK1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK2)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C1005, Continued</b>									
<b>Blank (B4C1005-BLK3)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK4)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK5)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C1005-BS1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	1000000000	0.020 mg/L	10.0		NR	86-111			
<b>LCS (B4C1005-BS2)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	1000000000	0.020 mg/L	10.0		NR	86-111			
<b>LCS (B4C1005-BS3)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	0.993	0.020 mg/L	10.0		10	86-111			
<b>LCS (B4C1005-BS4)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L	10.0			86-111			
<b>LCS (B4C1005-BS5)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L	10.0			86-111			
<b>Duplicate (B4C1005-DUP2)</b>			<b>Source: 4031125-01</b>		Prepared: Mar-25-14, Analyzed: Mar-25-14				
Nitrogen, Ammonia as N, Total	0.060	0.020 mg/L		0.066					15

**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0812**

<b>Blank (B4C0812-BLK1)</b>			Prepared: Mar-20-14, Analyzed: Mar-22-14						
Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.677	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.722	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.777	ug/L	0.970		80	48-90			
Surrogate: Chrysene-d12	0.800	ug/L	0.950		84	41-96			
Surrogate: Perylene-d12	0.781	ug/L	0.990		79	47-104			
<b>LCS (B4C0812-BS1)</b>			Prepared: Mar-20-14, Analyzed: Mar-22-14						
Acenaphthene	0.75	0.02 ug/L	1.00		75	54-92			
Acenaphthylene	0.83	0.02 ug/L	1.00		83	54-95			
Acridine	0.69	0.05 ug/L	1.00		69	49-87			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0812, Continued**

**LCS (B4C0812-BS1), Continued**

Prepared: Mar-20-14, Analyzed: Mar-22-14

Anthracene	0.81	0.01 ug/L	1.00		81	53-94			
Benzo (a) anthracene	0.77	0.01 ug/L	1.00		77	52-95			
Benzo (a) pyrene	0.82	0.01 ug/L	1.00		82	52-103			
Benzo (b) fluoranthene	0.80	0.02 ug/L	1.00		80	49-94			
Benzo (g,h,i) perylene	0.83	0.02 ug/L	1.00		83	51-98			
Benzo (k) fluoranthene	0.78	0.02 ug/L	1.00		78	49-105			
Chrysene	0.79	0.02 ug/L	1.00		79	50-104			
Dibenz (a,h) anthracene	0.82	0.02 ug/L	1.00		82	49-96			
Fluoranthene	0.86	0.02 ug/L	1.00		86	53-102			
Fluorene	0.81	0.02 ug/L	1.00		81	54-91			
Indeno (1,2,3-cd) pyrene	0.86	0.02 ug/L	1.00		86	51-99			
Naphthalene	0.75	0.05 ug/L	1.00		75	51-91			
Phenanthrene	0.79	0.05 ug/L	1.00		79	56-96			
Pyrene	0.82	0.02 ug/L	1.00		82	51-105			
Quinoline	0.74	0.05 ug/L	1.00		74	48-126			
Surrogate: Naphthalene-d8	0.823	ug/L	1.02		81	40-96			
Surrogate: Acenaphthene-d10	0.820	ug/L	0.995		82	45-92			
Surrogate: Phenanthrene-d10	0.860	ug/L	0.970		89	48-90			
Surrogate: Chrysene-d12	0.866	ug/L	0.950		91	41-96			
Surrogate: Perylene-d12	0.838	ug/L	0.990		85	47-104			

**LCS Dup (B4C0812-BSD1)**

Prepared: Mar-20-14, Analyzed: Mar-22-14

Acenaphthene	0.72	0.02 ug/L	1.00		72	54-92	4	20	
Acenaphthylene	0.80	0.02 ug/L	1.00		80	54-95	4	20	
Acridine	0.64	0.05 ug/L	1.00		64	49-87	8	20	
Anthracene	0.78	0.01 ug/L	1.00		78	53-94	3	20	
Benzo (a) anthracene	0.72	0.01 ug/L	1.00		72	52-95	7	20	
Benzo (a) pyrene	0.77	0.01 ug/L	1.00		77	52-103	6	20	
Benzo (b) fluoranthene	0.72	0.02 ug/L	1.00		72	49-94	11	20	
Benzo (g,h,i) perylene	0.77	0.02 ug/L	1.00		77	51-98	8	20	
Benzo (k) fluoranthene	0.74	0.02 ug/L	1.00		74	49-105	5	20	
Chrysene	0.75	0.02 ug/L	1.00		75	50-104	5	20	
Dibenz (a,h) anthracene	0.74	0.02 ug/L	1.00		74	49-96	11	20	
Fluoranthene	0.83	0.02 ug/L	1.00		83	53-102	3	20	
Fluorene	0.77	0.02 ug/L	1.00		77	54-91	4	20	
Indeno (1,2,3-cd) pyrene	0.78	0.02 ug/L	1.00		78	51-99	10	20	
Naphthalene	0.71	0.05 ug/L	1.00		71	51-91	6	20	
Phenanthrene	0.76	0.05 ug/L	1.00		76	56-96	3	20	
Pyrene	0.80	0.02 ug/L	1.00		80	51-105	3	20	
Quinoline	0.69	0.05 ug/L	1.00		69	48-126	7	20	
Surrogate: Naphthalene-d8	0.759	ug/L	1.02		74	40-96			
Surrogate: Acenaphthene-d10	0.765	ug/L	0.995		77	45-92			
Surrogate: Phenanthrene-d10	0.830	ug/L	0.970		86	48-90			
Surrogate: Chrysene-d12	0.798	ug/L	0.950		84	41-96			
Surrogate: Perylene-d12	0.774	ug/L	0.990		78	47-104			

**Total Recoverable Metals, Batch B4C0872**

**Blank (B4C0872-BLK1)**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0872, Continued**

**Blank (B4C0872-BLK1), Continued**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Duplicate (B4C0872-DUP1)**

Source: 4031125-01

Prepared: Mar-21-14, Analyzed: Mar-24-14

Aluminum, total	134	1 ug/L		126			6	28	
Antimony, total	0.3	0.05 ug/L		0.3			8	36	
Arsenic, total	0.55	0.05 ug/L		0.53			4	18	
Barium, total	16.5	0.1 ug/L		15.8			4	8	
Beryllium, total	< 0.01	0.01 ug/L		< 0.01				29	
Bismuth, total	< 0.01	0.01 ug/L		< 0.01				46	
Boron, total	10	1 ug/L		11			15	40	
Cadmium, total	0.014	0.002 ug/L		0.017			16	43	
Calcium, total	11900	40 ug/L		13300			11	10	RPD
Chromium, total	0.4	0.1 ug/L		0.4				23	
Cobalt, total	0.162	0.005 ug/L		0.157			3	18	
Copper, total	3.1	0.1 ug/L		3.0			4	33	
Iron, total	546	2 ug/L		520			5	16	
Lead, total	0.85	0.05 ug/L		0.93			9	26	
Lithium, total	0.28	0.05 ug/L		0.32			14	20	
Magnesium, total	1900	5.0 ug/L		1830			4	7	
Manganese, total	52.2	0.05 ug/L		50.4			4	10	
Molybdenum, total	0.75	0.01 ug/L		0.73			2	26	
Nickel, total	0.52	0.02 ug/L		0.53			1	20	
Phosphorus, total	17	10 ug/L		16				32	
Potassium, total	1200	10 ug/L		1160			3	15	
Selenium, total	< 0.1	0.1 ug/L		< 0.1				25	
Silicon, total	3410	50 ug/L		3290			4	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	13700	10 ug/L		13300			3	11	
Strontium, total	63.9	0.1 ug/L		61.7			4	8	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0872, Continued**

Duplicate (B4C0872-DUP1), Continued		Source: 4031125-01		Prepared: Mar-21-14, Analyzed: Mar-24-14					
Sulfur, total	770	500 ug/L		< 500					20
Tellurium, total	< 0.05	0.05 ug/L		< 0.05					20
Thallium, total	< 0.004	0.004 ug/L		< 0.004					30
Thorium, total	< 0.01	0.01 ug/L		0.01					50
Tin, total	0.05	0.05 ug/L		0.05					19
Titanium, total	5.2	0.2 ug/L		4.6			11		42
Uranium, total	0.021	0.001 ug/L		0.022			4		12
Vanadium, total	0.7	0.2 ug/L		0.6					21
Zinc, total	11	1 ug/L		10			3		33
Zirconium, total	0.07	0.01 ug/L		0.07			2		41

Matrix Spike (B4C0872-MS1)		Source: 4031125-02		Prepared: Mar-21-14, Analyzed: Mar-24-14					
Antimony, total	43.3	0.05 ug/L	40.0	0.3	107	80-120			
Arsenic, total	21.5	0.05 ug/L	20.0	0.52	105	80-120			
Barium, total	125	0.1 ug/L	100	15.8	109	80-120			
Beryllium, total	11.0	0.01 ug/L	10.0	< 0.01	110	80-120			
Cadmium, total	10.8	0.002 ug/L	10.0	0.016	108	80-120			
Chromium, total	43.5	0.1 ug/L	40.0	0.4	108	80-120			
Cobalt, total	44.0	0.005 ug/L	40.0	0.160	110	80-120			
Copper, total	47.9	0.1 ug/L	40.0	3.0	112	80-120			
Iron, total	756	2 ug/L	200	523	117	80-120			
Lead, total	22.6	0.05 ug/L	20.0	0.86	109	80-120			
Manganese, total	98.5	0.05 ug/L	40.0	50.7	120	80-120			
Nickel, total	44.3	0.02 ug/L	40.0	0.50	109	80-120			
Selenium, total	10.4	0.1 ug/L	10.0	< 0.1	104	80-120			
Silver, total	10.7	0.01 ug/L	10.0	< 0.01	107	80-120			
Thallium, total	10.8	0.004 ug/L	10.0	< 0.004	108	80-120			
Vanadium, total	43.5	0.2 ug/L	40.0	0.6	107	80-120			
Zinc, total	121	1 ug/L	100	12	109	80-120			

Reference (B4C0872-SRM1)		Prepared: Mar-21-14, Analyzed: Mar-24-14							
Aluminum, total	61	1 ug/L	59.2		102	81-129			
Antimony, total	10.5	0.05 ug/L	10.1		104	88-114			
Arsenic, total	25.0	0.05 ug/L	24.4		102	88-114			
Barium, total	156	0.1 ug/L	155		100	72-104			
Beryllium, total	10.3	0.01 ug/L	9.76		105	76-131			
Boron, total	726	1 ug/L	680		107	75-121			
Cadmium, total	10.2	0.002 ug/L	9.80		104	89-111			
Calcium, total	2200	40 ug/L	2040		108	86-121			
Chromium, total	49.7	0.1 ug/L	48.4		103	89-114			
Cobalt, total	8.06	0.005 ug/L	7.32		110	91-113			
Copper, total	104	0.1 ug/L	97.4		107	91-115			
Iron, total	101	2 ug/L	93.8		108	77-124			
Lead, total	42.0	0.05 ug/L	38.6		109	92-113			
Lithium, total	84.0	0.05 ug/L	78.0		108	85-115			
Magnesium, total	703	5.0 ug/L	662		106	78-120			
Manganese, total	22.5	0.05 ug/L	21.8		103	90-114			
Molybdenum, total	40.4	0.01 ug/L	39.4		103	90-111			
Nickel, total	51.8	0.02 ug/L	48.4		107	90-111			
Phosphorus, total	40	10 ug/L	46.6		85	85-115			
Potassium, total	1270	10 ug/L	1190		107	84-113			
Selenium, total	24.0	0.1 ug/L	23.0		104	85-115			
Sodium, total	1620	10 ug/L	1530		106	82-123			
Strontium, total	75.5	0.1 ug/L	72.6		104	88-112			
Thallium, total	17.2	0.004 ug/L	15.9		108	91-114			
Uranium, total	4.19	0.001 ug/L	3.84		109	85-120			
Vanadium, total	75.6	0.2 ug/L	75.2		101	86-111			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031125  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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*Total Recoverable Metals, Batch B4C0872, Continued*

**Reference (B4C0872-SRM1), Continued**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Zinc, total	499	1 ug/L	484		103	85-111			
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**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4031126
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-20-14 15:17 / 7°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Mar-27-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

***Please contact CARO if more information is needed or to provide feedback on our services.***

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Richmond
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre
uS/cm	Microsiemens per centimeter

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4031126-01) [Water] Sampled: Mar-20-14 13:20**

**Anions**

Alkalinity, Total as CaCO3	34	2	mg/L	N/A	Mar-25-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	N/A	Mar-25-14	
Alkalinity, Bicarbonate as CaCO3	34	2	mg/L	N/A	Mar-25-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	N/A	Mar-25-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	N/A	Mar-25-14	
Chloride	28.5	0.10	mg/L	N/A	Mar-22-14	
Nitrogen, Nitrate as N	< 0.010	0.010	mg/L	N/A	Mar-22-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-22-14	
Sulfate	< 1.0	1.0	mg/L	N/A	Mar-22-14	

**General Parameters**

Carbon, Total Organic	< 0.5	0.5	mg/L	N/A	Mar-21-14	
Carbon, Dissolved Inorganic	6.2	0.5	mg/L	N/A	Mar-21-14	
Carbon, Dissolved Organic	< 0.5	0.5	mg/L	N/A	Mar-21-14	
Conductivity (EC)	162	2	uS/cm	N/A	Mar-24-14	
Nitrogen, Ammonia as N, Total	0.167	0.020	mg/L	N/A	Mar-25-14	
pH	7.44	0.01	pH units	N/A	Mar-21-14	
Solids, Total Dissolved	97	10	mg/L	N/A	Mar-22-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Mar-22-14	
Sulfide	0.02	0.01	mg/L	N/A	Mar-21-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	35.4	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	34	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	< 0.020	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	7	1	ug/L	N/A	Mar-24-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-24-14	
Arsenic, dissolved	0.57	0.05	ug/L	N/A	Mar-24-14	
Barium, dissolved	18.2	0.1	ug/L	N/A	Mar-24-14	
Beryllium, dissolved	0.02	0.01	ug/L	N/A	Mar-24-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Boron, dissolved	1	1	ug/L	N/A	Mar-24-14	
Cadmium, dissolved	0.003	0.002	ug/L	N/A	Mar-24-14	
Calcium, dissolved	10600	40	ug/L	N/A	Mar-24-14	
Chromium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-24-14	
Cobalt, dissolved	0.332	0.005	ug/L	N/A	Mar-24-14	
Copper, dissolved	0.3	0.1	ug/L	N/A	Mar-24-14	
Iron, dissolved	23	2	ug/L	N/A	Mar-24-14	
Lead, dissolved	0.06	0.05	ug/L	N/A	Mar-24-14	
Lithium, dissolved	0.27	0.05	ug/L	N/A	Mar-24-14	
Magnesium, dissolved	1710	5	ug/L	N/A	Mar-24-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4031126-01) [Water] Sampled: Mar-20-14 13:20, Continued**

***Dissolved Metals, Continued***

Manganese, dissolved	43.2	0.05	ug/L	N/A	Mar-24-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Molybdenum, dissolved	0.04	0.01	ug/L	N/A	Mar-24-14	
Nickel, dissolved	1.91	0.02	ug/L	N/A	Mar-24-14	
Phosphorus, dissolved	44	10	ug/L	N/A	Mar-24-14	
Potassium, dissolved	1730	10	ug/L	N/A	Mar-24-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-24-14	
Silicon, dissolved	3120	50	ug/L	N/A	Mar-24-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Sodium, dissolved	15400	10	ug/L	N/A	Mar-24-14	
Strontium, dissolved	63.2	0.1	ug/L	N/A	Mar-24-14	
Sulfur, dissolved	< 500	500	ug/L	N/A	Mar-24-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-24-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-24-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-24-14	
Titanium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-24-14	
Uranium, dissolved	< 0.001	0.001	ug/L	N/A	Mar-24-14	
Vanadium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-24-14	
Zinc, dissolved	10	1	ug/L	N/A	Mar-24-14	
Zirconium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-24-14	

***Total Recoverable Metals***

Aluminum, total	31	1	ug/L	Mar-21-14	Mar-24-14	
Antimony, total	0.4	0.05	ug/L	Mar-21-14	Mar-24-14	
Arsenic, total	0.62	0.05	ug/L	Mar-21-14	Mar-24-14	
Barium, total	18.5	0.1	ug/L	Mar-21-14	Mar-24-14	
Beryllium, total	0.02	0.01	ug/L	Mar-21-14	Mar-24-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Boron, total	1	1	ug/L	Mar-21-14	Mar-24-14	
Cadmium, total	0.006	0.002	ug/L	Mar-21-14	Mar-24-14	
Calcium, total	11200	40	ug/L	Mar-21-14	Mar-24-14	
Chromium, total	< 0.1	0.1	ug/L	Mar-21-14	Mar-24-14	
Cobalt, total	0.345	0.005	ug/L	Mar-21-14	Mar-24-14	
Copper, total	0.4	0.1	ug/L	Mar-21-14	Mar-24-14	
Iron, total	76	2	ug/L	Mar-21-14	Mar-24-14	
Lead, total	0.17	0.05	ug/L	Mar-21-14	Mar-24-14	
Lithium, total	0.29	0.05	ug/L	Mar-21-14	Mar-24-14	
Magnesium, total	1780	5.0	ug/L	Mar-21-14	Mar-24-14	
Manganese, total	42.8	0.05	ug/L	Mar-21-14	Mar-24-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Molybdenum, total	0.05	0.01	ug/L	Mar-21-14	Mar-24-14	
Nickel, total	2.13	0.02	ug/L	Mar-21-14	Mar-24-14	
Phosphorus, total	41	10	ug/L	Mar-21-14	Mar-24-14	
Potassium, total	1810	10	ug/L	Mar-21-14	Mar-24-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-21-14	Mar-24-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Treated (4031126-01) [Water] Sampled: Mar-20-14 13:20, Continued**

**Total Recoverable Metals, Continued**

Silicon, total	3300	50	ug/L	Mar-21-14	Mar-24-14	
Silver, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Sodium, total	15900	10	ug/L	Mar-21-14	Mar-24-14	
Strontium, total	61.9	0.1	ug/L	Mar-21-14	Mar-24-14	
Sulfur, total	< 500	500	ug/L	Mar-21-14	Mar-24-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-21-14	Mar-24-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-21-14	Mar-24-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-21-14	Mar-24-14	
Tin, total	< 0.05	0.05	ug/L	Mar-21-14	Mar-24-14	
Titanium, total	1.1	0.2	ug/L	Mar-21-14	Mar-24-14	
Uranium, total	0.002	0.001	ug/L	Mar-21-14	Mar-24-14	
Vanadium, total	< 0.2	0.2	ug/L	Mar-21-14	Mar-24-14	
Zinc, total	7	1	ug/L	Mar-21-14	Mar-24-14	
Zirconium, total	0.01	0.01	ug/L	Mar-21-14	Mar-24-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Mar-21-14	Mar-22-14	
EPHw (19-32)	< 100	100	ug/L	Mar-21-14	Mar-22-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Acenaphthylene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Acridine	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Anthracene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Mar-21-14	Mar-22-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Chrysene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Fluoranthene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Fluorene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Naphthalene	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Phenanthrene	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Pyrene	< 0.02	0.02	ug/L	Mar-21-14	Mar-22-14	
Quinoline	< 0.05	0.05	ug/L	Mar-21-14	Mar-22-14	
Surrogate: Naphthalene-d8	75 %	40-96		Mar-21-14	Mar-22-14	
Surrogate: Acenaphthene-d10	76 %	45-92		Mar-21-14	Mar-22-14	
Surrogate: Phenanthrene-d10	81 %	48-90		Mar-21-14	Mar-22-14	
Surrogate: Chrysene-d12	90 %	41-96		Mar-21-14	Mar-22-14	
Surrogate: Perylene-d12	87 %	47-104		Mar-21-14	Mar-22-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4C0812**

<b>Blank (B4C0812-BLK1)</b>									
Prepared: Mar-20-14, Analyzed: Mar-22-14									
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4C0812-BS2)</b>									
Prepared: Mar-20-14, Analyzed: Mar-22-14									
EPHw (10-19)	2480	100 ug/L	3470		71	63-123			
EPHw (19-32)	3470	100 ug/L	4970		70	51-102			

**Anions, Batch B4C0895**

<b>Blank (B4C0895-BLK1)</b>									
Prepared: Mar-25-14, Analyzed: Mar-25-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0895-BLK2)</b>									
Prepared: Mar-21-14, Analyzed: Mar-21-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0895-BLK3)</b>									
Prepared: Mar-22-14, Analyzed: Mar-22-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
<b>Blank (B4C0895-BLK4)</b>									
Prepared: Mar-22-14, Analyzed: Mar-22-14									
Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							



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**Anions, Batch B4C0895, Continued**

**Blank (B4C0895-BLK5)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

**LCS (B4C0895-BS1)**

Prepared: Mar-25-14, Analyzed: Mar-25-14

Chloride	15.9	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.06	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.97	0.010 mg/L	2.00		99	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			

**LCS (B4C0895-BS2)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.10	0.010 mg/L	4.00		102	85-115			
Nitrogen, Nitrite as N	2.07	0.010 mg/L	2.00		103	85-115			
Sulfate	16.2	1.0 mg/L	16.0		101	85-115			

**LCS (B4C0895-BS3)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Chloride	15.9	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	4.03	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		97	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			

**LCS (B4C0895-BS4)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Chloride	15.9	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.01	0.010 mg/L	4.00		100	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		98	85-115			
Sulfate	16.0	1.0 mg/L	16.0		100	85-115			

**LCS (B4C0895-BS5)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Chloride	16.0	0.10 mg/L	16.0		100	85-115			
Nitrogen, Nitrate as N	4.02	0.010 mg/L	4.00		101	85-115			
Nitrogen, Nitrite as N	1.95	0.010 mg/L	2.00		97	85-115			
Sulfate	15.8	1.0 mg/L	16.0		99	85-115			

**Anions, Batch B4C0993**

**Blank (B4C0993-BLK1)**

Prepared: Mar-25-14, Analyzed: Mar-25-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Blank (B4C0993-BLK2)**

Prepared: Mar-25-14, Analyzed: Mar-25-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**Duplicate (B4C0993-DUP1)**

Source: 4031126-01

Prepared: Mar-25-14, Analyzed: Mar-25-14

Alkalinity, Total as CaCO3	34	2 mg/L		34			1	12	
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Bicarbonate as CaCO3	34	2 mg/L		34			1	12	
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L		< 2				12	
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L		< 2				12	

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0870**

**Blank (B4C0870-BLK1)**

Prepared: Mar-24-14, Analyzed: Mar-24-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Matrix Spike (B4C0870-MS1)**

Source: 4031126-01

Prepared: Mar-24-14, Analyzed: Mar-24-14

Antimony, dissolved	40.9	0.05 ug/L	40.0	0.4	101	81-114
Arsenic, dissolved	20.0	0.05 ug/L	20.0	0.57	97	89-115
Barium, dissolved	119	0.1 ug/L	100	18.2	101	86-115
Beryllium, dissolved	10.1	0.01 ug/L	10.0	0.02	101	77-124
Cadmium, dissolved	10.1	0.002 ug/L	10.0	0.003	101	82-126
Chromium, dissolved	39.9	0.1 ug/L	40.0	< 0.1	100	85-117
Cobalt, dissolved	41.0	0.005 ug/L	40.0	0.332	102	76-131
Copper, dissolved	41.3	0.1 ug/L	40.0	0.3	103	88-113
Iron, dissolved	227	2 ug/L	200	23	102	80-115
Lead, dissolved	20.6	0.05 ug/L	20.0	0.06	103	84-121
Manganese, dissolved	85.3	0.05 ug/L	40.0	43.2	105	75-135
Nickel, dissolved	42.5	0.02 ug/L	40.0	1.91	101	83-121
Selenium, dissolved	9.5	0.1 ug/L	10.0	< 0.1	95	91-122
Silver, dissolved	10.1	0.01 ug/L	10.0	< 0.01	101	74-120
Thallium, dissolved	10.3	0.004 ug/L	10.0	< 0.004	103	79-119
Vanadium, dissolved	39.7	0.2 ug/L	40.0	< 0.2	99	80-115
Zinc, dissolved	108	1 ug/L	100	10	98	89-123

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C0870, Continued**

**Reference (B4C0870-SRM1)**

Prepared: Mar-24-14, Analyzed: Mar-24-14

Aluminum, dissolved	24	1 ug/L	23.3		104	58-142			
Antimony, dissolved	5.1	0.05 ug/L	4.30		118	75-125			
Arsenic, dissolved	44.0	0.05 ug/L	43.8		100	81-119			
Barium, dissolved	344	0.1 ug/L	335		103	83-117			
Beryllium, dissolved	21.1	0.01 ug/L	21.3		99	80-120			
Boron, dissolved	177	1 ug/L	174		102	74-117			
Cadmium, dissolved	22.8	0.002 ug/L	22.4		102	83-117			
Calcium, dissolved	807	40 ug/L	769		105	76-124			
Chromium, dissolved	44.7	0.1 ug/L	43.7		102	81-119			
Cobalt, dissolved	13.6	0.005 ug/L	12.8		106	76-124			
Copper, dissolved	89.2	0.1 ug/L	84.4		106	84-116			
Iron, dissolved	134	2 ug/L	129		104	74-126			
Lead, dissolved	11.6	0.05 ug/L	11.2		103	72-128			
Lithium, dissolved	10.7	0.05 ug/L	10.4		103	60-140			
Magnesium, dissolved	711	5 ug/L	692		103	81-119			
Manganese, dissolved	35.5	0.05 ug/L	34.5		103	84-116			
Molybdenum, dissolved	43.7	0.01 ug/L	42.6		103	83-117			
Nickel, dissolved	88.5	0.02 ug/L	84.0		105	74-126			
Phosphorus, dissolved	48	10 ug/L	49.5		98	68-132			
Potassium, dissolved	320	10 ug/L	319		100	74-126			
Selenium, dissolved	3.2	0.1 ug/L	3.31		98	70-130			
Sodium, dissolved	1980	10 ug/L	1910		103	72-128			
Strontium, dissolved	91.7	0.1 ug/L	91.6		100	84-113			
Thallium, dissolved	4.04	0.004 ug/L	3.93		103	57-143			
Uranium, dissolved	26.4	0.001 ug/L	26.6		99	85-115			
Vanadium, dissolved	86.1	0.2 ug/L	86.9		99	87-113			
Zinc, dissolved	90	1 ug/L	88.1		103	72-128			

**General Parameters, Batch B4C0869**

**Blank (B4C0869-BLK1)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4C0869-BS1)**

Prepared: Mar-22-14, Analyzed: Mar-22-14

Solids, Total Suspended	45	2 mg/L	51.2		88	83-107			
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**General Parameters, Batch B4C0877**

**Blank (B4C0877-BLK1)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Sulfide	< 0.01	0.01 mg/L							
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**Blank (B4C0877-BLK2)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Sulfide	< 0.01	0.01 mg/L							
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**LCS (B4C0877-BS1)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Sulfide	0.32	0.01 mg/L	0.385		82	36-114			
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**LCS (B4C0877-BS2)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Sulfide	0.29	0.01 mg/L	0.385		77	36-114			
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**General Parameters, Batch B4C0884**

**Blank (B4C0884-BLK1)**

Prepared: Mar-21-14, Analyzed: Mar-21-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C0884, Continued</b>									
<b>LCS (B4C0884-BS1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Total Organic	8.9	0.5 mg/L	10.0		89	78-116			
Carbon, Dissolved Organic	9.4	0.5 mg/L	10.0		94	80-120			
<b>Duplicate (B4C0884-DUP1)</b>			<b>Source: 4031126-01</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14			
Carbon, Total Organic	< 0.5	0.5 mg/L		< 0.5					16
Carbon, Dissolved Organic	< 0.5	0.5 mg/L		< 0.5					15
<b>General Parameters, Batch B4C0885</b>									
<b>Blank (B4C0885-BLK1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
<b>LCS (B4C0885-BS1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
Carbon, Dissolved Inorganic	10.9	0.5 mg/L	10.0		109	80-120			
<b>Duplicate (B4C0885-DUP1)</b>			<b>Source: 4031126-01</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14			
Carbon, Dissolved Inorganic	6.2	0.5 mg/L		6.2			1	20	
<b>General Parameters, Batch B4C0894</b>									
<b>Blank (B4C0894-BLK1)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Solids, Total Dissolved	< 10	10 mg/L							
<b>Reference (B4C0894-SRM1)</b>			Prepared: Mar-22-14, Analyzed: Mar-22-14						
Solids, Total Dissolved	223	10 mg/L	240		93	70-130			
<b>General Parameters, Batch B4C0906</b>									
<b>Reference (B4C0906-SRM1)</b>			Prepared: Mar-21-14, Analyzed: Mar-21-14						
pH	6.99	0.01 pH units	7.00		100	98-102			
<b>General Parameters, Batch B4C0967</b>									
<b>Blank (B4C0967-BLK1)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	< 2	2 uS/cm							
<b>Blank (B4C0967-BLK2)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	< 2	2 uS/cm							
<b>LCS (B4C0967-BS1)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	150	2 uS/cm	147		102	88-112			
<b>LCS (B4C0967-BS2)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	148	2 uS/cm	147		101	88-112			
<b>Reference (B4C0967-SRM1)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	500	2 uS/cm	500		100	90-110			
<b>Reference (B4C0967-SRM2)</b>			Prepared: Mar-24-14, Analyzed: Mar-24-14						
Conductivity (EC)	502	2 uS/cm	500		100	90-110			
<b>General Parameters, Batch B4C1005</b>									
<b>Blank (B4C1005-BLK1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>General Parameters, Batch B4C1005, Continued</b>									
<b>Blank (B4C1005-BLK2)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK3)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK4)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>Blank (B4C1005-BLK5)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
<b>LCS (B4C1005-BS1)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	1000000000	0.020 mg/L	10.0		NR	86-111			
<b>LCS (B4C1005-BS2)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	1000000000	0.020 mg/L	10.0		NR	86-111			
<b>LCS (B4C1005-BS3)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	0.993	0.020 mg/L	10.0		10	86-111			
<b>LCS (B4C1005-BS4)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L	10.0			86-111			
<b>LCS (B4C1005-BS5)</b>			Prepared: Mar-25-14, Analyzed: Mar-25-14						
Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L	10.0			86-111			
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0812</b>									
<b>Blank (B4C0812-BLK1)</b>			Prepared: Mar-20-14, Analyzed: Mar-22-14						
Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.677	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.722	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.777	ug/L	0.970		80	48-90			
Surrogate: Chrysene-d12	0.800	ug/L	0.950		84	41-96			
Surrogate: Perylene-d12	0.781	ug/L	0.990		79	47-104			
<b>LCS (B4C0812-BS1)</b>			Prepared: Mar-20-14, Analyzed: Mar-22-14						
Acenaphthene	0.75	0.02 ug/L	1.00		75	54-92			
Acenaphthylene	0.83	0.02 ug/L	1.00		83	54-95			
Acridine	0.69	0.05 ug/L	1.00		69	49-87			

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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4C0812, Continued**

**LCS (B4C0812-BS1), Continued**

Prepared: Mar-20-14, Analyzed: Mar-22-14

Anthracene	0.81	0.01 ug/L	1.00		81	53-94			
Benzo (a) anthracene	0.77	0.01 ug/L	1.00		77	52-95			
Benzo (a) pyrene	0.82	0.01 ug/L	1.00		82	52-103			
Benzo (b) fluoranthene	0.80	0.02 ug/L	1.00		80	49-94			
Benzo (g,h,i) perylene	0.83	0.02 ug/L	1.00		83	51-98			
Benzo (k) fluoranthene	0.78	0.02 ug/L	1.00		78	49-105			
Chrysene	0.79	0.02 ug/L	1.00		79	50-104			
Dibenz (a,h) anthracene	0.82	0.02 ug/L	1.00		82	49-96			
Fluoranthene	0.86	0.02 ug/L	1.00		86	53-102			
Fluorene	0.81	0.02 ug/L	1.00		81	54-91			
Indeno (1,2,3-cd) pyrene	0.86	0.02 ug/L	1.00		86	51-99			
Naphthalene	0.75	0.05 ug/L	1.00		75	51-91			
Phenanthrene	0.79	0.05 ug/L	1.00		79	56-96			
Pyrene	0.82	0.02 ug/L	1.00		82	51-105			
Quinoline	0.74	0.05 ug/L	1.00		74	48-126			
Surrogate: Naphthalene-d8	0.823	ug/L	1.02		81	40-96			
Surrogate: Acenaphthene-d10	0.820	ug/L	0.995		82	45-92			
Surrogate: Phenanthrene-d10	0.860	ug/L	0.970		89	48-90			
Surrogate: Chrysene-d12	0.866	ug/L	0.950		91	41-96			
Surrogate: Perylene-d12	0.838	ug/L	0.990		85	47-104			

**LCS Dup (B4C0812-BSD1)**

Prepared: Mar-20-14, Analyzed: Mar-22-14

Acenaphthene	0.72	0.02 ug/L	1.00		72	54-92	4	20	
Acenaphthylene	0.80	0.02 ug/L	1.00		80	54-95	4	20	
Acridine	0.64	0.05 ug/L	1.00		64	49-87	8	20	
Anthracene	0.78	0.01 ug/L	1.00		78	53-94	3	20	
Benzo (a) anthracene	0.72	0.01 ug/L	1.00		72	52-95	7	20	
Benzo (a) pyrene	0.77	0.01 ug/L	1.00		77	52-103	6	20	
Benzo (b) fluoranthene	0.72	0.02 ug/L	1.00		72	49-94	11	20	
Benzo (g,h,i) perylene	0.77	0.02 ug/L	1.00		77	51-98	8	20	
Benzo (k) fluoranthene	0.74	0.02 ug/L	1.00		74	49-105	5	20	
Chrysene	0.75	0.02 ug/L	1.00		75	50-104	5	20	
Dibenz (a,h) anthracene	0.74	0.02 ug/L	1.00		74	49-96	11	20	
Fluoranthene	0.83	0.02 ug/L	1.00		83	53-102	3	20	
Fluorene	0.77	0.02 ug/L	1.00		77	54-91	4	20	
Indeno (1,2,3-cd) pyrene	0.78	0.02 ug/L	1.00		78	51-99	10	20	
Naphthalene	0.71	0.05 ug/L	1.00		71	51-91	6	20	
Phenanthrene	0.76	0.05 ug/L	1.00		76	56-96	3	20	
Pyrene	0.80	0.02 ug/L	1.00		80	51-105	3	20	
Quinoline	0.69	0.05 ug/L	1.00		69	48-126	7	20	
Surrogate: Naphthalene-d8	0.759	ug/L	1.02		74	40-96			
Surrogate: Acenaphthene-d10	0.765	ug/L	0.995		77	45-92			
Surrogate: Phenanthrene-d10	0.830	ug/L	0.970		86	48-90			
Surrogate: Chrysene-d12	0.798	ug/L	0.950		84	41-96			
Surrogate: Perylene-d12	0.774	ug/L	0.990		78	47-104			

**Total Recoverable Metals, Batch B4C0872**

**Blank (B4C0872-BLK1)**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C0872, Continued**

**Blank (B4C0872-BLK1), Continued**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4C0872-SRM1)**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Aluminum, total	61	1 ug/L	59.2		102	81-129			
Antimony, total	10.5	0.05 ug/L	10.1		104	88-114			
Arsenic, total	25.0	0.05 ug/L	24.4		102	88-114			
Barium, total	156	0.1 ug/L	155		100	72-104			
Beryllium, total	10.3	0.01 ug/L	9.76		105	76-131			
Boron, total	726	1 ug/L	680		107	75-121			
Cadmium, total	10.2	0.002 ug/L	9.80		104	89-111			
Calcium, total	2200	40 ug/L	2040		108	86-121			
Chromium, total	49.7	0.1 ug/L	48.4		103	89-114			
Cobalt, total	8.06	0.005 ug/L	7.32		110	91-113			
Copper, total	104	0.1 ug/L	97.4		107	91-115			
Iron, total	101	2 ug/L	93.8		108	77-124			
Lead, total	42.0	0.05 ug/L	38.6		109	92-113			
Lithium, total	84.0	0.05 ug/L	78.0		108	85-115			
Magnesium, total	703	5.0 ug/L	662		106	78-120			
Manganese, total	22.5	0.05 ug/L	21.8		103	90-114			
Molybdenum, total	40.4	0.01 ug/L	39.4		103	90-111			
Nickel, total	51.8	0.02 ug/L	48.4		107	90-111			
Phosphorus, total	40	10 ug/L	46.6		85	85-115			
Potassium, total	1270	10 ug/L	1190		107	84-113			
Selenium, total	24.0	0.1 ug/L	23.0		104	85-115			
Sodium, total	1620	10 ug/L	1530		106	82-123			
Strontium, total	75.5	0.1 ug/L	72.6		104	88-112			
Thallium, total	17.2	0.004 ug/L	15.9		108	91-114			
Uranium, total	4.19	0.001 ug/L	3.84		109	85-120			
Vanadium, total	75.6	0.2 ug/L	75.2		101	86-111			

**QUALITY CONTROL DATA**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031126  
Mar-27-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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*Total Recoverable Metals, Batch B4C0872, Continued*

**Reference (B4C0872-SRM1), Continued**

Prepared: Mar-21-14, Analyzed: Mar-24-14

Zinc, total	499	1 ug/L	484		103	85-111			
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<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4031573
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Mar-28-14 17:30 / 6°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Apr-04-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	B06894

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

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Issued By:

**Jennifer Shanko, ASCT For Brent Coates, BSc**  
Business Manager, Richmond

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
MAC	Maximum acceptable concentration (health-related guideline)
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: WTS Port (4031573-01) [Water] Sampled: Mar-28-14 15:31**

**Anions**

Alkalinity, Total as CaCO <sub>3</sub>	39	2	mg/L	N/A	Mar-31-14	
Alkalinity, Phenolphthalein as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-31-14	
Alkalinity, Bicarbonate as CaCO <sub>3</sub>	39	2	mg/L	N/A	Mar-31-14	
Alkalinity, Carbonate as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-31-14	
Alkalinity, Hydroxide as CaCO <sub>3</sub>	< 2	2	mg/L	N/A	Mar-31-14	
Chloride	26.0	0.10	mg/L	N/A	Mar-31-14	
Nitrogen, Nitrate as N	0.085	0.010	mg/L	N/A	Mar-31-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-31-14	
Sulfate	4.3	1.0	mg/L	N/A	Mar-31-14	

**General Parameters**

Carbon, Total Organic	1.2	0.5	mg/L	N/A	Mar-31-14	
Carbon, Dissolved Inorganic	7.2	0.5	mg/L	N/A	Mar-31-14	
Carbon, Dissolved Organic	1.1	0.5	mg/L	N/A	Mar-31-14	
Nitrogen, Ammonia as N, Total	0.049	0.020	mg/L	N/A	Mar-31-14	
pH	7.39	0.01	pH units	N/A	Mar-29-14	
Solids, Total Dissolved	92	10	mg/L	N/A	Apr-03-14	
Solids, Total Suspended	< 2	2	mg/L	N/A	Apr-03-14	
Sulfide	0.02	0.01	mg/L	N/A	Apr-04-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	40.9	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	40	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.085	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	7	1	ug/L	N/A	Mar-31-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Mar-31-14	
Arsenic, dissolved	0.59	0.05	ug/L	N/A	Mar-31-14	
Barium, dissolved	16.6	0.1	ug/L	N/A	Mar-31-14	
Beryllium, dissolved	0.02	0.01	ug/L	N/A	Mar-31-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Boron, dissolved	1	1	ug/L	N/A	Mar-31-14	
Cadmium, dissolved	< 0.002	0.002	ug/L	N/A	Mar-31-14	
Calcium, dissolved	12700	40	ug/L	N/A	Mar-31-14	
Chromium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-31-14	
Cobalt, dissolved	0.154	0.005	ug/L	N/A	Mar-31-14	
Copper, dissolved	0.3	0.1	ug/L	N/A	Mar-31-14	
Iron, dissolved	4	2	ug/L	N/A	Mar-31-14	
Lead, dissolved	< 0.05	0.05	ug/L	N/A	Mar-31-14	
Lithium, dissolved	0.27	0.05	ug/L	N/A	Mar-31-14	
Magnesium, dissolved	2080	5	ug/L	N/A	Mar-31-14	
Manganese, dissolved	17.8	0.05	ug/L	N/A	Mar-31-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: WTS Port (4031573-01) [Water] Sampled: Mar-28-14 15:31, Continued**

***Dissolved Metals, Continued***

Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Molybdenum, dissolved	<b>0.16</b>	0.01	ug/L	N/A	Mar-31-14	
Nickel, dissolved	<b>1.34</b>	0.02	ug/L	N/A	Mar-31-14	
Phosphorus, dissolved	<b>36</b>	10	ug/L	N/A	Mar-31-14	
Potassium, dissolved	<b>1730</b>	10	ug/L	N/A	Mar-31-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-31-14	
Silicon, dissolved	<b>3130</b>	50	ug/L	N/A	Mar-31-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Sodium, dissolved	<b>16000</b>	10	ug/L	N/A	Mar-31-14	
Strontium, dissolved	<b>69.8</b>	0.1	ug/L	N/A	Mar-31-14	
Sulfur, dissolved	<b>1140</b>	500	ug/L	N/A	Mar-31-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-31-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-31-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Mar-31-14	
Titanium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-31-14	
Uranium, dissolved	<b>0.001</b>	0.001	ug/L	N/A	Mar-31-14	
Vanadium, dissolved	< 0.2	0.2	ug/L	N/A	Mar-31-14	
Zinc, dissolved	<b>5</b>	1	ug/L	N/A	Mar-31-14	
Zirconium, dissolved	<b>0.01</b>	0.01	ug/L	N/A	Mar-31-14	

***Total Recoverable Metals***

Aluminum, total	<b>7</b>	1	ug/L	Mar-31-14	Mar-31-14	
Antimony, total	<b>0.5</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Arsenic, total	<b>0.64</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Barium, total	<b>17.5</b>	0.1	ug/L	Mar-31-14	Mar-31-14	
Beryllium, total	<b>0.02</b>	0.01	ug/L	Mar-31-14	Mar-31-14	
Bismuth, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Boron, total	<b>3</b>	1	ug/L	Mar-31-14	Mar-31-14	
Cadmium, total	<b>0.002</b>	0.002	ug/L	Mar-31-14	Mar-31-14	
Calcium, total	<b>12700</b>	40	ug/L	Mar-31-14	Mar-31-14	
Chromium, total	< 0.1	0.1	ug/L	Mar-31-14	Mar-31-14	
Cobalt, total	<b>0.168</b>	0.005	ug/L	Mar-31-14	Mar-31-14	
Copper, total	<b>2.6</b>	0.1	ug/L	Mar-31-14	Mar-31-14	
Iron, total	<b>10</b>	2	ug/L	Mar-31-14	Mar-31-14	
Lead, total	<b>0.38</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Lithium, total	<b>0.29</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Magnesium, total	<b>2210</b>	5.0	ug/L	Mar-31-14	Mar-31-14	
Manganese, total	<b>19.9</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Molybdenum, total	<b>0.16</b>	0.01	ug/L	Mar-31-14	Mar-31-14	
Nickel, total	<b>1.40</b>	0.02	ug/L	Mar-31-14	Mar-31-14	
Phosphorus, total	<b>37</b>	10	ug/L	Mar-31-14	Mar-31-14	
Potassium, total	<b>1840</b>	10	ug/L	Mar-31-14	Mar-31-14	
Selenium, total	< 0.1	0.1	ug/L	Mar-31-14	Mar-31-14	
Silicon, total	<b>3300</b>	50	ug/L	Mar-31-14	Mar-31-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: WTS Port (4031573-01) [Water] Sampled: Mar-28-14 15:31, Continued**

**Total Recoverable Metals, Continued**

Silver, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Sodium, total	<b>16800</b>	10	ug/L	Mar-31-14	Mar-31-14	
Strontium, total	<b>72.9</b>	0.1	ug/L	Mar-31-14	Mar-31-14	
Sulfur, total	<b>1500</b>	500	ug/L	Mar-31-14	Mar-31-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-31-14	Mar-31-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-31-14	Mar-31-14	
Thorium, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Tin, total	<b>0.42</b>	0.05	ug/L	Mar-31-14	Mar-31-14	
Titanium, total	< 0.2	0.2	ug/L	Mar-31-14	Mar-31-14	
Uranium, total	<b>0.001</b>	0.001	ug/L	Mar-31-14	Mar-31-14	
Vanadium, total	< 0.2	0.2	ug/L	Mar-31-14	Mar-31-14	
Zinc, total	<b>5</b>	1	ug/L	Mar-31-14	Mar-31-14	
Zirconium, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Apr-01-14	Apr-01-14	
EPHw (19-32)	< 100	100	ug/L	Apr-01-14	Apr-01-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Acenaphthylene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Acridine	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Anthracene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Chrysene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Fluorene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Naphthalene	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Phenanthrene	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Pyrene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Quinoline	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Surrogate: Naphthalene-d8	63 %	40-96		Apr-01-14	Apr-01-14	
Surrogate: Acenaphthene-d10	70 %	45-92		Apr-01-14	Apr-01-14	
Surrogate: Phenanthrene-d10	73 %	48-90		Apr-01-14	Apr-01-14	
Surrogate: Chrysene-d12	73 %	41-96		Apr-01-14	Apr-01-14	
Surrogate: Perylene-d12	79 %	47-104		Apr-01-14	Apr-01-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 (4031573-02) [Water] Sampled: Mar-28-14 15:55**

**Anions**

Alkalinity, Total as CaCO3	35	2	mg/L	N/A	Mar-31-14	
Alkalinity, Phenolphthalein as CaCO3	< 2	2	mg/L	N/A	Mar-31-14	
Alkalinity, Bicarbonate as CaCO3	35	2	mg/L	N/A	Mar-31-14	
Alkalinity, Carbonate as CaCO3	< 2	2	mg/L	N/A	Mar-31-14	
Alkalinity, Hydroxide as CaCO3	< 2	2	mg/L	N/A	Mar-31-14	
Chloride	20.1	0.10	mg/L	N/A	Mar-31-14	
Nitrogen, Nitrate as N	0.387	0.010	mg/L	N/A	Mar-31-14	
Nitrogen, Nitrite as N	< 0.010	0.010	mg/L	N/A	Mar-31-14	
Sulfate	4.1	1.0	mg/L	N/A	Mar-31-14	

**General Parameters**

Carbon, Total Organic	7.5	0.5	mg/L	N/A	Mar-31-14	
Carbon, Dissolved Inorganic	6.6	0.5	mg/L	N/A	Mar-31-14	
Carbon, Dissolved Organic	6.2	0.5	mg/L	N/A	Mar-31-14	
Nitrogen, Ammonia as N, Total	0.048	0.020	mg/L	N/A	Mar-31-14	
pH	7.03	0.01	pH units	N/A	Mar-29-14	
Solids, Total Dissolved	82	10	mg/L	N/A	Apr-03-14	
Solids, Total Suspended	12	2	mg/L	N/A	Apr-03-14	
Sulfide	0.03	0.01	mg/L	N/A	Apr-04-14	

**Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	36.9	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	37	0.1	mg/L	N/A	N/A	
Nitrogen, Nitrate+Nitrite as N	0.387	0.020	mg/L	N/A	N/A	

**Dissolved Metals**

Aluminum, dissolved	26	1	ug/L	N/A	Mar-31-14	
Antimony, dissolved	0.3	0.05	ug/L	N/A	Mar-31-14	
Arsenic, dissolved	0.56	0.05	ug/L	N/A	Mar-31-14	
Barium, dissolved	14.8	0.1	ug/L	N/A	Mar-31-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Boron, dissolved	10	1	ug/L	N/A	Mar-31-14	
Cadmium, dissolved	0.015	0.002	ug/L	N/A	Mar-31-14	
Calcium, dissolved	11700	40	ug/L	N/A	Mar-31-14	
Chromium, dissolved	0.4	0.1	ug/L	N/A	Mar-31-14	
Cobalt, dissolved	0.180	0.005	ug/L	N/A	Mar-31-14	
Copper, dissolved	2.7	0.1	ug/L	N/A	Mar-31-14	
Iron, dissolved	312	2	ug/L	N/A	Mar-31-14	
Lead, dissolved	0.44	0.05	ug/L	N/A	Mar-31-14	
Lithium, dissolved	0.30	0.05	ug/L	N/A	Mar-31-14	
Magnesium, dissolved	1890	5	ug/L	N/A	Mar-31-14	
Manganese, dissolved	55.8	0.05	ug/L	N/A	Mar-31-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 (4031573-02) [Water] Sampled: Mar-28-14 15:55, Continued**

***Dissolved Metals, Continued***

Molybdenum, dissolved	0.82	0.01	ug/L	N/A	Mar-31-14	
Nickel, dissolved	0.45	0.02	ug/L	N/A	Mar-31-14	
Phosphorus, dissolved	18	10	ug/L	N/A	Mar-31-14	
Potassium, dissolved	1250	10	ug/L	N/A	Mar-31-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Mar-31-14	
Silicon, dissolved	2870	50	ug/L	N/A	Mar-31-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Sodium, dissolved	14000	10	ug/L	N/A	Mar-31-14	
Strontium, dissolved	63.5	0.1	ug/L	N/A	Mar-31-14	
Sulfur, dissolved	1440	500	ug/L	N/A	Mar-31-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Mar-31-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Mar-31-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Mar-31-14	
Tin, dissolved	0.07	0.05	ug/L	N/A	Mar-31-14	
Titanium, dissolved	0.6	0.2	ug/L	N/A	Mar-31-14	
Uranium, dissolved	0.017	0.001	ug/L	N/A	Mar-31-14	
Vanadium, dissolved	0.4	0.2	ug/L	N/A	Mar-31-14	
Zinc, dissolved	10	1	ug/L	N/A	Mar-31-14	
Zirconium, dissolved	0.05	0.01	ug/L	N/A	Mar-31-14	

***Total Recoverable Metals***

Aluminum, total	286	1	ug/L	Mar-31-14	Mar-31-14	
Antimony, total	0.4	0.05	ug/L	Mar-31-14	Mar-31-14	
Arsenic, total	0.77	0.05	ug/L	Mar-31-14	Mar-31-14	
Barium, total	17.3	0.1	ug/L	Mar-31-14	Mar-31-14	
Beryllium, total	0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Bismuth, total	0.02	0.01	ug/L	Mar-31-14	Mar-31-14	
Boron, total	11	1	ug/L	Mar-31-14	Mar-31-14	
Cadmium, total	0.026	0.002	ug/L	Mar-31-14	Mar-31-14	
Calcium, total	11600	40	ug/L	Mar-31-14	Mar-31-14	
Chromium, total	0.6	0.1	ug/L	Mar-31-14	Mar-31-14	
Cobalt, total	0.280	0.005	ug/L	Mar-31-14	Mar-31-14	
Copper, total	4.4	0.1	ug/L	Mar-31-14	Mar-31-14	
Iron, total	666	2	ug/L	Mar-31-14	Mar-31-14	
Lead, total	1.48	0.05	ug/L	Mar-31-14	Mar-31-14	
Lithium, total	0.34	0.05	ug/L	Mar-31-14	Mar-31-14	
Magnesium, total	1920	5.0	ug/L	Mar-31-14	Mar-31-14	
Manganese, total	62.2	0.05	ug/L	Mar-31-14	Mar-31-14	
Mercury, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Molybdenum, total	0.78	0.01	ug/L	Mar-31-14	Mar-31-14	
Nickel, total	0.64	0.02	ug/L	Mar-31-14	Mar-31-14	
Phosphorus, total	63	10	ug/L	Mar-31-14	Mar-31-14	
Potassium, total	1270	10	ug/L	Mar-31-14	Mar-31-14	
Selenium, total	0.1	0.1	ug/L	Mar-31-14	Mar-31-14	
Silicon, total	3300	50	ug/L	Mar-31-14	Mar-31-14	
Silver, total	< 0.01	0.01	ug/L	Mar-31-14	Mar-31-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 (4031573-02) [Water] Sampled: Mar-28-14 15:55, Continued**

**Total Recoverable Metals, Continued**

Sodium, total	13900	10	ug/L	Mar-31-14	Mar-31-14	
Strontium, total	64.0	0.1	ug/L	Mar-31-14	Mar-31-14	
Sulfur, total	1400	500	ug/L	Mar-31-14	Mar-31-14	
Tellurium, total	< 0.05	0.05	ug/L	Mar-31-14	Mar-31-14	
Thallium, total	< 0.004	0.004	ug/L	Mar-31-14	Mar-31-14	
Thorium, total	0.01	0.01	ug/L	Mar-31-14	Mar-31-14	
Tin, total	0.09	0.05	ug/L	Mar-31-14	Mar-31-14	
Titanium, total	8.0	0.2	ug/L	Mar-31-14	Mar-31-14	
Uranium, total	0.024	0.001	ug/L	Mar-31-14	Mar-31-14	
Vanadium, total	0.9	0.2	ug/L	Mar-31-14	Mar-31-14	
Zinc, total	17	1	ug/L	Mar-31-14	Mar-31-14	
Zirconium, total	0.19	0.01	ug/L	Mar-31-14	Mar-31-14	

**Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Apr-01-14	Apr-01-14	
EPHw (19-32)	100	100	ug/L	Apr-01-14	Apr-01-14	

**Polycyclic Aromatic Hydrocarbons (PAH)**

Acenaphthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Acenaphthylene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Acridine	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Anthracene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Apr-01-14	Apr-01-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Chrysene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Fluoranthene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Fluorene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Naphthalene	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Phenanthrene	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Pyrene	< 0.02	0.02	ug/L	Apr-01-14	Apr-01-14	
Quinoline	< 0.05	0.05	ug/L	Apr-01-14	Apr-01-14	
Surrogate: Naphthalene-d8	61 %	40-96		Apr-01-14	Apr-01-14	
Surrogate: Acenaphthene-d10	66 %	45-92		Apr-01-14	Apr-01-14	
Surrogate: Phenanthrene-d10	72 %	48-90		Apr-01-14	Apr-01-14	
Surrogate: Chrysene-d12	79 %	41-96		Apr-01-14	Apr-01-14	
Surrogate: Perylene-d12	78 %	47-104		Apr-01-14	Apr-01-14	



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4031573  
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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Site 1 - Duplicate Metals QA/QC (4031573-04) [Water] Sampled: Mar-28-14 15:55**

**Calculated Parameters**

Hardness, Total (Total as CaCO3)	35.7	0.1	mg/L	N/A	N/A	
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**Total Recoverable Metals**

Aluminum, total	220	1	ug/L	Apr-02-14	Apr-02-14	
Antimony, total	0.4	0.05	ug/L	Apr-02-14	Apr-02-14	
Arsenic, total	0.75	0.05	ug/L	Apr-02-14	Apr-02-14	
Barium, total	17.4	0.1	ug/L	Apr-02-14	Apr-02-14	
Beryllium, total	< 0.01	0.01	ug/L	Apr-02-14	Apr-02-14	
Bismuth, total	0.01	0.01	ug/L	Apr-02-14	Apr-02-14	
Boron, total	10	1	ug/L	Apr-02-14	Apr-02-14	
Cadmium, total	0.028	0.002	ug/L	Apr-02-14	Apr-02-14	
Calcium, total	11300	40	ug/L	Apr-02-14	Apr-02-14	
Chromium, total	0.6	0.1	ug/L	Apr-02-14	Apr-02-14	
Cobalt, total	0.261	0.005	ug/L	Apr-02-14	Apr-02-14	
Copper, total	4.4	0.1	ug/L	Apr-02-14	Apr-02-14	
Iron, total	626	2	ug/L	Apr-02-14	Apr-02-14	
Lead, total	1.46	0.05	ug/L	Apr-02-14	Apr-02-14	
Lithium, total	0.31	0.05	ug/L	Apr-02-14	Apr-02-14	
Magnesium, total	1840	5.0	ug/L	Apr-02-14	Apr-02-14	
Manganese, total	64.1	0.05	ug/L	Apr-02-14	Apr-02-14	
Molybdenum, total	0.73	0.01	ug/L	Apr-02-14	Apr-02-14	
Nickel, total	0.56	0.02	ug/L	Apr-02-14	Apr-02-14	
Phosphorus, total	21	10	ug/L	Apr-02-14	Apr-02-14	
Potassium, total	1240	10	ug/L	Apr-02-14	Apr-02-14	
Selenium, total	0.1	0.1	ug/L	Apr-02-14	Apr-02-14	
Silicon, total	3200	50	ug/L	Apr-02-14	Apr-02-14	
Silver, total	< 0.01	0.01	ug/L	Apr-02-14	Apr-02-14	
Sodium, total	13400	10	ug/L	Apr-02-14	Apr-02-14	
Strontium, total	66.2	0.1	ug/L	Apr-02-14	Apr-02-14	
Sulfur, total	1200	500	ug/L	Apr-02-14	Apr-02-14	
Tellurium, total	< 0.05	0.05	ug/L	Apr-02-14	Apr-02-14	
Thallium, total	< 0.004	0.004	ug/L	Apr-02-14	Apr-02-14	
Thorium, total	< 0.01	0.01	ug/L	Apr-02-14	Apr-02-14	
Tin, total	0.08	0.05	ug/L	Apr-02-14	Apr-02-14	
Titanium, total	5.6	0.2	ug/L	Apr-02-14	Apr-02-14	
Uranium, total	0.023	0.001	ug/L	Apr-02-14	Apr-02-14	
Vanadium, total	0.8	0.2	ug/L	Apr-02-14	Apr-02-14	
Zinc, total	14	1	ug/L	Apr-02-14	Apr-02-14	
Zirconium, total	0.31	0.01	ug/L	Apr-02-14	Apr-02-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Aggregate Organic Parameters, Batch B4D0009**

**Blank (B4D0009-BLK1)**

Prepared: Apr-01-14, Analyzed: Apr-01-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4D0009-BS2)**

Prepared: Apr-01-14, Analyzed: Apr-01-14

EPHw (10-19)	2710	100 ug/L	3470		78	63-123			
EPHw (19-32)	3890	100 ug/L	4970		78	51-102			

**Anions, Batch B4C1219**

**Blank (B4C1219-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Alkalinity, Total as CaCO3	< 2	2 mg/L							
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L							
Alkalinity, Bicarbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L							
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L							

**LCS (B4C1219-BS1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Alkalinity, Total as CaCO3	2140	2 mg/L	2500		85	81-109			
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**Duplicate (B4C1219-DUP1)**

Source: 4031573-01

Prepared: Mar-31-14, Analyzed: Mar-31-14

Alkalinity, Total as CaCO3	40	2 mg/L		39			3	12	
Alkalinity, Phenolphthalein as CaCO3	< 2	2 mg/L		< 2					12
Alkalinity, Bicarbonate as CaCO3	40	2 mg/L		39			3	12	
Alkalinity, Carbonate as CaCO3	< 2	2 mg/L		< 2					12
Alkalinity, Hydroxide as CaCO3	< 2	2 mg/L		< 2					12

**Anions, Batch B4C1227**

**Blank (B4C1227-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Chloride	< 0.10	0.10 mg/L							
Nitrogen, Nitrate as N	< 0.010	0.010 mg/L							
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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**WORK ORDER REPORTED** 4031573  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Anions, Batch B4C1227, Continued</b>									
<b>Blank (B4C1227-BLK1), Continued</b>									
Prepared: Mar-31-14, Analyzed: Mar-31-14									
Sulfate	< 1.0	1.0 mg/L							
<b>LCS (B4C1227-BS1)</b>									
Prepared: Mar-31-14, Analyzed: Mar-31-14									
Chloride	15.9	0.10 mg/L	16.0		99	85-115			
Nitrogen, Nitrate as N	3.98	0.010 mg/L	4.00		99	85-115			
Nitrogen, Nitrite as N	1.97	0.010 mg/L	2.00		99	85-115			
Sulfate	15.6	1.0 mg/L	16.0		97	85-115			
<b>Duplicate (B4C1227-DUP1)</b>									
Source: 4031573-01 Prepared: Mar-31-14, Analyzed: Mar-31-14									
Chloride	25.9	0.10 mg/L		26.0			< 1	10	
Nitrogen, Nitrate as N	0.084	0.010 mg/L		0.085			1	10	
Nitrogen, Nitrite as N	< 0.010	0.010 mg/L		< 0.010				10	
Sulfate	4.3	1.0 mg/L		4.3				10	

**Dissolved Metals, Batch B4C1209**

<b>Blank (B4C1209-BLK1)</b>									
Prepared: Mar-31-14, Analyzed: Mar-31-14									
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C1209, Continued**

Duplicate (B4C1209-DUP1)	Source: 4031573-01		Prepared: Mar-31-14, Analyzed: Mar-31-14						
Aluminum, dissolved	7	1 ug/L		7			4	14	
Antimony, dissolved	0.4	0.05 ug/L		0.4			3	31	
Arsenic, dissolved	0.59	0.05 ug/L		0.59			< 1	13	
Barium, dissolved	17.2	0.1 ug/L		16.6			4	16	
Beryllium, dissolved	0.02	0.01 ug/L		0.02				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	1	1 ug/L		1				14	
Cadmium, dissolved	0.003	0.002 ug/L		0.002				16	
Calcium, dissolved	12600	40 ug/L		12700			< 1	10	
Chromium, dissolved	< 0.1	0.1 ug/L		< 0.1				11	
Cobalt, dissolved	0.162	0.005 ug/L		0.154			5	16	
Copper, dissolved	0.3	0.1 ug/L		0.3				27	
Iron, dissolved	4	2 ug/L		4				14	
Lead, dissolved	0.05	0.05 ug/L		0.05				20	
Lithium, dissolved	0.27	0.05 ug/L		0.27			2	20	
Magnesium, dissolved	2160	5 ug/L		2080			4	11	
Manganese, dissolved	18.5	0.05 ug/L		17.8			4	15	
Mercury, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Molybdenum, dissolved	0.16	0.01 ug/L		0.16			3	17	
Nickel, dissolved	1.38	0.02 ug/L		1.34			3	23	
Phosphorus, dissolved	33	10 ug/L		36				15	
Potassium, dissolved	1780	10 ug/L		1730			3	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	3300	50 ug/L		3130			5	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	16400	10 ug/L		16000			3	10	
Strontium, dissolved	72.4	0.1 ug/L		69.8			4	12	
Sulfur, dissolved	1420	500 ug/L		1140				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	< 0.05	0.05 ug/L		0.05				30	
Titanium, dissolved	< 0.2	0.2 ug/L		< 0.2				15	
Uranium, dissolved	0.001	0.001 ug/L		0.001				16	
Vanadium, dissolved	< 0.2	0.2 ug/L		< 0.2				10	
Zinc, dissolved	4	1 ug/L		5			27	15	
Zirconium, dissolved	0.01	0.01 ug/L		0.01				39	

Matrix Spike (B4C1209-MS1)	Source: 4031573-02		Prepared: Mar-31-14, Analyzed: Mar-31-14						
Antimony, dissolved	40.1	0.05 ug/L	40.0	0.3	99	81-114			
Arsenic, dissolved	21.2	0.05 ug/L	20.0	0.56	103	89-115			
Barium, dissolved	120	0.1 ug/L	100	14.8	105	86-115			
Beryllium, dissolved	10.5	0.01 ug/L	10.0	< 0.01	105	77-124			
Cadmium, dissolved	10.6	0.002 ug/L	10.0	0.015	106	82-126			
Chromium, dissolved	42.8	0.1 ug/L	40.0	0.4	106	85-117			
Cobalt, dissolved	43.0	0.005 ug/L	40.0	0.180	107	76-131			
Copper, dissolved	46.4	0.1 ug/L	40.0	2.7	109	88-113			
Iron, dissolved	533	2 ug/L	200	312	110	80-115			
Lead, dissolved	21.3	0.05 ug/L	20.0	0.44	104	84-121			
Manganese, dissolved	98.1	0.05 ug/L	40.0	55.8	106	75-135			
Nickel, dissolved	43.0	0.02 ug/L	40.0	0.45	106	83-121			
Selenium, dissolved	10.8	0.1 ug/L	10.0	< 0.1	107	91-122			
Silver, dissolved	9.84	0.01 ug/L	10.0	< 0.01	98	74-120			
Thallium, dissolved	10.3	0.004 ug/L	10.0	< 0.004	103	79-119			
Vanadium, dissolved	42.9	0.2 ug/L	40.0	0.4	106	80-115			
Zinc, dissolved	115	1 ug/L	100	10	105	89-123			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Dissolved Metals, Batch B4C1209, Continued**

**Reference (B4C1209-SRM1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Aluminum, dissolved	25	1 ug/L	23.3		107	58-142			
Antimony, dissolved	4.9	0.05 ug/L	4.30		113	75-125			
Arsenic, dissolved	45.9	0.05 ug/L	43.8		105	81-119			
Barium, dissolved	364	0.1 ug/L	335		109	83-117			
Beryllium, dissolved	22.0	0.01 ug/L	21.3		103	80-120			
Boron, dissolved	187	1 ug/L	174		108	74-117			
Cadmium, dissolved	23.8	0.002 ug/L	22.4		106	83-117			
Calcium, dissolved	852	40 ug/L	769		111	76-124			
Chromium, dissolved	46.8	0.1 ug/L	43.7		107	81-119			
Cobalt, dissolved	14.1	0.005 ug/L	12.8		110	76-124			
Copper, dissolved	97.0	0.1 ug/L	84.4		115	84-116			
Iron, dissolved	144	2 ug/L	129		111	74-126			
Lead, dissolved	11.7	0.05 ug/L	11.2		105	72-128			
Lithium, dissolved	11.3	0.05 ug/L	10.4		109	60-140			
Magnesium, dissolved	777	5 ug/L	692		112	81-119			
Manganese, dissolved	36.8	0.05 ug/L	34.5		107	84-116			
Molybdenum, dissolved	46.6	0.01 ug/L	42.6		109	83-117			
Nickel, dissolved	92.5	0.02 ug/L	84.0		110	74-126			
Phosphorus, dissolved	57	10 ug/L	49.5		115	68-132			
Potassium, dissolved	358	10 ug/L	319		112	74-126			
Selenium, dissolved	3.4	0.1 ug/L	3.31		103	70-130			
Sodium, dissolved	2120	10 ug/L	1910		111	72-128			
Strontium, dissolved	97.7	0.1 ug/L	91.6		107	84-113			
Thallium, dissolved	4.11	0.004 ug/L	3.93		105	57-143			
Uranium, dissolved	27.9	0.001 ug/L	26.6		105	85-115			
Vanadium, dissolved	92.7	0.2 ug/L	86.9		107	87-113			
Zinc, dissolved	94	1 ug/L	88.1		107	72-128			

**General Parameters, Batch B4C1169**

**Reference (B4C1169-SRM1)**

Prepared: Mar-29-14, Analyzed: Mar-29-14

pH	7.00	0.01 pH units	7.00		100	98-102			
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**General Parameters, Batch B4C1199**

**Blank (B4C1199-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**Blank (B4C1199-BLK2)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Nitrogen, Ammonia as N, Total	< 0.020	0.020 mg/L							
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**LCS (B4C1199-BS1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Nitrogen, Ammonia as N, Total	9.97	0.020 mg/L	10.0		100	86-111			
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**LCS (B4C1199-BS2)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Nitrogen, Ammonia as N, Total	9.82	0.020 mg/L	10.0		98	86-111			
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**General Parameters, Batch B4C1229**

**Blank (B4C1229-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Total Organic	< 0.5	0.5 mg/L							
Carbon, Dissolved Organic	< 0.5	0.5 mg/L							

**LCS (B4C1229-BS1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Total Organic	9.1	0.5 mg/L	10.0		91	78-116			
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**General Parameters, Batch B4C1229, Continued**

**LCS (B4C1229-BS1), Continued**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Dissolved Organic	8.9	0.5 mg/L	10.0		89	80-120			
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**Duplicate (B4C1229-DUP1)**

Source: 4031573-01

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Total Organic	1.2	0.5 mg/L		1.2				16	
Carbon, Dissolved Organic	1.2	0.5 mg/L		1.1				15	

**General Parameters, Batch B4C1230**

**Blank (B4C1230-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Dissolved Inorganic	< 0.5	0.5 mg/L							
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**LCS (B4C1230-BS1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Dissolved Inorganic	10.9	0.5 mg/L	10.0		109	80-120			
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**Duplicate (B4C1230-DUP1)**

Source: 4031573-01

Prepared: Mar-31-14, Analyzed: Mar-31-14

Carbon, Dissolved Inorganic	7.2	0.5 mg/L		7.2			< 1	20	
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**General Parameters, Batch B4D0070**

**Blank (B4D0070-BLK1)**

Prepared: Apr-03-14, Analyzed: Apr-03-14

Solids, Total Suspended	< 2	2 mg/L							
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**LCS (B4D0070-BS1)**

Prepared: Apr-03-14, Analyzed: Apr-03-14

Solids, Total Suspended	44	2 mg/L	48.8		91	83-107			
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**General Parameters, Batch B4D0087**

**Blank (B4D0087-BLK1)**

Prepared: Apr-03-14, Analyzed: Apr-03-14

Solids, Total Dissolved	< 10	10 mg/L							
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**Duplicate (B4D0087-DUP1)**

Source: 4031573-01

Prepared: Apr-03-14, Analyzed: Apr-03-14

Solids, Total Dissolved	94	10 mg/L		92			2	11	
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**Reference (B4D0087-SRM1)**

Prepared: Apr-03-14, Analyzed: Apr-03-14

Solids, Total Dissolved	239	10 mg/L	240		100	70-130			
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**General Parameters, Batch B4D0142**

**Blank (B4D0142-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Sulfide	< 0.01	0.01 mg/L							
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**Blank (B4D0142-BLK2)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Sulfide	< 0.01	0.01 mg/L							
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**LCS (B4D0142-BS1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Sulfide	0.29	0.01 mg/L	0.385		75	36-114			
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0009**

**Blank (B4D0009-BLK1)**

Prepared: Apr-01-14, Analyzed: Apr-01-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0009, Continued</b>									
<b>Blank (B4D0009-BLK1), Continued</b>					Prepared: Apr-01-14, Analyzed: Apr-01-14				
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.612	ug/L	1.02		60	40-96			
Surrogate: Acenaphthene-d10	0.664	ug/L	0.995		67	45-92			
Surrogate: Phenanthrene-d10	0.691	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.763	ug/L	0.950		80	41-96			
Surrogate: Perylene-d12	0.789	ug/L	0.990		80	47-104			
<b>LCS (B4D0009-BS1)</b>					Prepared: Apr-01-14, Analyzed: Apr-01-14				
Acenaphthene	0.65	0.02 ug/L	1.00		65	54-92			
Acenaphthylene	0.74	0.02 ug/L	1.00		74	54-95			
Acridine	0.67	0.05 ug/L	1.00		67	49-87			
Anthracene	0.77	0.01 ug/L	1.00		77	53-94			
Benzo (a) anthracene	0.73	0.01 ug/L	1.00		73	52-95			
Benzo (a) pyrene	0.80	0.01 ug/L	1.00		80	52-103			
Benzo (b) fluoranthene	0.67	0.02 ug/L	1.00		67	49-94			
Benzo (g,h,i) perylene	0.77	0.02 ug/L	1.00		77	51-98			
Benzo (k) fluoranthene	0.69	0.02 ug/L	1.00		69	49-105			
Chrysene	0.74	0.02 ug/L	1.00		74	50-104			
Dibenz (a,h) anthracene	0.70	0.02 ug/L	1.00		70	49-96			
Fluoranthene	0.81	0.02 ug/L	1.00		81	53-102			
Fluorene	0.73	0.02 ug/L	1.00		73	54-91			
Indeno (1,2,3-cd) pyrene	0.75	0.02 ug/L	1.00		75	51-99			
Naphthalene	0.60	0.05 ug/L	1.00		60	51-91			
Phenanthrene	0.74	0.05 ug/L	1.00		74	56-96			
Pyrene	0.79	0.02 ug/L	1.00		79	51-105			
Quinoline	0.69	0.05 ug/L	1.00		69	48-126			
Surrogate: Naphthalene-d8	0.648	ug/L	1.02		64	40-96			
Surrogate: Acenaphthene-d10	0.685	ug/L	0.995		69	45-92			
Surrogate: Phenanthrene-d10	0.733	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.780	ug/L	0.950		82	41-96			
Surrogate: Perylene-d12	0.763	ug/L	0.990		77	47-104			
<b>LCS Dup (B4D0009-BS1)</b>					Prepared: Apr-01-14, Analyzed: Apr-01-14				
Acenaphthene	0.72	0.02 ug/L	1.00		72	54-92	10	20	
Acenaphthylene	0.74	0.02 ug/L	1.00		74	54-95	< 1	20	
Acridine	0.73	0.05 ug/L	1.00		73	49-87	9	20	
Anthracene	0.80	0.01 ug/L	1.00		80	53-94	4	20	
Benzo (a) anthracene	0.75	0.01 ug/L	1.00		75	52-95	2	20	
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103	6	20	
Benzo (b) fluoranthene	0.70	0.02 ug/L	1.00		70	49-94	4	20	
Benzo (g,h,i) perylene	0.79	0.02 ug/L	1.00		79	51-98	3	20	
Benzo (k) fluoranthene	0.70	0.02 ug/L	1.00		70	49-105	2	20	
Chrysene	0.73	0.02 ug/L	1.00		73	50-104	< 1	20	
Dibenz (a,h) anthracene	0.72	0.02 ug/L	1.00		72	49-96	2	20	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0009, Continued**

**LCS Dup (B4D0009-BSD1), Continued**

Prepared: Apr-01-14, Analyzed: Apr-01-14

Fluoranthene	0.81	0.02 ug/L	1.00		81	53-102	< 1	20	
Fluorene	0.79	0.02 ug/L	1.00		79	54-91	7	20	
Indeno (1,2,3-cd) pyrene	0.77	0.02 ug/L	1.00		77	51-99	3	20	
Naphthalene	0.71	0.05 ug/L	1.00		71	51-91	16	20	
Phenanthrene	0.78	0.05 ug/L	1.00		78	56-96	5	20	
Pyrene	0.81	0.02 ug/L	1.00		81	51-105	3	20	
Quinoline	0.71	0.05 ug/L	1.00		71	48-126	3	20	
Surrogate: Naphthalene-d8	0.721	ug/L	1.02		71	40-96			
Surrogate: Acenaphthene-d10	0.730	ug/L	0.995		73	45-92			
Surrogate: Phenanthrene-d10	0.770	ug/L	0.970		79	48-90			
Surrogate: Chrysene-d12	0.821	ug/L	0.950		86	41-96			
Surrogate: Perylene-d12	0.798	ug/L	0.990		81	47-104			

**Total Recoverable Metals, Batch B4C1210**

**Blank (B4C1210-BLK1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Duplicate (B4C1210-DUP1)**

Source: 4031573-01

Prepared: Mar-31-14, Analyzed: Mar-31-14

Aluminum, total	7	1 ug/L			7		3	28	
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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Total Recoverable Metals, Batch B4C1210, Continued</b>									
<b>Duplicate (B4C1210-DUP1), Continued</b>		<b>Source: 4031573-01</b>		<b>Prepared: Mar-31-14, Analyzed: Mar-31-14</b>					
Antimony, total	0.4	0.05 ug/L		0.5			11	36	
Arsenic, total	0.62	0.05 ug/L		0.64			3	18	
Barium, total	17.4	0.1 ug/L		17.5			< 1	8	
Beryllium, total	0.01	0.01 ug/L		0.02				29	
Bismuth, total	< 0.01	0.01 ug/L		< 0.01				46	
Boron, total	1	1 ug/L		3				40	
Cadmium, total	0.003	0.002 ug/L		0.002				43	
Calcium, total	12700	40 ug/L		12700			< 1	10	
Chromium, total	< 0.1	0.1 ug/L		< 0.1				23	
Cobalt, total	0.177	0.005 ug/L		0.168			5	18	
Copper, total	2.5	0.1 ug/L		2.6			3	33	
Iron, total	10	2 ug/L		10			6	16	
Lead, total	0.38	0.05 ug/L		0.38			< 1	26	
Lithium, total	0.27	0.05 ug/L		0.29			6	20	
Magnesium, total	2200	5.0 ug/L		2210			< 1	7	
Manganese, total	20.0	0.05 ug/L		19.9			< 1	10	
Mercury, total	< 0.01	0.01 ug/L		< 0.01				40	
Molybdenum, total	0.26	0.01 ug/L		0.16			45	26	RPD
Nickel, total	1.45	0.02 ug/L		1.40			3	20	
Phosphorus, total	33	10 ug/L		37				32	
Potassium, total	1850	10 ug/L		1840			< 1	15	
Selenium, total	0.1	0.1 ug/L		< 0.1				25	
Silicon, total	3350	50 ug/L		3340			< 1	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	16800	10 ug/L		16800			< 1	11	
Strontium, total	73.3	0.1 ug/L		72.9			< 1	8	
Sulfur, total	1600	500 ug/L		1500				20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	< 0.004	0.004 ug/L		< 0.004				30	
Thorium, total	< 0.01	0.01 ug/L		< 0.01				50	
Tin, total	0.44	0.05 ug/L		0.42			3	19	
Titanium, total	< 0.2	0.2 ug/L		< 0.2				42	
Uranium, total	0.001	0.001 ug/L		0.001				12	
Vanadium, total	< 0.2	0.2 ug/L		< 0.2				21	
Zinc, total	7	1 ug/L		5			32	33	
Zirconium, total	< 0.01	0.01 ug/L		< 0.01				41	

<b>Matrix Spike (B4C1210-MS1)</b>		<b>Source: 4031573-02</b>		<b>Prepared: Mar-31-14, Analyzed: Mar-31-14</b>					
Antimony, total	42.1	0.05 ug/L	40.0	0.4	104	80-120			
Arsenic, total	21.0	0.05 ug/L	20.0	0.77	101	80-120			
Barium, total	119	0.1 ug/L	100	17.3	102	80-120			
Beryllium, total	10.4	0.01 ug/L	10.0	0.01	104	80-120			
Cadmium, total	10.3	0.002 ug/L	10.0	0.026	102	80-120			
Chromium, total	42.4	0.1 ug/L	40.0	0.6	104	80-120			
Cobalt, total	42.5	0.005 ug/L	40.0	0.280	106	80-120			
Copper, total	47.0	0.1 ug/L	40.0	4.4	107	80-120			
Iron, total	897	2 ug/L	200	666	115	80-120			
Lead, total	22.2	0.05 ug/L	20.0	1.48	103	80-120			
Manganese, total	107	0.05 ug/L	40.0	62.2	111	80-120			
Nickel, total	42.2	0.02 ug/L	40.0	0.64	104	80-120			
Selenium, total	10.7	0.1 ug/L	10.0	0.1	106	80-120			
Silver, total	8.91	0.01 ug/L	10.0	< 0.01	89	80-120			
Thallium, total	10.2	0.004 ug/L	10.0	< 0.004	102	80-120			
Vanadium, total	42.8	0.2 ug/L	40.0	0.9	105	80-120			
Zinc, total	118	1 ug/L	100	17	101	80-120			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4C1210, Continued**

**Reference (B4C1210-SRM1)**

Prepared: Mar-31-14, Analyzed: Mar-31-14

Aluminum, total	62	1 ug/L	59.2		105	81-129			
Antimony, total	10.9	0.05 ug/L	10.1		108	88-114			
Arsenic, total	24.9	0.05 ug/L	24.4		102	88-114			
Barium, total	152	0.1 ug/L	155		98	72-104			
Beryllium, total	10.0	0.01 ug/L	9.76		103	76-131			
Boron, total	742	1 ug/L	680		109	75-121			
Cadmium, total	10.0	0.002 ug/L	9.80		102	89-111			
Calcium, total	2160	40 ug/L	2040		106	86-121			
Chromium, total	50.2	0.1 ug/L	48.4		104	89-114			
Cobalt, total	7.88	0.005 ug/L	7.32		108	91-113			
Copper, total	107	0.1 ug/L	97.4		110	91-115			
Iron, total	105	2 ug/L	93.8		112	77-124			
Lead, total	40.6	0.05 ug/L	38.6		105	92-113			
Lithium, total	84.9	0.05 ug/L	78.0		109	85-115			
Magnesium, total	723	5.0 ug/L	662		109	78-120			
Manganese, total	22.4	0.05 ug/L	21.8		103	90-114			
Mercury, total	0.84	0.01 ug/L	0.912		92	50-150			
Molybdenum, total	41.1	0.01 ug/L	39.4		104	90-111			
Nickel, total	51.0	0.02 ug/L	48.4		105	90-111			
Phosphorus, total	42	10 ug/L	46.6		90	85-115			
Potassium, total	1340	10 ug/L	1190		113	84-113			
Selenium, total	24.0	0.1 ug/L	23.0		104	85-115			
Sodium, total	1680	10 ug/L	1530		110	82-123			
Strontium, total	75.6	0.1 ug/L	72.6		104	88-112			
Thallium, total	16.9	0.004 ug/L	15.9		106	91-114			
Uranium, total	3.88	0.001 ug/L	3.84		101	85-120			
Vanadium, total	77.9	0.2 ug/L	75.2		104	86-111			
Zinc, total	511	1 ug/L	484		106	85-111			

**Total Recoverable Metals, Batch B4D0069**

**Blank (B4D0069-BLK1)**

Prepared: Apr-02-14, Analyzed: Apr-02-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>Total Recoverable Metals, Batch B4D0069, Continued</b>									
<b>Blank (B4D0069-BLK1), Continued</b>					Prepared: Apr-02-14, Analyzed: Apr-02-14				
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							
<b>Duplicate (B4D0069-DUP1)</b>					Source: 4031573-04 Prepared: Apr-02-14, Analyzed: Apr-02-14				
Aluminum, total	209	1 ug/L		220			5	28	
Antimony, total	0.4	0.05 ug/L		0.4			< 1	36	
Arsenic, total	0.74	0.05 ug/L		0.75			1	18	
Barium, total	17.3	0.1 ug/L		17.4			< 1	8	
Beryllium, total	< 0.01	0.01 ug/L		< 0.01				29	
Bismuth, total	0.01	0.01 ug/L		0.01				46	
Boron, total	10	1 ug/L		10			< 1	40	
Cadmium, total	0.028	0.002 ug/L		0.028			< 1	43	
Calcium, total	11300	40 ug/L		11300			< 1	10	
Chromium, total	0.6	0.1 ug/L		0.6			< 1	23	
Cobalt, total	0.263	0.005 ug/L		0.261			< 1	18	
Copper, total	4.4	0.1 ug/L		4.4			< 1	33	
Iron, total	634	2 ug/L		626			1	16	
Lead, total	1.45	0.05 ug/L		1.46			< 1	26	
Lithium, total	0.32	0.05 ug/L		0.31			3	20	
Magnesium, total	1870	5.0 ug/L		1840			2	7	
Manganese, total	65.5	0.05 ug/L		64.1			2	10	
Molybdenum, total	0.72	0.01 ug/L		0.73			1	26	
Nickel, total	0.57	0.02 ug/L		0.56			1	20	
Phosphorus, total	21	10 ug/L		21				32	
Potassium, total	1240	10 ug/L		1240			< 1	15	
Selenium, total	0.1	0.1 ug/L		0.1				25	
Silicon, total	3190	50 ug/L		3210			< 1	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	13500	10 ug/L		13400			< 1	11	
Strontium, total	66.6	0.1 ug/L		66.2			< 1	8	
Sulfur, total	1100	500 ug/L		1200				20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	< 0.004	0.004 ug/L		< 0.004				30	
Thorium, total	< 0.01	0.01 ug/L		< 0.01				50	
Tin, total	0.08	0.05 ug/L		0.08				19	
Titanium, total	5.4	0.2 ug/L		5.6			5	42	
Uranium, total	0.024	0.001 ug/L		0.023			2	12	
Vanadium, total	0.8	0.2 ug/L		0.8				21	
Zinc, total	17	1 ug/L		14			14	33	
Zirconium, total	0.14	0.01 ug/L		0.31			76	41	RPD
<b>Matrix Spike (B4D0069-MS1)</b>					Source: 4031573-04 Prepared: Apr-02-14, Analyzed: Apr-02-14				
Antimony, total	43.5	0.05 ug/L	40.0	0.4	108	80-120			
Arsenic, total	21.1	0.05 ug/L	20.0	0.75	102	80-120			
Barium, total	119	0.1 ug/L	100	17.4	102	80-120			
Beryllium, total	10.4	0.01 ug/L	10.0	< 0.01	104	80-120			
Cadmium, total	10.1	0.002 ug/L	10.0	0.028	101	80-120			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4031573  
Apr-04-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**Total Recoverable Metals, Batch B4D0069, Continued**

Matrix Spike (B4D0069-MS1), Continued	Source: 4031573-04		Prepared: Apr-02-14, Analyzed: Apr-02-14						
Chromium, total	42.9	0.1 ug/L	40.0	0.6	106	80-120			
Cobalt, total	42.5	0.005 ug/L	40.0	0.261	106	80-120			
Copper, total	47.0	0.1 ug/L	40.0	4.4	107	80-120			
Iron, total	844	2 ug/L	200	626	109	80-120			
Lead, total	21.8	0.05 ug/L	20.0	1.46	101	80-120			
Manganese, total	106	0.05 ug/L	40.0	64.1	105	80-120			
Nickel, total	41.8	0.02 ug/L	40.0	0.56	103	80-120			
Selenium, total	10.6	0.1 ug/L	10.0	0.1	105	80-120			
Silver, total	9.44	0.01 ug/L	10.0	< 0.01	94	80-120			
Thallium, total	10.3	0.004 ug/L	10.0	< 0.004	103	80-120			
Vanadium, total	42.8	0.2 ug/L	40.0	0.8	105	80-120			
Zinc, total	117	1 ug/L	100	14	103	80-120			

Reference (B4D0069-SRM1)	Prepared: Apr-02-14, Analyzed: Apr-02-14								
Aluminum, total	62	1 ug/L	59.2		104	81-129			
Antimony, total	11.0	0.05 ug/L	10.1		109	88-114			
Arsenic, total	24.7	0.05 ug/L	24.4		101	88-114			
Barium, total	155	0.1 ug/L	155		100	72-104			
Beryllium, total	9.87	0.01 ug/L	9.76		101	76-131			
Boron, total	712	1 ug/L	680		105	75-121			
Cadmium, total	9.98	0.002 ug/L	9.80		102	89-111			
Calcium, total	2170	40 ug/L	2040		106	86-121			
Chromium, total	50.8	0.1 ug/L	48.4		105	89-114			
Cobalt, total	7.97	0.005 ug/L	7.32		109	91-113			
Copper, total	104	0.1 ug/L	97.4		106	91-115			
Iron, total	103	2 ug/L	93.8		109	77-124			
Lead, total	40.2	0.05 ug/L	38.6		104	92-113			
Lithium, total	80.4	0.05 ug/L	78.0		103	85-115			
Magnesium, total	720	5.0 ug/L	662		109	78-120			
Manganese, total	22.7	0.05 ug/L	21.8		104	90-114			
Molybdenum, total	41.6	0.01 ug/L	39.4		105	90-111			
Nickel, total	50.7	0.02 ug/L	48.4		105	90-111			
Phosphorus, total	42	10 ug/L	46.6		91	85-115			
Potassium, total	1300	10 ug/L	1190		109	84-113			
Selenium, total	24.0	0.1 ug/L	23.0		104	85-115			
Sodium, total	1590	10 ug/L	1530		104	82-123			
Strontium, total	78.0	0.1 ug/L	72.6		107	88-112			
Thallium, total	16.4	0.004 ug/L	15.9		104	91-114			
Uranium, total	3.82	0.001 ug/L	3.84		100	85-120			
Vanadium, total	77.0	0.2 ug/L	75.2		102	86-111			
Zinc, total	494	1 ug/L	484		102	85-111			

**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4040312
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Apr-04-14 11:04 / 9°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Apr-07-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Issued By: **DRAFT REPORT**  
DATA SUBJECT TO CHANGE

**Please contact CARO if more information is needed or to provide feedback on our services.**

**Locations:**

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**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Richmond
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre
uS/cm	Microsiemens per centimeter

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Burnaby Lake d/s Site 1 (4040312-01) [Water] Sampled: Apr-04-14 09:30**

**DRAFT: General Parameters**

Conductivity (EC)	162	2	uS/cm	N/A	Apr-04-14	
pH	6.96	0.01	pH units	N/A	Apr-04-14	

**DRAFT: Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO <sub>3</sub> )	41.8	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO <sub>3</sub> )	42	0.1	mg/L	N/A	N/A	

**DRAFT: Dissolved Metals**

Aluminum, dissolved	37	1	ug/L	N/A	Apr-04-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Apr-04-14	
Arsenic, dissolved	0.60	0.05	ug/L	N/A	Apr-04-14	
Barium, dissolved	16.1	0.1	ug/L	N/A	Apr-04-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Boron, dissolved	11	1	ug/L	N/A	Apr-04-14	
Cadmium, dissolved	0.010	0.002	ug/L	N/A	Apr-04-14	
Calcium, dissolved	13100	40	ug/L	N/A	Apr-04-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Apr-04-14	
Cobalt, dissolved	0.119	0.005	ug/L	N/A	Apr-04-14	
Copper, dissolved	2.7	0.1	ug/L	N/A	Apr-04-14	
Iron, dissolved	358	2	ug/L	N/A	Apr-04-14	
Lead, dissolved	0.48	0.05	ug/L	N/A	Apr-04-14	
Lithium, dissolved	0.30	0.05	ug/L	N/A	Apr-04-14	
Magnesium, dissolved	2150	5	ug/L	N/A	Apr-04-14	
Manganese, dissolved	52.4	0.05	ug/L	N/A	Apr-04-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Molybdenum, dissolved	0.84	0.01	ug/L	N/A	Apr-04-14	
Nickel, dissolved	0.49	0.02	ug/L	N/A	Apr-04-14	
Phosphorus, dissolved	11	10	ug/L	N/A	Apr-04-14	
Potassium, dissolved	1360	10	ug/L	N/A	Apr-04-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Apr-04-14	
Silicon, dissolved	3370	50	ug/L	N/A	Apr-04-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Sodium, dissolved	14800	10	ug/L	N/A	Apr-04-14	
Strontium, dissolved	76.9	0.1	ug/L	N/A	Apr-04-14	
Sulfur, dissolved	1640	500	ug/L	N/A	Apr-04-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Apr-04-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Apr-04-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Apr-04-14	
Titanium, dissolved	0.8	0.2	ug/L	N/A	Apr-04-14	
Uranium, dissolved	0.020	0.001	ug/L	N/A	Apr-04-14	
Vanadium, dissolved	0.4	0.2	ug/L	N/A	Apr-04-14	

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**Sample ID: Burnaby Lake d/s Site 1 (4040312-01) [Water] Sampled: Apr-04-14 09:30, Continued**

**DRAFT: Dissolved Metals, Continued**

Zinc, dissolved	8	1	ug/L	N/A	Apr-04-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Apr-04-14	

**DRAFT: Total Recoverable Metals**

Aluminum, total	124	1	ug/L	Apr-04-14	Apr-04-14	
Antimony, total	0.4	0.05	ug/L	Apr-04-14	Apr-04-14	
Arsenic, total	0.72	0.05	ug/L	Apr-04-14	Apr-04-14	
Barium, total	17.1	0.1	ug/L	Apr-04-14	Apr-04-14	
Beryllium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Bismuth, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Boron, total	14	1	ug/L	Apr-04-14	Apr-04-14	
Cadmium, total	0.014	0.002	ug/L	Apr-04-14	Apr-04-14	
Calcium, total	13200	40	ug/L	Apr-04-14	Apr-04-14	
Chromium, total	0.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Cobalt, total	0.148	0.005	ug/L	Apr-04-14	Apr-04-14	
Copper, total	3.3	0.1	ug/L	Apr-04-14	Apr-04-14	
Iron, total	580	2	ug/L	Apr-04-14	Apr-04-14	
Lead, total	0.95	0.05	ug/L	Apr-04-14	Apr-04-14	
Lithium, total	0.33	0.05	ug/L	Apr-04-14	Apr-04-14	
Magnesium, total	2170	5.0	ug/L	Apr-04-14	Apr-04-14	
Manganese, total	58.3	0.05	ug/L	Apr-04-14	Apr-04-14	
Mercury, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Molybdenum, total	0.79	0.01	ug/L	Apr-04-14	Apr-04-14	
Nickel, total	0.57	0.02	ug/L	Apr-04-14	Apr-04-14	
Phosphorus, total	20	10	ug/L	Apr-04-14	Apr-04-14	
Potassium, total	1380	10	ug/L	Apr-04-14	Apr-04-14	
Selenium, total	< 0.1	0.1	ug/L	Apr-04-14	Apr-04-14	
Silicon, total	3600	50	ug/L	Apr-04-14	Apr-04-14	
Silver, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Sodium, total	14900	10	ug/L	Apr-04-14	Apr-04-14	
Strontium, total	76.6	0.1	ug/L	Apr-04-14	Apr-04-14	
Sulfur, total	1400	500	ug/L	Apr-04-14	Apr-04-14	
Tellurium, total	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Thallium, total	< 0.004	0.004	ug/L	Apr-04-14	Apr-04-14	
Thorium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Tin, total	0.08	0.05	ug/L	Apr-04-14	Apr-04-14	
Titanium, total	3.6	0.2	ug/L	Apr-04-14	Apr-04-14	
Uranium, total	0.023	0.001	ug/L	Apr-04-14	Apr-04-14	
Vanadium, total	0.7	0.2	ug/L	Apr-04-14	Apr-04-14	
Zinc, total	10	1	ug/L	Apr-04-14	Apr-04-14	
Zirconium, total	0.13	0.01	ug/L	Apr-04-14	Apr-04-14	

**DRAFT: Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Apr-04-14	Apr-04-14	
EPHw (19-32)	< 100	100	ug/L	Apr-04-14	Apr-04-14	

**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH)**



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**Sample ID: Burnaby Lake d/s Site 1 (4040312-01) [Water] Sampled: Apr-04-14 09:30, Continued**

***DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Continued***

Acenaphthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Acenaphthylene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Acridine	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Anthracene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Chrysene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Fluorene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Naphthalene	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Phenanthrene	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Pyrene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Quinoline	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
<i>Surrogate: Naphthalene-d8</i>	64 %	40-96		Apr-04-14	Apr-04-14	
<i>Surrogate: Acenaphthene-d10</i>	66 %	45-92		Apr-04-14	Apr-04-14	
<i>Surrogate: Phenanthrene-d10</i>	69 %	48-90		Apr-04-14	Apr-04-14	
<i>Surrogate: Chrysene-d12</i>	70 %	41-96		Apr-04-14	Apr-04-14	
<i>Surrogate: Perylene-d12</i>	68 %	47-104		Apr-04-14	Apr-04-14	

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Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Burnaby Lake u/s Site 1 - Laboratory Duplicate Metals (4040312-02) [Water] Sampled: Apr-04-14 08:45**

**DRAFT: Calculated Parameters**

Hardness, Total (Total as CaCO3)	41.7	0.1	mg/L	N/A	N/A	
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**DRAFT: Total Recoverable Metals**

Aluminum, total	119	1	ug/L	Apr-04-14	Apr-04-14	
Antimony, total	0.4	0.05	ug/L	Apr-04-14	Apr-04-14	
Arsenic, total	0.71	0.05	ug/L	Apr-04-14	Apr-04-14	
Barium, total	17.2	0.1	ug/L	Apr-04-14	Apr-04-14	
Beryllium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Bismuth, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Boron, total	13	1	ug/L	Apr-04-14	Apr-04-14	
Cadmium, total	0.015	0.002	ug/L	Apr-04-14	Apr-04-14	
Calcium, total	13100	40	ug/L	Apr-04-14	Apr-04-14	
Chromium, total	0.4	0.1	ug/L	Apr-04-14	Apr-04-14	
Cobalt, total	0.149	0.005	ug/L	Apr-04-14	Apr-04-14	
Copper, total	3.3	0.1	ug/L	Apr-04-14	Apr-04-14	
Iron, total	582	2	ug/L	Apr-04-14	Apr-04-14	
Lead, total	0.94	0.05	ug/L	Apr-04-14	Apr-04-14	
Lithium, total	0.32	0.05	ug/L	Apr-04-14	Apr-04-14	
Magnesium, total	2170	5.0	ug/L	Apr-04-14	Apr-04-14	
Manganese, total	58.4	0.05	ug/L	Apr-04-14	Apr-04-14	
Molybdenum, total	0.81	0.01	ug/L	Apr-04-14	Apr-04-14	
Nickel, total	0.55	0.02	ug/L	Apr-04-14	Apr-04-14	
Phosphorus, total	21	10	ug/L	Apr-04-14	Apr-04-14	
Potassium, total	1370	10	ug/L	Apr-04-14	Apr-04-14	
Selenium, total	< 0.1	0.1	ug/L	Apr-04-14	Apr-04-14	
Silicon, total	3600	50	ug/L	Apr-04-14	Apr-04-14	
Silver, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Sodium, total	14800	10	ug/L	Apr-04-14	Apr-04-14	
Strontium, total	76.6	0.1	ug/L	Apr-04-14	Apr-04-14	
Sulfur, total	1500	500	ug/L	Apr-04-14	Apr-04-14	
Tellurium, total	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Thallium, total	< 0.004	0.004	ug/L	Apr-04-14	Apr-04-14	
Thorium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Tin, total	0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Titanium, total	4.6	0.2	ug/L	Apr-04-14	Apr-04-14	
Uranium, total	0.023	0.001	ug/L	Apr-04-14	Apr-04-14	
Vanadium, total	0.7	0.2	ug/L	Apr-04-14	Apr-04-14	
Zinc, total	10	1	ug/L	Apr-04-14	Apr-04-14	
Zirconium, total	0.14	0.01	ug/L	Apr-04-14	Apr-04-14	

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Aggregate Organic Parameters, Batch B4D0121**

**Blank (B4D0121-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							

**LCS (B4D0121-BS2)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

EPHw (10-19)	2750	100 ug/L	3470		79	63-123			
EPHw (19-32)	3960	100 ug/L	4970		80	51-102			

**DRAFT: Dissolved Metals, Batch B4D0165**

**Blank (B4D0165-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
<b>DRAFT: Dissolved Metals, Batch B4D0165, Continued</b>									
<b>Blank (B4D0165-BLK1), Continued</b>					Prepared: Apr-04-14, Analyzed: Apr-04-14				
Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							
<b>Duplicate (B4D0165-DUP1)</b>			<b>Source: 4040312-01</b>		Prepared: Apr-04-14, Analyzed: Apr-04-14				
Aluminum, dissolved	37	1 ug/L		37			1	14	
Antimony, dissolved	0.4	0.05 ug/L		0.4			5	31	
Arsenic, dissolved	0.60	0.05 ug/L		0.60			1	13	
Barium, dissolved	16.2	0.1 ug/L		16.1			< 1	16	
Beryllium, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Bismuth, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Boron, dissolved	11	1 ug/L		11			1	14	
Cadmium, dissolved	0.012	0.002 ug/L		0.010			20	16	RPD
Calcium, dissolved	13100	40 ug/L		13100			< 1	10	
Chromium, dissolved	0.4	0.1 ug/L		0.3				11	
Cobalt, dissolved	0.120	0.005 ug/L		0.119			1	16	
Copper, dissolved	2.7	0.1 ug/L		2.7			< 1	27	
Iron, dissolved	357	2 ug/L		358			< 1	14	
Lead, dissolved	0.47	0.05 ug/L		0.48			< 1	20	
Lithium, dissolved	0.30	0.05 ug/L		0.30			2	20	
Magnesium, dissolved	2170	5 ug/L		2150			< 1	11	
Manganese, dissolved	52.8	0.05 ug/L		52.4			< 1	15	
Mercury, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Molybdenum, dissolved	0.83	0.01 ug/L		0.84			< 1	17	
Nickel, dissolved	0.50	0.02 ug/L		0.49			1	23	
Phosphorus, dissolved	15	10 ug/L		11				15	
Potassium, dissolved	1370	10 ug/L		1360			< 1	10	
Selenium, dissolved	< 0.1	0.1 ug/L		< 0.1				22	
Silicon, dissolved	3400	50 ug/L		3370			1	11	
Silver, dissolved	< 0.01	0.01 ug/L		< 0.01				30	
Sodium, dissolved	14900	10 ug/L		14800			< 1	10	
Strontium, dissolved	76.7	0.1 ug/L		76.9			< 1	12	
Sulfur, dissolved	1620	500 ug/L		1640				21	
Tellurium, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Thallium, dissolved	< 0.004	0.004 ug/L		< 0.004				22	
Thorium, dissolved	< 0.01	0.01 ug/L		< 0.01				20	
Tin, dissolved	< 0.05	0.05 ug/L		< 0.05				30	
Titanium, dissolved	0.8	0.2 ug/L		0.8				15	
Uranium, dissolved	0.019	0.001 ug/L		0.020			6	16	
Vanadium, dissolved	0.4	0.2 ug/L		0.4				10	
Zinc, dissolved	12	1 ug/L		8			39	15	RPD
Zirconium, dissolved	0.07	0.01 ug/L		0.07			8	39	
<b>Reference (B4D0165-SRM1)</b>			Prepared: Apr-04-14, Analyzed: Apr-04-14						
Aluminum, dissolved	25	1 ug/L		23.3		105	58-142		

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
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Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Dissolved Metals, Batch B4D0165, Continued**

**Reference (B4D0165-SRM1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Antimony, dissolved	5.3	0.05 ug/L	4.30		123	75-125			
Arsenic, dissolved	44.8	0.05 ug/L	43.8		102	81-119			
Barium, dissolved	354	0.1 ug/L	335		106	83-117			
Beryllium, dissolved	22.8	0.01 ug/L	21.3		107	80-120			
Boron, dissolved	190	1 ug/L	174		109	74-117			
Cadmium, dissolved	23.3	0.002 ug/L	22.4		104	83-117			
Calcium, dissolved	856	40 ug/L	769		111	76-124			
Chromium, dissolved	46.5	0.1 ug/L	43.7		106	81-119			
Cobalt, dissolved	13.8	0.005 ug/L	12.8		108	76-124			
Copper, dissolved	93.5	0.1 ug/L	84.4		111	84-116			
Iron, dissolved	140	2 ug/L	129		109	74-126			
Lead, dissolved	11.7	0.05 ug/L	11.2		105	72-128			
Lithium, dissolved	11.2	0.05 ug/L	10.4		108	60-140			
Magnesium, dissolved	753	5 ug/L	692		109	81-119			
Manganese, dissolved	36.7	0.05 ug/L	34.5		106	84-116			
Molybdenum, dissolved	45.4	0.01 ug/L	42.6		107	83-117			
Nickel, dissolved	90.2	0.02 ug/L	84.0		107	74-126			
Phosphorus, dissolved	49	10 ug/L	49.5		100	68-132			
Potassium, dissolved	334	10 ug/L	319		105	74-126			
Selenium, dissolved	3.4	0.1 ug/L	3.31		103	70-130			
Sodium, dissolved	2010	10 ug/L	1910		105	72-128			
Strontium, dissolved	97.0	0.1 ug/L	91.6		106	84-113			
Thallium, dissolved	4.07	0.004 ug/L	3.93		104	57-143			
Uranium, dissolved	28.1	0.001 ug/L	26.6		106	85-115			
Vanadium, dissolved	90.6	0.2 ug/L	86.9		104	87-113			
Zinc, dissolved	93	1 ug/L	88.1		106	72-128			

**DRAFT: General Parameters, Batch B4D0166**

**Duplicate (B4D0166-DUP1)**

Source: 4040312-01

Prepared: Apr-04-14, Analyzed: Apr-04-14

pH	6.93	0.01 pH units	6.96				< 1	4	
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**Reference (B4D0166-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

pH	6.99	0.01 pH units	7.00		100	98-102			
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**DRAFT: General Parameters, Batch B4D0180**

**Blank (B4D0180-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	< 2	2 uS/cm							
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**LCS (B4D0180-BS1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	1410	2 uS/cm	1410		100	88-112			
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**LCS (B4D0180-BS2)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	147	2 uS/cm	147		100	88-112			
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**Reference (B4D0180-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	497	2 uS/cm	500		99	90-110			
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**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0121**

**Blank (B4D0121-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0121, Continued**

**Blank (B4D0121-BLK1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.669	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.700	ug/L	0.995		70	45-92			
Surrogate: Phenanthrene-d10	0.714	ug/L	0.970		74	48-90			
Surrogate: Chrysene-d12	0.782	ug/L	0.950		82	41-96			
Surrogate: Perylene-d12	0.730	ug/L	0.990		74	47-104			

**LCS (B4D0121-BS1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	0.69	0.02 ug/L	1.00		69	54-92			
Acenaphthylene	0.76	0.02 ug/L	1.00		76	54-95			
Acridine	0.66	0.05 ug/L	1.00		66	49-87			
Anthracene	0.77	0.01 ug/L	1.00		77	53-94			
Benzo (a) anthracene	0.64	0.01 ug/L	1.00		64	52-95			
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103			
Benzo (b) fluoranthene	0.60	0.02 ug/L	1.00		60	49-94			
Benzo (g,h,i) perylene	0.67	0.02 ug/L	1.00		67	51-98			
Benzo (k) fluoranthene	0.64	0.02 ug/L	1.00		64	49-105			
Chrysene	0.73	0.02 ug/L	1.00		73	50-104			
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96			
Fluoranthene	0.82	0.02 ug/L	1.00		82	53-102			
Fluorene	0.76	0.02 ug/L	1.00		76	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.63	0.05 ug/L	1.00		63	51-91			
Phenanthrene	0.76	0.05 ug/L	1.00		76	56-96			
Pyrene	0.79	0.02 ug/L	1.00		79	51-105			
Quinoline	0.66	0.05 ug/L	1.00		66	48-126			
Surrogate: Naphthalene-d8	0.659	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.688	ug/L	0.995		69	45-92			
Surrogate: Phenanthrene-d10	0.735	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.750	ug/L	0.950		79	41-96			
Surrogate: Perylene-d12	0.725	ug/L	0.990		73	47-104			

**LCS Dup (B4D0121-BSD1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	0.64	0.02 ug/L	1.00		64	54-92	7	20	
Acenaphthylene	0.71	0.02 ug/L	1.00		71	54-95	7	20	
Acridine	0.61	0.05 ug/L	1.00		61	49-87	9	20	
Anthracene	0.71	0.01 ug/L	1.00		71	53-94	7	20	
Benzo (a) anthracene	0.65	0.01 ug/L	1.00		65	52-95	< 1	20	
Benzo (a) pyrene	0.73	0.01 ug/L	1.00		73	52-103	3	20	
Benzo (b) fluoranthene	0.57	0.02 ug/L	1.00		57	49-94	5	20	
Benzo (g,h,i) perylene	0.66	0.02 ug/L	1.00		66	51-98	3	20	
Benzo (k) fluoranthene	0.68	0.02 ug/L	1.00		68	49-105	6	20	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0121, Continued**

**LCS Dup (B4D0121-BSD1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Chrysene	0.73	0.02 ug/L	1.00		73	50-104	< 1	20	
Dibenz (a,h) anthracene	0.63	0.02 ug/L	1.00		63	49-96	4	20	
Fluoranthene	0.76	0.02 ug/L	1.00		76	53-102	8	20	
Fluorene	0.70	0.02 ug/L	1.00		70	54-91	8	20	
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99	< 1	20	
Naphthalene	0.62	0.05 ug/L	1.00		62	51-91	2	20	
Phenanthrene	0.71	0.05 ug/L	1.00		71	56-96	6	20	
Pyrene	0.75	0.02 ug/L	1.00		75	51-105	6	20	
Quinoline	0.63	0.05 ug/L	1.00		63	48-126	5	20	
Surrogate: Naphthalene-d8	0.645	ug/L	1.02		63	40-96			
Surrogate: Acenaphthene-d10	0.650	ug/L	0.995		65	45-92			
Surrogate: Phenanthrene-d10	0.692	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.769	ug/L	0.950		81	41-96			
Surrogate: Perylene-d12	0.696	ug/L	0.990		70	47-104			

**DRAFT: Total Recoverable Metals, Batch B4D0164**

**Blank (B4D0164-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							
Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Total Recoverable Metals, Batch B4D0164, Continued**

Duplicate (B4D0164-DUP1)	Source: 4040312-01		Prepared: Apr-04-14, Analyzed: Apr-04-14						
Aluminum, total	115	1 ug/L		124			7	28	
Antimony, total	0.4	0.05 ug/L		0.4			10	36	
Arsenic, total	0.70	0.05 ug/L		0.72			3	18	
Barium, total	17.2	0.1 ug/L		17.1			< 1	8	
Beryllium, total	< 0.01	0.01 ug/L		< 0.01				29	
Bismuth, total	< 0.01	0.01 ug/L		< 0.01				46	
Boron, total	11	1 ug/L		14			24	40	
Cadmium, total	0.014	0.002 ug/L		0.014			< 1	43	
Calcium, total	13400	40 ug/L		13200			1	10	
Chromium, total	0.5	0.1 ug/L		0.5			2	23	
Cobalt, total	0.146	0.005 ug/L		0.148			2	18	
Copper, total	3.2	0.1 ug/L		3.3			2	33	
Iron, total	568	2 ug/L		580			2	16	
Lead, total	0.95	0.05 ug/L		0.95			< 1	26	
Lithium, total	0.32	0.05 ug/L		0.33			1	20	
Magnesium, total	2160	5.0 ug/L		2170			< 1	7	
Manganese, total	57.6	0.05 ug/L		58.3			1	10	
Mercury, total	< 0.01	0.01 ug/L		< 0.01				40	
Molybdenum, total	0.79	0.01 ug/L		0.79			< 1	26	
Nickel, total	0.55	0.02 ug/L		0.57			4	20	
Phosphorus, total	18	10 ug/L		20			2	32	
Potassium, total	1370	10 ug/L		1380			< 1	15	
Selenium, total	< 0.1	0.1 ug/L		< 0.1				25	
Silicon, total	3540	50 ug/L		3610			2	14	
Silver, total	< 0.01	0.01 ug/L		< 0.01				35	
Sodium, total	14700	10 ug/L		14900			2	11	
Strontium, total	77.2	0.1 ug/L		76.6			< 1	8	
Sulfur, total	1500	500 ug/L		1400				20	
Tellurium, total	< 0.05	0.05 ug/L		< 0.05				20	
Thallium, total	< 0.004	0.004 ug/L		< 0.004				30	
Thorium, total	< 0.01	0.01 ug/L		< 0.01				50	
Tin, total	0.05	0.05 ug/L		0.08				19	
Titanium, total	6.6	0.2 ug/L		3.6			58	42	RPD
Uranium, total	0.025	0.001 ug/L		0.023			7	12	
Vanadium, total	0.7	0.2 ug/L		0.7				21	
Zinc, total	13	1 ug/L		10			22	33	
Zirconium, total	0.16	0.01 ug/L		0.13			19	41	

Matrix Spike (B4D0164-MS1)	Source: 4040312-02		Prepared: Apr-04-14, Analyzed: Apr-04-14						
Antimony, total	41.6	0.05 ug/L	40.0	0.4	103	80-120			
Arsenic, total	20.5	0.05 ug/L	20.0	0.71	99	80-120			
Barium, total	118	0.1 ug/L	100	17.2	101	80-120			
Beryllium, total	10.6	0.01 ug/L	10.0	< 0.01	106	80-120			
Cadmium, total	10.2	0.002 ug/L	10.0	0.015	101	80-120			
Chromium, total	41.9	0.1 ug/L	40.0	0.4	104	80-120			
Cobalt, total	42.5	0.005 ug/L	40.0	0.149	106	80-120			
Copper, total	45.8	0.1 ug/L	40.0	3.3	106	80-120			
Iron, total	792	2 ug/L	200	582	105	80-120			
Lead, total	21.3	0.05 ug/L	20.0	0.94	102	80-120			
Manganese, total	100	0.05 ug/L	40.0	58.4	105	80-120			
Nickel, total	41.2	0.02 ug/L	40.0	0.55	102	80-120			
Selenium, total	10.4	0.1 ug/L	10.0	< 0.1	104	80-120			
Silver, total	8.28	0.01 ug/L	10.0	< 0.01	83	80-120			
Thallium, total	10.3	0.004 ug/L	10.0	< 0.004	103	80-120			
Vanadium, total	41.2	0.2 ug/L	40.0	0.7	101	80-120			
Zinc, total	114	1 ug/L	100	10	104	80-120			



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040312  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Total Recoverable Metals, Batch B4D0164, Continued**

Reference (B4D0164-SRM1)

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, total	63	1 ug/L	59.2		107	81-129			
Antimony, total	11.2	0.05 ug/L	10.1		111	88-114			
Arsenic, total	25.4	0.05 ug/L	24.4		104	88-114			
Barium, total	162	0.1 ug/L	155		104	72-104			
Beryllium, total	10.4	0.01 ug/L	9.76		107	76-131			
Boron, total	740	1 ug/L	680		109	75-121			
Cadmium, total	10.4	0.002 ug/L	9.80		106	89-111			
Calcium, total	2170	40 ug/L	2040		107	86-121			
Chromium, total	52.2	0.1 ug/L	48.4		108	89-114			
Cobalt, total	8.16	0.005 ug/L	7.32		111	91-113			
Copper, total	106	0.1 ug/L	97.4		109	91-115			
Iron, total	106	2 ug/L	93.8		113	77-124			
Lead, total	41.5	0.05 ug/L	38.6		107	92-113			
Lithium, total	84.8	0.05 ug/L	78.0		109	85-115			
Magnesium, total	746	5.0 ug/L	662		113	78-120			
Manganese, total	23.3	0.05 ug/L	21.8		107	90-114			
Mercury, total	1.36	0.01 ug/L	0.912		149	50-150			
Molybdenum, total	42.0	0.01 ug/L	39.4		107	90-111			
Nickel, total	52.4	0.02 ug/L	48.4		108	90-111			
Phosphorus, total	47	10 ug/L	46.6		100	85-115			
Potassium, total	1330	10 ug/L	1190		112	84-113			
Selenium, total	25.2	0.1 ug/L	23.0		109	85-115			
Sodium, total	1640	10 ug/L	1530		108	82-123			
Strontium, total	80.1	0.1 ug/L	72.6		110	88-112			
Thallium, total	16.8	0.004 ug/L	15.9		106	91-114			
Uranium, total	3.98	0.001 ug/L	3.84		104	85-120			
Vanadium, total	79.5	0.2 ug/L	75.2		106	86-111			
Zinc, total	516	1 ug/L	484		107	85-111			

**QC Qualifiers:**

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

<b>REPORTED TO</b>	Triton Environmental Consultants Ltd. (Richmond) 8971 Beckwith Road Richmond, BC V6X 1V4	<b>TEL</b>	(604) 279-2093
		<b>FAX</b>	(604) 279-2047
<b>ATTENTION</b>	Peter Frederiksen	<b>WORK ORDER</b>	4040315
<b>PO NUMBER</b>		<b>RECEIVED / TEMP</b>	Apr-04-14 11:04 / 9°C
<b>PROJECT</b>	4435-029	<b>REPORTED</b>	Apr-07-14
<b>PROJECT INFO</b>	BLCRP	<b>COC NUMBER</b>	40837.5581

**General Comments:**

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Issued By: **DRAFT REPORT**  
DATA SUBJECT TO CHANGE

**Please contact CARO if more information is needed or to provide feedback on our services.**

**Locations:**

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Edmonton, AB T5S 1H7  
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[www.caro.ca](http://www.caro.ca)

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analysis Description	Method Reference (* = modified from)		Location
	Preparation	Analysis	
Alkalinity, speciated	N/A	APHA 2320 B	Richmond
Ammonia-N, total colorimetric	N/A	APHA 4500-NH3 G	Kelowna
Calculated Parameters	N/A	APHA 2340B	Richmond
Carbon, Dissolved Inorganic	N/A	APHA 5310 B	Kelowna
Carbon, Dissolved Organic	N/A	APHA 5310 B	Kelowna
Carbon, Total Organic in Water	N/A	APHA 5310 B	Kelowna
Chloride in Water by IC	N/A	APHA 4110 B	Kelowna
Conductivity in Water	N/A	APHA 2510 B	Richmond
Dissolved Metals	APHA 3030 B	APHA 3125 B	Richmond
EPH in Water	EPA 3510C	BCMOE	Richmond
Hardness as CaCO3 (CALC)	N/A	APHA 2340 B	Richmond
L/HEPH in Water Pkg	N/A	BCMOE	Richmond
Nitrate-N in Water by IC	N/A	APHA 4110 B	Kelowna
Nitrite-N in Water by IC	N/A	APHA 4110 B	Kelowna
PAH in Water (low)	EPA 3510C	EPA 8270D (2007)	Richmond
pH in Water	N/A	APHA 4500-H+ B	Richmond
Sulfate in Water by IC	N/A	APHA 4110 B	Kelowna
Total Dissolved Solids (GRAV)	N/A	APHA 2540 C	Richmond
Total Recoverable Metals	APHA 3030E *	APHA 3125 B	Richmond
Total Sulfide in Water	N/A	APHA 4500-S2 D	Edmonton
Total Suspended Solids	N/A	APHA 2540 D *	Richmond

**Note: The numbers in brackets represent the year that the method was published/approved**

**Method Reference Descriptions:**

BCMOE	British Columbia Environmental Laboratory Manual, 2009, British Columbia Ministry of Environment
APHA	Standard Methods for the Examination of Water and Wastewater, American Public Health Association
EPA	United States Environmental Protection Agency Test Methods

**Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
mg/L	Milligrams per litre
pH units	pH < 7 = acidic, pH > 7 = basic
ug/L	Micrograms per litre
uS/cm	Microsiemens per centimeter

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Burnaby Lake u/s Site 3 (4040315-01) [Water] Sampled: Apr-04-14 08:45**

**DRAFT: General Parameters**

Conductivity (EC)	161	2	uS/cm	N/A	Apr-04-14	
pH	6.90	0.01	pH units	N/A	Apr-04-14	

**DRAFT: Calculated Parameters**

LEPHw	< 100	100	ug/L	N/A	N/A	
HEPHw	< 100	100	ug/L	N/A	N/A	
Total PAH	< 0.05	0.05	ug/L	N/A	N/A	
Hardness, Total (Total as CaCO3)	43.0	0.1	mg/L	N/A	N/A	
Hardness, Total (Diss. as CaCO3)	42	0.1	mg/L	N/A	N/A	

**DRAFT: Dissolved Metals**

Aluminum, dissolved	38	1	ug/L	N/A	Apr-04-14	
Antimony, dissolved	0.4	0.05	ug/L	N/A	Apr-04-14	
Arsenic, dissolved	0.61	0.05	ug/L	N/A	Apr-04-14	
Barium, dissolved	16.1	0.1	ug/L	N/A	Apr-04-14	
Beryllium, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Bismuth, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Boron, dissolved	12	1	ug/L	N/A	Apr-04-14	
Cadmium, dissolved	0.008	0.002	ug/L	N/A	Apr-04-14	
Calcium, dissolved	13400	40	ug/L	N/A	Apr-04-14	
Chromium, dissolved	0.3	0.1	ug/L	N/A	Apr-04-14	
Cobalt, dissolved	0.118	0.005	ug/L	N/A	Apr-04-14	
Copper, dissolved	2.8	0.1	ug/L	N/A	Apr-04-14	
Iron, dissolved	359	2	ug/L	N/A	Apr-04-14	
Lead, dissolved	0.52	0.05	ug/L	N/A	Apr-04-14	
Lithium, dissolved	0.32	0.05	ug/L	N/A	Apr-04-14	
Magnesium, dissolved	2180	5	ug/L	N/A	Apr-04-14	
Manganese, dissolved	50.9	0.05	ug/L	N/A	Apr-04-14	
Mercury, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Molybdenum, dissolved	0.53	0.01	ug/L	N/A	Apr-04-14	
Nickel, dissolved	0.52	0.02	ug/L	N/A	Apr-04-14	
Phosphorus, dissolved	14	10	ug/L	N/A	Apr-04-14	
Potassium, dissolved	1410	10	ug/L	N/A	Apr-04-14	
Selenium, dissolved	< 0.1	0.1	ug/L	N/A	Apr-04-14	
Silicon, dissolved	3400	50	ug/L	N/A	Apr-04-14	
Silver, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Sodium, dissolved	14500	10	ug/L	N/A	Apr-04-14	
Strontium, dissolved	77.8	0.1	ug/L	N/A	Apr-04-14	
Sulfur, dissolved	1600	500	ug/L	N/A	Apr-04-14	
Tellurium, dissolved	< 0.05	0.05	ug/L	N/A	Apr-04-14	
Thallium, dissolved	< 0.004	0.004	ug/L	N/A	Apr-04-14	
Thorium, dissolved	< 0.01	0.01	ug/L	N/A	Apr-04-14	
Tin, dissolved	< 0.05	0.05	ug/L	N/A	Apr-04-14	
Titanium, dissolved	0.9	0.2	ug/L	N/A	Apr-04-14	
Uranium, dissolved	0.020	0.001	ug/L	N/A	Apr-04-14	
Vanadium, dissolved	0.4	0.2	ug/L	N/A	Apr-04-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Burnaby Lake u/s Site 3 (4040315-01) [Water] Sampled: Apr-04-14 08:45, Continued**

**DRAFT: Dissolved Metals, Continued**

Zinc, dissolved	9	1	ug/L	N/A	Apr-04-14	
Zirconium, dissolved	0.07	0.01	ug/L	N/A	Apr-04-14	

**DRAFT: Total Recoverable Metals**

Aluminum, total	129	1	ug/L	Apr-04-14	Apr-04-14	
Antimony, total	0.4	0.05	ug/L	Apr-04-14	Apr-04-14	
Arsenic, total	0.72	0.05	ug/L	Apr-04-14	Apr-04-14	
Barium, total	17.3	0.1	ug/L	Apr-04-14	Apr-04-14	
Beryllium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Bismuth, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Boron, total	13	1	ug/L	Apr-04-14	Apr-04-14	
Cadmium, total	0.012	0.002	ug/L	Apr-04-14	Apr-04-14	
Calcium, total	13600	40	ug/L	Apr-04-14	Apr-04-14	
Chromium, total	0.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Cobalt, total	0.152	0.005	ug/L	Apr-04-14	Apr-04-14	
Copper, total	3.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Iron, total	602	2	ug/L	Apr-04-14	Apr-04-14	
Lead, total	1.09	0.05	ug/L	Apr-04-14	Apr-04-14	
Lithium, total	0.33	0.05	ug/L	Apr-04-14	Apr-04-14	
Magnesium, total	2210	5.0	ug/L	Apr-04-14	Apr-04-14	
Manganese, total	59.2	0.05	ug/L	Apr-04-14	Apr-04-14	
Mercury, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Molybdenum, total	0.54	0.01	ug/L	Apr-04-14	Apr-04-14	
Nickel, total	0.58	0.02	ug/L	Apr-04-14	Apr-04-14	
Phosphorus, total	19	10	ug/L	Apr-04-14	Apr-04-14	
Potassium, total	1440	10	ug/L	Apr-04-14	Apr-04-14	
Selenium, total	< 0.1	0.1	ug/L	Apr-04-14	Apr-04-14	
Silicon, total	3600	50	ug/L	Apr-04-14	Apr-04-14	
Silver, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Sodium, total	14600	10	ug/L	Apr-04-14	Apr-04-14	
Strontium, total	78.4	0.1	ug/L	Apr-04-14	Apr-04-14	
Sulfur, total	1700	500	ug/L	Apr-04-14	Apr-04-14	
Tellurium, total	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Thallium, total	< 0.004	0.004	ug/L	Apr-04-14	Apr-04-14	
Thorium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Tin, total	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Titanium, total	4.5	0.2	ug/L	Apr-04-14	Apr-04-14	
Uranium, total	0.025	0.001	ug/L	Apr-04-14	Apr-04-14	
Vanadium, total	0.7	0.2	ug/L	Apr-04-14	Apr-04-14	
Zinc, total	27	1	ug/L	Apr-04-14	Apr-04-14	
Zirconium, total	0.11	0.01	ug/L	Apr-04-14	Apr-04-14	

**DRAFT: Aggregate Organic Parameters**

EPHw (10-19)	< 100	100	ug/L	Apr-04-14	Apr-04-14	
EPHw (19-32)	< 100	100	ug/L	Apr-04-14	Apr-04-14	

**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH)**

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
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**Sample ID: Burnaby Lake u/s Site 3 (4040315-01) [Water] Sampled: Apr-04-14 08:45, Continued**

***DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Continued***

Acenaphthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Acenaphthylene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Acridine	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Anthracene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (a) anthracene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (a) pyrene	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Benzo (b) fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Benzo (g,h,i) perylene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Benzo (k) fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Chrysene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Dibenz (a,h) anthracene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Fluoranthene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Fluorene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Indeno (1,2,3-cd) pyrene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Naphthalene	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Phenanthrene	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Pyrene	< 0.02	0.02	ug/L	Apr-04-14	Apr-04-14	
Quinoline	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
<i>Surrogate: Naphthalene-d8</i>	64 %	40-96		Apr-04-14	Apr-04-14	
<i>Surrogate: Acenaphthene-d10</i>	68 %	45-92		Apr-04-14	Apr-04-14	
<i>Surrogate: Phenanthrene-d10</i>	72 %	48-90		Apr-04-14	Apr-04-14	
<i>Surrogate: Chrysene-d12</i>	77 %	41-96		Apr-04-14	Apr-04-14	
<i>Surrogate: Perylene-d12</i>	76 %	47-104		Apr-04-14	Apr-04-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result / Recovery	MRL / Limit	Units	Prepared	Analyzed	Notes
<b>Sample ID: Burnaby Lake u/s Site 3 - duplicate metals (4040315-02) [Water] Sampled: Apr-04-14 08:45</b>						
<b>DRAFT: Calculated Parameters</b>						
Hardness, Total (Total as CaCO3)	42.8	0.1	mg/L	N/A	N/A	
<b>DRAFT: Total Recoverable Metals</b>						
Aluminum, total	128	1	ug/L	Apr-04-14	Apr-04-14	
Antimony, total	0.4	0.05	ug/L	Apr-04-14	Apr-04-14	
Arsenic, total	0.73	0.05	ug/L	Apr-04-14	Apr-04-14	
Barium, total	16.9	0.1	ug/L	Apr-04-14	Apr-04-14	
Beryllium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Bismuth, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Boron, total	13	1	ug/L	Apr-04-14	Apr-04-14	
Cadmium, total	0.014	0.002	ug/L	Apr-04-14	Apr-04-14	
Calcium, total	13500	40	ug/L	Apr-04-14	Apr-04-14	
Chromium, total	0.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Cobalt, total	0.153	0.005	ug/L	Apr-04-14	Apr-04-14	
Copper, total	3.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Iron, total	605	2	ug/L	Apr-04-14	Apr-04-14	
Lead, total	1.07	0.05	ug/L	Apr-04-14	Apr-04-14	
Lithium, total	0.35	0.05	ug/L	Apr-04-14	Apr-04-14	
Magnesium, total	2200	5.0	ug/L	Apr-04-14	Apr-04-14	
Manganese, total	58.6	0.05	ug/L	Apr-04-14	Apr-04-14	
Molybdenum, total	0.54	0.01	ug/L	Apr-04-14	Apr-04-14	
Nickel, total	0.59	0.02	ug/L	Apr-04-14	Apr-04-14	
Phosphorus, total	22	10	ug/L	Apr-04-14	Apr-04-14	
Potassium, total	1440	10	ug/L	Apr-04-14	Apr-04-14	
Selenium, total	< 0.1	0.1	ug/L	Apr-04-14	Apr-04-14	
Silicon, total	3600	50	ug/L	Apr-04-14	Apr-04-14	
Silver, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Sodium, total	14500	10	ug/L	Apr-04-14	Apr-04-14	
Strontium, total	78.5	0.1	ug/L	Apr-04-14	Apr-04-14	
Sulfur, total	1600	500	ug/L	Apr-04-14	Apr-04-14	
Tellurium, total	< 0.05	0.05	ug/L	Apr-04-14	Apr-04-14	
Thallium, total	< 0.004	0.004	ug/L	Apr-04-14	Apr-04-14	
Thorium, total	< 0.01	0.01	ug/L	Apr-04-14	Apr-04-14	
Tin, total	0.08	0.05	ug/L	Apr-04-14	Apr-04-14	
Titanium, total	4.2	0.2	ug/L	Apr-04-14	Apr-04-14	
Uranium, total	0.024	0.001	ug/L	Apr-04-14	Apr-04-14	
Vanadium, total	0.7	0.2	ug/L	Apr-04-14	Apr-04-14	
Zinc, total	12	1	ug/L	Apr-04-14	Apr-04-14	
Zirconium, total	0.11	0.01	ug/L	Apr-04-14	Apr-04-14	

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Aggregate Organic Parameters, Batch B4D0121**

<b>Blank (B4D0121-BLK1)</b>		Prepared: Apr-04-14, Analyzed: Apr-04-14							
EPHw (10-19)	< 100	100 ug/L							
EPHw (19-32)	< 100	100 ug/L							
<b>LCS (B4D0121-BS2)</b>		Prepared: Apr-04-14, Analyzed: Apr-04-14							
EPHw (10-19)	2750	100 ug/L	3470		79	63-123			
EPHw (19-32)	3960	100 ug/L	4970		80	51-102			

**DRAFT: Dissolved Metals, Batch B4D0165**

<b>Blank (B4D0165-BLK1)</b>		Prepared: Apr-04-14, Analyzed: Apr-04-14							
Aluminum, dissolved	< 1	1 ug/L							
Antimony, dissolved	< 0.05	0.05 ug/L							
Arsenic, dissolved	< 0.05	0.05 ug/L							
Barium, dissolved	< 0.1	0.1 ug/L							
Beryllium, dissolved	< 0.01	0.01 ug/L							
Bismuth, dissolved	< 0.01	0.01 ug/L							
Boron, dissolved	< 1	1 ug/L							
Cadmium, dissolved	< 0.002	0.002 ug/L							
Calcium, dissolved	< 40	40 ug/L							
Chromium, dissolved	< 0.1	0.1 ug/L							
Cobalt, dissolved	< 0.005	0.005 ug/L							
Copper, dissolved	< 0.1	0.1 ug/L							
Iron, dissolved	< 2	2 ug/L							
Lead, dissolved	< 0.05	0.05 ug/L							
Lithium, dissolved	< 0.05	0.05 ug/L							
Magnesium, dissolved	< 5	5 ug/L							
Manganese, dissolved	< 0.05	0.05 ug/L							
Mercury, dissolved	< 0.01	0.01 ug/L							
Molybdenum, dissolved	< 0.01	0.01 ug/L							
Nickel, dissolved	< 0.02	0.02 ug/L							
Phosphorus, dissolved	< 10	10 ug/L							
Potassium, dissolved	< 10	10 ug/L							



**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Dissolved Metals, Batch B4D0165, Continued**

**Blank (B4D0165-BLK1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Selenium, dissolved	< 0.1	0.1 ug/L							
Silicon, dissolved	< 50	50 ug/L							
Silver, dissolved	< 0.01	0.01 ug/L							
Sodium, dissolved	< 10	10 ug/L							
Strontium, dissolved	< 0.1	0.1 ug/L							
Sulfur, dissolved	< 500	500 ug/L							
Tellurium, dissolved	< 0.05	0.05 ug/L							
Thallium, dissolved	< 0.004	0.004 ug/L							
Thorium, dissolved	< 0.01	0.01 ug/L							
Tin, dissolved	< 0.05	0.05 ug/L							
Titanium, dissolved	< 0.2	0.2 ug/L							
Uranium, dissolved	< 0.001	0.001 ug/L							
Vanadium, dissolved	< 0.2	0.2 ug/L							
Zinc, dissolved	< 1	1 ug/L							
Zirconium, dissolved	< 0.01	0.01 ug/L							

**Matrix Spike (B4D0165-MS1)**

Source: 4040315-01

Prepared: Apr-04-14, Analyzed: Apr-04-14

Antimony, dissolved	41.3	0.05 ug/L	40.0	0.4	102	81-114
Arsenic, dissolved	20.0	0.05 ug/L	20.0	0.61	97	89-115
Barium, dissolved	115	0.1 ug/L	100	16.1	99	86-115
Beryllium, dissolved	10.2	0.01 ug/L	10.0	< 0.01	102	77-124
Cadmium, dissolved	9.96	0.002 ug/L	10.0	0.008	99	82-126
Chromium, dissolved	40.1	0.1 ug/L	40.0	0.3	99	85-117
Cobalt, dissolved	41.8	0.005 ug/L	40.0	0.118	104	76-131
Copper, dissolved	44.4	0.1 ug/L	40.0	2.8	104	88-113
Iron, dissolved	565	2 ug/L	200	359	103	80-115
Lead, dissolved	20.4	0.05 ug/L	20.0	0.52	100	84-121
Manganese, dissolved	92.8	0.05 ug/L	40.0	50.9	105	75-135
Nickel, dissolved	40.3	0.02 ug/L	40.0	0.52	100	83-121
Selenium, dissolved	10.2	0.1 ug/L	10.0	< 0.1	102	91-122
Silver, dissolved	8.76	0.01 ug/L	10.0	< 0.01	88	74-120
Thallium, dissolved	10.1	0.004 ug/L	10.0	< 0.004	101	79-119
Vanadium, dissolved	40.1	0.2 ug/L	40.0	0.4	99	80-115
Zinc, dissolved	109	1 ug/L	100	9	100	89-123

**Reference (B4D0165-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, dissolved	25	1 ug/L	23.3		105	58-142
Antimony, dissolved	5.3	0.05 ug/L	4.30		123	75-125
Arsenic, dissolved	44.8	0.05 ug/L	43.8		102	81-119
Barium, dissolved	354	0.1 ug/L	335		106	83-117
Beryllium, dissolved	22.8	0.01 ug/L	21.3		107	80-120
Boron, dissolved	190	1 ug/L	174		109	74-117
Cadmium, dissolved	23.3	0.002 ug/L	22.4		104	83-117
Calcium, dissolved	856	40 ug/L	769		111	76-124
Chromium, dissolved	46.5	0.1 ug/L	43.7		106	81-119
Cobalt, dissolved	13.8	0.005 ug/L	12.8		108	76-124
Copper, dissolved	93.5	0.1 ug/L	84.4		111	84-116
Iron, dissolved	140	2 ug/L	129		109	74-126
Lead, dissolved	11.7	0.05 ug/L	11.2		105	72-128
Lithium, dissolved	11.2	0.05 ug/L	10.4		108	60-140
Magnesium, dissolved	753	5 ug/L	692		109	81-119
Manganese, dissolved	36.7	0.05 ug/L	34.5		106	84-116
Molybdenum, dissolved	45.4	0.01 ug/L	42.6		107	83-117
Nickel, dissolved	90.2	0.02 ug/L	84.0		107	74-126
Phosphorus, dissolved	49	10 ug/L	49.5		100	68-132
Potassium, dissolved	334	10 ug/L	319		105	74-126
Selenium, dissolved	3.4	0.1 ug/L	3.31		103	70-130

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Dissolved Metals, Batch B4D0165, Continued**

**Reference (B4D0165-SRM1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Sodium, dissolved	2010	10 ug/L	1910		105	72-128			
Strontium, dissolved	97.0	0.1 ug/L	91.6		106	84-113			
Thallium, dissolved	4.07	0.004 ug/L	3.93		104	57-143			
Uranium, dissolved	28.1	0.001 ug/L	26.6		106	85-115			
Vanadium, dissolved	90.6	0.2 ug/L	86.9		104	87-113			
Zinc, dissolved	93	1 ug/L	88.1		106	72-128			

**DRAFT: General Parameters, Batch B4D0166**

**Reference (B4D0166-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

pH	6.99	0.01 pH units	7.00		100	98-102			
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**DRAFT: General Parameters, Batch B4D0180**

**Blank (B4D0180-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	< 2	2 uS/cm							
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**LCS (B4D0180-BS1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	1410	2 uS/cm	1410		100	88-112			
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**LCS (B4D0180-BS2)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	147	2 uS/cm	147		100	88-112			
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**Duplicate (B4D0180-DUP1)**

**Source: 4040315-01**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	158	2 uS/cm		161			2	7	
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**Reference (B4D0180-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Conductivity (EC)	497	2 uS/cm	500		99	90-110			
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**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0121**

**Blank (B4D0121-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	< 0.02	0.02 ug/L							
Acenaphthylene	< 0.02	0.02 ug/L							
Acridine	< 0.05	0.05 ug/L							
Anthracene	< 0.01	0.01 ug/L							
Benzo (a) anthracene	< 0.01	0.01 ug/L							
Benzo (a) pyrene	< 0.01	0.01 ug/L							
Benzo (b) fluoranthene	< 0.02	0.02 ug/L							
Benzo (g,h,i) perylene	< 0.02	0.02 ug/L							
Benzo (k) fluoranthene	< 0.02	0.02 ug/L							
Chrysene	< 0.02	0.02 ug/L							
Dibenz (a,h) anthracene	< 0.02	0.02 ug/L							
Fluoranthene	< 0.02	0.02 ug/L							
Fluorene	< 0.02	0.02 ug/L							
Indeno (1,2,3-cd) pyrene	< 0.02	0.02 ug/L							
Naphthalene	< 0.05	0.05 ug/L							
Phenanthrene	< 0.05	0.05 ug/L							
Pyrene	< 0.02	0.02 ug/L							
Quinoline	< 0.05	0.05 ug/L							
Surrogate: Naphthalene-d8	0.669	ug/L	1.02		66	40-96			
Surrogate: Acenaphthene-d10	0.700	ug/L	0.995		70	45-92			
Surrogate: Phenanthrene-d10	0.714	ug/L	0.970		74	48-90			
Surrogate: Chrysene-d12	0.782	ug/L	0.950		82	41-96			
Surrogate: Perylene-d12	0.730	ug/L	0.990		74	47-104			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Polycyclic Aromatic Hydrocarbons (PAH), Batch B4D0121, Continued**

**LCS (B4D0121-BS1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	0.69	0.02 ug/L	1.00		69	54-92			
Acenaphthylene	0.76	0.02 ug/L	1.00		76	54-95			
Acridine	0.66	0.05 ug/L	1.00		66	49-87			
Anthracene	0.77	0.01 ug/L	1.00		77	53-94			
Benzo (a) anthracene	0.64	0.01 ug/L	1.00		64	52-95			
Benzo (a) pyrene	0.75	0.01 ug/L	1.00		75	52-103			
Benzo (b) fluoranthene	0.60	0.02 ug/L	1.00		60	49-94			
Benzo (g,h,i) perylene	0.67	0.02 ug/L	1.00		67	51-98			
Benzo (k) fluoranthene	0.64	0.02 ug/L	1.00		64	49-105			
Chrysene	0.73	0.02 ug/L	1.00		73	50-104			
Dibenz (a,h) anthracene	0.65	0.02 ug/L	1.00		65	49-96			
Fluoranthene	0.82	0.02 ug/L	1.00		82	53-102			
Fluorene	0.76	0.02 ug/L	1.00		76	54-91			
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99			
Naphthalene	0.63	0.05 ug/L	1.00		63	51-91			
Phenanthrene	0.76	0.05 ug/L	1.00		76	56-96			
Pyrene	0.79	0.02 ug/L	1.00		79	51-105			
Quinoline	0.66	0.05 ug/L	1.00		66	48-126			
Surrogate: Naphthalene-d8	0.659	ug/L	1.02		65	40-96			
Surrogate: Acenaphthene-d10	0.688	ug/L	0.995		69	45-92			
Surrogate: Phenanthrene-d10	0.735	ug/L	0.970		76	48-90			
Surrogate: Chrysene-d12	0.750	ug/L	0.950		79	41-96			
Surrogate: Perylene-d12	0.725	ug/L	0.990		73	47-104			

**LCS Dup (B4D0121-BSD1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Acenaphthene	0.64	0.02 ug/L	1.00		64	54-92	7	20	
Acenaphthylene	0.71	0.02 ug/L	1.00		71	54-95	7	20	
Acridine	0.61	0.05 ug/L	1.00		61	49-87	9	20	
Anthracene	0.71	0.01 ug/L	1.00		71	53-94	7	20	
Benzo (a) anthracene	0.65	0.01 ug/L	1.00		65	52-95	< 1	20	
Benzo (a) pyrene	0.73	0.01 ug/L	1.00		73	52-103	3	20	
Benzo (b) fluoranthene	0.57	0.02 ug/L	1.00		57	49-94	5	20	
Benzo (g,h,i) perylene	0.66	0.02 ug/L	1.00		66	51-98	3	20	
Benzo (k) fluoranthene	0.68	0.02 ug/L	1.00		68	49-105	6	20	
Chrysene	0.73	0.02 ug/L	1.00		73	50-104	< 1	20	
Dibenz (a,h) anthracene	0.63	0.02 ug/L	1.00		63	49-96	4	20	
Fluoranthene	0.76	0.02 ug/L	1.00		76	53-102	8	20	
Fluorene	0.70	0.02 ug/L	1.00		70	54-91	8	20	
Indeno (1,2,3-cd) pyrene	0.68	0.02 ug/L	1.00		68	51-99	< 1	20	
Naphthalene	0.62	0.05 ug/L	1.00		62	51-91	2	20	
Phenanthrene	0.71	0.05 ug/L	1.00		71	56-96	6	20	
Pyrene	0.75	0.02 ug/L	1.00		75	51-105	6	20	
Quinoline	0.63	0.05 ug/L	1.00		63	48-126	5	20	
Surrogate: Naphthalene-d8	0.645	ug/L	1.02		63	40-96			
Surrogate: Acenaphthene-d10	0.650	ug/L	0.995		65	45-92			
Surrogate: Phenanthrene-d10	0.692	ug/L	0.970		71	48-90			
Surrogate: Chrysene-d12	0.769	ug/L	0.950		81	41-96			
Surrogate: Perylene-d12	0.696	ug/L	0.990		70	47-104			

**DRAFT: Total Recoverable Metals, Batch B4D0164**

**Blank (B4D0164-BLK1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, total	< 1	1 ug/L							
Antimony, total	< 0.05	0.05 ug/L							
Arsenic, total	< 0.05	0.05 ug/L							
Barium, total	< 0.1	0.1 ug/L							

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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**DRAFT: Total Recoverable Metals, Batch B4D0164, Continued**

**Blank (B4D0164-BLK1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Beryllium, total	< 0.01	0.01 ug/L							
Bismuth, total	< 0.01	0.01 ug/L							
Boron, total	< 1	1 ug/L							
Cadmium, total	< 0.002	0.002 ug/L							
Calcium, total	< 40	40 ug/L							
Chromium, total	< 0.1	0.1 ug/L							
Cobalt, total	< 0.005	0.005 ug/L							
Copper, total	< 0.1	0.1 ug/L							
Iron, total	< 2	2 ug/L							
Lead, total	< 0.05	0.05 ug/L							
Lithium, total	< 0.05	0.05 ug/L							
Magnesium, total	< 5.0	5.0 ug/L							
Manganese, total	< 0.05	0.05 ug/L							
Mercury, total	< 0.01	0.01 ug/L							
Molybdenum, total	< 0.01	0.01 ug/L							
Nickel, total	< 0.02	0.02 ug/L							
Phosphorus, total	< 10	10 ug/L							
Potassium, total	< 10	10 ug/L							
Selenium, total	< 0.1	0.1 ug/L							
Silicon, total	< 50	50 ug/L							
Silver, total	< 0.01	0.01 ug/L							
Sodium, total	< 10	10 ug/L							
Strontium, total	< 0.1	0.1 ug/L							
Sulfur, total	< 500	500 ug/L							
Tellurium, total	< 0.05	0.05 ug/L							
Thallium, total	< 0.004	0.004 ug/L							
Thorium, total	< 0.01	0.01 ug/L							
Tin, total	< 0.05	0.05 ug/L							
Titanium, total	< 0.2	0.2 ug/L							
Uranium, total	< 0.001	0.001 ug/L							
Vanadium, total	< 0.2	0.2 ug/L							
Zinc, total	< 1	1 ug/L							
Zirconium, total	< 0.01	0.01 ug/L							

**Reference (B4D0164-SRM1)**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Aluminum, total	63	1 ug/L	59.2		107	81-129			
Antimony, total	11.2	0.05 ug/L	10.1		111	88-114			
Arsenic, total	25.4	0.05 ug/L	24.4		104	88-114			
Barium, total	162	0.1 ug/L	155		104	72-104			
Beryllium, total	10.4	0.01 ug/L	9.76		107	76-131			
Boron, total	740	1 ug/L	680		109	75-121			
Cadmium, total	10.4	0.002 ug/L	9.80		106	89-111			
Calcium, total	2170	40 ug/L	2040		107	86-121			
Chromium, total	52.2	0.1 ug/L	48.4		108	89-114			
Cobalt, total	8.16	0.005 ug/L	7.32		111	91-113			
Copper, total	106	0.1 ug/L	97.4		109	91-115			
Iron, total	106	2 ug/L	93.8		113	77-124			
Lead, total	41.5	0.05 ug/L	38.6		107	92-113			
Lithium, total	84.8	0.05 ug/L	78.0		109	85-115			
Magnesium, total	746	5.0 ug/L	662		113	78-120			
Manganese, total	23.3	0.05 ug/L	21.8		107	90-114			
Mercury, total	1.36	0.01 ug/L	0.912		149	50-150			
Molybdenum, total	42.0	0.01 ug/L	39.4		107	90-111			
Nickel, total	52.4	0.02 ug/L	48.4		108	90-111			
Phosphorus, total	47	10 ug/L	46.6		100	85-115			
Potassium, total	1330	10 ug/L	1190		112	84-113			
Selenium, total	25.2	0.1 ug/L	23.0		109	85-115			

**REPORTED TO PROJECT** Triton Environmental Consultants Ltd. (Richmond)  
4435-029

**WORK ORDER REPORTED** 4040315  
Apr-07-14

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	RPD	RPD Limit	Notes
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*DRAFT: Total Recoverable Metals, Batch B4D0164, Continued*

**Reference (B4D0164-SRM1), Continued**

Prepared: Apr-04-14, Analyzed: Apr-04-14

Sodium, total	1640	10 ug/L	1530		108	82-123			
Strontium, total	80.1	0.1 ug/L	72.6		110	88-112			
Thallium, total	16.8	0.004 ug/L	15.9		106	91-114			
Uranium, total	3.98	0.001 ug/L	3.84		104	85-120			
Vanadium, total	79.5	0.2 ug/L	75.2		106	86-111			
Zinc, total	516	1 ug/L	484		107	85-111			