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WESTSIDE LANDFILL, WEST KELOWNA, BC

2010 Annual Operations and Monitoring Report

Submitted to:
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REPORT

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Executive Summary

An annual operations and monitoring report for the Westside Landfill is required under the Operational Certificate (OC) PR#12217 issued by British Columbia Ministry of Environment (MoE). This report includes the 2010 measurements of municipal solid waste volumes, operational plans and budgets, and groundwater and landfill gas monitoring results.

The mass of waste accepted by the Westside Landfill in 2010, based on RDCO weigh scale data, is as follows:

- 592 metric tonnes of construction and demolition debris, and
- 2,811 metric tonnes of residential bag drop off (based on an assumed 10 kg per bag), and rate loads (based on an assumed 125 kg per load).

The above data sum to a total of approximately 3,403 metric tonnes of material landfilled in 2010. The amount of material disposed in 2010 is approximately 32% of the 10,575 metric tonnes landfilled in 2009. The reduction in disposal volumes reflects the closure of the landfill in July 2010.

The mass of recyclables and yard waste accepted by the Westside Landfill in 2010, based on RDCO weigh scale data, is as follows:

- 620 metric tonnes of yard waste drop off,
- 2,364 metric tonnes of recyclable material and,
- 801 metric tonnes of separated construction materials (wood) and,
- 1 metric tonne of batteries.

The above data sum to a total of approximately 3,786 metric tonnes of recyclables and yard waste accepted by Westside Landfill in 2010. This amount represents 107% of recycled and yard waste accepted by Westside Landfill in 2009 (3,517 metric tonnes). According to the RDCO, the yard waste drop off weight is higher compared to 2009, as many people in 2009 dropped off yard waste without going over the scales. This was rectified in 2010.

A survey completed by CTQ Consultants Ltd. (CTQ) in October 2003 indicated that approximately 575,300 m^3 of available volume remained at the landfill. This volume was based on a model completed by Reid Crowther, which assumed a 3:1 slope for the perimeter of the landfill to an ultimate elevation of 555 m (geodetic). An additional survey was conducted by Ansell Construction in 2009. The final cap elevation will be below the original design elevation, and final surface grading is being designed as part of the landfill closure plan.

The results of the 2010 monitoring program at the Westside landfill are summarized below:

- Similar to 2009 results, monitoring wells BH1, BH2, and BH4 (at the landfill boundary) had elevated concentrations of several parameters relative to historical background levels (Dobbin's Well). Parameters elevated above background conditions included conductivity, TDS, alkalinity, chloride, sulphate, nitrate plus nitrite, ammonia, barium, boron, calcium, chromium, cobalt, iron, magnesium, manganese, molybdenum, nickel, potassium, sodium, silicon, strontium, and uranium. Concentrations of these indicator parameters remained relatively constant during the 2010 monitoring program.
- With the exception of increased chloride concentrations between 2005 and 2010, concentrations of indicator parameters at downgradient well BH5 have not shown significant increases between 1994 and 2010, but rather appear to have remained relatively consistent at low concentrations (with minor fluctuations) during this time period.
- Similar to previous monitoring programs, concentrations at BH1, located within the landfill, had the highest concentrations above background conditions, followed by BH2, BH4, BH5 and Shannon Lake Mobile Home Park (SLMHP), respectively.
- Concentrations of parameters at BH1, BH2 and BH4 exceeded both the CSR DW and GCDWQ Standards during the 2010 monitoring program. Parameter concentrations at BH5 exceeded GCDWQ Standards for TDS and SLMHP exhibited concentrations of copper exceeding Aquatic Life (CSR-AW) Standards in addition to GCDWQ Standards for total dissolved solids (TDS).
- Methane concentrations at all locations along the site boundary were less than 5,500 ppm, and continue to be much less than the 50,000 ppm (lower explosive limit) guideline in the BC Municipal Landfill Criteria. In 2010, methane concentrations remained within the range of historical concentrations but continue to vary throughout the year.
- Other landfill gas parameters at the perimeter of the site remain low.

Based on the 2010 groundwater monitoring results, Golder recommends the monitoring program continue in 2011. The program will possibly be revised in 2011 to reflect the Final Closure Plan.

Given that the landfill is now closed, the scope of future monitoring reports should also be reviewed, as many of the operational aspects discussed in Sections 2 and 3 will no longer apply.

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1.0 INTRODUCTION

An annual operations and monitoring report for the Westside Landfill is required under the Operational Certificate (OC) PR#12217 issued by British Columbia Ministry of Environment (MoE). As outlined in Section 3.0 of the OC, the following information is included in this report:

- Summary of service population and waste discharge rates to 2010, with trend analysis compared to 1990 baseline discharge rate;
- authorized design volume;
- estimates of remaining site lifespan and capacity as of 2010;
- an operational plan for the next 12 months;
- operating and maintenance expenditures for the landfill;
- changes from authorized reports, plans and specifications;
- groundwater, leachate and landfill gas monitoring data and interpretation;
- review of closure plan and associated estimated costs; and
- other data relevant to the OC

The above elements have been divided into three sections in this report: Municipal Solid Waste Measurement (Section 2), Operational Plans and Budgets (Section 3), and Groundwater and Landfill Gas Monitoring (Section 4).

The Regional District of Central Okanagan (RDCO) closed the Westside Landfill in July 2010 and now operates a transfer station on the Site.

A location plan and site plan for the Westside Landfill are presented as Figures 1 and 2, respectively.

2.0 MUNICIPAL AND SOLID WASTE MEASUREMENT

2.1 Waste Tonnages

The mass of waste accepted by the Westside Landfill in 2010, based on RDCO weigh scale data, is as follows:

- 593 metric tonnes of construction and demolition debris; and
- 2,811 metric tonnes of residential bag drop off (based on an assumed 10 kg per bag), and rate loads (based on an assumed 125 kg per load).

The above data sum to a total of approximately 3,403 metric tonnes of material landfilled in 2010. The amount of material disposed in 2010 is approximately 32% of the 10,575 metric tonnes landfilled in 2009. The reduction in disposal volumes reflects the closure of all landfilling in July 2010.

The mass of recycled and yard waste accepted by the Westside Landfill in 2009, based on RDCO weigh scale data, is as follows:

- 620 metric tonnes of yard waste drop off;
- 2,364 metric tonnes of recycled material;
- 801 metric tonnes of separated construction materials (wood); and
- 1 metric tonne of batteries.

The above data sum to a total of approximately 3,786 metric tonnes of recycled and yard waste accepted by Westside Landfill in 2010. This amount represents 107% of recycled and yard waste accepted by Westside Landfill in 2009 (3,517 metric tonnes).

2.2 Waste Volumes and Density

In the years 1999 and 2000, Reid Crowther completed volume surveys of the Westside Landfill. Based on the survey results and estimated tonnages, Reid Crowther determined that the compacted density of refuse and cover at the Westside Landfill was approximately 0.80 tonnes/m^3. Furthermore, Reid Crowther determined that the compacted density of refuse alone was approximately 0.57 tonnes/m^3. Typical compacted densities for combined waste and cover in municipal landfills are generally in the 0.50 to 0.70 tonnes/m^3 range.

For the purpose of landfill life span estimates, a compacted density for combined waste and cover of 0.80 tonnes/m^3 and a compacted density for refuse only of 0.55 tonnes/m^3 will be used. Using a compacted density for refuse of 0.55 tonnes/m^3 is considered to be slightly conservative.

A summary of the densities and waste volumes calculated for 2010 are presented in Table 1.

2.3 Service Population and Waste Discharge Rates

The per capita generation rates since 1990 are summarized in Figure 3. A 50% reduction in per-capita waste volumes relative to 1990 rates by the end of 2000 was the objective under the Regional Solid Waste Management Plan. The generation rate objective continued to be met through 2010, with respect to compactor trucks, bin trucks, as well as residential bag drop off, and rate loads. Total landfilled volumes, including construction and demolition debris, bring the reduction in per-capita waste volumes to 20% of the 1990 rates. However, that percentage reflects the closure of commercial compactor trucks and demolition debris to the landfill since April 2009.

2.4 Design Volume and Remaining Capacity

A survey completed by CTQ Consultants Ltd. (CTQ) in October 2003 indicated that approximately 575,300 m^3 of available volume remained at the landfill. This volume was based on a model completed by Reid Crowther, which assumed a 3:1 slope for the perimeter of the landfill to an ultimate elevation of 555 m (geodetic). An additional survey was conducted by Ansell Construction in 2009. The final cap elevation will be below the original design elevation, and final surface grading is being designed as part of the landfill closure plan.

At the end of 2000, the projected volume remaining in the landfill was 713,147 m^3. As a check, Golder has calculated the estimated total volume landfilled between 2001 and 2010 based on the refuse totals provided by the RDCO for the years 2001 to 2010, and are summarized in Table 2.

3.0 OPERATIONAL PLANS AND BUDGETS

3.1 Operational Plan for 2011

Residential municipal solid waste and yard waste drop off were accepted at the landfill until July 2010 when a transfer station began operating at the site. There has been no active landfilling since July 2010.

3.2 Operation and Maintenance Expenditures

The annual operations budget for the landfill monitoring is $30,000 per year.

3.3 Changes to Reports, Plans, and Specifications

The Westside landfill is now closed; therefore, plans for the closure of the landfill and final cap construction are in the process of being finalized.

3.4 Review of Closure Plan

The Regional District of Central Okanagan (RDCO) was in the process of closing the landfill in 2010, which involves preparation of a final Closure Plan. Preparation of the Westside Landfill closure plan was initially completed in September 1997. The RDCO retained CH2M Hill to provide an updated closure plan for the Westside Landfill. A concept closure plan was issued on May 19, 2009, and a draft Closure Plan was issued in October 2010, and forwarded to MoE for review.

3.5 2010 Closure Cost Estimate

The estimated remaining landfill closure budget is $710,000. The estimated annual post-closure costs are $45,000. This budget was developed as part of the final Closure Plan currently being developed by CH2M Hill, and a cost breakdown by item is presented in Table 9.

4.0 GROUNDWATER AND LANDFILL GAS MONITORING

The purpose of the groundwater and landfill gas monitoring program is to monitor the potential impacts that the landfill may have on the local groundwater quality and the potential for landfill gas migration.

4.1 Permit Requirements

The groundwater monitoring requirements for the Westside Landfill were revised in 2001 from those stated in the OC (OC No. PR 12217, dated May 28, 1997). The revisions to the permit were outlined in a letter issued

on May 3, 2001 by MoE. The current groundwater and landfill gas monitoring requirements are presented in Table 4. As the landfill is now closed, permit requirements may be changing to reflect that status.

4.2 Regulatory Framework

The BC MoE Contaminated Sites Regulation ([CSR] April 1997, amendments to October 2010) is the principal document for the evaluation of the environmental quality of groundwater in British Columbia. The standards listed in the CSR provide numerical concentrations for the evaluation of groundwater quality and identify remedial requirements. Groundwater results were compared to the CSR Schedule 6: Generic Numerical Water Standards and Schedule 10: Generic Numeric Soil and Water. The CSR water standards are divided into four categories based on water use: Irrigation (IW), Livestock (LW), Drinking Water (DW) and Aquatic Life (AW).

Based on previous reports, the direction of groundwater flow across the Site is inferred to be south to southwest. Potential receptors to groundwater leaving the Site include Shannon Lake, the nearest surface water body to support aquatic life, which is located at a distance of approximately 300 m downgradient of the Site.

Interim drinking water standards for dissolved aluminum, iron and manganese in groundwater have been provided in BC MoE's "Director's Interim Standards for Contaminated Sites – Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (2010). These standards supersede the standards currently listed in Schedule 6 of the CSR and the results of the groundwater analyses at the Site were compared to these interim standards.

The former drinking water well at the Shannon Lake Mobile Home Park is no longer used. Consequently, the Guidelines for Canadian Drinking Water Quality ([GCDWQ] sixth edition, May 2008) published by Health Canada on behalf of the Federal – Provincial – Territorial Committee on Drinking Water (CDW) were not applied in this report.

4.3 Methodology

4.3.1 Groundwater Monitoring

The 2010 groundwater monitoring program for the Westside Landfill was carried out by members of Golder's technical staff. The Dobbin's Well is no longer accessible but had been used in the past to represent background groundwater conditions. Monitoring wells BH1, BH2, BH4 and BH5 represent downgradient groundwater conditions. The Shannon Lake Mobile Home Park (SLMHP) well is located approximately 320 m downgradient of the site.

Groundwater samples collected from the wells during the 2010 monitoring program were submitted to Caro Environmental Services of Kelowna, BC (Caro) for chemical analyses. Groundwater samples collected from BH1, BH2, BH4, BH5, and the SLMHP well were analyzed for several or all of the following inorganic parameters: pH, conductivity, total dissolved solids, hardness, alkalinity, chloride, sulphate, ammonia nitrogen, nitrate nitrogen, nitrate plus nitrite, and dissolved metals. However, based on information provided by the owner of Dobbin's Well, the well is temporarily out of service, and the property is currently being supplied by Westbank Irrigation District. Therefore, since the well is currently not operational, no water samples were collected from Dobbin's Well during the 2010 monitoring program, and instead the 2005 monitoring results will be used for background comparison purposes.

At a frequency of once every two years, groundwater samples collected from BH1 and BH4 are analyzed for total dissolved solids (TDS), light hydrocarbons, extractable petroleum hydrocarbons, volatile organic compounds, as well as acid and base/neutral extractables, biological oxygen demand (BOD) and chemical oxygen demand (COD). Analysis for these parameters was conducted during the 2009 monitoring program on September 25, 2009.

Groundwater analytical results were compared to both aquatic life and drinking water standards and guidelines. The aquatic life standards used are those listed in the BC Contaminated Sites Regulation (CSR-AW). The drinking water standards and guidelines used are those listed in both the BC Contaminated Sites Regulation (CSR DW) and the Health Canada Guidelines for Canadian Drinking Water Quality (GCDWQ).

4.4 Soil Vapour Monitoring

The 2010 soil vapour monitoring program was conducted by Golder staff on July 19, 2010 and December 21, 2010 at monitoring wells MW99-1, MW99-2, MW99-3, MW99-4, BH1, BH2, BH4, BH5, BH8, BH101 (shallow/deep), BH102 and BH103. In addition, vapour probes VP07-1 (shallow/deep), VP07-2, VP07-3, VP07-14, VP07-15, and VP07-16, located within the east boundary set back between the landfill and residential development were also monitored during the July 2010 event. Landfill gases were measured using a Gastech GT02 and Gastech GT402 combustible gas monitor. These instruments contain a mechanical pump which is used in conjunction with a hand operated pump to purge the gas from the monitoring wells and vapour probes until desired well/probe volumes are purged and maximum concentrations are recorded. Each instrument had been calibrated prior to use at the site to one or all of the following calibration gases; methane (CH_4), hydrogen sulphide (H_2S), carbon monoxide (CO), oxygen (O_2) and carbon dioxide (CO_2).

4.5 Groundwater Monitoring Results

Groundwater monitoring results are discussed below with specific subsections for:

i) groundwater elevation data;

ii) monitoring results relative to background concentrations;

iii) monitoring results relative to historic data (trend analysis);

iv) monitoring results relative to drinking water and aquatic life standards and guidelines; and

v) monitoring results for SLMHP well.

As noted previously, the Dobbin's Well has been used in the past to represent background groundwater conditions, and monitoring wells BH1, BH2, BH3, BH4, BH5, and BH7 represent downgradient groundwater conditions. In addition, the SLMHP well is also considered downgradient of the site.

4.5.1 Groundwater Elevation Data

The results of groundwater elevations measured between 1994 and 2010 are presented in Table 5. Historical groundwater elevations are presented in graphical form on Figure 4. As shown, groundwater elevations show seasonal fluctuations but are otherwise relatively consistent. During the 2010 monitoring program, water levels

were measured in some or all of the following wells; BH1, BH2, BH3, BH4, BH5, BH7 and BH8 during the March, June, September, and December 2010 monitoring events. In general, the 2010 groundwater elevation data is consistent with previous groundwater elevation data.

Based on the groundwater elevations measured in 2010 and the general topography of the area, it is inferred that groundwater flows in an east to southeastern direction at the northeast portion of the site and in a southeastern direction at the southern portion of the site, as shown on Figure 2. This is consistent with previous monitoring results.

4.6 Monitoring Results Relative to Background Concentrations

The analytical results for samples collected from 1994 through 2010 are presented in Table 6 (General Groundwater Chemistry) and Table 7 (Organic Compounds in Groundwater).

4.6.1 Background Wells

Based on information provided by the owner of Dobbin's Well, the well was disconnected in 2006 due to a pipeline rupture, and the property is currently being supplied by the Westbank Irrigation District. Therefore, since the well is currently not operational, no water samples were collected during the 2006, 2007, 2008, 2009 and 2010 monitoring programs. However, the chemical data for the background well (Dobbin's Well) has been relatively consistent over the past eleven monitoring events conducted from 1994 through to 2005. Therefore, 2005 monitoring results will be used as representative background conditions.

Concentrations of the indicator parameters for 2005 were generally low or below laboratory method detection limits (MDL) at Dobbin's Well with no parameters above the applicable numerical criteria.

4.6.2 Landfill Monitoring Wells

Similar to previous monitoring results, it appears that the landfill does impact the local groundwater quality. In the monitoring wells listed below, the following parameters were elevated above background concentrations for either one or all sampling events:

- BH1: Conductivity, TDS, alkalinity, chloride, sulphate, ammonia, aluminum, barium, boron, calcium, chromium, cobalt, iron, magnesium, manganese, nickel, potassium, sodium, strontium, and uranium.
- BH2: Conductivity, TDS, alkalinity, chloride, ammonia, aluminum, barium, boron, calcium, chromium, cobalt, iron, magnesium, manganese, nickel, potassium, silicon, sodium, strontium, and uranium.
- BH4: Conductivity, TDS, alkalinity, chloride, sulphate, ammonia, aluminum, barium, boron, calcium, chromium, cobalt, iron, lithium, magnesium, manganese, nickel, potassium, sodium, strontium, and uranium.
- BH5: Conductivity, TDS, alkalinity, chloride, sulphate, aluminum, barium, boron, cadmium, calcium, chromium, cobalt, iron, lead, magnesium, manganese, nickel, potassium, titanium, and uranium.
- SLMHP: Conductivity, TDS, alkalinity, chloride, barium, calcium, magnesium, nickel, potassium, and uranium.

2010 results showed groundwater concentrations were most elevated above background levels in monitoring wells BH1, BH2, and BH4 which is similar to previous years.

Groundwater from domestic water supply well SLMHP and monitoring well BH5 exhibited concentrations moderately above background concentrations. Total Dissolved Solids (TDS) was elevated at SLMHP with concentrations ranging between 475 mg/L to 546 mg/L for all sampling events in 2010, exceeded the GCDWQ criteria of 500 mg/L in all sampling events except December 2010. In addition, copper was above CSR-AW standards at SLMHP with values of 0.0217 mg/L in Dec 2010 and 0.1320 mg/L in Sept 2010. At BH5, TDS concentrations of 565 mg/L (Mar 2010) and 503 mg/L (Dec 2010) exceeded GCDWQ criteria of 500 mg/L.

4.6.3 Monitoring Results Relative to Historical Data (trend analyses)

For reference purposes, trend analysis graphing from 1994 through to 2010 is presented in Appendix A. Concentrations of the various analyzed inorganic parameters in groundwater collected from BH1, BH2 and BH4 all showed marked increases between 1994 and 1997. Since 1998, concentrations of most analyzed parameters from these three monitoring wells have only shown slight fluctuations and for most parameters, appear to have reached a relatively steady state.

With the exception of an increased nitrite plus nitrate concentrations between 2005 and 2009, concentrations of indicator parameters at BH5 have not shown significant increases between 1994 and 2009, but rather appear to have remained relatively consistent at low concentrations (with minor fluctuations) for this time period. Although the metals aren't plotted in the appendix, it should be noted that BH5 also showed minor increases from 2009 concentrations for metal parameters such as boron, cobalt, lithium, molybdenum, silicon and sodium.

A discussion regarding trends in concentrations for analyzed parameters in groundwater samples collected from the SLMHP is presented below.

4.6.4 Monitoring Results Relative to Standards and Guidelines

Concentrations of parameters at BH1, BH2 and BH4 and exceeded both CSR DW and GCDWQ Standards (note: the CSR DW and GCDWQ for specified parameters are generally identical) during the 2010 monitoring program. Samples collected at BH5 exceeded GCDWQ Standards for TDS. Samples collected at SLMHP exhibited concentrations of parameters exceeding GCDWQ Standards (TDS) and Aquatic Life (CSR-AW) Standards (copper).

The following list presents the parameters that exceeded the CSR DW and/or the GCDWQ at one or more sampling events during the 2010 monitoring program at specific monitoring locations:

- BH1: TDS, chloride, iron, magnesium and manganese.
- BH2: TDS, chloride, magnesium, and manganese.
- BH4: TDS, chloride, magnesium, manganese and uranium.
- BH5: TDS.
- SLMHP: TDS and copper.

Note that the calculated TDS values not analyzed by the laboratory have been inferred based on conductivity measurements (i.e., conductivity x 0.667). Furthermore, the standard for chloride is for aesthetic purposes and is not human health based.

4.7 Landfill Gas Monitoring Results

The 2010 soil vapour monitoring program was conducted by Golder staff on July 19, 2010 and December 21, 2010 at monitoring wells MW99-1, MW99-2, MW99-3, MW99-4, BH1, BH2, BH4, BH5, BH8, BH101 (shallow/deep), BH102 and BH103. Soil vapours were additionally measured in the vapour probes VP07-1 (shallow/deep), VP07-2, VP07-3, VP07-14, VP07-15, and VP07-16 on July 19, 2010. Soil vapour readings are presented in Table 3 and summarized below.

Combustible Gas Methane - Methane concentrations were measured using a Gastech GT402 combustible gas meter. In general, methane concentrations ranged from 60 parts per million (ppm) (BH5) to 1,720 ppm (VP07-15) during the July 2010 monitoring event. During the December 2010 monitoring event, concentrations ranged from 0 ppm (BH4 AND BH5) to 5,130 ppm (BH102). Based on the results, methane concentrations decreased during the July and December 2010 monitoring event when compared to 2009 sampling results. Maximum methane concentrations of 1,720 ppm (VP07-15) during July 2010 and 5,130 ppm (BH102) during December 2010 compared to 2009 maximum concentrations of 280 ppm (VP07-15) in July 2009 and >10,000 ppm (BH102) in December 2009. It should be noted that concentrations less than 40 ppm are considered representative of background conditions for this instrument.

Oxygen - Oxygen concentrations were measured using a Gastech GT402 combustible gas meter with concentrations ranging from 12.6% at BH101 (deep) to near atmospheric level of 20.9% at BH4, BH5 and VP07-16 during the July 2010 monitoring event. During the December 2010 monitoring event, oxygen levels ranged from 19.3% at BH102 to 20.5% at BH4.

Carbon Monoxide – Carbon monoxide was measured using a Gastech GT402 combustible gas meter with concentrations of 0 ppm during both July and December 2010 monitoring events.

Carbon Dioxide - Carbon dioxide was measured using a Gastech GT402 combustible gas meter with concentrations ranging from 0.25% (BH5) to >5% (BH1, BH2, BH8,BH101 (shallow and deep) and VP07-15) during the July 2010 monitoring event and 0% at monitors BH5 and BH8 to 4.90% at MW99-4 and BH102 during the December 2009 monitoring event.

Hydrogen Sulphide – Consistent with previous monitoring events, concentrations of H_2S were 0 ppm in all wells during the July and December 2009 monitoring events.

4.8 Quality Assurance / Quality Control

To ensure that the sampling and analytical data were interpretable, meaningful and reproducible, conformance to a Golder Quality Assurance and Quality Control (QA/QC) program was followed. This involved using QA/QC measures in both the collection (field program) and analysis (laboratory) of environmental samples. The following discussion includes a brief summary of the QA/QC measures implemented by Golder during the field

program and during our review of the data, as well as the QA/QC measures implemented by the analytical laboratory.

Quality Control (QC) measures used in the collection, preservation and delivery of samples included the following measures:

- sampling methods were consistent with established Golder protocols and provincial/federal requirements;
- field notes were recorded during all stages of the investigation and are available upon request;
- samples were subsequently transported to the laboratory using Golder and laboratory chain of custody procedures. Copies of the chain-of-custody forms are provided in Appendix B.

The Quality Assurance (QA) measures established for the field program included:

- Submission of blind field duplicate samples for a minimum of 10% of the samples analyzed. A blind field duplicate sample is a second sample of a certain media (e.g., soil, water) from the same location that is submitted to the analytical lab under a separate label.
- The relative percent difference (RPD) between field duplicate sample results was used to assess duplicate sample data. The RPD is a measure of the variability between two outcomes from the same procedure or process and is calculated by

$$absolute\left(\frac{(x_1 - x_2)}{average(x_1, x_2)}\right) \times 100$$

where x_1 is the original sample result and x_2 is the blind field duplicate result. In general, the RPD should not be more than 30%. A RPD greater than 30% may reflect "within jar" variability (which reflects the nature of the contaminant distribution) or variation in the test procedures. If analytical results are within five times the laboratory detection limit for the parameter, then calculation of a RPD is not a valid means of assessing laboratory bias.

The following Data Quality Objectives were established for the laboratory program:

- The chemical laboratory that was used must have achieved proficiency certification by CALA for the analyses conducted.
- Caro performed all the chemical analysis of the water samples for this investigation. Caro is certified by CALA for all analytical methods used for this program. Each Caro batch includes at least one analytical blank, one laboratory duplicate sample and one reference sample, as required by the data quality objectives.
- All reports from the labs are internally reviewed prior to submission to Golder. If any internal QA/QC problems are encountered, the field samples and internal QA/QC samples are re-analysed. No samples were re-analysed for this field investigation. The results are included in the analytical laboratory reports, provided in Appendix A.

4.9 Results of QA / QC

A total of four duplicate water samples were collected during the 2010 Monitoring program, one for each sampling event. The duplicate water samples collected during the March, June and September 2010 events were both labelled BH6 and were duplicates from samples collected from monitoring well BH1. The duplicate water sample collected during the December 2010 event was labelled BHA and was a duplicate of samples collected from BH2. All samples were analyzed for pH, conductivity, total dissolved solids, hardness, alkalinity, chloride, sulphate, ammonia nitrogen, nitrate nitrogen, nitrate plus nitrite, and dissolved metals to determine any laboratory bias. This satisfies the 10% duplicate samples guideline discussed in Section 4.0.

Results for the duplicate samples collected during the 2010 monitoring events are presented in Table 8 and were generally similar (less than 30% RPD values) to that of the duplicate samples with the exception of iron concentrations with an RPD of 38.3% during the June 2010 event; chromium concentrations with an 88.7% RPD during the September 2010 sampling event and iron concentrations with an RPD of 35.9% during the December 2010 sampling event. The overall difference in concentrations for all these duplicates were quite low (0.81 mg/L, 0.0102 mg/L and 0.332 mg/L respectively). Thus it is considered that these differences are a result of in jar variability and that the results would not change exceedences to applicable CSR-AW standards even if the RPD variations were applied to these concentrations. These results are considered acceptable for the purposes of the monitoring program.

5.0 DISCUSSION OF GROUNDWATER AND LANDFILL GAS MONITORING

The results of the 2010 monitoring program at the Westside landfill are summarized below:

- Similar to 2009 results, monitoring wells BH1, BH2, and BH4 (at the landfill boundary) showed elevated concentrations of several parameters relative to historical concentrations at Dobbin's Well (background). Parameters elevated above background conditions included conductivity, TDS, alkalinity, chloride, sulphate, nitrate plus nitrite, ammonia, barium, boron, calcium, chromium, cobalt, iron, magnesium, manganese, molybdenum, nickel, potassium, sodium, silicon, strontium, and uranium. Concentrations of these indicator parameters remained relatively constant during the 2010 monitoring program.
- With the exception of increased chloride concentrations between 2005 and 2010, concentrations of indicator parameters at downgradient well BH5 have not shown significant increases between 1994 and 2010, but rather appear to have remained relatively consistent at low concentrations (with minor fluctuations) for this time period.
- Similar to previous monitoring programs, concentrations at BH1, located within the landfill, had the highest concentrations above background conditions, followed by BH2, BH4, BH5 and Shannon Lake Mobile Home Park (SLMHP), respectively.
- Concentrations of parameters at BH1, BH2 and BH4 exceeded both the CSR DW and GCDWQ Standards during the 2010 monitoring program. Parameter concentrations at BH5 exceeded GCDWQ Standards for TDS and SLMHP exhibited concentrations of copper exceeding Aquatic Life (CSR-AW) Standards in addition to GCDWQ Standards for total dissolved solids (TDS).
- Methane concentrations at all locations along the site boundary were less than 5,500 ppm, and continue to be much less than the 50,000 ppm (lower explosive limit) guideline in the BC Landfill Criteria. In 2010,

methane concentrations remained within the range of historical concentrations but continue to vary throughout the year.

- Other landfill gas parameters at the perimeter of the site remain low.

6.0 RECOMMENDATIONS

Based on the 2010 groundwater monitoring results, Golder recommends the monitoring program continue in 2011. The program will possibly be revised in 2011 to reflect the Final Closure Plan.

Given that the landfill is now closed, the scope of future monitoring reports should also be reviewed, as many of the operational aspects discussed in Sections 2 and 3 will no longer apply.

7.0 LIMITATIONS AND USE OF REPORT

This report was prepared for the exclusive use of Regional District of the Central Okanagan. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it are the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

The report, which includes all appendices and attachments, is based on data and information collected during the investigation conducted by Golder Associates Ltd.'s personnel. It provides a level of assurance commensurate with the level of study. The report is based solely on the Site conditions at the time of the site investigation conducted in 2008, as described in this report.

In evaluating the site, Golder has relied in good faith on information provided by the individuals and agencies noted in this report. We accept no responsibility for any deficiency, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretations of fraudulent acts of the persons or agencies interviewed.

The assessment of environmental conditions and possible hazards at this Site has been made using the results of chemical analysis of discrete groundwater samples from a limited number of locations. The Site conditions between sampling locations have been inferred based on conditions observed at borehole, monitoring well and test pit locations. Subsurface conditions may vary from these sample locations. Additional study, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of study.

However, it is never possible, even with exhaustive sampling and testing, to dismiss the possibility that part of a site may be contaminated and remain undetected.

This investigation was performed according to current professional standards and practices in the environmental field. If new information is discovered during future work, including excavations, borings or other activities or studies, Golder should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

8.0 CLOSURE

We trust that this report provides you with the information that you require at this time. Should you require additional information or have any questions, please feel free to contact the undersigned at your earliest convenience.

GOLDER ASSOCIATES LTD.

Kristen Forsyth, B.Sc.
Environmental Scientist

Rick Peleshytyk, P.Eng.
Associate, Senior Environmental Engineer

KF/AR/RP/cfh

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TABLE 1:
SUMMARY OF LANDFILL ESTIMATES FOR 2010
WESTSIDE LANDFILL
WEST KELOWNA, BC

Jan-11 04-1440-062

Mass of refuse landfilled in 2010	5768 metric tonnes
Volume of refuse landfilled (assume compacted refuse density of 0.55 tonnnes/m3)	10487 m^3
Volume of cover material landfilled (asssume 33% of final volume is cover)	3461 m^3
Total volume of refuse and cover landfilled	13947 m^3

TABLE 2:
REMAINING VOLUME
WESTSIDE LANDFILL,
WEST KELOWNA, BC

Year	Contributing Population	Per Capita Production (tonnes/ person/ year)[2]	Production Rate (tonnes)[1]	Compacted Refuse Density (kg/m^3)	Production Vol.(m^3)	Cover Requirement @ 33% of total volume	Total Volume (m^3)	Remaining Volume (m^3)
1997	31837	0.524	16698					
1998	37669	0.481	18122					803242
1999	37895	0.502	19042	550	34622	11425	46047	759310
2000	38653	0.498	19249	550	34998	11549	46548	713147
2001	39426	0.502	19790	550	35982	11994	47976	665171
2002	40214	0.524	21057	550	38285	12634	50920	614251
2003	40932	0.564	23099	550	41998	13859	55858	558394
2004	42770	0.713	30497	550	55449	18298	73747	484646
2005	43905	0.643	28244	550	51353	16946	68299	416347
2006	45293	0.637	28857	550	52467	17314	69781	346566
2007	42101	0.713	29997	550	54540	17998	72538	274028
2008	43444	0.775	33659	550	61198	20195	81394	192634
2009	44313	0.590	10575	550	19227	6345	25572	167062
2010	45199	0.590	5768	550	10487	3461	13948	153114

[1] - Based on actual production rate for 1997 through to 2010.

[2] - Based on landfill volume survey completed by Earth Tech.
Production rate for 2009 is an average of 1997-2008 rates

Population increase of approximately 3% and compaction density of 550 kg/m^3 assumed for 2010.
Remaining volume based on October 2003 survey data completed by CTQ Consultants Ltd.

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
21-Dec-10	BH 1	nm	0.60	0	0	160	19.7
21-Dec-10	BH 2	nm	0.80	0	0	450	20.2
21-Dec-10	BH 4	nm	2.80	0	0	0	20.5
21-Dec-10	BH 5	nm	0.00	0	0	0	20.1
21-Dec-10	BH 8	nm	0.00	0	0	60	19.8
21-Dec-10	MW 99-1	nm	1.80	0	0	450	19.7
21-Dec-10	MW 99-2	nm	2.30	0	0	460	19.5
21-Dec-10	MW 99-3	nm	0.70	0	0	470	19.6
21-Dec-10	MW 99-4	nm	4.90	0	0	440	19.4
21-Dec-10	BH 101 (deep)	nm	3.50	0	0	560	19.9
21-Dec-10	BH 101 (shallow)	nm	1.60	0	0	430	19.7
21-Dec-10	BH 102	nm	4.90	0	0	5,130	19.3
21-Dec-10	BH 103	nm	2.50	0	0	210	19.7

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
19-Jul-10	BH 1	nm	>5.00	0	0	600	18.4
19-Jul-10	BH 2	nm	>5.00	0	0	560	17.4
19-Jul-10	BH 4	nm	0.55	0	0	220	20.9
19-Jul-10	BH 5	nm	0.25	0	0	60	20.9
19-Jul-10	BH 8	nm	>5.00	0	0	440	15.4
19-Jul-10	MW 99-1	nm	2.55	0	0	480	18.6
19-Jul-10	MW 99-2	nm	4.05	0	0	420	17.2
19-Jul-10	MW 99-3	nm	1.55	0	0	360	19.6
19-Jul-10	MW 99-4	nm	1.80	0	0	440	19.9
19-Jul-10	BH 101 (deep)	nm	>5.00	0	0	560	12.6
19-Jul-10	BH 101 (shallow)	nm	>5.00	0	0	460	17.6
19-Jul-10	BH 102	nm	>5.0	0	0	1,280	18.5
19-Jul-10	BH 103	nm	>5.0	0	0	420	18.4
19-Jul-10	VP07-1S	nm	1.30	0	0	360	20.2
19-Jul-10	VP07-1D	nm	0.66	0	0	240	20.7
19-Jul-10	VP07-2	nm	0.65	0	0	160	20.8
19-Jul-10	VP07-3	nm	3.00	0	0	460	19.3
19-Jul-10	VP07-14	nm	0.50	0	0	100	20.9
19-Jul-10	VP07-15	nm	>5.00	0	0	1,720	17.4
19-Jul-10	VP07-16	nm	0.45	0	0	80	20.9

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to $C0_2$.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
17-Dec-09	BH 1	nm	3.3	0	0	120	20.1
17-Dec-09	BH 2	nm	1.00	0	0	900	20.8
17-Dec-09	BH 4	nm	4.35	0	0	0	20.9
17-Dec-09	BH 5	nm	0	0	0	0	20.9
17-Dec-09	BH 8	nm	0	0	0	140	20.9
17-Dec-09	MW 99-1	nm	2.00	0	0	1,820	20.1
17-Dec-09	MW 99-2	nm	2.80	0	0	1,820	20.1
17-Dec-09	MW 99-3	nm	0.80	0	0	1,120	20.6
17-Dec-09	MW 99-4	nm	>5.00	0	0	1,900	18.6
17-Dec-09	BH 101 (deep)	nm	4.00	0	0	2,040	20.2
17-Dec-09	BH 101 (shallow)	nm	2.20	0	0	1,620	20.3
17-Dec-09	BH 102	nm	>5.00	0	0	>10,000	20.9
17-Dec-09	BH 103	nm	0.75	0	0	760	20.2
17-Dec-09	VP07-1S	nm	0.25	0	0	240	20.9
17-Dec-09	VP07-1D	nm	2.20	0	0	1,620	19.8
17-Dec-09	VP07-2	nm	1.20	0	0	1,200	20.8
17-Dec-09	VP07-3	nm	0.80	0	0	1,020	20.8
17-Dec-09	VP07-14	nm	0.55	0	0	120	20.2
17-Dec-09	VP07-15	nm	4.15	0	0	2,440	19.9
17-Dec-09	VP07-16	nm	>5.00	0	0	2,300	19.8

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
24-Jul-09	BH 1	nm	4.80	0	0	240	18.7
24-Jul-09	BH 2	nm	>5.00	0	0	220	20.3
24-Jul-09	BH 4	nm	0	0	0	60	20.9
24-Jul-09	BH 5	nm	0.60	0	0	140	20.3
24-Jul-09	BH 8	nm	>5.00	0	0	180	14.7
24-Jul-09	MW 99-1	nm	2.55	0	0	160	18.6
24-Jul-09	MW 99-2	nm	4.65	0	0	180	17.5
24-Jul-09	MW 99-3	nm	1.35	0	0	140	19.8
24-Jul-09	MW 99-4	nm	1.60	0	0	140	19.8
24-Jul-09	BH 101 (deep)	nm	>5.00	0	0	160	12.9
24-Jul-09	BH 101 (shallow)	nm	1.90	0	0	100	19.0
24-Jul-09	BH 102	nm	0.90	0	0	360	20.1
24-Jul-09	BH 103	nm	0.85	0	0	200	18.9
24-Jul-09	VP07-1S	nm	0.20	0	0	40	20.7
24-Jul-09	VP07-1D	nm	0.85	0	0	120	19.6
24-Jul-09	VP07-2	nm	0	0	0	0	20.9
24-Jul-09	VP07-3	nm	0.55	0	0	100	20.5
24-Jul-09	VP07-14	nm	0	0	0	0	20.9
24-Jul-09	VP07-15	nm	0.55	0	0	280	20.5
24-Jul-09	VP07-16	nm	4.41	0	0	200	17.5

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to $C0_2$.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
31-Dec-08	BH 1	nm	2.35	0	0	1,670	19.2
31-Dec-08	BH 2	nm	1.1	0	0	960	20.4
31-Dec-08	BH 4	nm	0	0	0	580	20.6
31-Dec-08	BH 5	nm	0	0	0	180	20.9
31-Dec-08	BH 8	nm	0	0	0	0	20.9
31-Dec-08	MW 99-1	nm	1.4	3	0	1,310	20
31-Dec-08	MW 99-2	nm	1.05	4	0	60	20.9
31-Dec-08	MW 99-3	nm	0.55	0	0	720	20.6
31-Dec-08	MW 99-4	nm	3.05	0	0	1,670	18.4
31-Dec-08	BH 101 (deep)	nm	>5	0	0	1,310	18.6
31-Dec-08	BH 101 (shallow)	nm	2.05	0	0	1,300	19.7
31-Dec-08	BH 102	nm	3.15	0	0	8,460	17.7
31-Dec-08	BH 103	nm	1.85	0	0	5,160	18.7
31-Dec-08	VP07-1S	nm	0.4	0	0	420	20.8
31-Dec-08	VP07-1D	nm	0.75	0	0	700	20.9
31-Dec-08	VP07-2	nm	0	0	0	80	20.9
31-Dec-08	VP07-3	nm	2	0	0	1,400	19.8
31-Dec-08	VP07-14	nm	3.9	0	0	2,120	18.1
31-Dec-08	VP07-15	nm	0.4	0	0	420	20.8
31-Dec-08	VP07-16	nm	0.05	0	0	840	20.8

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
17-Jul-08	BH 1	nm	0.4	0	0	1,900	18
17-Jul-08	BH 2	nm	>5	0	0	2,360	15.9
17-Jul-08	BH 4	nm	0	0	0	800	20.9
17-Jul-08	BH 5	nm	0.95	0	0	2,140	19.9
17-Jul-08	BH 8	nm	>5	0	0	2,480	14.7
17-Jul-08	MW 99-1	nm	2.8	0	0	1,420	20.5
17-Jul-08	MW 99-2	nm	>5	0	0	1,160	17.5
17-Jul-08	MW 99-3	nm	1.75	0	0	2,140	19.5
17-Jul-08	MW 99-4	nm	2.15	0	0	1,860	19.6
17-Jul-08	BH 101 (deep)	nm	>5	0	0	1,700	20.6
17-Jul-08	BH 101 (shallow)	nm	4.15	0	0	2,200	18.6
17-Jul-08	BH 102	nm	2.5	0	0	320	19.2
17-Jul-08	BH 103	nm	2.6	0	0	2,480	19.3
17-Jul-08	VP07-1S	nm	0.9	0	0	440	20.3
17-Jul-08	VP07-1D	nm	0.85	0	0	1,500	20.4
17-Jul-08	VP07-2	nm	0.7	0	0	1,560	20.7
17-Jul-08	VP07-3	nm	0.6	0	0	2,300	19.2
17-Jul-08	VP07-14	nm	>5	0	0	520	15.3
17-Jul-08	VP07-15	nm	3.15	0	0	3,560	19.1
17-Jul-08	VP07-16	nm	4.55	0	0	2,560	15.9

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
20-Dec-07	BH 1	nm	0	0	0	0	20.9
20-Dec-07	BH 2	nm	2.9	0	0	540	19.4
20-Dec-07	BH 4	nm	0	0	0	0	20.9
20-Dec-07	BH 5	nm	0	0	0	0	20.9
20-Dec-07	BH 8	nm	0	0	0	0	20.9
19-Dec-07	MW 99-1	nm	0.05	0	0	280	20.9
19-Dec-07	MW 99-2	nm	0.05	0	0	80	20.9
19-Dec-07	MW 99-3	nm	0.7	0	0	260	20.4
19-Dec-07	MW 99-4	nm	4.5	0	0	660	18.4
19-Dec-07	BH 101 (deep)	nm	0	0	0	0	20.9
19-Dec-07	BH 101 (shallow)	nm	1.6	0	0	400	19
19-Dec-07	BH 102	nm	0	0	0	80	20.9
19-Dec-07	BH 103	nm	0.3	0	0	120	19.5

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
26-Jul-07	BH 1	nm	0.15	0	0	120	20.5
26-Jul-07	BH 2	nm	>5	0	0	260	17.3
26-Jul-07	BH 4	nm	0	0	0	0	20.9
26-Jul-07	BH 5	nm	1.05	0	0	160	19.6
26-Jul-07	BH 8	nm	0.4	0	0	260	17.3
26-Jul-07	MW 99-1	nm	4.25	0	0	340	14.8
26-Jul-07	MW 99-2	nm	3.2	0	0	360	16.3
26-Jul-07	MW 99-3	nm	3.45	0	0	340	17.3
26-Jul-07	MW 99-4	nm	2.95	0	0	300	18.5
26-Jul-07	BH 101 (deep)	nm	>5	0	0	280	7.4
26-Jul-07	BH 101 (shallow)	nm	>5	0	0	320	9.3
26-Jul-07	BH 102	nm	0.1	0	0	440	16.5
26-Jul-07	BH 103	nm	>5	0	0	340	11.6

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to $C0_2$.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
11-Dec-06	BH 1	3.040	>5	0	0	2,500	19.3
11-Dec-06	BH 2	3.483	2.15	0	0	1,400	19.9
11-Dec-06	BH 4	2.915	>5	0	0	2,840	19.8
11-Dec-06	BH 5	11.64	0.15	0	0	240	20.9
11-Dec-06	BH 8	5.225	0.85	0	0	620	20.9
11-Dec-06	MW 99-1	5.167	2.5	0	0	1,740	18.9
11-Dec-06	MW 99-2	5.430	4.45	0	0	2,140	18.3
11-Dec-06	MW 99-3	4.843	1.15	0	0	1,280	20.2
11-Dec-06	MW 99-4	6.234	>5	0	0	2,300	16.2
11-Dec-06	BH 101 (deep)	dry	>5	0	0	2,080	17.3
11-Dec-06	BH 101 (shallow)	dry	3.1	0	0	1,760	18.7
11-Dec-06	BH 102	dry	2.35	0	0	1,960	18.6
11-Dec-06	BH 103	dry	2.75	0	0	9,860	17.4

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT401			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
26-Jul-06	BH 1	2.973	1.25	0	0	1,300	20.8
26-Jul-06	BH 2	3.49	>5	0	0	1,980	16.8
26-Jul-06	BH 4	2.67	0.2	0	0	340	20.9
26-Jul-06	BH 5	11.50	0.8	0	0	780	19.5
26-Jul-06	BH 8	5.26	>5	0	0	1,920	15.4
26-Jul-06	MW 99-1	5.163	>5	0	0	1,780	15.1
26-Jul-06	MW 99-2	5.483	>5	0	0	1,960	16.9
26-Jul-06	MW 99-3	4.415	3.65	0	0	1,960	17.7
26-Jul-06	MW 99-4	6.143	1.8	0	0	1,220	19.8
26-Jul-06	BH 101 (deep)	dry	>5	0	0	1,600	17.3
26-Jul-06	BH 101 (shallow)	dry	>5	0	0	2,500	16.6
26-Jul-06	BH 102	dry	2.75	0	0	1,480	18.7
26-Jul-06	BH 103	dry	2.4	0	0	1,620	18.6

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
15-Dec-05	BH 1	3.265	3.95	0	0	940	19.5
15-Dec-05	BH 2	3.485	1.55	0	0	540	20.5
15-Dec-05	BH 4	3.535	2.25	0	0	500	20.9
15-Dec-05	BH 5	11.66	0	0	0	40	20.9
15-Dec-05	BH 8	5.583	0	0	0	0	20.9
15-Dec-05	MW 99-1	6.745	2	0	0	700	19.6
15-Dec-05	MW 99-2	5.955	3.65	0	0	840	19.9
15-Dec-05	MW 99-3	4.778	0.55	0	0	300	20.9
15-Dec-05	MW 99-4	6.598	>5	0	0	1060	16.8
15-Dec-05	BH 101 (deep)	dry	>5	0	0	1020	18.7
15-Dec-05	BH 101 (shallow)	dry	1.9	0	0	680	20.2
15-Dec-05	BH 102	dry	1	0	0	480	20.5
15-Dec-05	BH 103	dry	1.6	0	0	600	20.1

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT401			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (% LEL)	O_2 (%)
19-Aug-05	BH 1	nm	>5	0	0	<1%	20.9
19-Aug-05	BH 2	nm	>5	0	0	<1%	20.9
19-Aug-05	BH 4	nm	0.3	0	0	<1%	20.9
19-Aug-05	BH 5	nm	1.4	0	0	<1%	19.6
19-Aug-05	BH 8	nm	>5	0	0	<1%	20.7
19-Aug-05	MW 99-1	nm	0.35	0	0	<1%	20.9
19-Aug-05	MW 99-2	nm	>5	0	0	<1%	17.2
19-Aug-05	MW 99-3	nm	2.35	0	0	<1%	19.8
19-Aug-05	MW 99-4	nm	1.7	0	0	<1%	19.6
19-Aug-05	BH 101 (deep)	nm	nm	nm	nm	nm	nm
19-Aug-05	BH 101 (shallow)	nm	>5	0	0	<1%	20.9
19-Aug-05	BH 102	nm	2.6	0	0	<1%	20.9
19-Aug-05	BH 103	nm	3.15	0	0	<1%	21

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit (1 % LEL is equal to approximely 500 ppm)
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
17-Dec-04	BH 1	2.698	0.5	0	0	>100 % LEL	13
17-Dec-04	BH 2	3.225	3.7	0	0	500	18.7
17-Dec-04	BH 4	1.730	>5	0	0	500	19.5
17-Dec-04	BH 5	11.615	0	0	0	0	20.9
17-Dec-04	BH 8	4.990	0	0	0	0	20.9
17-Dec-04	MW 99-1	5.700	2.1	0	0	500	18.7
17-Dec-04	MW 99-2	5.240	3.35	0	0	500	18.1
17-Dec-04	MW 99-3	5.120	0.75	0	0	0	20.3
17-Dec-04	MW 99-4	7.075	>5	0	0	1000	13.9
17-Dec-04	BH 101 (deep)	Dry	>5	0	0	500	17.2
17-Dec-04	BH 101 (shallow)	Dry	4.1	0	0	500	18.1
17-Dec-04	BH 102	Dry	2.35	0	0	500	19.5
17-Dec-04	BH 103	Dry	4	0	0	500	18.5

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
1-Sep-04	BH 1	2.775	>5	0	0	1,560	18.6
1-Sep-04	BH 2	3.270	>5	0	0	680	14.9
1-Sep-04	BH 4	2.120	2.45	0	0	280	20.9
1-Sep-04	BH 5	11.595	0.5	0	0	0	20.9
1-Sep-04	BH 8	5.600	0.7	0	0	260	20.8
1-Sep-04	MW 99-1	6.740	>5	0	0	460	17.8
1-Sep-04	MW 99-2	5.780	>5	0	0	580	17.2
1-Sep-04	MW 99-3	5.000	4.65	0	0	460	19.4
1-Sep-04	MW 99-4	7.070	>5	0	0	460	19
1-Sep-04	BH 101 (deep)	Dry	>5	0	0	840	12
1-Sep-04	BH 101 (shallow)	Dry	>5	0	0	540	16.7
1-Sep-04	BH 102	Dry	>5	0	0	560	17.9
1-Sep-04	BH 103	2.840	>5	0	0	660	16.9

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to $C0_2$.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
16-Dec-03	BH 1	3.020	4.5	0	0	1500	18.5
16-Dec-03	BH 2	3.340	1.25	0	0	500	19.4
16-Dec-03	BH 4	2.080	4.1	0	0	760	19
16-Dec-03	BH 5	Dry	0	0	0	40	20.9
16-Dec-03	BH 8	5.275	Instrument Problems				20.9
16-Dec-03	MW 99-1	6.750	0.65	0	0	240	20
16-Dec-03	MW 99-2	6.970	1.25	0	0	460	19.3
16-Dec-03	MW 99-3	Dry	0.45	0	0	260	20.5
16-Dec-03	MW 99-4	7.075	2.5	0	0	660	14.8
16-Dec-03	BH 101 (deep)	Dry	2.75	0	0	640	16.3
16-Dec-03	BH 101 (shallow)	Dry	1.8	0	0	560	18.3
16-Dec-03	BH 102	Dry	0.95	0	0	380	19.7
16-Dec-03	BH 103	Dry	1.2	0	0	700	18.7

Date	Probe/Well	Depth to Water (m)	Gastech GT02	Gastech GT402			
			CO_2 (%)	CO (ppm)	H_2S (ppm)	Methane (CH_4) (ppm)	O_2 (%)
26-Jul-03	BH 1	3.270	>5	0	0	680	17.5
26-Jul-03	BH 2	3.080	>5	0	0	760	14.1
26-Jul-03	BH 4	11.840	1.2	0	0	240	19.7
26-Jul-03	BH 5	3.460	0	0	0	100	20.7
26-Jul-03	BH 8	5.920	2.9	0	0	360	19.3
26-Jul-03	MW 99-1	6.870	1.9	0	0	800	19.8
26-Jul-03	MW 99-2	6.400	1.5	0	0	780	19.4
26-Jul-03	MW 99-3	5.240	1.6	0	0	1,000	19.8
26-Jul-03	MW 99-4	7.100	2.3	0	0	600	19.6
26-Jul-03	BH 101 (deep)	Dry	>5	0	0	860	12.3
26-Jul-03	BH 101 (shallow)	Dry	4.15	0	0	820	18.1
26-Jul-03	BH 102	Dry	2.15	0	0	780	19.5
26-Jul-03	BH 103	Dry	2.4	0	0	780	19.5

Notes:
1) Gastech - Gastech GT02 combustible gas monitor calibrated to $C0_2$.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
3) ppm - parts per million
4) LEL - Lower Explosive Limit
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT201	Gastech GT402		
			O_2 (%)	CO (ppm)	H_2S (ppm)	Combustible (CH_4) (ppm)
18-Dec-02	BH 1	3.142	19	0	0	680
18-Dec-02	BH 2	3.315	19.6	0	0	560
18-Dec-02	MW 99-1	-	20.4	0	0	300
18-Dec-02	MW 99-2	-	20.4	0	0	520
18-Dec-02	MW 99-3	-	20.7	0	0	200
18-Dec-02	MW 99-4	-	17.7	0	0	620
18-Dec-02	BH 101 (deep)	-	17.2	0	0	700
18-Dec-02	BH 101 (shallow)	-	19.7	0	0	500
18-Dec-02	BH 102	-	20.4	0	0	300
18-Dec-02	BH 103	-	19.6	0	0	400

Date	Probe/Well	Depth to Water (m)	Gastech GT402*				Gastech GT02
			O_2 (%)	CO (ppm)	H_2S (ppm)	Combustible (CH_4) (ppm)	CO_2 (%)
18-Jul-02	BH 1	3.290	18.3	0	0	1,140	>5
18-Jul-02	BH 2	3.310	15.7	4	0	1,120	>5
18-Jul-02	BH 4	3.255	20.9	0	0	80	0.1
18-Jul-02	BH 5	11.740	19.3	0	0	360	1.35
18-Jul-02	BH 8	5.370	20.9	0	1	480	0.30
18-Jul-02	MW 99-1	6.195	20.9	0	0	640	0.0
18-Jul-02	MW 99-2	5.425	18.6	0	0	900	3.5
18-Jul-02	MW 99-3	4.760	19.9	0	0	740	1.4
18-Jul-02	MW 99-4	5.615	20.1	0	0	540	1.7
18-Jul-02	BH 101 (deep)	dry	16.3	0	0	1,120	>5
18-Jul-02	BH 101 (shallow)	dry	18.7	0	0	700	3.9
18-Jul-02	BH 102	dry	19.2	0	0	720	2.2
18-Jul-02	BH 103	dry	19.8	0	0	580	2.35

Notes:
1) Gastech - Gastech GT402 combustible gas monitor calibrated to methane.
2) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
3) ppm - parts per million
4) LEL - Lower Explosive Limit
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT201		Gastech GT402			Gastech GT02
			Combustible (ppm)	O_2 (%)	CO (ppm)	H_2S (ppm)	CH_4 (ppm)	CO_2 (%)
7-Jan-02	BH 1	2.676	260	19.6	0	0	300	+5
7-Jan-02	BH 2	3.316	160	20.1	0	0	100	2.3
7-Jan-02	BH 4	1.808	160	20.9	0	0	100	2.9
7-Jan-02	BH 5	11.930	40	20.7	0	0	20	0.50
7-Jan-02	BH 8	5.104	0	20.9	0	0	0	0.25
7-Jan-02	MW 99-1	6.745	160	18.5	0	0	100	2.2
7-Jan-02	MW 99-2	5.865	160	19.9	0	0	80	1.9
7-Jan-02	MW 99-3	5.440	140	20.1	0	0	80	1.6
7-Jan-02	MW 99-4	5.987	240	15.2	0	0	160	+5
7-Jan-02	BH 101 (deep)	Dry	220	15.3	0	0	140	+5
7-Jan-02	BH 101 (shallow)	Dry	220	16.4	0	0	140	+5
7-Jan-02	BH 102	Dry	160	19.6	0	0	100	2.2
7-Jan-02	BH 103	Dry	140	18.4	0	0	100	3.15

Date	Probe/Well	Depth to Water (m)	Gastech GT303			Gastech GT302		Gastech GT02
			CO (ppm)	Combustible (ppm)	O_2 (%)	H_2S (ppm)	CH_4 (ppm)	CO_2 (%)
10-Jul-01	BH 1	3.38	0	1,980	18.7	0	820	+5
10-Jul-01	BH 2	3.33	0	2,240	15.5	0	840	+5
10-Jul-01	BH 4	3.27	0	240	20.4	0	120	0.0
10-Jul-01	BH 5	11.78	0	840	18.9	0	360	1.1
10-Jul-01	BH 8	5.70	0	1,200	18.8	2	480	4.0
10-Jul-01	MW 99-1	6.75	0	1,760	19.1	0	940	1.3
10-Jul-01	MW 99-2	5.85	0	1,560	19.2	0	860	1.8
10-Jul-01	MW 99-3	5.31	0	1,820	18.6	0	980	1.9
10-Jul-01	MW 99-4	5.89	0	1,120	19.5	0	580	1.1
10-Jul-01	BH 101 (deep)	Dry	0	2,220	10.3	0	840	+5
10-Jul-01	BH 101 (shallow)	Dry	0	1,700	15.9	0	840	+5
10-Jul-01	BH 102	Dry	0	1,420	18.3	0	840	1.7
10-Jul-01	BH 103	Dry	0	1,100	19.2	0	460	0.0

Notes:
1) Gastech - Gastech GT303, GT02 combustible gas monitor calibrated to methane.
2) Gastech - Gastech GT302 combustible gas monitor calibrated to hexane.
3) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
4) ppm - parts per million
5) LEL - Lower Explosive Limit
6) % - percentage of gas by total volume.
7) nm - not measured

TABLE 3:
SUMMARY OF SOIL GAS MONITORING RESULTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Date	Probe/Well	Depth to Water (m)	Gastech GT303			Gastech GT302		Gastech GT02
			CO (ppm)	Combustible (ppm)	O_2 (%)	H_2S (ppm)	CH_4 (ppm)	CO_2 (%)
21-Dec-00	BH 1	3.403	0	640	18.9	0	600	2.1
21-Dec-00	BH 2	3.304	0	440	19.3	0	500	1.05
21-Dec-00	BH 4	3.378	0	280	20.1	0	720	2.0
21-Dec-00	BH 5	11.865	0	100	20.2	0	120	0
21-Dec-00	BH 8	5.800	0	0	20.9	0	20	0
21-Dec-00	MW 99-1	6.742	0	120	20.5	0	420	1.15
21-Dec-00	MW 99-2	6.335	0	120	20.6	0	360	0.95
21-Dec-00	MW 99-3	4.996	0	120	20.7	0	220	0.2
21-Dec-00	MW 99-4	5.795	0	760	17.4	0	600	4.05
21-Dec-00	BH 101 (deep)	Dry	0	640	18.9	0	660	3.15
21-Dec-00	BH 101 (shallow)	Dry	0	520	19.5	0	520	1.2
21-Dec-00	BH 102	Dry	0	300	19.5	0	400	0.7
21-Dec-00	BH 103	Dry	0	0	20.9	0	360	0.6

Date	Probe/Well	Depth to Water (m)	Gastech GT402			Gastech GT201		Gastech GT02
			Combustible (ppm)	H_2S (ppm)	CO (ppm)	CH_4 (ppm)	O_2 (%)	CO_2 (%)
27-Jul-00	BH 1	3.190	400	0	0	100	16.2	+5.00
27-Jul-00	BH 2	3.265	440	0	0	100	14.7	+5.00
27-Jul-00	BH 4	3.130	160	0	0	40	20.9	1.75
27-Jul-00	BH 5	11.682	20	0	0	0	20.9	0.20
27-Jul-00	BH 8	5.395	40	0	0	0	20.9	0.45
27-Jul-00	MW 99-1	6.023	100	0	0	60	20.9	1.45
27-Jul-00	MW 99-2	5.490	20	0	0	60	20.7	1.40
27-Jul-00	MW 99-3	5.000	220	0	0	80	19.3	2.45
27-Jul-00	MW 99-4	5.870	160	0	0	40	20.4	1.60
27-Jul-00	BH 101 (deep)	Dry to 3.80	260	0	0	80	18.5	+5.00
27-Jul-00	BH 101 (shallow)	Dry to 1.88	380	0	0	100	16.9	+5.00
27-Jul-00	BH 102	DRY	240	0	0	60	19.8	2.20
27-Jul-00	BH 103	DRY	200	0	0	60	20.9	2.25

Notes:
1) Gastech - Gastech GT201 combustible gas monitor calibrated to methane.
2) Gastech - Gastech GT402 combustible gas monitor calibrated to hexane.
3) Gastech - Gastech GT02 combustible gas monitor calibrated to CO_2.
4) LEL - Lower Explosive Limit
5) % - percentage of gas by total volume.
6) nm - not measured

TABLE 4:
SUMMARY OF GROUNDWATER MONITORING REQUIREMENTS
WESTSIDE LANDFILL
WEST KELOWNA, BC

Requirement	Frequency	Monitoring Wells
Measurement of groundwater elevations	Quarterly	BH1, BH2, BH4, BH5, BH6, BH7, BH8 and SLMHP
Measurement of groundwater elevations	Yearly	BH3
Analysis of groundwater samples for Group 1 parameters	Quarterly	BH1, BH2, BH4, BH5, and SLMHP
Analysis of groundwater samples for conductivity and chloride	Yearly	Any other domestic well, besides SLMHP, being used for drinking water within 1,000m of landfill
Analysis of groundwater for Group 2 parameters	Every 2 years (2007, 2009 etc.)	BH1, and BH4
Conduct landfill gas monitoring program for Group 3 parameters	Semi-annual	All monitoring wells in area of landfill

Group 1 Parameters: pH, conductivity, total alkalinity, chloride, sulphate, ammonia nitrogen, nitrate nitrogen, aluminum, antimony, arsenic, barium, beryllium, bismuth, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, phosphorus, potassium, selenium, strontium, thallium, tin, titanium, tungsten, vanadium and zinc.

Group 2 Parameters: total dissolved solids (TDS), boron, light hydrocarbons, extractable petroleum hydrocarbons, volatile organic compounds and acid and base/neutral extractables, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD).

Group 3 Parameters: methane, hydrogen sulphide gas, carbon dioxide and oxygen.

TABLE 5:
MONITORING WELL AND GROUNDWATER ELEVATIONS
WESTSIDE LANDFILL,
WEST KELOWNA, BC

Borehole	BH1		BH2		BH3		BH4		BH5		BH7		BH8		MW99-1		MW99-2		MW99-3		MW99-4	
Ground Elevation (m)	519.06		526.64		471.82		495.62		488.58		500.96		471.89		544.90		545.86		537.63		535.61	
Pipe Elevation (m)	519.41		527.41		471.97		496.45		489.24		501.75		472.75		545.78		546.70		538.30		536.38	
Pipe Elevation (m) (Dec.2005)			527.56		472.62																	
Water Level	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	Elevation (m)
Date																						
12-Jan-94	3.32	516.09	3.34	524.07	14.22	457.75	2.33	494.12	11.80	477.44	4.69	497.06	5.17	467.58	nm		nm		nm		nm	
17-Jul-97	3.14	516.27	3.28	524.13	12.90	459.07	2.40	494.05	11.46	477.78	3.55	498.20	5.29	467.46	nm		nm		nm		nm	
24-Sep-98	3.24	516.17	nm		13.70	458.27	nm		nm		nm		nm		nm		nm		nm		nm	
7-Dec-98	3.23	516.18	nm		13.60	458.37	nm		nm		nm		nm		nm		nm		nm		nm	
3-Mar-99	2.72	516.69	nm		14.00	457.97	nm		nm		nm		nm		nm		nm		nm		nm	
26-Apr-99	nm		nm		nm		nm		nm		nm		nm		5.16	540.62	5.07	541.63	dry		5.50	530.88
1-Jun-99	3.09	516.32	3.29	524.12	13.52	458.45	2.67	493.78	11.72	477.52	4.75	497.00	5.39	467.36	nm		nm		nm		nm	
8-Jul-99	nm		dry		13.89	458.08	nm		11.67	477.57	nm		nm		nm		nm		nm		nm	
1-Sep-99	3.07	516.34	3.31	524.10	nm		2.43	494.02	11.70	477.54	nm		nm		nm		nm		nm		nm	
1-Dec-99	nm		3.29	524.12	nm		3.00	493.45	11.65	477.59	4.76	496.99	5.52	467.23	nm		nm		nm		nm	
28-Mar-00	2.70	516.71	3.20	524.21	nm		2.00	494.45	11.68	477.56	nm		nm		nm		nm		nm		nm	
13-Jul-00	3.09	516.32	3.29	524.12	13.52	458.45	2.67	493.78	11.72	477.52	4.75	497.00	5.39	467.36	nm		nm		nm		nm	
27-Jul-00	3.19	516.22	3.27	524.15	nm		3.13	493.32	11.68	477.56	nm		5.40	467.36	6.02	539.76	5.49	541.21	5.00	533.30	5.87	530.51
6-Sep-00	3.17	516.24	3.29	524.12	nm		3.16	493.29	11.71	477.53	5.10	496.66	5.70	467.05	nm		nm		nm		nm	
18-Dec-00	3.41	516.00	3.31	524.10	nm		3.33	493.12	11.87	477.38	5.23	496.53	5.80	466.95	nm		nm		nm		nm	
21-Dec-00	3.40	516.01	3.30	524.11	nm		3.38	493.07	11.87	477.38	5.23	496.53	5.80	466.95	6.74	539.04	6.34	540.37	5.00	533.30	5.80	530.59
1-Mar-01	3.14	516.27	3.26	524.15	nm		2.45	494.01	11.89	477.35	5.196	496.55	5.164	467.59	nm		nm		nm		nm	
1-Jun-01	3.360	516.05	3.319	524.09	nm		2.648	493.80	11.849	477.39	4.968	496.78	5.603	467.15	nm		nm		nm		nm	
10-Jul-01	3.375	516.04	3.33	524.08	nm		3.27	493.18	11.783	477.46	nm		5.698	467.05	6.745	539.04	5.853	540.85	5.310	532.99	5.890	530.49
1-Sep-01	3.308	516.10	3.332	524.08	14.282	457.69	2.768	493.68	11.79	477.45	5.553	496.20	5.695	467.06	nm		nm		nm		nm	
1-Dec-01	3.11	516.31	3.29	524.12	nm		2.461	493.99	11.947	477.29	5.546	496.20	5.769	466.98	nm		nm		nm		nm	
7-Jan-02	2.68	516.73	3.32	524.09	nm		1.808	494.64	11.93	477.31	nm		5.104	467.65	6.75	539.04	5.87	540.84	5.44	532.86	5.99	530.39
13-Mar-02	3.09	516.32	3.29	524.12	nm		2.155	494.30	11.932	477.31	5.335	496.42	5.105	467.65	nm		nm		nm		nm	
17-Jun-02	3.24	516.18	3.30	524.11	nm		2.868	493.58	11.785	477.46	4.92	496.83	5.30	467.45	nm		nm		nm		nm	
4-Oct-02	2.88	516.53	3.28	524.13	nm		nm		11.585	477.66	5.33	496.42	5.72	467.03	nm		nm		nm		nm	
18-Dec-02	3.14	516.27	3.32	524.10	nm		2.899	493.55	11.89	477.35	5.245	496.51	5.858	466.89	nm		nm		nm		nm	
10-Apr-03	3.18	516.23	3.33	524.08	nm		2.568	493.88	11.852	477.39	5.115	496.64	5.235	467.52	nm		nm		nm		nm	
9-Jun-03	3.30	516.11	3.35	524.07	nm		3.25	493.20	11.86	477.38	5.255	496.50	5.545	467.21	nm		nm		nm		nm	
26-Jul-03	3.27	516.14	3.08	524.33	nm		3.46	492.99	11.84	477.40	nm		5.92	466.83	6.87	538.91	6.4	540.30	5.24	533.06	7.1	529.28
11-Sep-03	3.31	516.10	2.88	524.53	nm		3.64	492.81	12.1	477.14	6.17	495.58	5.88	466.87	nm		nm		nm		nm	
17-Dec-03	3.02	516.39	3.34	524.07	nm		2.08	494.37	Dry		nm		5.275	467.48	6.75	539.03	6.97	539.73	Dry		7.075	529.31
17-Mar-04	2.81	516.23	3.23	524.18	15.09	456.89	2.073	494.38	Dry		nm		nm		nm		nm		nm		nm	
27-May-04	2.83	516.58	3.30	524.11	14.92	457.06	1.995	494.46	11.75	477.49	4.623	497.127	5.273	467.48	nm		nm		nm		nm	
1-Sep-04	2.78	516.64	3.27	524.14	nm		2.12	494.33	11.595	477.65	nm		5.60	467.15	6.74	539.04	5.78	540.92	5	533.30	7.07	529.31
23-Sep-04	2.76	516.65	3.25	524.17	nm		2.02	494.43	11.595	477.65	4.508	497.24	5.31	467.44	nm		nm		nm		nm	
17-Dec-04	2.70	516.71	3.23	524.19	nm		1.73	494.72	11.615	477.63	nm		4.99	467.76	5.7	540.08	5.24	541.46	5.12	533.18	7.075	529.31
24-Mar-05	2.89	516.53	3.20	524.21	14.36	458.26	2.333	494.12	11.535	477.71	4.115	497.24	5.25	467.50	5.227	540.55	5.013	541.69	4.395	533.905	5.417	530.96
30-May-05	3.08	516.33	3.22	524.19	14.11	458.51	2.865	493.59	11.47	477.77	3.91	497.24	5.30	467.45	nm		nm		nm		nm	
23-Sep-05	3.16	516.25	3.30	524.12	14.32	458.30	3.45	493.00	11.6	477.64	4.575	497.24	5.79	466.96	6.735	539.05	5.685	541.02	4.575	533.725	6.753	529.63
13-Dec-05	3.27	516.15	3.62	523.94	nm		3.443	493.01	11.663	477.58	nm		nm		nm		nm		nm		nm	
15-Dec-05	3.27	516.15	3.49	524.08	14.48	458.15	3.535	492.92	11.66	477.58	4.680	497.07	5.58	467.17	6.745	539.04	5.955	540.75	4.778	533.52	6.598	529.78
26-Mar-06	3.00	516.41	3.44	524.12	14.65	457.97	2.22	494.23	11.65	477.59	4.633	497.12	5.61	467.14	5.165	540.62	5.1555	541.54	4.67	533.63	5.888	530.49
31-May-06	3.08	516.33	3.45	524.11	14.50	458.12	2.501	493.95	11.56	477.68	4.365	497.39	5.20	467.55	5.14	540.64	5.255	541.45	4.746	533.55	5.832	530.55
26-Jul-06	2.97	516.44	3.49	524.07	14.37	458.26	2.67	493.78	11.5	477.74	4.613	497.14	5.26	467.49	5.163	540.62	5.483	541.22	4.415	533.89	6.143	530.24
3-Oct-06	3.17	516.25	3.51	524.05	14.60	458.02	3.067	493.38	11.645	477.60	5.187	496.56	5.28	467.47	nm		nm		nm		nm	
5-Dec-06	3.05	516.36	3.49	524.08	14.73	457.89	3.031	493.419	11.663	477.58	4.870	496.88	5.24	467.52	nm		nm		nm		nm	
11-Dec-06	3.04	516.37	3.48	524.08	14.73	457.89	2.915	493.535	11.643	477.60	4.868	496.88	5.23	467.53	5.17	540.61	5.43	541.27	4.84	533.46	6.23	530.15
3-Apr-07	2.93	516.485	3.43	524.13	nm		2.323	494.127	11.59	477.65	4.703	497.05	5.23	467.52	nm		nm		nm		nm	
1-Jun-07	3.11	516.297	3.46	524.10	nm		2.912	493.538	11.583	477.66	4.560	497.19	5.28	467.47	nm		nm		nm		nm	
25-Sep-07	3.21	516.205	3.52	524.05	nm		2.94	493.51	11.57	477.67	4.710	497.04	5.26	467.49	5.15	540.64	5.24	541.47	4.58	533.72	6.35	530.03
20-Dec-07	3.05	516.36	3.50	524.06	nm		2.85	493.6	11.615	477.63	4.60	497.15	5.23	467.53	nm		nm		nm		nm	
14-Apr-08	3.12	516.29	3.50	524.06	nm		2.9	493.55	11.6	477.64	4.62	497.13	5.25	467.51	nm		nm		nm		nm	
23-Jun-08	3.08	516.33	3.55	524.01	nm		3.29	493.16	11.59	477.65	nm		5.24	467.51	nm		nm		nm		nm	
30-Sep-08	3.29	516.12	3.575	523.99	nm		3.41	493.04	11.71	477.53	5.157	496.59	5.297	467.45	nm		nm		nm		nm	
2-Dec-08	3.39	516.02	3.58	523.98	14.99	457.63	3.553	492.897	11.795	477.45	5.17	496.58	5.28	467.47	nm		nm		nm		nm	
27-Mar-09	3.103	516.307	3.55	524.01	15.13	457.49	2.51	493.94	11.725	477.52	5.012	496.74	5.243	467.51	nm		nm		nm		nm	
25-Jun-09	nm		nm		nm		nm		nm		nm		nm		nm		nm		nm		nm	
25-Sep-09	3.12	516.29	3.623	523.94	15.283	457.34	2.525	493.925	11.72	477.52	5.303	496.45	5.303	467.45	nm		nm		nm		nm	
17-Dec-09	3.10	516.31	3.58	523.98	15.12	457.50	2.69	493.76	11.73	477.51	5.19	496.56	5.27	467.48	nm		nm		nm		nm	
31-Mar-10	3.02	516.39	3.53	524.03	14.94	457.68	2.42	494.03	11.67	477.57	4.88	496.87	5.25	467.50	nm		nm		nm		nm	
22-Jun-10	3.07	516.34	3.54	524.02	14.87	457.75	2.92	493.53	11.63	477.61	4.61	497.14	5.27	467.48	nm		nm		nm		nm	
21-Sep-10	3.03	516.38	3.58	523.98	15.27	457.35	3.35	493.1	11.69	477.55	5.24	496.51	5.25	467.50	nm		nm		nm		nm	
21-Dec-10	2.82	516.589	3.48	524.08	14.91	457.71	2.43	494.02	11.65	477.59	4.87	496.88	5.25	467.50	4.92	540.86	5.41	541.29	4.12	534.18	5.67	530.71

Notes:
1) All elevations in metres above sea level.
2) nm - not measured.
3) na - not available

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	Notes	BH1																													
					Jan-94	Jul-97	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Mar-00	Jul-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Oct-02	Dec-02	Apr-03	Jun-03	Sep-03	Dec-03	Mar-04	May-04	Sep-04	Mar-05	May-05	Sep-05	Dec-05
Physical																																		
pH	-		-				6.7	7.2	7.0	7.1	7.0	6.7	6.9	6.9	6.7	6.6	6.6	6.7	6.9	6.9	6.9	6.2	6.9	6.81	6.7	7.1	6.9	7.2	6.6	6.8	6.7	6.9	6.7	6.8	6.7
Conductivity (uS/cm)	-		-		3,900	3,970	3,880	4,060	3,890	4,140	4,080	3,870	3,490	4,010	4,200	3,220	3,390	3,750	3,700	3,650		3,400	3,360	2,700	3,760	3,840	3,780	3,550	3,150	3,440	3,770	3,630	3,800	3,720	3,630
TDS	-		-				3,130	3,880	2,640	2,840	3,000						2260		2500								2570							2720	
Calculated TDS	-		-		2,601	2,648	2,588	2,708	2,595	2,761	2,721	2,581	2,328	2,675	2,801	2,148	2,261	2,501	2,468	2,435		2,268	2,241	1,801	2,508	2,561	2,521	2,368	2,101	2,293	2,515	2,421	2,535	2,481	2,421
Hardness	-		-																													1,800	1,970	
Dissolved Anions																																		
Total Alkalinity	-		-		1,560	1,930	1,690	1,680	1,570	1,810	1,720	1,930	1,530	1,580	1,650	1,590	1,520	1,520	1,545	1,290	1,380	1,480	1,430	1,340	1,470	1,540	1,580	1,530	1,140	1,330	1,600	1,480	1,205	1,500	1,380
Chloride	-		250		380	539	515	490	538	550	538	560	483	550	550	538	520	565	535	550	560	570	460	545	535	625	545	460	550	463	510	570	589	540	613
Sulphate	1,000		500		<1.0	2	<2	<2	<2	<2	<2	<1	<1	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	21	18	<1	17	1.3	<1.0	<1.0	<1.0	13.0	131.0	37.6	<1	14.0	<1	<1	4.2
Nutrients																																		
Ammonia (as N)	1.31-18.4	pH	-		0.397	1.25	0.71	0.66	1	1	0.45	1.3	0.68	0.35	0.61	0.62	0.58	0.56	0.48	0.49	0.57	0.72	0.71	0.60	0.53	0.35	0.80	0.54	0.37	0.49	0.69	1.31	1.19	1.27	1.13
Nitrate (as N)	400		10		<0.060	<0.005			<0.01	<0.01	0.02	0.02																							
Nitrate & Nitrite (as N)	400		10				0.07	0.05					0.01	<0.01	<0.01	<0.01	0.11	<0.01	<0.01	0.21	0.03	0.17	<0.01	0.03	<0.01	0.14	<0.01	<0.01	0.95	<0.01	0.25	0.25	0.2	0.01	0.17
Total Nitrogen			10																															
Total Kjeldahl Nitrogen	-		-																															
Organic Nitrogen	-		-																															
Total Phosphorus	-		-		<0.30	0.3	0.39	0.35			<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				
Oxygen Demand																																		
BOD[5]	-		-			12	26	29	37	537	15								21						15								<10	
COD[6]	-		-			416	390	380	361	33	461								325						358								355	
BOD:COD	-		-			0.03	0.07	0.08	0.10	16.27	0.03								0.06						0.04									
Total Organic Carbon	-		-																															
Dissolved Metals																																		
Aluminum	-		9.5		<0.02	0.03	<0.2	<0.2	<0.2	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.05	<0.10	<0.05	<0.05	<0.05	<0.1
Antimony	0.2		0.006		<0.02	0.0002					<0.2	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.005	<0.005	<0.005	<0.003	<0.005	<0.003	<0.003	<0.005
Arsenic	0.05		0.025		<0.02	0.0159	0.012	0.014	0.0103	0.0101	0.0103	0.0101	0.0097	0.0087	0.0090	0.013	0.009	0.009	0.01	<0.02	0.0087	0.013	0.0078	0.0066	0.0082	0.003	<0.01	<0.01	<0.01	0.0075	<0.010	<0.007	0.007	0.009	<0.01
Barium	10		1		0.056	0.08	0.07	0.08	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.08	0.06	0.06	0.07	0.07	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.05	0.05	0.067	0.045	0.05	0.05	0.06	<0.1
Beryllium	0.053		-		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.03
Bismuth	-		-		0.52	0.1	0.1	0.1	0.2	0.2	0.2	0.2	<0.2	<0.1	<0.3	<0.2	<0.1	<0.1	<0.2	<0.2	<0.3	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
Boron	50		5			1.3	1.3	1.2	1.1	1	1.3	1.2	1.1	1.4	1.2	1.2	1.2	1	1.1	1.0	1.0	1.0	1.2	1.1	1.2	1.2	1.1	1.2	1.0	1.49	1.26	1.2	1.3	1.2	1.3
Cadmium	0.0001-0.0006	H	0.005		<0.010	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	0.0002	<0.0002	0.0009	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.001	0.0002	0.0002	<0.0002	0.0026	<0.0005	<0.0005	<0.0005	0.00047	<0.0005	<0.0003	<0.0003	<0.0003	<0.0005
Calcium	-		-		336	407	409	408	-	-	-	377	401	457	401	379	394	341	-	337	315	338	370	393	392	368	368	377	324	377	382	380	354	360	410
Chromium	0.01-0.09	V	0.05		<0.015	0.016	<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	<0.005	<0.005	<0.005	<0.005	<0.006	<0.005	<0.005	<0.003	<0.005
Cobalt	0.04		-		<0.015	<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	<0.01	<0.005	<0.005	<0.005	0.0056	0.0057	0.005	0.005	0.004	<0.005
Copper	0.02-0.09	H	1	AO	<0.010	0.027	0.02	<0.01	0.02	0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.06	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	0.02	<0.005	0.010	0.007	0.008	<0.005	<0.01
Iron	-		6.5	AO	16.2	17.9	12.9	18.4	17.2	15.1	16.7	17.4	16.2	16.27	14.0	19.6	14.7	13.1	13.1	13.1	13	13.3	14.4	12.6	14.7	10.2	8.7	9.36	0.96	9.55	1.39	0.6	2.4	11	3.3
Lead	0.04-0.16	H	0.01		<0.050	<0.001	<0.001	<0.001	0.001	0.001	<0.01	<0.001	0.003	0.001	<0.001	0.015	<0.001	0.002	0.001	<0.001	0.002	<0.005	<0.001	<0.001	<0.001	<0.002	<0.01	<0.01	<0.01	<0.005	<0.010	<0.005	<0.005	<0.005	<0.01
Lithium	-		-		<0.015	0.01	-	-	-	-	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Magnesium	-		100	AO	217	240	241	238	213	260	235	251	226	256	235	221	234	184	178	184	179	182	212	229	226	208	220	232	171	211	225	220	243	220	230
Manganese	-		0.55	AO	11.00	10.1	10.3	10.0	10.1	11.3	9.9	9.5	9.32	9.36	9.54	8.05	8.52	8.09	8.28	7.33	7.9	7.9	8.35	8.29	8.78	8.55	8.18	7.06	5.40	8.3	8.6	7.9	8.2	7.5	8.9
Mercury	0.001		0.001				0.00009	0.00006	-	-	-	<0.00005	<0.00005	<0.00005	0.00008	<0.00005	0.00015			0.00007	<0.00005	<0.00005	0.00008	<0.00005	0.00011	<0.00005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	10		0.25		<0.030	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.01	0.03	0.618	<0.01	<0.005	<0.005	<0.005	<0.01
Nickel	0.25-1.5	H	-		0.036	0.05	0.06	<0.05	<0.05	0.05	0.05	<0.05	<0.05	<0.05	<0.05	0.07	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.036	<0.050	0.03	0.04	0.04	<0.05
Phosphorus	-		-																											<0.3	<0.3	<0.3	<2	
Potassium	-		-		3.7	6	6	5	5	5	5	5	4	6	5	4	4	4	5	4	4	<0.3	4	5	4	4	4	4.6	4.9	5	5.1	5	4	4	<10
Selenium	0.01		0.01		<0.20	0.001	<0.003	0.0007	0.0012	0.0009	<0.0005	0.0005	0.0007	<0.0005	<0.0005	<0.0005	0.0014	0.0006	0.0015	0.0008	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.002	<0.01	<0.01	<0.3	0.005	<0.010	<0.005	<0.005	<0.005	<0.01
Silicon	-		-																												22.0	20.0	20.0	22	25
Silver	.0005-.015	H	-																												<0.0005	<0.0003	<0.0003	<0.0003	<0.0005
Sodium	-		200		111	172	186	178					165	178	184	164				151	152	162	171	173	157	178	169	170	148	186	175	180	166	160	180
Strontium	-		-		2.58	3.19	3.32	3.26	2.92	3.53	3.25	2.76	3.03	2.88	3.36	2.98	2.72	19.5	3.26	2.96	2.95	2.88	3.01	3.21	3.31	3.45	3.28	3.65	2.52	3.1	3.28	2.9	3	3.1	3.3
Tellurium																																		
Thallium	0.003		-		<0.10	<0.001					<0.2	<0.2	<0.2	<3	<0.2	<0.2	<2	<0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.002	<0.002	<0.002	<0.001	<0.002	<0.001	<0.001	<0.001	<0.002
Thorium																																		
Tin	-		-		<0.30	<0.03					<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	0.03	0.03	<0.03	0.05	0.05	<0.03	<0.03	0.04	0.04	<0.03	<0.03	<0.03	0.035	0.051	<0.03	<0.03	<0.03	<0.2
Titanium	1.0		-		0.020	<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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Tungsten	-		-		<0.10																													
Uranium	3		0.2																												<0.002	0.002	<0.001	<0.001	<0.002
Vanadium	-		-		0.040	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.05	<0.06	<0.2
Zinc	0.075-2.4	H	5	AO	<0.005	<0.005	0.005	0.006	0.012	<0.005	<0.005	<0.005	0.012	0.009	<0.005	0.052	0.128	<0.005	<0.005	<0.005	0.009	0.012	0.009	0.013	0.006	<0.005	<0.005	<0.005	0.008	0.0081	0.0052	<0.005	<0.005	<0.005	<0.03
Zirconium																																		
Other																																		
Phenol	0.01		-					0.09	0.05	0.07	0.04								<0.002																
LEPH[8]	0.5		-								1.6								1.2						0.31									
HEPH[8]	-		-								0.87								0.92						0.1									
EPH_{C10-19}	0.5		-																													0.32		
EPH_{C19-32}	-		-																													<0.1		

Notes:
1. All concentrations in ng/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life. pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH1																	
				Mar-06	May-06	Oct-06	Dec-06	Apr-07	Jun-07	Sep-07	Dec-07	Apr-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Physical																							
pH	-		-	6.8	6.8	6.7	6.6	6.7	6.7	6.5	6.5	6.5	6.6	6.6	6.6	6.6	7.14	7.15	7.06	7.14	7.04	7.01	7.03
Conductivity (uS/cm)	-		-	3,240	3,440	3,590	3,760	3,330	3,320	3,500	3,240	3,430	3,630	3,730	3,760	3,440	3,760	3,520	3,500	3,380	3,710	3,840	3,190
TDS	-		-				2,560	1,910	2,580	2,360	2,190	2,370	2,760	2,590	2,500	2,310	2,770	2,560	2,500	2,180	2,440	1,980	2,200
Calculated TDS	-		-	2,161	2,294	2,395	2,508	2,221	2,214	2,335	2,161	2,288	2,421	2,488	2,508	2,294	2,508	2,348	2,335	2,254	2,475	2,561	2,128
Hardness	-		-	1,570		1,880	1,500	1,570	1,790	2,070	1,700	1,600	1,820	1,700	1,730	1,720	1,950	1,670	1,630	1,540	1,800	1,750	1,440
Dissolved Anions																							
Total Alkalinity	-		-	1,200	1,410	1,520	1,480	1,100	1,720	1,790	1,220	1,340	1,520	1,550	1,550	1,310	1,460	1,340	1,280	1,140	1,410	1,400	1,210
Chloride	-		250	462	525	563	570	527	544	539	454	494	579	627	533	533	537	413	398	472	589	583	315
Sulphate	1,000		500	43	7.4	1	<1	95	6.6	7.3	87.1	36.1	11.5	3	2.7	52.7	7.1	115	81.1	209	39.1	65.7	124
Nutrients																							
Ammonia (as N)	1.31-18.4	pH	-	0.7	0.98	1.1	0.95	0.37	0.86	1.37	0.96	0.92	0.77	0.87	2.01	0.87	0.98	0.85	0.96	0.67	0.75	0.85	0.95
Nitrate (as N)	400		10		0.64	<0.02	0.11		0.276	<0.01	0.148	0.52	<0.02	<0.02	<0.02	<0.01	0.94	0.60	0.78	0.51	1.36	0.40	0.43
Nitrate & Nitrite (as N)	400		10	0.53		<0.01		1.25				0.53	<0.01	<0.01	<0.01	<0.01	0.94	0.60					
Total Nitrogen			10													3.70	5.71	4.72					
Total Kjeldahl Nitrogen	-		-													3.7	4.76	4.12					
Organic Nitrogen	-		-																				
Total Phosphorus	-		-																				
Oxygen Demand																							
BOD[5]	-		-							17								26					
COD[6]	-		-							310								280					
BOD:COD	-		-							0.05								0.09					
Total Organic Carbon	-		-																				
Dissolved Metals																							
Aluminum	-		9.5	<0.1	<0.05	0.11	0.1	<0.05	<0.05	0.333	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	0.881	1.35	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony	0.2		0.006	<0.005	<0.003	<0.0025	<0.005	<0.005	<0.005	<0.0025	<0.003	<0.003	<0.003	<0.0030	<0.0010	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.05		0.025	<0.01	0.007	<0.005	0.0075	0.006	<0.005	0.0084	0.006	<0.005	<0.005	0.0053	0.0088	0.0065	0.0098	0.0086	0.0054	0.0057	0.0068	<0.0050	0.0057
Barium	10		1	0.04	0.05	0.051	0.0713	0.0697	0.0473	0.0706	0.066	0.064	0.052	0.071	0.0639	0.0642	0.0782	0.0892	0.0562	0.0608	0.0588	0.0642	<0.0500
Beryllium	0.053		-	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0005	<0.002	<0.002	<0.002	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth	-		-	<0.2	<0.2	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	50		5	1.2	1.2	1.15	0.735	1.56	1.19	1.34	1.62	1.18	1.3	1.1	1.12	1.26	1.07	1.43	1.26	1.70	1.71	1.91	1.71
Cadmium	0.0001-0.0006	H	0.005	<0.0005	<0.0003	<0.0003	<0.0001	0.00013	<0.0001	<0.00005	<0.0001	<0.0001	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00063	<0.00010	<0.00010	<0.00010	<0.00010
Calcium	-		-	320	360	387	296	330	371	424	332	313	373	343	330	348	389	339	328	319	334	350	307
Chromium	0.01-0.09	V	0.05	0.013	<0.005	<0.0025	0.0206	0.0127	0.0257	0.006	0.013	0.018	0.014	0.036	0.0199	<0.0050	0.0155	0.0137	<0.0050	<0.0050	<0.0050	0.0064	0.0074
Cobalt	0.04		-	<0.005	0.005	0.0043	0.0053	0.0055	0.0052	0.0028	0.0045	0.0046	0.0047	0.005	0.00511	0.00482	0.00526	0.00545	0.00425	0.00395	0.00490	0.00518	0.00360
Copper	0.02-0.09	H	1	0.01	<0.005	<0.005	0.0038	<0.005	<0.005	0.0051	0.0035	0.0035	0.0034	0.0037	0.0038	0.0088	0.0135	0.0182	0.0131	0.0090	0.0068	0.0060	<0.0020
Iron	-		6.5	0.07	3.8	0.062	14.1	12.5	1.46	17.6	14.2	7	1.18	9.39	9.86	7.51	15.9	13.3	0.758	6.20	2.46	1.50	6.43
Lead	0.04-0.16	H	0.01	<0.01	<0.005	<0.005	<0.002	<0.002	<0.002	<0.001	<0.001	<0.01	<0.001	<0.0010	<0.0010	<0.0010	0.0011	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Lithium	-		-	<0.05	<0.05	<0.05	0.0069	0.0245	0.0137	0.0159	0.0173	0.0113	0.0133	0.0105	0.0117	0.0168	0.0143	0.0192	0.0185	0.0299	0.0196	0.0180	0.0124
Magnesium	-		100	190	210	222	185	181	209	246	212	198	215	205	221	206	238	208	196	181	195	207	164
Manganese	-		0.55	6.1	7.2	8.32	7.28	6.43	8.02	8.82	6.41	6.33	7.3	8.05	7.8	6.34	8.09	6.68	5.99	4.92	6.92	6.35	6.20
Mercury	0.001		0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.00025	<0.0003	<0.00030	<0.0003	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Molybdenum	10		0.25	<0.01	<0.005	<0.005	<0.002	<0.002	0.0021	<0.001	0.0012	<0.0010	0.0012	<0.0010	0.0011	0.0015	0.0015	0.0019	0.0014	0.0016	0.0014	0.0014	0.0013
Nickel	0.25-1.5	H	-	<0.05	0.04	0.034	0.041	0.038	0.051	0.048	0.008	0.045	0.044	0.041	0.042	0.0394	0.0454	0.0397	0.0373	0.0407	0.0471	0.0502	0.0342
Phosphorus	-		-	<0.3	<0.3	<0.3	<0.5	<0.5	<0.5	<0.25	<0.2	<0.200	<0.2	<0.200	<0.100	<0.200	0.281	0.258	<0.200	<0.200	<0.200	<0.200	<0.200
Potassium	-		-	6	4	5.3	4.37	5.85	4.82	5.67	6.25	5.07	5.59	4.79	4.61	5.44	4.87	6.74	5.27	5.89	5.49	5.67	4.42
Selenium	0.01		0.01	<0.01	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0050	<0.005	<0.0050	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0031	<0.0050
Silicon	-		-	21	22	24	22.6	22.6	30.8	29.6	27	26.4	25.7	20	24.4	20	24.7	26.7	19.9	39.4	25.7	42.0	30.0
Silver	.0005-.015	H	-	<0.0005	<0.0003	<0.0003	<0.0004	<0.0004	<0.0004	<0.0002	<0.0004	<0.00040	<0.0004	<0.00040	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00050	<0.00050
Sodium	-		200	170	175	180	142	194	167	199	195	164	176	163	168	176	183	181	152	184	189	184	157
Strontium	-		-	2.5	2.8	2.94	3.12	2.73	3.14	3.49	2.56	2.84	3.18	3.16	3.18	3.02	3.25	3.00	2.84	2.58	3.27	3.07	2.27
Tellurium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Thallium	0.003		-	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.0010	<0.00020	<0.00020	<0.00020
Thorium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tin	-		-	<0.03	<0.03	<0.03	0.0013	<0.001	0.0012	<0.0025	<0.002	<0.0020	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Titanium	1.0		-	<0.05	<0.05	<0.05	0.0729	<0.02	<0.02	<0.05	<0.1	<0.100	<0.1	<0.100	<0.050	<0.050	<0.050	0.081	<0.050	<0.050	<0.050	<0.050	<0.050
Tungsten	-		-																				
Uranium	3		0.2	0.004	0.001	<0.001	<0.001	0.0037	<0.001	0.0005	0.0021	0.0014	0.0016	<0.0005	0.00064	0.00238	0.00095	0.0026	0.00197	0.00101	0.00309	0.00256	0.00078
Vanadium	-		-	<0.03	<0.03	<0.03	0.012	0.0103	0.0147	<0.01	0.01	<0.010	<0.01	0.015	<0.01	<0.0100	0.0136	0.0139	<0.0100	<0.0100	<0.0100	<0.0100	<0.010
Zinc	0.075-2.4	H	5	<0.005	<0.005	<0.005	<0.02	<0.04	<0.04	<0.02	<0.03	<0.030	<0.03	<0.010	<0.01	<0.0100	<0.0100	0.0136	0.0107	<0.0100	<0.0100	0.0102	<0.0400
Zirconium							<0.01	<0.01	<0.01	0.008	0.006	0.006	0.006	0.008	0.0076	0.0053	0.0089	0.0078	0.0051	0.0039	0.0061	0.0061	0.0038
Other																							
Phenol	0.01		-							<0.006													
LEPH[8]	0.5		-															870					
HEPH[8]	-		-															730					
EPH$_{C10-19}$	0.5		-							0.99								870					
EPH$_{C19-32}$	-		-							0.99								730					

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life. pH - pH dependent; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH2																									
				Jun-94	Jul-97	Jun-99	Sep-99	Dec-99	Mar-00	Jul-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Oct-02	Dec-02	Apr-03	Jun-03	Sep-03	Dec-03	Mar-04	May-04	Sep-04	Mar-05	May-05	Sep-05	Dec-05
Physical																													
pH	-		-			7.4	7.3	6.8	7.1	7.0	6.8	6.8	6.9	7.0	6.9	6.9	7.1	6.1	7	6.94	7.0	7.2	7.0	7.3	6.7		6.9	7	7.1	6.8	6.8
Conductivity (uS/cm)	-		-	2,100	3,130	2,750	2,900	2,790	2,810	2,970	3,110	2,850	2,840	2,900	3,000	2,910		2,820	2,900	2,000	2,960	2,990	2,720	3,250	2,560		2,990	3,080	2,700	2,880	2,960
TDS	-		-										1893																		
Calculated TDS	-		-	1,401	2,088	1,833	1,934	1,861	1,874	1,981	2,074	1,901	1,894	1,934	2,001	1,941		1,881	1,934	1,334	1,974	1,994	1,814	2,168	1,708		1,994	2,054	1,801	1,921	1,974
Hardness	-		-																											1,750
Dissolved Anions																														
Total Alkalinity	-		-	1,070	1,130	1,330	1,500	1,530	1,510	1,460	1,530	1,540	1,490	1,470	1,660	1,280	1,530	1,530	1,510	1,470	1,470	1,480	1,480	1,860	1,760		1,540	1,620	1,345	1,400	1,380
Chloride	-		250	93	228	208	198	193	205	220	210	210	213	230	240	235	240	235	245	285	250	248	140	390	225		240	290	240	230	260
Sulphate	1,000		500	43.7	18	13	20	71	74	47	38	30	26	22	22	24	22	14	89	34	29	26	154	25	48		25.0	<1	22.0	28.0	30.0
Nutrients																														
Ammonia (as N)	1.31-18.4	pH	-	0.022	0.26	-	0.1	0.06	0.09	0.13	0.13	0.13	0.12	0.08	0.10	0.10	0.13	0.17	0.15	0.10	0.11	0.16	0.11	0.23	0.13		0.18	0.19	0.22	0.21	0.26
Nitrate (as N)	400		10	0.057	<0.005	0.01	0.02	0.02																						
Nitrate & Nitrite (as N)	400		10						0.01	<0.01	<0.01	0.20	0.01	0.01	0.03	0.04	0.02	0.62	0.01	<0.01	<0.01	0.17	<0.01	0.01	<0.01		0.31	0.43	0.24	<0.01	0.15
Total Nitrogen			10																											
Total Kjeldahl Nitrogen	-		-																											
Organic Nitrogen	-		-																											
Total Phosphorus	-		-	<0.30	<0.3	<0.03	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	<0.3	<0.03	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		<0.3				
Oxygen Demand																														
BOD[5]	-		-																											
COD[6]	-		-																											
BOD:COD	-		-																											
Total Organic Carbon	-		-																											
Dissolved Metals																														
Aluminum	-		9.5	<0.20	0.04	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.10	<0.10	<0.05	<0.05	<0.05	<0.1
Antimony	0.2		0.006	<0.20	0.0002	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.005	<0.005	<0.005	<0.0005	<0.0005	<0.003	<0.003	<0.003	<0.005
Arsenic	0.05		0.025	<0.20	0.0118	0.0082	0.0075	0.0072	0.0049	0.0040	0.0028	0.0049	0.0036	0.0041	0.0043	0.0043	0.0042	0.0058	0.0031	0.0034	0.0037	0.0035	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.01
Barium	10		1	<0.010	0.02	0.04	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	<0.02	<0.02	<0.02	0.021	0.02	<0.02	<0.02	<0.02	<0.1
Beryllium	0.053		-	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.03
Bismuth	-		-	0.36	0.1	<0.1	0.1	0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.3	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
Boron	50		5		0.4	<0.1	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.3	0.5	0.4	0.4	0.54	0.5	0.5	0.5	<0.5
Cadmium	0.0001-0.0006	II	0.005	<0.010	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0003	<0.0003	<0.0003	<0.0005
Calcium	-		-	218	331			331	375	392	344	330	379	311		334	303	302	378	383	362	334	310	393	349	366	349	360	307	320	370
Chromium	0.01-0.09	V	0.05	<0.015	0.005	<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	<0.005	0.005	<0.005	0.0053	<0.007	<0.007	<0.003	<0.02	<0.005
Cobalt	0.04		-	<0.015	<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	<0.005	<0.005	<0.005	<0.005	<0.005	0.004	0.004	0.003	<0.005
Copper	0.02-0.09	H	1	<0.010	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.005	<0.005	<0.005	<0.01
Iron	-		6.5	0.107	5.81	1.2	1.46	4.38	2.13	2.37	2.28	5.54	2.16	0.33	2.15	3.01	2.73	2.54	3.36	3.70	1.24	0.63	0.14	0.58	0.09	0.84	0.097	0.11	0.51	1.1	<0.2
Lead	0.04-0.16	II	0.01	<0.050	<0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.009	<0.001	<0.001	<0.001	0.001	0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.010	<0.010	<0.005	<0.005	<0.005	<0.01
Lithium	-		-	0.016	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.05	0.05	0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.3
Magnesium	-		100	117	182	170	166	186	185	193	177	169	177	146	141	162	148	142	188	190	179	162	178	220	175	189	183	200	194	180	200
Manganese	-		0.55	7.9	10.1	8.0	8.4	9.3	9.93	9.22	9.67	8.95	9.78	8.56	9.05	9.28	9.19	8.42	9.98	10.0	9.77	9.32	7.13	8.58	8.76	9.45	9.00	9.3	8.3	7.9	9.8
Mercury	0.001		0.001	-	-	-	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00023			<0.00005	<0.00005	<0.00005	0.00043	<0.00005	<0.000005	<0.00005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	10		0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.01	<0.01	<0.01	0.024	<0.01	0.006	0.033	<0.005	<0.01
Nickel	0.25-1.5	II	-	<0.020	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.03	<0.03	<0.03	<0.05
Phosphorus	-		-																									<0.3	<0.3	<0.3	<2
Potassium	-		-	2.4	3	2	3	2	<2	3	3	<2	<2	<2	2	<2	<2	3	2	<2	3	<2	3	2.9	3.3	2	3.4	2	2	2	<10
Selenium	0.01		0.01	<0.20	0.0009	0.0007	<0.0005	<0.0005	0.0008	0.0006	<0.0005	<0.0005	0.0008	<0.0005	0.0014	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.002	<0.01	<0.01	<0.01	<0.01	<0.010	<0.005	<0.005	<0.005	<0.01
Silicon	-		-																								23.1	20	21	22	25
Silver	.0005-.015	H	-																								<0.0005	<0.0003	<0.0003	<0.0003	<0.0005
Sodium	-		200	64.9	126				109	112	115	110				113	111	19.1	118	121	110	124	96	142	128	133	131	130	129	130	140
Strontium	-		-	1.99	2.78	2.18	2.29	2.37	2.82	2.54	3.07	2.64	2.75	2.61	3.09	3.01	3.06	2.71	3.29	3.19	3.13	3.3	2.69	2.81	2.92	3.27	3.15	3	2.8	3.1	3.3
Tellurium																														
Thallium	0.003		-	<0.10	<0.001	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.002
Thorium																	-														
Tin	-		-	<0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	0.05	0.05	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	0.03	0.032	0.07	<0.03	<0.03	<0.03	<0.2
Titanium	1.0		-	0.013	<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	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Tungsten	-		-	<0.10																										
Uranium	3		0.2																							0.0052	0.004	0.005	0.004	0.004
Vanadium	-		-	0.030	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.06	<0.05	<0.2
Zinc	0.075-2.4	H	5	<0.005	<0.005	0.005	0.008	<0.005	0.006	<0.005	<0.005	0.021	0.053	<0.005	<0.005	<0.005	0.009	0.021	0.01	0.011	0.005	<0.005	0.024	<0.005	0.005	0.0062	0.0101	<0.005	<0.005	<0.005	<0.03
Zirconium																	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other																														
Phenol	0.01		-																											
LEPH[4]	0.5		-																											
HEPH[4]	-		-																											
EPH_{C10-19}	0.5		-																											
EPH_{C19-32}	-		-																											

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water
Includes "Director's Interim Standards, Generic Numerical Drinking Water
Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life.
pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH2																			
				Mar-06	May-06	Oct-06	Dec-06	Apr-07	Jun-07	Sep-07	Dec-07	Apr-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Physical																							
pH	-		-	7	6.8	6.8	6.7	6.8	6.8	6.7	6.5	6.6	6.8	6.7	6.8	6.8	7.2	7.12	7.17	7.35	7.31	7.43	7.06
Conductivity (uS/cm)	-		-	3,100	3,060	3,070	3,130	2,510	2,340	3,050	2,530	3,150	3,130	3,230	3,160	3,170	3,300	3,330	3,320	3,330	3,200	3,440	3,420
TDS	-		-				2,270	1,580	2,160	2,170	2,160	2,210	2,270	2,270	2,240	2,230	2,350	1,730	2,350	2,880	2,350	2,290	2,310
Calculated TDS	-		-	2,068	2,041	2,048	2,088	1,674	1,561	2,034	1,688	2,101	2,088	2,153	2,108	2,114	2,201	2,221	2,214	2,221	2,134	2,294	2,281
Hardness	-		-	1,630	-	1,710	1,310	1,190	1,590	1,810	1,810	1,530	1,750	1,570	1,570	1,660	1,820	1,730	1,660	1,660	1,640	1,730	1,890
Dissolved Anions																							
Total Alkalinity	-		-	1,560	1,545	1,630	1,220	1,170	1,760	1,540	1,510	1,360	1,590	1,620	1,630	1,540	1,540	1,560	1,570	1,500	1,570	1,590	1,600
Chloride	-		250	275	310	338	310	255	285	317	300	312	342	384	331	331	322	302	268	359	379	378	381
Sulphate	1,000		500	<1.0	19	17	20	19	28.3	2440	15.5	18.2	16.4	15.6	15.2	21.4	19.6	19.1	17	21.3	22.2	23.8	25.5
Nutrients																							
Ammonia (as N)	1.31-18.4	pH	-	0.18	0.36	0.4	0.39	0.33	0.4	0.57	0.5	0.39	0.36	0.39	0.53	0.42	0.47	0.37	0.48	0.40	0.37	0.46	0.52
Nitrate (as N)	400		10		0.68	<0.02	0.09		0.126	<0.01	0.14	<0.02	<0.02	<0.02	<0.02	<0.01	0.49	0.68	0.62	<0.01	1.13	<0.01	0.51
Nitrate & Nitrite (as N)	400		10	0.02		<0.01		<0.01				<0.01	<0.01	<0.01	0.01	<0.01	0.49	0.68					
Total Nitrogen			10													2.98	3.47	3.92					
Total Kjeldahl Nitrogen	-		-													2.98	2.98	3.24					
Organic Nitrogen	-		-																				
Total Phosphorus	-		-																				
Oxygen Demand																							
BOD[5]	-		-																				
COD[6]	-		-																				
BOD:COD	-		-																				
Total Organic Carbon	-		-																				
Dissolved Metals																							
Aluminum	-		9.5	<0.1	<0.05	0.079	1.16	<0.05	<0.05	1.02	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	1.39	2.18	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony	0.2		0.006	<0.005	<0.003	<0.0025	<0.005	<0.005	<0.005	<0.0025	<0.0030	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.05		0.025	<0.01	<0.005	<0.005	0.006	<0.005	<0.005	0.0047	<0.005	<0.0050	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Barium	10		1	0.02	<0.02	<0.02	0.0223	0.015	0.015	0.0207	0.019	0.018	0.012	0.016	0.0194	0.0175	0.0214	0.0324	0.0148	0.0186	0.0158	0.0161	<0.0500
Beryllium	0.053		-	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0005	<0.002	<0.0020	<0.002	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth	-		-	<0.2	<0.2	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010
Boron	50		5	0.5	0.5	0.45	0.094	0.305	0.36	0.467	0.506	0.366	0.439	0.435	0.439	0.271	0.398	0.432	0.44	0.429	0.567	0.527	0.436
Cadmium	0.0001-0.0006	H	0.005	<0.0005	<0.0003	<0.00025	<0.0001	<0.0001	<0.0001	<0.00005	<0.0001	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00035	<0.00010	<0.00010	<0.00010	<0.00010
Calcium	-		-	350	340	371	274	254	335	400	360	315	376	337	316	358	386	366	356	352	351	346	374
Chromium	0.01-0.09	V	0.05	0.016	<0.005	<0.0025	0.019	0.0141	0.0241	0.0078	0.02	0.02	0.015	0.029	0.0188	<0.0050	0.0148	0.0182	<0.0050	<0.0050	0.0056	0.0123	0.0071
Cobalt	0.04		-	<0.005	0.003	0.0032	0.0039	0.0027	0.0041	0.0019	0.0039	0.0033	0.0036	0.0035	0.00383	0.00351	0.00388	0.00442	0.00398	0.00313	0.00399	0.00428	0.00390
Copper	0.02-0.09	H	1	<0.01	<0.005	<0.005	0.0028	<0.005	<0.005	0.0049	<0.003	0.0033	<0.003	0.0038	0.0041	0.0042	0.0027	0.0029	0.0068	0.0034	0.0039	0.0024	0.0026
Iron	-		6.5	0.08	0.11	0.061	5.94	4.64	1.4	7.11	4.21	1.96	1.12	0.811	1.48	0.528	4.33	3.62	0.403	1.05	0.654	1.07	1.09
Lead	0.04-0.16	H	0.01	<0.01	<0.005	<0.005	<0.002	<0.002	<0.002	0.001	<0.001	<0.0010	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Lithium	-		-	<0.05	<0.05	<0.05	0.0105	0.021	0.0194	0.0259	0.0217	0.0144	0.016	0.016	0.0177	0.0179	0.0198	0.021	0.0209	0.0223	0.0229	0.0221	0.0230
Magnesium	-		100	190	190	190	152	136	182	196	222	180	197	178	189	185	208	198	188	190	186	189	187
Manganese	-		0.55	9.7	8.9	9.27	8.85	6.5	9.12	10.1	9.55	8.6	10	9.64	9.35	9.46	10.1	10.1	8.75	9.72	10.6	8.84	9.74
Mercury	0.001		0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.00025	<0.0003	<0.00030	<0.0003	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0005	<0.0005	<0.00050	<0.00050
Molybdenum	10		0.25	<0.01	<0.005	<0.005	0.0025	0.0031	0.0036	0.0031	0.0034	0.003	0.0036	0.0038	0.0044	0.0037	0.0042	0.0048	0.0047	0.0041	0.0050	0.0044	0.0043
Nickel	0.25-1.5	H	-	<0.05	0.03	0.026	0.033	0.026	0.036	0.042	0.009	0.042	0.039	0.036	0.0368	0.0359	0.0388	0.0423	0.0395	0.0386	0.0431	0.0435	0.0395
Phosphorus	-		-	<0.3	<0.3	<0.3	<0.5	0.529	<0.5	0.274	<0.2	<0.200	<0.2	<0.200	<0.100	<0.200	0.256	0.252	<0.200	<0.200	<0.200	<0.200	<0.200
Potassium	-		-	3	2	3.1	2.53	2.52	2.87	2.91	2.9	2.35	2.7	2.61	2.37	2.15	2.48	2.64	2.28	2.11	2.50	2.46	2.76
Selenium	0.01		0.01	<0.01	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0050	<0.005	<0.0050	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0050
Silicon	-		-	26	23	25	26	23.9	30	26.5	32.2	26.9	27	18.6	22.6	20.7	25.2	30.8	21.5	29.7	27.2	22.6	34.3
Silver	.0005-.015	H	-	<0.0005	<0.0003	<0.0003	<0.0004	<0.004	<0.0004	<0.0002	<0.0004	<0.00040	<0.0004	<0.00040	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Sodium	-		200	140	140	145	111	117	128	134	158	122	138	127	133	127	139	135	116	133	144	137	134
Strontium	-		-	3.2	3.1	3.25	3.43	2.31	3.22	3.61	3.02	3.24	3.48	3.34	3.28	3.32	3.51	3.45	3.39	3.24	3.97	3.23	3.27
Tellurium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Thallium	0.003		-	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thorium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tin	-		-	<0.03	<0.03	<0.03	<0.001	<0.001	<0.001	<0.0025	<0.002	<0.0020	<0.002	<0.0020	<0.0020	<0.0020	<0.0030	<0.0030	<0.0020	<0.0020	<0.0020	<0.00120	<0.0020
Titanium	1.0		-	<0.05	<0.05	<0.05	0.0801	<0.02	<0.02	<0.05	<0.100	<0.100	<0.1	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tungsten	-		-																				
Uranium	3		0.2	0.004	0.004	0.0037	0.0039	0.0033	0.0043	0.0031	0.0045	0.0039	0.0047	0.0043	0.00514	0.00429	0.00512	0.00622	0.0055	0.00497	0.00539	0.00489	0.00493
Vanadium	-		-	<0.03	<0.03	<0.03	0.0128	0.0137	0.0168	0.011	0.016	0.01	0.01	0.014	0.0121	<0.0100	0.0113	0.0129	<0.0100	<0.0100	<0.0100	<0.0100	<0.010
Zinc	0.075-2.4	H	5	0.018	<0.005	0.006	<0.02	<0.04	<0.04	0.03	<0.03	<0.030	<0.03	<0.010	0.0125	<0.0100	<0.0100	0.0103	<0.0100	<0.0100	0.0373	<0.0100	<0.0400
Zirconium				-			<0.01	<0.01	<0.01	0.006	0.005	<0.005	<0.005	<0.005	0.005	0.0041	0.0059	0.0081	0.0043	0.0044	0.0052	0.0046	0.0045
Other																							
Phenol	0.01		-																				
LEPH[7]	0.5		-																				
HEPH[8]	-		-																				
$EPH_{C10:19}$	0.5		-																				
$EPH_{C19:32}$	-		-																				

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life.
   pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH3					BH4																												
				Sep-98	Dec-98	Mar-99	Jun-99	Oct-04	Jan-94	Jul-97	Jun-99	Sep-99	Dec-99	Mar-00	Jul-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Oct-02	Dec-02	Apr-03	Jun-03	Sep-03	Dec-03	Mar-04	May-04	Sep-04	Mar-05	May-05	Sep-05	Dec-05
Physical																																					
pH	-		-	7.2	7.5	8.2		7.0			7.6	7.5	6.9	7.2	7.3	6.9	6.9	7.1	7.1	7.3	7.1	7.2	6.2	7.1	7.03	6.9	7	7.2	7.1	6.8	6.9	7.2	7.1	7.2	7.1	7
Conductivity (uS/cm)	-		-	804	985	1,040		934	2,130	2,330	2,490	2,530	2,480	2,510	2,690	2,750	2,540	2,500	2,570	2,600	2,530		2,620	2,630	1,990	2,660	2,490	2,540	2,430	2,570	2,530	2,610	2,520	2,470	2,520	2,480
TDS	-		-	518	557	596	595	580				1,750						1,667		1,500								1580							1,670	
Calculated TDS	-		-	536	657	694		623	1,421	1,558	1,661	1,688	1,654	1,674	1,794	1,834	1,694	1,668	1,714	1,734	1,688		1,748	1,754	1,327	1,774	1,661	1,694	1,621	1,714	1,688	1,743	1,681	1,647	1,681	1,654
Hardness	-		-																															1,200	1,280
Dissolved Anions																																					
Total Alkalinity	-		-	386	417	435		388	898	612	880	968	968	1,030	552	945	932	992	908	960	896	796	924	904	852	892	844	880	900	942	908	878	880	863	880	764
Chloride	-		250	46.3	50.5	63		55	189	296	350	345	335	400	410	350	350	365	370	380	365	385	410	420	415	400	430	435	410	435	405	405	460	445	460	413
Sulphate	1,000		500	31	40	45		41	27.6	18	20	21	20	21	19.4	20	20	21	19	21	20	18	19	23	22	21	21	21	24	23	25.4	26	32	34	32	36
Nutrients																																					
Ammonia (as N)	1.31-18.4	pH	-	<0.02	<0.02	<0.02		<0.02	<0.005	0.05	<0.01	0.01	<0.01	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02	0.04	<0.02	<0.02	<0.02	<0.02
Nitrate (as N)	400		10						0.013	<0.005	<0.01	0.02	0.02																								
Nitrate & Nitrite (as N)	400		10	1.6	1.9			2.55						0.02	<0.01	<0.01	0.01	0.02	0.02	0.02	0.12	0.03	0.02	0.02	<0.01	<0.01	0.23	<0.01	0.01	<0.01	0.01	0.38	0.34	0.35	0.34	0.16
Total Nitrogen			10																																		
Total Kjeldahl Nitrogen	-		-					0.30																													
Organic Nitrogen	-		-					0.30																													
Total Phosphorus	-		-	13.5	1.25				<0.30	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3					
Oxygen Demand																																					
BOD[5]	-		-	<10	<10	<10	51	<10		<5		<10								<10															<10	
COD[6]	-		-	66	32	29	<10	25		132		196								72															103	
BOD:COD	-		-	0.15	0.31	0.34	5.10	0.40		0.04		0.05								0.14															0.10	
Total Organic Carbon	-		-					4.3																													
Dissolved Metals																																					
Aluminum	-		9.5	<0.2	<0.2	<0.2	<0.2	<0.02	<0.20	<0.01	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	1.3	<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.10	<0.05	<0.05	<0.05	<0.05	<0.05
Antimony	0.2		0.006					<0.001	<0.20	0.0003	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.003	<0.003	<0.003	<0.0005	<0.0025	<0.003	<0.003	<0.003	<0.003
Arsenic	0.05		0.025	0.0018	0.0018	0.0019		<0.002	<0.20	0.0005	0.0006	0.0005	0.0007	0.0007	0.0007	0.0006	0.0010	0.0004	0.0007	0.0005	0.0004	0.0004	<0.003	0.0005	0.0004	0.005	0.0004	0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	10		1	<0.01	0.01	0.01		<0.02	0.251	0.08	0.1	0.08	0.08	0.08	0.07	0.08	0.09	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.07	0.06	0.07	0.071	0.07	0.07	0.07	0.07	<0.1
Beryllium	0.053		-	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.03
Bismuth	-		-	<0.1	<0.1	<0.1			0.28	0.1	0.1	0.1	0.1	<0.2	<0.1	<0.2	<0.2	<0.1	<0.1	<0.2	<0.2	<0.2	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<1
Boron	50		5	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.31	0.3	0.3	0.3	<0.5
Cadmium	0.0001-0.0006	H	0.005	<0.0002	<0.0002	<0.0002		<0.0001	<0.010	0.0003	0.0005	0.0004	<0.0002	0.0005	0.0003	0.0007	0.0005	0.0002	<0.0002	<0.0002	0.0002	0.0003	<0.001	0.0003	0.0004	0.0002	0.0002	<0.0003	0.0003	<0.0005	<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Calcium	-		-	103	119	-		116	193	224			231	260	284	237	249	266	237		235	223	233	254	252	247	227	223	259	253	260	243	250	227	230	250
Chromium	0.01-0.09	V	0.05	<0.01	<0.01	<0.01		<0.001	<0.015	0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.01	<0.01	<0.01	<0.003	<0.003	<0.003	<0.003	<0.005	0.0025	<0.003	<0.003	<0.02	<0.003
Cobalt	0.04		-	<0.01	<0.01	<0.01		<0.001	<0.015	<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	<0.001	<0.01	<0.01	<0.01	<0.01	<0.003	<0.003	0.003	<0.005	0.0025	<0.003	<0.003	<0.003	<0.003
Copper	0.02-0.09	H	1	<0.01	<0.01	0.02		0.002	<0.010	0.002	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.005	<0.010	<0.005	0.01	<0.005	<0.005	<0.005
Iron	-		6.5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.030	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.14	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.030	<0.030	<0.03	<0.03	<0.03	<0.2
Lead	0.04-0.16	H	0.01	<0.001	<0.001	<0.001		<0.002	<0.050	<0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005
Lithium	-		-					<0.05	0.028	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03	0.04	0.03	0.01	0.04	0.04	0.03	0.03	<0.05	<0.05	<0.05	<0.050	<0.050	0.05	<0.05	<0.05	<0.3
Magnesium	-		100	30.7	35.0	35.5		37	110.0	140.0	152.0	147.0	155.0	164	173	155	152	154	144	136	151	145	143	166	162	158	147	149	177	158	165	163	170	167	160	160
Manganese	-		0.55	0.016	0.015	0.001	0.196	<0.01	0.18	0.425	0.523	0.521	0.583	0.728	0.664	0.593	0.817	0.637	0.598	0.609	0.59	0.668	0.636	0.739	0.673	0.659	0.58	0.53	0.56	0.68	0.656	0.617	0.7	0.59	0.6	0.59
Mercury	0.001		0.001	<0.00005	<0.00005			<0.0002					<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	10		0.25	<0.03	<0.03	<0.03		0.003	<0.030	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.005	0.005	0.007	0.035	0.0057	0.032	0.017	<0.005	<0.005
Nickel	0.25-1.5	H	-	<0.05	<0.05	<0.05		<0.01	<0.020	0.03	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	0.03	0.03	0.04	<0.050	0.034	0.03	0.03	0.03	0.03
Phosphorus	-		-																														<0.30	<0.3	<0.3	<2
Potassium	-		-	4	3	5			5.9	6	6	6	6	5	6	6	4	5	5	5	5	5	6	6	6	5	5	6	5.8	5.1	6.3	5.9	6.2	5	5	<10
Selenium	0.01		0.01	0.0009	0.0009	0.0012		<0.002	<0.20	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0014	<0.0005	<0.0005	<0.01	<0.0005	<0.0005	<0.0005	<0.002	<0.005	<0.005	<0.005	<0.01	<0.005	11.1	11	9.8	11	11
Silicon	-		-																																		
Silver	.0005-.015	H	-					<0.0001																									<0.00025	<0.0003	<0.0003	<0.0003	<0.0003
Sodium	-		200	40	43			47	102	84				100	101	101	97				102	97	99	105	104	95	104	99	105	104	104	105	120	97	100	110
Strontium	-		-	0.664	0.766	0.788			1.75	2.62	2.86	2.72	2.57	2.89	2.58	2.58	2.74	2.6	2.74	2.9	2.75	2.7	2.68	2.92	2.91	2.96	2.84	2.76	2.57	2.91	3	2.89	2.7	2.6	2.9	2.9
Tellurium																																					
Thallium	0.003		-					<0.0004	<0.10	<0.001	<0.2	0.2	<0.2	<0.2	<1	<0.2	<0.2	2.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Thorium																																					
Tin	-		-						<0.30	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.0131	0.041	<0.03	<0.03	<0.03	<0.2
Titanium	1.0		-	<0.01	<0.01	<0.01		<0.05	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	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Tungsten	-		-						<0.10																												
Uranium	3		0.2					0.0078																								0.0325	0.031	0.003	0.033	0.032
Vanadium	-		-	<0.03	<0.03	<0.03		<0.03	<0.030	<0.03	<0.03	0.030	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.04	<0.2
Zinc	0.075-2.4	H	5	0.008	0.007	0.006		<0.005	<0.005	<0.005	0.01	0.005	<0.005	0.007	0.007	0.006	0.015	0.024	<0.005	0.005	<0.005	<0.005	<0.005	0.011	0.017	0.007	0.006	0.014	<0.005	0.005	<0.005	0.0064	<0.005	0.09	0.01	<0.03
Zirconium																																					
Other																																					
Phenol	0.01		-	0.03	0.05		0.09					0.06								<0.002																	
LEPH[8]	0.5		-									<0.1								<0.1																
HEPH[8]	-		-									0.29								<0.1																
EPH_{C10-19}	0.5		-																																<0.1	
EPH_{C19-32}	-		-																																<0.1	

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life. pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH4																	
				Mar-06	May-06	Oct-06	Dec-06	Apr-07	Jun-07	Sep-07	Dec-07	Apr-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10
Physical																							
pH	-		-	7	7.1	7	6.9	7.1	7.3	6.8	6.8	6.8	6.8	6.9	7	6.7	7.42	7.49	7.42	7.50	7.37	7.43	7.34
Conductivity (uS/cm)	-		-	2,560	2,550	2,550	2,590	2,730	2,700	2,590	2,650	2,640	2,570	2,590	2,550	2,600	2,640	2,690	2,650	2,690	2,560	2,730	2,690
TDS	-		-				1,560	1,610	1,690	1,620	1,490	1,770	1,710	1,660	1,560	1,630	1,840	1,680	1,740	149	1,580	1,550	1,580
Calculated TDS	-		-	1,708	1,701	1,701	1,728	1,821	1,801	1,728	1,768	1,761	1,714	1,728	1,701	1,734	1,761	1,794	1,768	1,794	1,708	1,821	1,794
Hardness	-		-	1,210		1,260	1,240	1,320	1,280	1,480	1,360	1,150	1,300	1,190	1,160	1,290	1,350	1,250	1,160	1,210	1,190	1,230	1,320
Dissolved Anions																							
Total Alkalinity	-		-	1,040	846	850	640	855	1,210	957	813	854	808	857	875	859	825	839	832	836	834	828	865
Chloride	-		250	400	450	430	495	458	447	448	433	442	472	520	435	447	422	366	333	642	460	442	356
Sulphate	1,000		500	42	38	43	44	38	40.2	44.8	47.7	65.4	60.7	64	58.9	64.4	63.6	72	54.8	109	79.3	84.5	79.5
Nutrients																							
Ammonia (as N)	1.31-18.4	pH	-	<0.02	0.03	<0.02	<0.02	0.03	0.04	0.06	0.02	0.08	0.05	0.2	0.05	0.02	0.03	0.07	0.03	0.04	0.05	0.08	0.05
Nitrate (as N)	400		10		0.11	<0.02	0.06		0.33	<0.01	0.221	0.06	0.02	0.03	0.02	<0.01	0.36	0.28	0.17	0.82	1.20	2.17	1.74
Nitrate & Nitrite (as N)	400		10	0.01		<0.01		0.01				0.06	0.02	0.03	0.02	<0.01	0.36	0.28					
Total Nitrogen			10													0.69	0.96	0.95					
Total Kjeldahl Nitrogen	-		-													0.6	0.59	0.68					
Organic Nitrogen	-		-																				
Total Phosphorus	-		-																				
Oxygen Demand																							
BOD[5]	-		-							<10								<10					
COD[6]	-		-							36								42					
BOD:COD	-		-																				
Total Organic Carbon	-		-																				
Dissolved Metals																							
Aluminum	-		9.5	<0.05	<0.05	0.112	2.67	<0.05	<0.05	0.436	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	0.68	1.29	<0.050	<0.050	<0.050	<0.050	<0.050
Antimony	0.2		0.006	<0.003	<0.003	<0.0025	<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0010	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic	0.05		0.025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0025	<0.005	<0.0050	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Barium	10		1	0.06	0.06	0.06	0.107	0.064	0.0612	0.058	0.062	0.067	0.05	0.064	0.0652	0.0619	0.069	0.0776	0.0541	0.0667	0.0583	0.0610	0.0571
Beryllium	0.053		-	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.0005	<0.002	<0.0020	<0.002	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth	-		-	<0.2	<0.2	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Boron	50		5	0.3	0.3	0.32	<0.02	0.358	0.291	0.411	0.365	0.3	0.325	0.362	0.338	0.197	0.323	0.376	0.349	0.361	0.410	0.433	0.371
Cadmium	0.0001-0.0006	H	0.005	0.0007	0.0003	0.00036	0.00083	0.00024	0.00014	0.00015	0.00012	0.00017	<0.0001	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	0.0002	<0.00010	<0.00010	0.00010	<0.0010
Calcium	-		-	230	240	246	274	251	241	280	238	211	249	223	207	246	258	232	222	226	214	213	244
Chromium	0.01-0.09	V	0.05	0.022	<0.003	<0.0025	0.0122	0.0098	0.0119	0.0053	0.005	0.01	0.007	0.015	0.0079	<0.0050	0.0069	0.0078	<0.0050	<0.0050	<0.0050	0.0063	0.0058
Cobalt	0.04		-	<0.003	<0.003	<0.0025	0.0046	0.0026	0.0022	0.0024	0.0024	0.0021	0.0018	0.002	0.0021	0.00199	0.0022	0.00318	0.00196	0.00202	0.00205	0.00202	0.00189
Copper	0.02-0.09	H	1	<0.005	<0.005	<0.005	0.0112	0.0071	<0.005	0.0045	0.0035	0.0051	0.0038	0.006	0.006	0.0052	0.0044	0.0058	0.0054	0.0049	0.0051	0.0037	0.0039
Iron	-		6.5	<0.03	<0.03	<0.03	4.08	0.746	0.954	1.2	0.61	1.06	0.662	0.242	0.272	0.286	0.732	1.2	0.179	0.357	0.337	0.618	0.257
Lead	0.04-0.16	H	0.01	<0.005	<0.005	<0.005	0.0035	<0.002	<0.002	<0.001	<0.001	<0.0010	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Lithium	-		-	<0.05	<0.05	<0.05	0.021	0.0401	0.0338	0.0411	0.0361	0.0343	0.0247	0.0279	0.0298	0.0321	0.0328	0.0348	0.035	0.0356	0.0352	0.0345	0.0368
Magnesium	-		100	150	160	156	135	168	164	189	187	151	166	155	155	163	172	164	147	157	146	156	153
Manganese	-		0.55	0.65	0.6	0.616	0.877	0.749	0.612	0.807	0.636	0.658	0.568	0.688	0.524	0.598	0.538	0.618	0.556	0.632	0.500	0.470	0.547
Mercury	0.001		0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.00025	<0.0003	<0.00030	<0.0003	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0050
Molybdenum	10		0.25	<0.005	0.005	0.0051	0.0043	0.0049	0.0053	0.0055	0.0055	0.0048	0.0048	0.0056	0.0053	0.0047	0.0046	0.0052	0.0055	0.0048	0.0053	0.0052	0.0053
Nickel	0.25-1.5	H	-	0.03	0.04	0.033	0.041	0.041	0.04	0.045	0.009	0.04	0.037	0.036	0.0346	0.0369	0.0372	0.0392	0.0362	0.0368	0.0370	0.0368	0.0363
Phosphorus	-		-	<0.3	<0.3	<0.3	<0.5	<0.5	<0.5	<0.25	<0.2	<0.200	<0.2	<0.200	<0.100	<0.200	<0.200	0.308	<0.200	<0.200	<0.200	<0.200	<0.200
Potassium	-		-	6	5	6.3	5.56	5.81	5.77	7	6.55	5.1	6.05	6	5.4	5.26	5.62	6.25	5.35	5.05	5.34	5.22	5.81
Selenium	0.01		0.01	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0050	<0.005	<0.0050	<0.0050	<0.0030	<0.0030	<0.0030	<0.0030	<0030	<0.0030	<0.0030	<0.0050
Silicon	-		-	11	10	11	15	13.5	13.9	14.9	14.6	12.2	12.5	8.74	9.71	9.7	11.3	15	9.7	10.1	12.1	36.6	27.2
Silver	.0005-.015	H	-	<0.0003	<0.0003	<0.0003	<0.0004	<0.0004	<0.0004	<0.0002	<0.0004	<0.00040	0.00063	<0.00040	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Sodium	-		200	100	100	108	87.6	109	104	120	127	95.4	108	104	102	104	111	107	87.3	102	107	105	105
Strontium	-		-	2.6	2.5	2.6	2.83	2.91	2.86	3.03	2.55	2.73	2.72	2.74	2.71	2.88	2.81	2.88	2.68	2.63	2.89	2.44	2.45
Tellurium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Thallium	0.003		-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thorium							<0.005	<0.005	<0.005	<0.0025	<0.003	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tin	-		-	<0.03	<0.03	<0.03	<0.001	<0.001	<0.001	<0.0025	<0.002	<0.0020	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Titanium	1.0		-	<0.05	<0.05	<0.05	0.168	<0.02	<0.02	<0.05	<0.1	<0.100	<0.1	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tungsten	-		-																				
Uranium	3		0.2	0.032	0.033	0.035	0.0331	0.0379	0.0355	0.0303	0.0345	0.0331	0.0352	0.0381	0.0391	0.0361	0.0342	0.0415	0.04	0.0389	0.0392	0.0350	0.0364
Vanadium	-		-	<0.03	<0.03	<0.03	0.0178	0.0078	0.008	<0.01	<0.01	<0.010	<0.01	<0.010	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010
Zinc	0.075-2.4	H	5	0.009	<0.005	<0.005	<0.02	<0.04	<0.04	<0.02	<0.03	<0.030	<0.03	<0.010	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0400
Zirconium							<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0010	0.0015	0.0021	0.0022	<0.0010	<0.0010	<0.0010	<0.0010
Other																							
Phenol	0.01		-							<0.006													
LEPH[4]	0.5		-															120					
HEPH[4]	-		-															120					
EPH_{C10-19}	0.5		-							<0.1								120					
EPH_{C19-32}	-		-							<0.1								120					

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life. pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH5																								
				Jun-99	Sep-99	Dec-99	Mar-00	Jul-00	Sep-00	Dec-00	Mar-01	Jun-01	Sep-01	Dec-01	Mar-02	Jun-02	Oct-02	Dec-02	Apr-03	Jun-03	Sep-03	Mar-04	May-04	Sep-04	Mar-05	May-05	Sep-05	Dec-05
Physical																					DRY							
pH	-		-	8.0	7.6	7.3	7.7	7.5	7.4	7.4	7	7.5	7.4	7.6	7.9	6.81	7.4	7.37	7.4	7.4	7.5		7.4	7.4	7.6	7.7	7.4	6.9
Conductivity (uS/cm)	-		-	608	617	632	522	601	657	649	498	571	625	642	470	450	716	519	553	561	631		511	559	435	572	630	681
TDS	-		-								332			428													
Calculated TDS	-		-	406	412	422	348	401	438	433	332	381	417	428	313	300	478	346	369	374	421		341	373	290	382	420	454
Hardness	-		-																									
Dissolved Anions																												
Total Alkalinity	-		-	289	288	316	246	259	288	304	272	248	280	271	240	253	312	261	244	246	266		263	240	220	236	220	250
Chloride	-		250	30	17.5	14.5	22.0	19.2	18.0	23.0	10.5	19.8	21.2	27.5	12.5	14.5	31.5	23.5	12.5	21.3	36.0		16.0	16.5	10.0	25.8	41.0	46.5
Sulphate	1,000		500	21	19	18	21	18.6	18.5	23	23	21	23	24	21	19	24	23	20	21	25		21	21.4	16	28	24	28
Nutrients																												
Ammonia (as N)	1.31-18.4	pH	-	<0.01	0.01	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	<0.02	<0.02	<0.02	<0.02
Nitrate (as N)	400		10	2	1.7	1.6																						
Nitrate & Nitrite (as N)	400		10				0.85	1.18	1.70	1.63	1.20	1.63	2.1	1.63	0.75	0.02	1.75	1.30	1.28	1.55	1.20		2.08	3.1	2.4	3.3	2.45	2.8
Total Nitrogen			10																									
Total Kjeldahl Nitrogen	-		-																									
Organic Nitrogen	-		-																									
Total Phosphorus	-		-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.8	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		<0.3	<0.30				
Oxygen Demand																												
BOD[5]	-		-																									
COD[6]	-		-																									
BOD:COD	-		-																									
Total Organic Carbon	-		-																									
Dissolved Metals																												
Aluminum	-		9.5	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	1.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.01		<0.010	<0.010	<0.01	<0.01	<0.01	<0.02
Antimony	0.2		0.006	<0.2	<0.2	<0.02	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Arsenic	0.05		0.025	0.0004	0.0013	0.0012	0.0011	0.0011	0.0011	0.0016	0.0008	0.001	0.001	<0.001	0.001	0.001	0.0013	0.001	0.001	0.001	0.001		0.0012	0.0010	0.001	<0.001	0.001	<0.002
Barium	10		1	0.02	0.1	<0.01	0.02	<0.01	0.01	0.07	<0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	<0.02		<0.020	<0.020	<0.02	0.02	<0.02	<0.1
Beryllium	0.053		-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.03
Bismuth	-		-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<1
Boron	50		5	<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		<0.10	<0.10	<0.1	<0.1	<0.1	<0.5
Cadmium	0.0001-0.0006	H	0.005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.004	0.00014		0.000099	0.00009	0.00008	0.00007	0.00008	<0.0001
Calcium	-		-	-	-	74	63.6	71.3	69.5	74.2	58.8	64	-	71.9	55.7	59.1	81.9	70.2	60.2	64.5	65.4		62	64.6	57	64	79	79
Chromium	0.01-0.09	V	0.05	<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	0.0006		<0.001	0.00055	<0.0005	<0.0005	<0.003	<0.001
Cobalt	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	<0.01	<0.01	<0.01	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Copper	0.02-0.09	H	1	<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	0.002		<0.001	0.0011	0.003	0.001	0.004	<0.002
Iron	-		6.5	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.64	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.2
Lead	0.04-0.16	H	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.002
Lithium	-		-	0.02	<0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Magnesium	-		100	18.1	18.6	19.0	17.0	17.9	18.4	19.4	14	16.3	17.2	19.3	15.1	15.3	22.7	19.1	16.3	17.2	18.4		17	17.9	17	18	21	21
Manganese	-		0.55	0.238	0.075	0.024	0.307	0.071	0.021	0.323	0.051	0.168	0.092	0.105	0.144	0.109	0.055	0.083	0.079	0.047	0.13		0.069	0.040	0.08	0.08	0.07	0.12
Mercury	0.001		0.001	-	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	10		0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.01		0.094	0.0073	0.012	0.013	0.006	0.006
Nickel	0.25-1.5	H	-	<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	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.01
Phosphorus	-		-																						<0.3	<0.3	<0.3	<2
Potassium	-		-	4	<2	3	2	3	3	3	2	2	3	3	<2	2	2	2	2	<2	3		<2.0	2.4	2.1	<2	<2	<10
Selenium	0.01		0.01	0.0006	0.0006	0.0006	0.0008	0.0006	0.0007	<0.0005	0.0015	<0.0005	0.0015	<0.0005	0.0007	0.001	<0.0005	0.0009	0.0007	<0.002	0.001		0.0012	<0.0010	0.001	<0.001	<0.001	<0.002
Silicon	-		-																					8.38	8.3	7.3	8.4	9
Silver	.0005-.015	H	-																					<0.00005	0.00012	<0.00005	<0.00005	<0.0001
Sodium	-		200				51	42	38	52				44	37	37	46	38	33	35	43		35.6	34.3	35	34	38	50
Strontium	-		-	0.38	0.365	8.95	0.357	0.342	0.350	0.410	7.64	0.327	0.368	0.384	0.312	0.308	0.419	0.363	0.322	0.322	0.365		0.327	0.326	0.29	0.32	0.37	0.41
Tellurium																												
Thallium	0.003		-	<0.2	<0.2	0.379	<0.2	<0.2	<0.2	<0.2	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0004
Thorium																												
Tin	-		-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.2
Titanium	1.0		-	<0.01	<0.01	<0.01	<0.01	<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	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.3
Tungsten	-		-																									
Uranium	3		0.2																					0.00457	0.0044	0.0047	0.0053	0.005
Vanadium	-		-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.2
Zinc	0.075-2.4	H	5	0.005	0.007	<0.005	<0.005	<0.005	<0.005	0.028	0.018	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.011	<0.005	<0.005	<0.005		<0.005	0.0064	<0.005	<0.005	0.006	<0.03
Zirconium																												
Other																												
Phenol	0.01		-																									
LEPH[8]	0.5		-																									
HEPH[8]	-		-																									
EPH_{C10-19}	0.5		-																									
EPH_{C19-32}	-		-																									

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water
Includes "Director's Interim Standards, Generic Numerical Drinking Water
Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life.
pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard.
8. Blank indicates not measured.
9. Bold and shadod - indicates that concentration exceeds CSR - DW or AW.

TABLE 6:
GENERAL GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	CSR - AW	Notes	CSR - DW	BH5																		BH7	BH99-2
				Mar-06	May-06	Oct-06	Dec-06	Apr-07	Jun-07	Sep-07	Dec-07	Apr-08	Jun-08	Sep-08	Dec-08	Mar-09	Jun-09	Sep-09	Dec-09	Mar-10	Jun-10	Sep-10	Dec-10	Oct-04	Oct-04
Physical																							
pH	-		-	7.4	7.3	7.3	7.2	7.4	7.6	7	7.1	7.1	7.1	7	7.1	7.1	7.6	7.75	7.75	7.91	7.75	7.78	7.66	7.1	7.4
Conductivity (uS/cm)	-		-	548	578	627	689	756	695	763	782	794	798	810	823	906	837	844	864	893	782	842	865	1,370	955
TDS	-		-				434	444	451	486	478	504	485	477	503	566	493	522	528	565	495	485	503	941	628
Calculated TDS	-		-	366	386	418	460	504	464	509	522	530	532	510	549	604	558	563	576	596	522	562	577	914	637
Hardness	-		-	210		250	294	299	346	360	332	281	320	308	314	354	389	342	318	325	293	342	345		
Dissolved Anions																							
Total Alkalinity	-		-	220	240	241	214	262	290	281	313	268	265	287	331	247	255	248	255	234	227	252	262	584	612
Chloride	-		250	17.5	28.8	40	29.5	45.6	27.5	26.5	23.1	38.1	52.1	47.8	37.4	74	57.3	60	47.5	73.3	72.3	66.5	55.4	106	5.0
Sulphate	1,000		500	24	26	32	39	68	50.3	94.8	55.7	74.4	60.3	58.5	50.9	94.6	55	77.7	68.5	109	74.8	62.8	63.4	56	5.2
Nutrients																							
Ammonia (as N)	1.31-18.4	pH	-	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.05	<0.02	0.03	<0.02	0.06	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02	<0.02	<0.02
Nitrate (as N)	400		10		2.57	4.03	5.9		7	7.37	8.37	10.9	7.52	7.67	8.3	10.3	7.09	10.1	8.14	9.09	8.06	7.32	7.16		
Nitrate & Nitrite (as N)	400		10	2		4.03		9.13				10.9	7.52	7.67	8.3	10.3	7.09	10.1						2.70	0.02
Total Nitrogen			10													10.6	7.36	10.3							
Total Kjeldahl Nitrogen	-		-													0.33	0.27	0.21						0.68	0.18
Organic Nitrogen	-		-																					0.68	0.18
Total Phosphorus	-		-																						
Oxygen Demand																							
BOD[5]	-		-																					<10	<10
COD[6]	-		-																					50	10
BOD:COD	-		-																					0.20	1.00
Total Organic Carbon	-		-																					13.9	8.3
Dissolved Metals																							
Aluminum	-		9.5	<0.02	<0.01	<0.01	13.1	<0.05	<0.05	2.4	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	6.66	2.86	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.02
Antimony	0.2		0.006	<0.001	<0.0005	<0.0005	<0.005	<0.005	<0.005	<0.0025	<0.0030	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.003	<0.001
Arsenic	0.05		0.025	<0.002	0.001	0.001	<0.005	<0.005	<0.005	<0.0025	<0.005	<0.0050	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.005	<0.002
Barium	10		1	0.02	0.03	0.028	0.314	0.0234	0.07	0.044	0.018	0.019	0.011	0.022	0.017	0.0211	0.0581	0.0533	0.0161	0.0183	0.0182	0.0166	<0.0500	0.04	<0.02
Beryllium	0.053		-	<0.005	<0.005	<0.005	0.0011	<0.001	<0.001	<0.0005	<0.0020	<0.0020	<0.002	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.005
Bismuth	-		-	<0.2	<0.2	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Boron	50		5	<0.1	<0.1	<0.1	<0.02	0.057	<0.02	0.037	0.067	0.047	0.055	0.072	0.058	<0.020	0.58	0.032	0.054	<0.040	0.095	0.075	0.058	0.1	<0.1
Cadmium	0.0001-0.0006	H	0.005	<0.0001	0.0001	<0.0002	0.00071	<0.0001	<0.0001	0.00013	<0.00010	<0.00010	<0.0001	<0.00010	<0.00010	<0.00010	0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0003	<0.0001
Calcium	-		-	58	66	69.6	76.1	82.4	93.8	99.9	85.6	75.9	87.4	81.9	81.1	97.1	103	91.7	87.2	88.2	70.5	73.3	85.2	189	105
Chromium	0.01-0.09	V	0.05	0.006	<0.0005	<0.0005	0.0155	<0.005	<0.005	0.0042	<0.005	<0.005	<0.005	0.005	<0.0050	<0.0050	0.0095	0.006	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.003	<0.001
Cobalt	0.04		-	<0.001	<0.0005	<0.0005	0.0133	<0.001	<0.001	0.0032	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	0.00675	0.00288	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.003	0.001
Copper	0.02-0.09	H	1	<0.002	<0.001	<0.001	0.028	<0.005	0.006	0.0075	<0.0030	<0.0030	<0.003	<0.0030	0.002	0.0021	0.0123	0.0051	0.0016	0.0017	0.0015	0.0016	<0.0020	0.007	0.008
Iron	-		6.5	<0.03	<0.03	<0.03	16.8	0.244	0.375	3.57	0.213	0.37	<0.2	<0.200	0.103	<0.100	8.9	3.86	<0.100	0.105	0.131	0.205	0.110	<0.03	<0.03
Lead	0.04-0.16	H	0.01	<0.002	<0.001	<0.001	0.0161	<0.002	<0.002	0.0027	<0.0010	<0.0010	<0.001	<0.0010	<0.0010	<0.0010	0.0057	0.0025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.002
Lithium	-		-	<0.05	<0.05	<0.05	0.015	0.0155	0.0149	0.0198	0.0147	0.0096	0.009	0.0121	0.0122	0.013	0.0191	0.0148	0.0128	0.0156	0.0145	0.0136	0.0145	<0.05	<0.05
Magnesium	-		100	17	18	18.5	25.2	22.6	27.1	26.9	28.7	22.1	24.8	25.1	27	27	32.2	27.4	24.4	25.4	20.4	23.1	22.9	64	74
Manganese	-		0.55	0.08	0.11	0.098	0.592	0.0829	<0.005	0.241	0.084	<0.0050	0.0105	0.0559	0.0061	0.0033	0.96	0.321	0.0022	0.0021	0.0542	<0.0020	0.0061	0.56	0.04
Mercury	0.001		0.001	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.00025	<0.00030	<0.00030	<0.0003	<0.00030	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0002	<0.0002
Molybdenum	10		0.25	0.008	0.007	0.0068	0.005	0.0077	0.0037	0.0069	0.0088	0.0073	0.0071	0.0078	0.0073	0.0091	0.0063	0.0072	0.0091	0.0095	0.0111	0.0082	0.0101	0.005	0.006
Nickel	0.25-1.5	H	-	<0.01	<0.005	<0.005	0.028	<0.01	<0.01	0.009	<0.005	<0.005	<0.005	<0.005	<0.0020	0.002	0.0128	0.0072	<0.0020	0.0022	0.0027	0.0029	0.0023	<0.03	<0.01
Phosphorus	-		-	<0.3	<0.3	<0.3	2.45	<0.5	<0.5	0.479	<0.200	<0.200	<0.2	<0.200	<0.100	<0.200	1.42	0.616	<0.200	<0.200	<0.200	<0.200	<0.200		
Potassium	-		-	2	<2	2.2	4.48	2.33	3.79	2.77	2.78	2.41	2.79	2.61	2.51	2.59	3.79	3.38	2.56	2.64	2.52	2.53	2.68		
Selenium	0.01		0.01	<0.002	<0.001	0.0012	<0.01	<0.01	<0.01	<0.005	<0.005	<0.0050	<0.005	<0.0050	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0050	<0.005	<0.002
Silicon	-		-	8.9	8.1	8.6	33.6	8.81	12.9	11.9	10.6	8.98	9.19	6.55	7.24	7.15	17.9	14.1	7.1	12.9	9.08	27.2	19.2		
Silver	.0005-.015	H	-	<0.0001	<0.00005	<0.00005	<0.0004	<0.0004	<0.0004	<0.0002	<0.00040	<0.00040	<0.0004	<0.00040	0.00134	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0003	<0.0001
Sodium	-		200	39	37	42.9	39.2	45	45.3	47.6	59.8	42.8	46.5	49.3	44.5	46.6	52	47.8	39.1	51.9	57.1	49.9	50.7	74	41
Strontium	-		-	0.29	0.31	0.354	0.556	0.431	0.705	0.49	0.452	0.437	0.401	0.459	0.472	0.486	0.499	0.474	0.447	0.446	0.423	0.377	0.376		
Tellurium							<0.005	<0.005	<0.005	<0.0025	<0.0030	<0.0030	<0.003	<0.0030	<0.0020	<0.0020	<0.0020	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		
Thallium	0.003		-	<0.0004	<0.0002	<0.0002	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.001	<0.0004
Thorium							<0.005	<0.005	<0.005	<0.0025	<0.0030	<0.0030	<0.003	<0.0030	<0.0010	<0.0010	0.0018	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Tin	-		-	<0.03	<0.03	<0.03	<0.001	<0.001	<0.001	<0.0025	<0.0020	<0.0020	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020		
Titanium	1.0		-	<0.05	<0.05	<0.05	0.431	<0.02	<0.02	0.071	<0.100	<0.100	<0.1	<0.100	<0.050	<0.050	0.271	0.144	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05
Tungsten	-		-																						
Uranium	3		0.2	0.0045	0.0049	0.005	0.0069	0.009	0.0077	0.0075	0.0076	0.0069	0.0065	0.0074	0.00897	0.00864	0.00733	0.00818	0.00870	0.00772	0.00642	0.00600	0.00682	0.014	0.0026
Vanadium	-		-	<0.03	<0.03	<0.03	0.0454	0.0063	0.0061	0.013	<0.010	<0.010	<0.01	<0.010	<0.01	<0.0100	0.0342	0.0182	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.03	<0.03
Zinc	0.075-2.4	H	5	<0.005	<0.005	<0.005	0.092	<0.01	<0.04	0.032	<0.030	<0.030	<0.03	<0.010	<0.010	<0.0100	0.0324	0.0203	<0.0100	<0.0100	<0.0100	<0.0100	<0.0400	<0.005	0.007
Zirconium							0.021	<0.01	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.001	<0.0010	0.0107	0.0047	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		
Other																							
Phenol	0.01		-																						
LEPH[8]	0.5		-																						
HEPH[8]	-		-																						
EPH_{C10-19}	0.5		-																						
EPH_{C19-32}	-		-																						

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. Assumed TDS, calculated from conductivity value multiplied by 0.667.
3. CSR-DW - Contaminated Sites Regulation, Standard for Drinking Water Includes "Director's Interim Standards, Generic Numerical Drinking Water Standards for Aluminum, Iron and Manganese" (October 12, 2010)
4. CSR-AW - Contaminated Sites Regulation, Standard for Aquatic Life. pH - pH dependant; H - hardness; V - valence
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. - no standard
8. Blank indicates not measured.
9. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.

TABLE 7:
ORGANIC GROUNDWATER CHEMISTRY
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	GCDWQ	Notes	CSR - AW	Notes	CSR - DW	BH1							BH4						
						Sep-99	Sep-01	Sep-03	Sep-05	Sep-07	Oct-07	Sep-09	Jul-97	Sep-99	Sep-01	Sep-03	Sep-05	Sep-07	Sep-09
Halogenated Volatiles																			
Carbon tetrachloride	0.005		0.13		0.005	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	0.0019	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroethane	-		-		-	0.002	0.002	<0.003	0.001	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	-
Chloromethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	0.2		0.007		0.003	<0.001	<0.001	<0.001	<0.0005	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	-		1.5		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	0.005		0.26		0.001	<0.001	0.004	0.004	0.003	<0.001	-	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	0.005		1		0.005	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,2-Dichloroethylene	-		-		-	0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,2-Dichloroethylene	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethylene	0.014		-		0.014	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dichloromethane	0.05		0.98		0.05	<0.01	<0.005	<0.005	<0.005	-	-	-	<0.005	0.007	<0.005	<0.005	<0.005	-	-
1,2-Dichloropropane	-		-		-	<0.001	<0.001	<0001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
cis-1,3-Dichloropropylene	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
trans-1,3-Dichloropropylene	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	-		-		-	<0.001	<0.001	<0.001	<0.001	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	-	-
1,1,2,2-Tetrachloroethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethylene	0.03		1.10		0.03	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene	0.005		0.2		0.05	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	0.002		-		0.002	<0.001	0.001	0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Trihalomethanes																			
Bromodichloromethane	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Bromoform	-		-		-	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	-		0.02		0.1	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	-		-		0.1	<0.001	<0.001	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Non-Halogenated Volatiles																			
Benzene	0.005		4		0.005	0.0014	0.0023	0.0019	0.001	1.3	-	0.0012	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005
Ethylbenzene	0.0024	AO	2		0.0024	0.0006	0.0012	<0.0005	<0.0005	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Styrene	-		0.72		-	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Toluene	0.024	AO	0.39		0.024	0.0016	0.0009	<0.0005	<0.001	<0.001	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.005
meta & para-Xylene	-		-		-	<0.0005	0.0008	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-
ortho-Xylene	-		-		-	<0.0005	0.0006	<0.0005	<0.0005	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-
Total Xylenes	0.3	AO	-		0.3	-	-	-	<0.001	<0.002	-	<0.002	-	-	-	-	<0.001	<0.002	<0.002
Light Hydrocarbons (C5-9)	-		-		-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-
VPH	-		-		-	-	-	-	-	<0.1	-	-	<0.1	-	-	-	-	<0.1	-
Chlorinated Hydrocarbons																			
Hexachlorobenzene	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.0006	<0.006	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0006	-
Hexachlorobutadiene	-		0.001		-	<0.0001	<0.0001	-	<0.0001	-	<0.001	<0.001	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.001	<0.001
Hexachloroethane	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.003	<0.003	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.003	<0.003
1,2,4-Trichlorobenzene	-		0.24		-	<0.0001	<0.0001	-	<0.0001	-	<0.003	0.003	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.003	<0.003
Phthalate Esters																			
Benzyl butyl phthalate	-		-		-	<0.001	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005
Bis(2-ethylhexyl)phthalate	-		-		-	<0.001	<0.005	<0.005	<0.005	-	<0.001	<0.001	<0.001	0.004	<0.005	<0.005	<0.005	0.003	<0.001
di-n-butyl phthalate	-		-		-	0.0003	<0.005	<0.005	<0.005	-	<0.001	<0.001	0.0004	0.0005	<0.005	<0.005	<0.005	0.001	<0.001
di-n-octyl phthalate	-		-		-	<0.0001	<0.005	<0.005	<0.005	-	<0.001	<0.001	<0.0001	<0.0001	<0.005	<0.005	<0.005	<0.001	<0.001
Diethyl phthalate	-		-		-	0.0076	-	<0.05	<0.05	-	<0.003	<0.003	0.0001	0.0004	-	<0.05	<0.05	<0.003	<0.003
Dimethyl phthalate	-		-		-	<0.0001	<0.05	<0.05	<0.05	-	<0.003	<0.003	<0.0001	<0.0001	<0.05	<0.05	<0.05	<0.003	<0.003
Base-Neutral Extractables																			
Bis(2-chloroethoxy)methane	-		-		-	<0.0003	<0.0001	-	<0.0004	-	<0.0008	<0.008	<0.0001	<0.001	<0.0001	-	<0.0001	<0.0008	<0.0008
Bis(2-chloroethyl)ether	-		-		-	<0.0002	<0.0001	-	<0.0001	-	<0.0006	<0.0006	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0006	<0.0006
Bis(2-chloroisopropyl)ether	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.002	<0.002	<0.0001	<0.0002	<0.0001	-	<0.0001	<0.002	<0.002
4-Bromophenyl phenyl ether	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.006	<0.0006	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0006	<0.0006
2-Chloronaphthalene	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.0008	<0.0008	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0008	<0.0008
4-Chlorophenyl phenyl ether	-		-		-	<0.0001	<0.0001	-	<0.0001	-	<0.0007	<0.0007	<0.0001	<0.0001	<0.0001	-	<0.0001	<0.0007	<0.0007
2,4-Dinitrotoluene (2,4-DNT)	-		-		-	<0.0004	0.0004	<0.0006	<0.0003	-	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005
2,6-Dinitrotoluene (2,6-DNT)	-		-		-	<0.0008	<0.0001	<0.002	<0.0004	-	<0.0005	<0.0005	0.0002	<0.002	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005
Isophorone	-		-		-	<0.0001	<0.0001	<0.0002	<0.0001	-	<0.0006	<0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0006	<0.0006
Nitrobenzene (NB)	-		-		-	<0.0005	<0.0001	<0.002	<0.0005	-	<0.0007	<0.0007	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0007	<0.0007
n-Nitrosodi-n-propylamine	-		-		-	<0.0001	<0.0001	<0.002	<0.0005	-	<0.0006	<0.0006	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0006	<0.0006
n-Nitrosodiphenylamine	-		-		-	<0.0001	<0.0001	<0.0003	<0.0002	-	<0.0008	<0.0008	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0008	<0.0008

Notes:
1. All concentrations in mg/L, unless otherwise noted.
2. GCDWQ - Guidelines for Canadian Drinking Water Quality (Fifth edition, 2004)
   MAC = Maximum Acceptable Concentration
   IMAC = Interim Maximum Acceptable Concentration
   AO = Aesthetic Objective
3. CSR - DW - BC Contaminated Sites Regulation, Standard for Drinking Water
4. CSR - AW - BC Contaminated Sites Regulation, Standard for Aquatic Life.
   pH - pH dependant standard
   H - hardness dependant standard
   V - valence dependent standard.
5. BOD - Biological Oxygen Demand (5-day)
6. COD - Chemical Oxygen Demand
7. LEPH - Light Extractable Petroleum Hydrocarbons.
8. HEPH - Heavy Extractable Petroleum Hydrocarbons.
9. - no standard.
10. - not measured.
11. Underlined and shaded - indicates concentration exceeds GCDWQ.
12. Bold and shaded - indicates that concentration exceeds CSR - DW or AW.
13. Underlined, bold and shaded - indicates that concentration exceeds GCDWQ and CSR - DW
14. Assumed TDS, calculated from conductivity value multiplied by 0.667.

TABLE 8
QA / QC BLIND DUPLICATE WATER SAMPLES
WESTSIDE LANDFILL
WEST KELOWNA, BC

PARAMETER	GCDWQ	Notes	CSR - AW	Notes	CSR - DW	Notes	BH1 Mar-10	BHA Blind Duplicate Mar-10	Relative Percent Difference	BH1 Jun-10	BHA Blind Duplicate Jun-10	Relative Percent Difference	BH1 Sep-10	BHA Blind Duplicate Sep-10	Relative Percent Difference	BH2 Dec-10	BHA Blind Duplicate Dec-10	Relative Percent Difference
Physical																		
pH	6.5-8.5	AO	-		-		7.14	7.27	1.8%	7.04	7.08	0.6%	7.01	7.03	0.3%	7.06	7.2	2.0%
Conductivity (uS/cm)	-		-		-		3380	3220	4.8%	3,710	3,650	1.6%	3840	3840	0.0%	3,420	3,470	1.5%
TDS	500	AO	-		-		2,180	2,260	3.6%	2,440	2,440	0.0%	1,980	2,530	24.4%	2,310	2,250	2.6%
Calculated TDS[13]	500	AO	-		-		2,254	2,148	4.8%	2,475	2,435	1.6%	2,561	2,561	0.0%	2,281	2,314	1.5%
Hardness	-		-		-		1,540	1,450	6.0%	1,800	1,690	6.3%	1,750	1,840	5.0%	1,890	1,780	6.0%
Dissolved Anions																		
Total Alkalinity	-		-		-		1140	1130	0.9%	1,410	1,410	0.0%	1400	1380	1.4%	1,600	1,590	0.6%
Chloride	250	AO	-		250		472	472	0.0%	589	550	6.8%	583	581.0	0.3%	301	303	0.7%
Sulphate	500	AO	1,000		500		209	198	5.4%	39.1	39.1	0.0%	65.7	67.3	2.4%	25.5	24.8	2.8%
Nutrients																		
Ammonia (as N)	-		1.31-18.4	pH	-		0.67	0.72	7.2%	0.78	0.75	3.9%	0.85	0.79	7.3%	0.52	0.45	14.4%
Nitrate (as N)	45	MAC	400		10		0.51	0.50	2.0%	1.36	1.19	13.3%	0.40	0.42	4.9%	0.51	0.40	24.2%
Nitrate & Nitrite (as N)	10		400		10				-			-			-			-
Total Nitrogen					10				-			-			-			-
Total Kjeldahl Nitrogen	-		-		-				-			-			-			-
Organic Nitrogen	-		-		-				-			-			-			-
Total Phosphorus	-		-		-				-			-			-			-
Oxygen Demand																		
BOD[5]	-		-		-				-			-			-			-
COD[6]	-		-		-				-			-			-			-
BOD:COD	-		-		-				-			-			-			-
Total Organic Carbon	-		-		-				-			-			-			-
Dissolved Metals																		
Aluminum	0.1		-		0.2		<0.050	<0.050	-	<0.050	<0.050	7.2%	<0.050	<0.050	-	<0.050	<0.050	-
Antimony	0.006	IMAC	0.2		0.006		<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-
Arsenic	0.01	IMAC	0.05		0.025		0.0057	0.0051	11.1%	0.0068	0.007	2.9%	<0.0050	0.0052	-	<0.0050	<0.0050	-
Barium	1	MAC	10		1		0.0608	0.0578	5.1%	0.0588	0.0581	1.2%	0.0642	0.0655	2.0%	<0.0500	<0.0500	-
Beryllium	-		0.053		-		<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-
Bismuth	-		-		-		<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.00010	<0.0010	-
Boron	5	IMAC	50		5		1.70	1.67	1.8%	1.71	1.70	0.6%	1.91	1.93	1.0%	0.436	0.428	1.9%
Cadmium	0.005	MAC	0.0001-0.0006	H	0.005		<0.00010	<0.00010	-	<0.00010	<0.00010	-	<0.00010	<0.00010	-	<0.00010	<0.00010	-
Calcium	-		-		-		319	311	2.5%	334	340	1.8%	350	349	0.3%	374	392	4.7%
Chromium	0.05	MAC	0.01-0.09	V	0.05		<0.0050	<0.0050	-	<0.0050	<0.0050	-	0.0064	0.0166	88.7%	0.0071	0.0081	13.2%
Cobalt	-		0.004		-		0.00395	0.00406	2.7%	0.0049	0.00482	1.6%	0.00518	0.00515	0.6%	0.0039	0.00441	12.3%
Copper	1	AO	0.02-0.09	H	1	AO	0.0090	0.0073	20.9%	0.0068	0.0061	10.9%	0.006	0.0041	37.6%	0.0026	0.0021	21.3%
Iron	0.3	AO	-		0.3	AO	6.20	5.61	10.0%	2.46	1.67	38.3%	1.5	1.32	12.8%	1.09	0.758	35.9%
Lead	0.01	MAC	0.04-0.16	H	0.01		<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-
Lithium	-		-		-		0.0299	0.0261	13.6%	0.0196	0.0205	4.5%	0.018	0.0173	4.0%	0.023	0.024	4.3%
Magnesium	-		-		100	AO	181	184	1.6%	195	203	4.0%	207	229	10.1%	187	194	3.7%
Manganese	0.05	AO	-		0.05	AO	4.92	4.8	2.5%	6.92	7.05	1.9%	6.35	6.02	5.3%	9.74	9.69	0.5%
Mercury	0.001	MAC	0.001		0.001		<0.00050	<0.00050	-	<0.00050	<0.00050	-	<0.00050	<0.00050	-	<0.00050	<0.00050	-
Molybdenum	-		10		0.25		0.016	0.0016	163.6%	0.0014	0.0015	6.9%	0.0014	0.0013	7.4%	0.0043	0.0045	4.5%
Nickel	-		0.25-1.5	H	-		0.0407	0.0401	1.5%	0.0471	0.0467	0.9%	0.0502	0.0504	0.4%	0.0395	0.0411	4.0%
Phosphorus	-		-		-		<0.200	<0.200	-	<0.200	<0.200	-	<0.200	<0.200	-	<0.200	<0.200	-
Potassium	-		-		-		5.99	5.91	1.3%	5.49	5.46	0.5%	5.67	5.28	7.1%	2.76	2.53	8.7%
Selenium	0.01	MAC	0.01		0.01		<0.0030	<0.0030	-	<0.0030	<0.0030	-	0.0031	<0.0030	-	<0.0050	<0.0050	-
Silicon	-		-		-		39.4	31.2	23.2%	25.7	3.09	157.1%	42	53	23.2%	34.3	28.5	18.5%
Silver	-		.0005-.015	H	-		<0.00050	<0.00050	-	<0.00050	<0.00050	-	0.00050	<0.00050	-	<0.00050	<0.00050	-
Sodium	200	AO	-		200		184	183	0.5%	189	194	2.6%	184	183	0.5%	134	137	2.2%
Strontium	-		-		-		2.58	2.62	1.5%	3.27	3.23	1.2%	3.07	2.87	6.7%	3.27	3.18	2.8%
Tellurium							<0.0020	<0.0020	-	<0.0020	<0.0020	-	<0.0020	<0.0020	-	<0.0020	<0.0020	-
Thallium	-		0.003		-		<0.0010	<0.00020	-	<0.00020	<0.00020	-	<0.00020	<0.00020	-	<0.00020	<0.00020	-
Thorium							<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-
Tin	-		-		-		<0.0020	<0.0020	-	<0.0020	<0.0020	-	<0.0020	<0.0020	-	<0.0020	<0.0020	-
Titanium	-		1.0		-		<0.050	<0.050	-	<0.050	<0.050	-	<0.050	<0.050	-	<0.050	<0.050	-
Tungsten	-		-		-				-			-			-			-
Uranium	0.02	IMAC	3		0.2		0.00401	0.00387	3.6%	0.00309	0.00296	4.3%	0.00256	0.00276	7.5%	0.00493	0.00514	4.2%
Vanadium	-		-		-		<0.0100	<0.0100	-	<0.0100	<0.0100	-	<0.0100	<0.0100	-	<0.010	<0.010	-
Zinc	5	AO	0.075-2.4	H	5	AO	<0.0100	<0.0100	-	<0.0100	<0.0100	-	0.0102	0.0132	25.6%	<0.0400	<0.0400	-
Zirconium							0.0039	0.037	161.9%	0.0061	0.0061	0.0%	0.0061	0.0056	8.5%	0.0045	0.0043	4.5%
Other																		
Phenol	-		0.01		-		-	-	-	-	-	-	-	-	-	-	-	-
LEPH[7]	-		0.5		-		-	-	-	-	-	-	-	-	-	-	-	-
HEPH[8]	-		-		-		-	-	-	-	-	-	-	-	-	-	-	-
EPH_{C10-19}	-		0.5		-		-	-	-	-	-	-	-	-	-	-	-	-
EPH_{C19-32}	-		-		-		-	-	-	-	-	-	-	-	-	-	-	-

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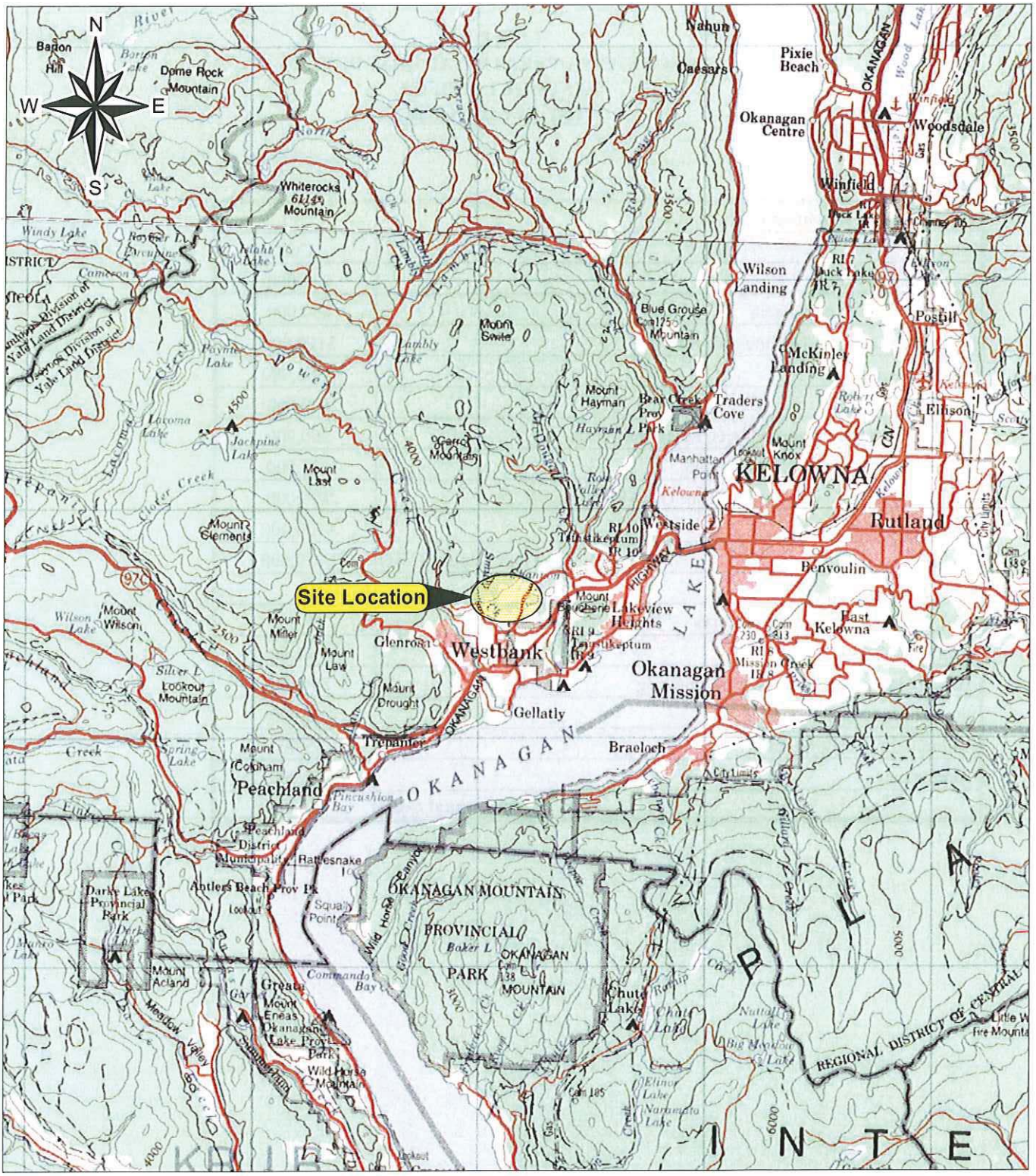
13. Underlined, bold and shaded - indicates that concentration exceeds GCDWQ and CSR - DW
14. Assumed TDS, calculated from conductivity value multiplied by 0.667.

TABLE 9:
CLOSURE AND OPERATIONAL COST BUDGET
WESTSIDE LANDFILL
WEST KELOWNA, BC

1.0 Estimated Remaining Closure Costs	
Item	**Cost**
Final Cover System	$30,000
Passive Landfill Gas System	$50,000
Vegetative Layer on Top and Side Slopes	$100,000
Topsoil Layer	$300,000
Seeding	$20,000
Surface Water Ditching, Culverts, Retention Ponds	$60,000
Geotechnical Inspections and Testing	$25,000
Additional Groundwater and Landfill Gas Monitoring Wells	$25,000
Contingency	$100,000
Total Capital Costs	**$710,000**
2.0 Estimated Post-Closure Costs	
Item	**Cost**
Annual Groundwater and LFG Monitoring	$30,000
Site Maintenance Allowance	$5,000
Administrative Allowance	$5,000
Contingency	$5,000
Total Annual Costs	**$45,000**



PROJECT

WESTSIDE LANDFILL
2010 GROUNDWATER MONITORING
WESTBANK, B.C.

TITLE

KEY PLAN

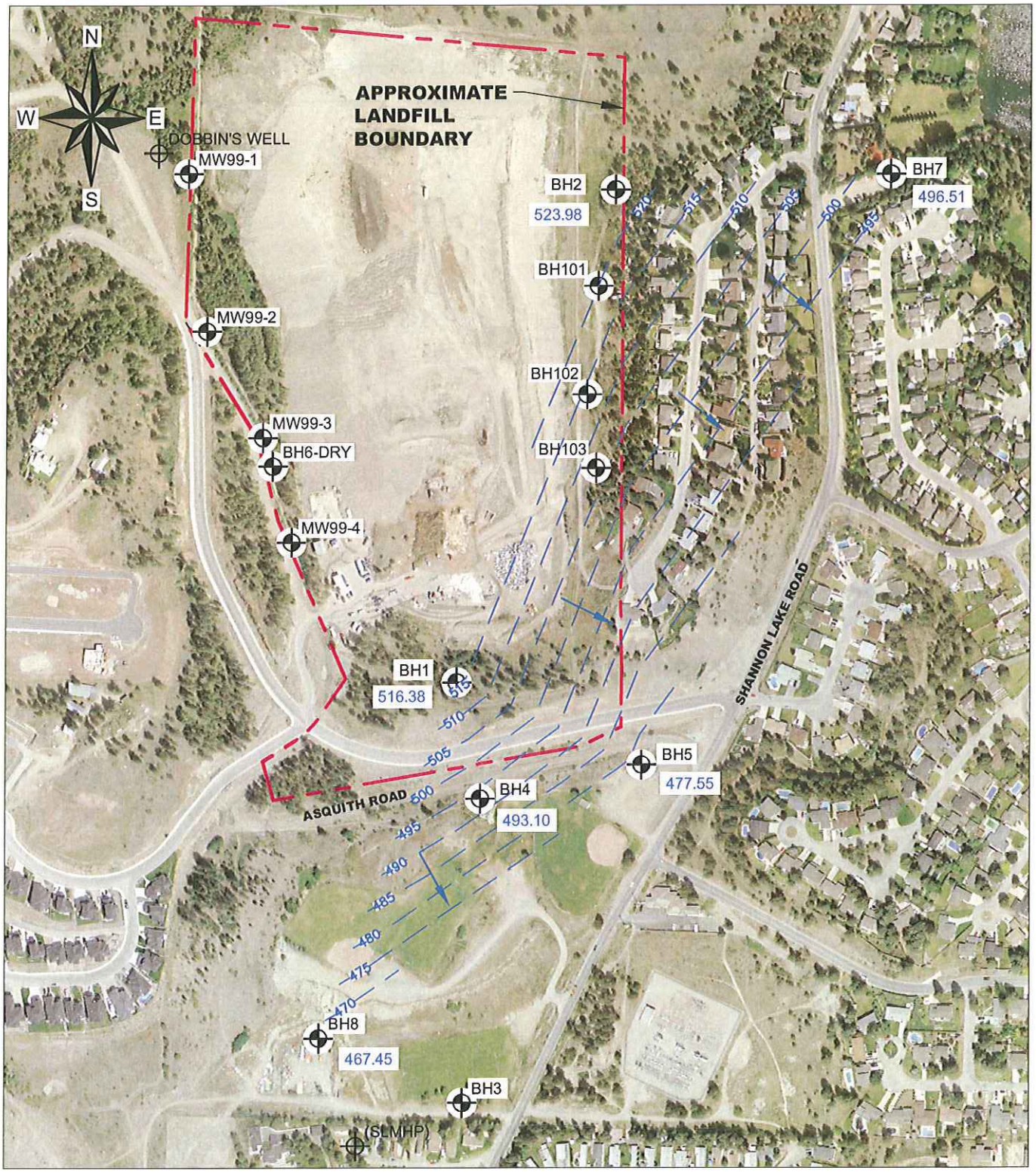
REFERENCES

1. MAP REFERENCE: PRODUCED UNDER LICENSES GRANTED BY HER MAJESTY THE QUEEN IN RIGHT OF CANADA, REPRESENTED BY THE DEPARTMENT OF NATURAL RESOURCES, AND BY SOFTMAP TECHNOLOGIES INC.

Golder Associates
Kelowna, BC

PROJECT No.	04-1440-062(2700)		FILE No.	041440062_2700_1.dwg	
DESIGN	AR	07MAR10	SCALE	1:200,000	REV. 0
CADD	JC	07MAR10			
CHECK					
REVIEW					

FIGURE: 1



LEGEND

- BH4 / 467.45 — MONITORING WELL LOCATION (APPROX.) / MONITORING WELL GROUNDWATER ELEVATION (2010)(APPROX.)
- (SLMPH) — LOCATION OF DOMESTIC WATER WELLS (APPROX.)
- INFERRED DIRECTION OF GROUNDWATER FLOW
- 470 — GROUNDWATER CONTOUR (5m INTERVAL) (2010)
- LANDFILL SITE BOUNDARY (APPROX.)

REFERENCE

1. ORTHOPHOTOS: RDCO, DATED 2009.
   FILE NAMES: 82E.082.049.JPG,82E.082.050.JPG,82E.082.059.JPG & 82E.082.060.JPG

PROJECT

RDOC WESTSIDE LANDFILL
2010 GROUNDWATER MONITORING
KELOWNA, B.C.

TITLE

SITE PLAN DEPICTING INFERRED GROUNDWATER FLOW DIRECTION

Golder Associates Kelowna, BC

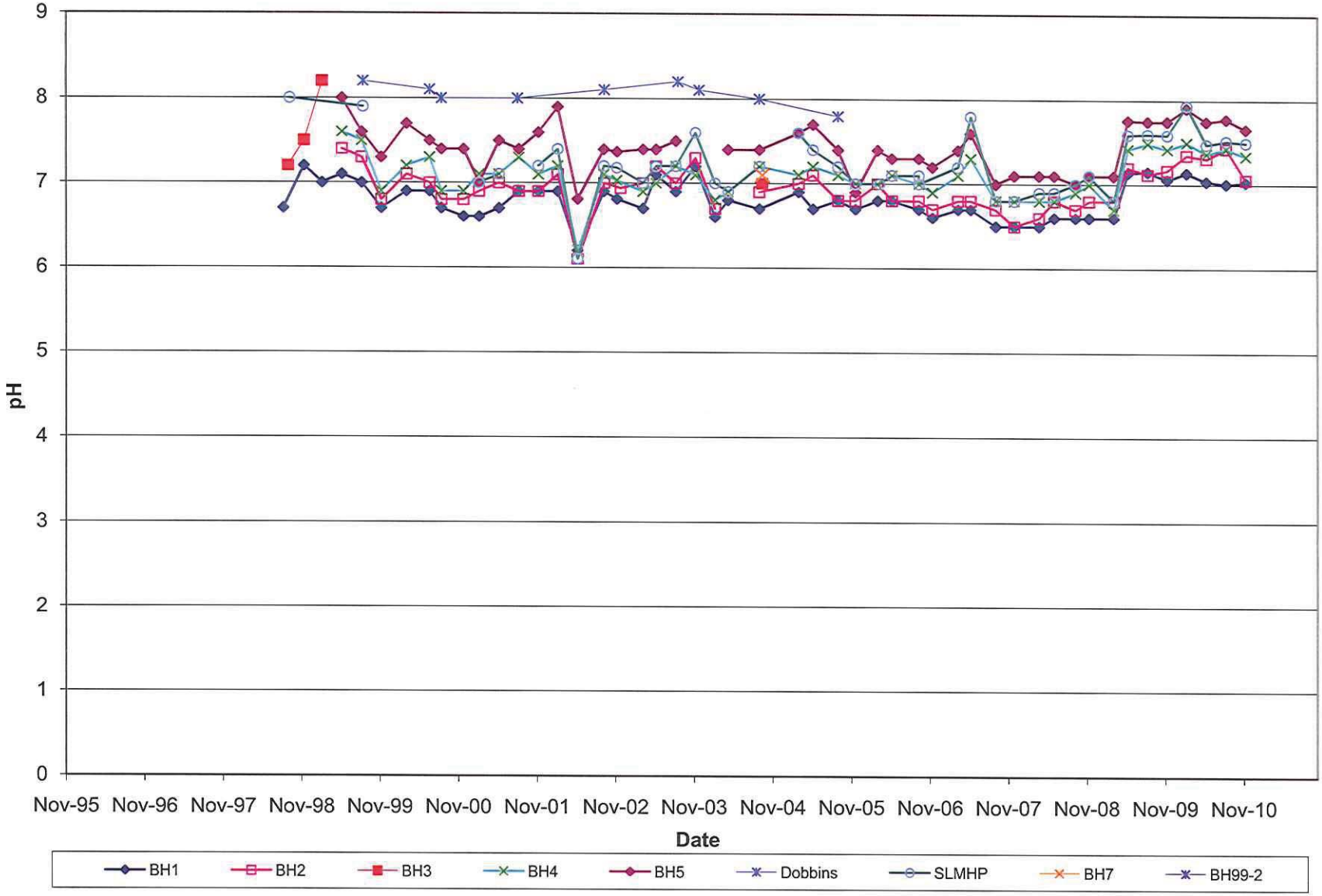
PROJECT No. 04-1440-062(2700)			FILE No. 041440062_2700_2.dwg		
DESIGN	AR	07MAR10	SCALE	1:5,000	REV. 0
CADD	JC	07MAR10			
CHECK					
REVIEW					

FIGURE: 2

APPENDIX A

Trend Analyses Graphing (Various Parameters)

pH
Westside Landfill



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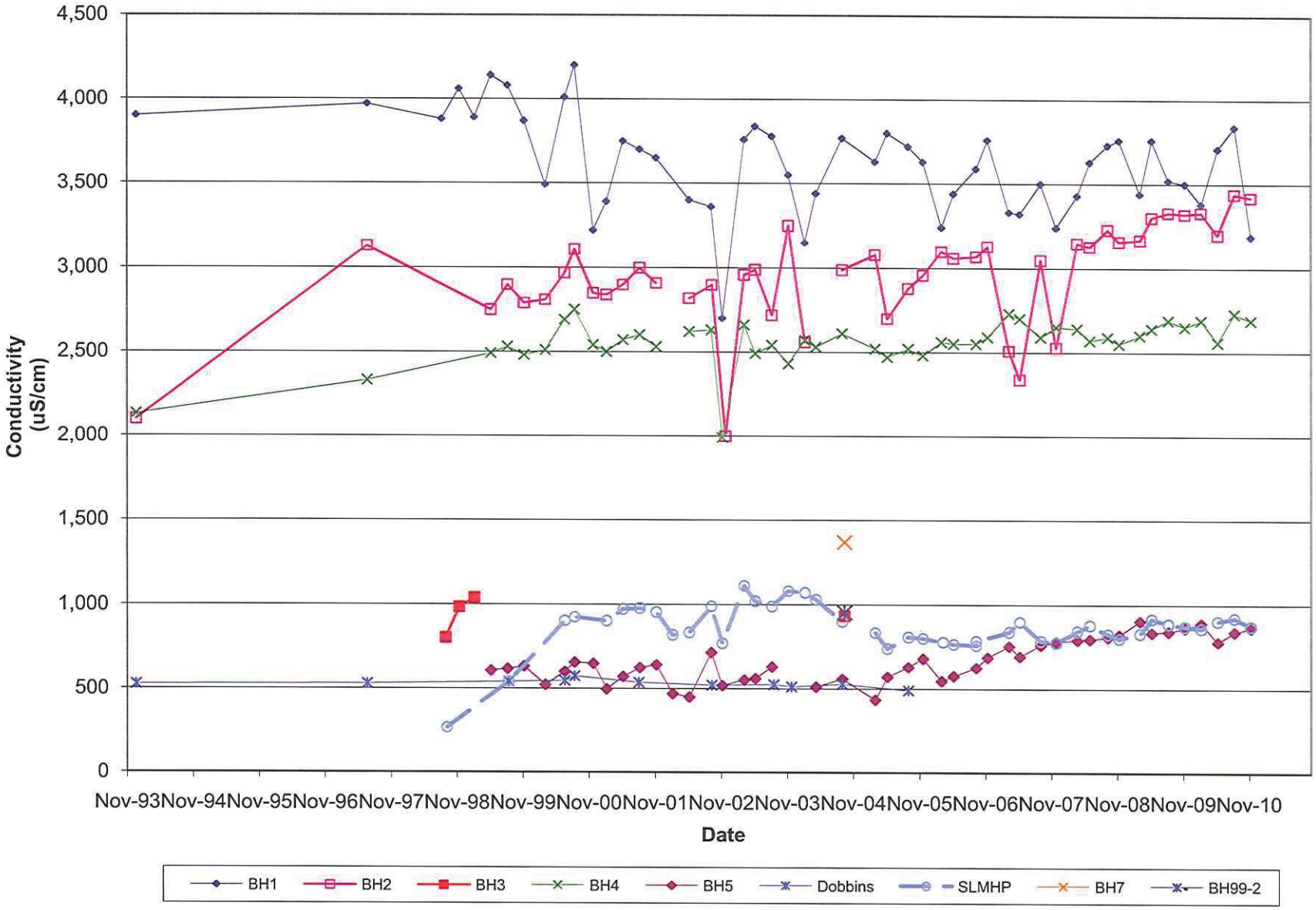
Conductivity
Westside Landfill



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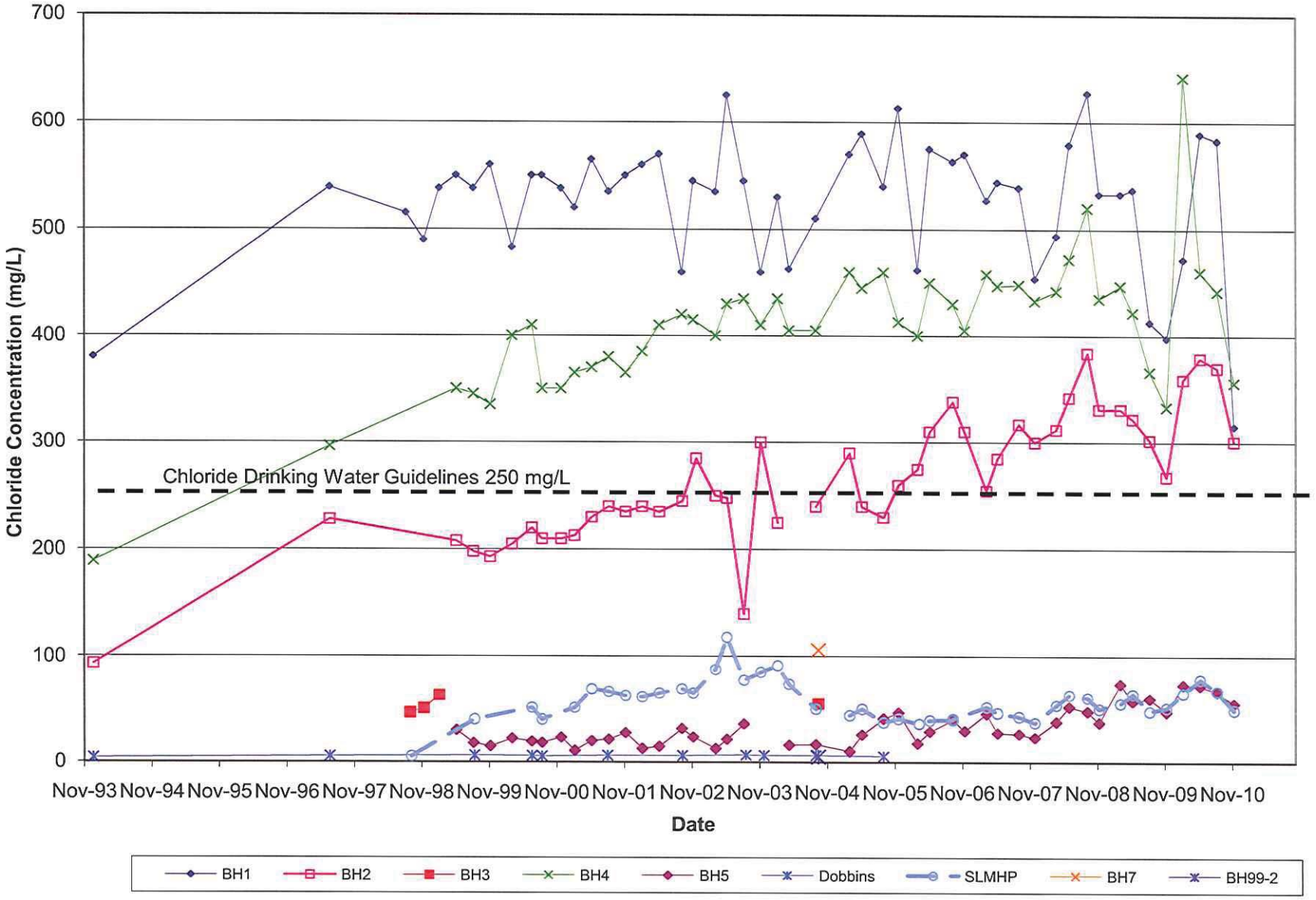
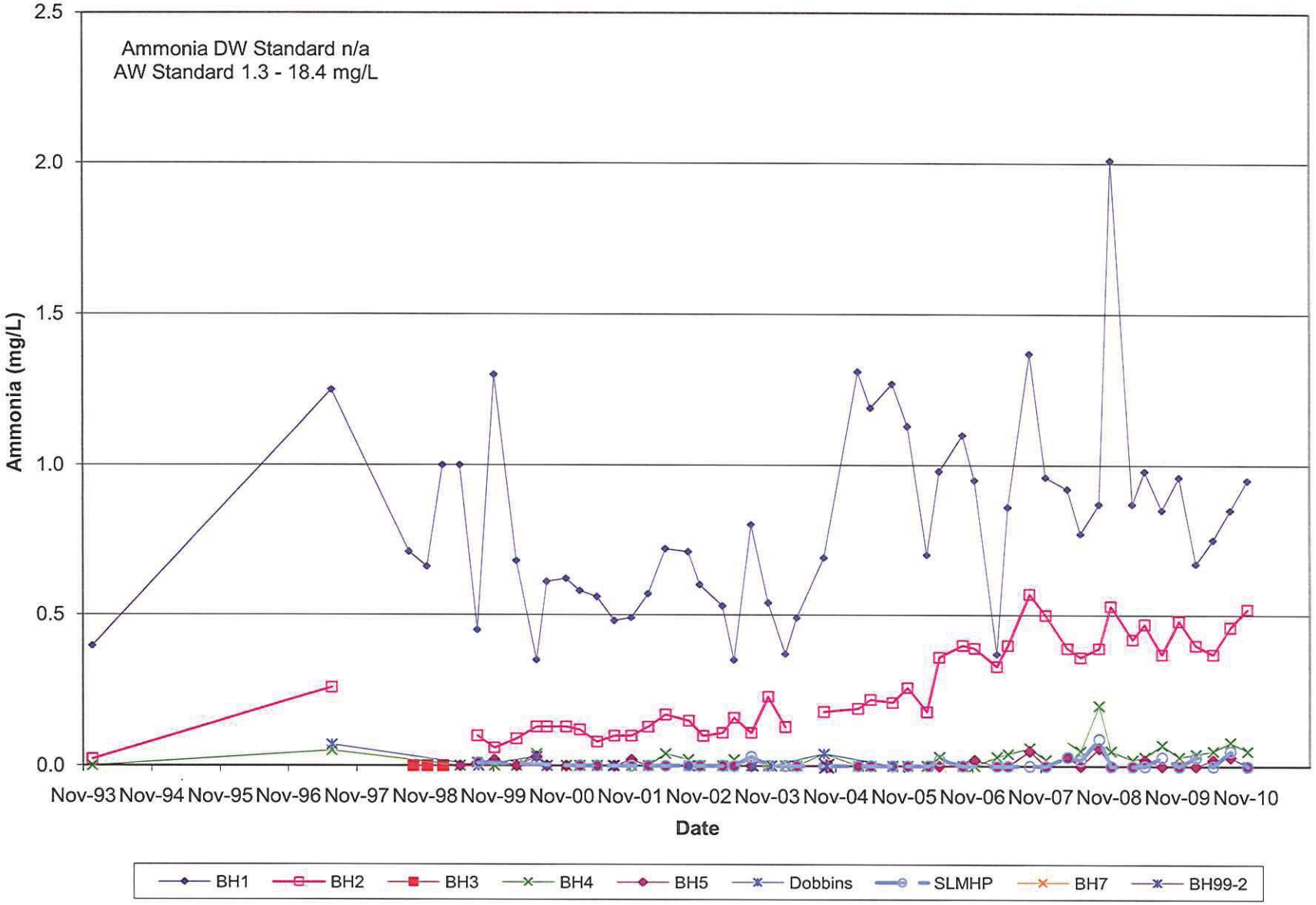
2010 Report Tables & AppA.xls [Cond.]

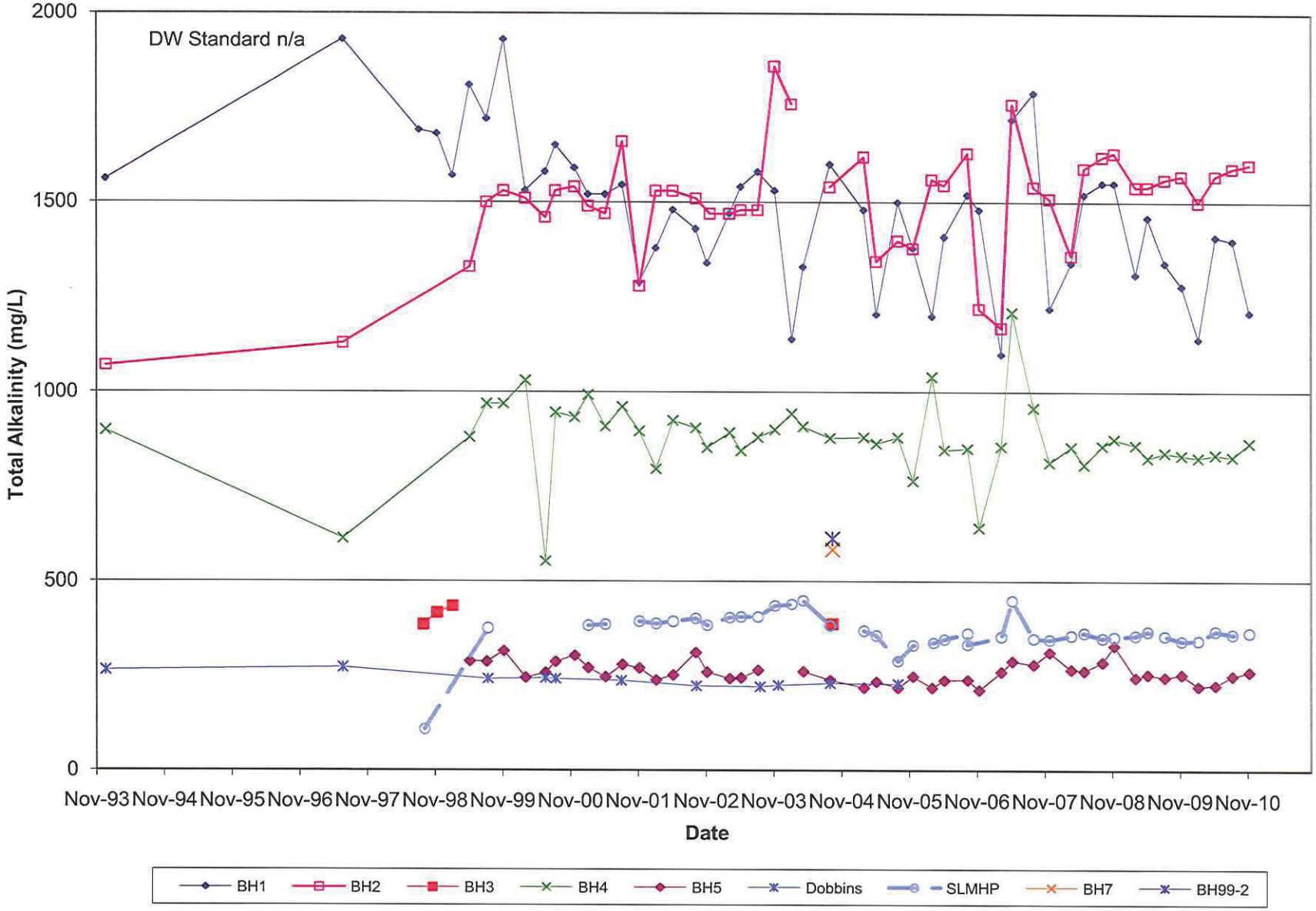
Chloride
Westside Landfill



Ammonia
Westside Landfill



Alkalinity
Westside Landfill



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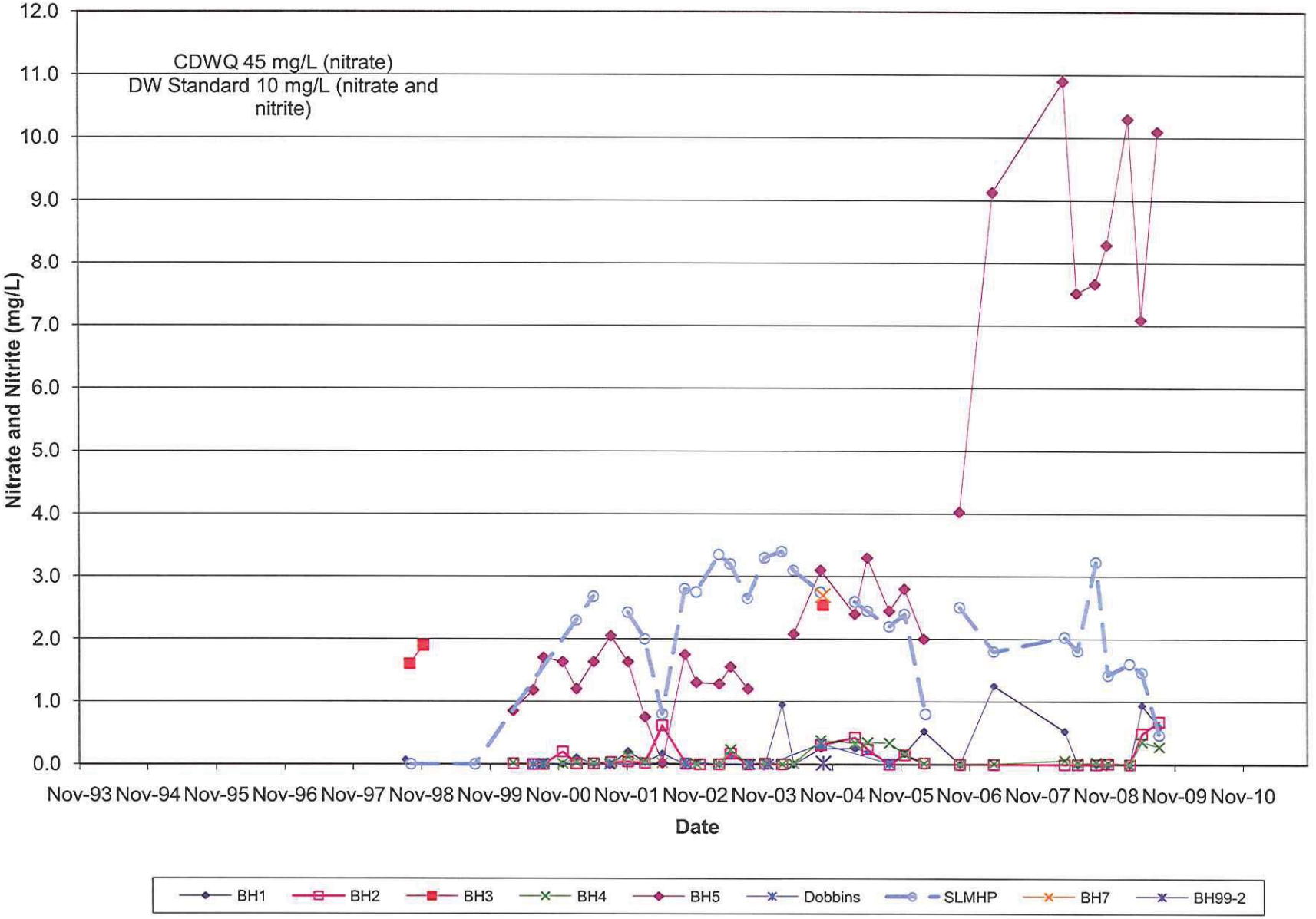
Nitrate and Nitrite
Westside Landfill



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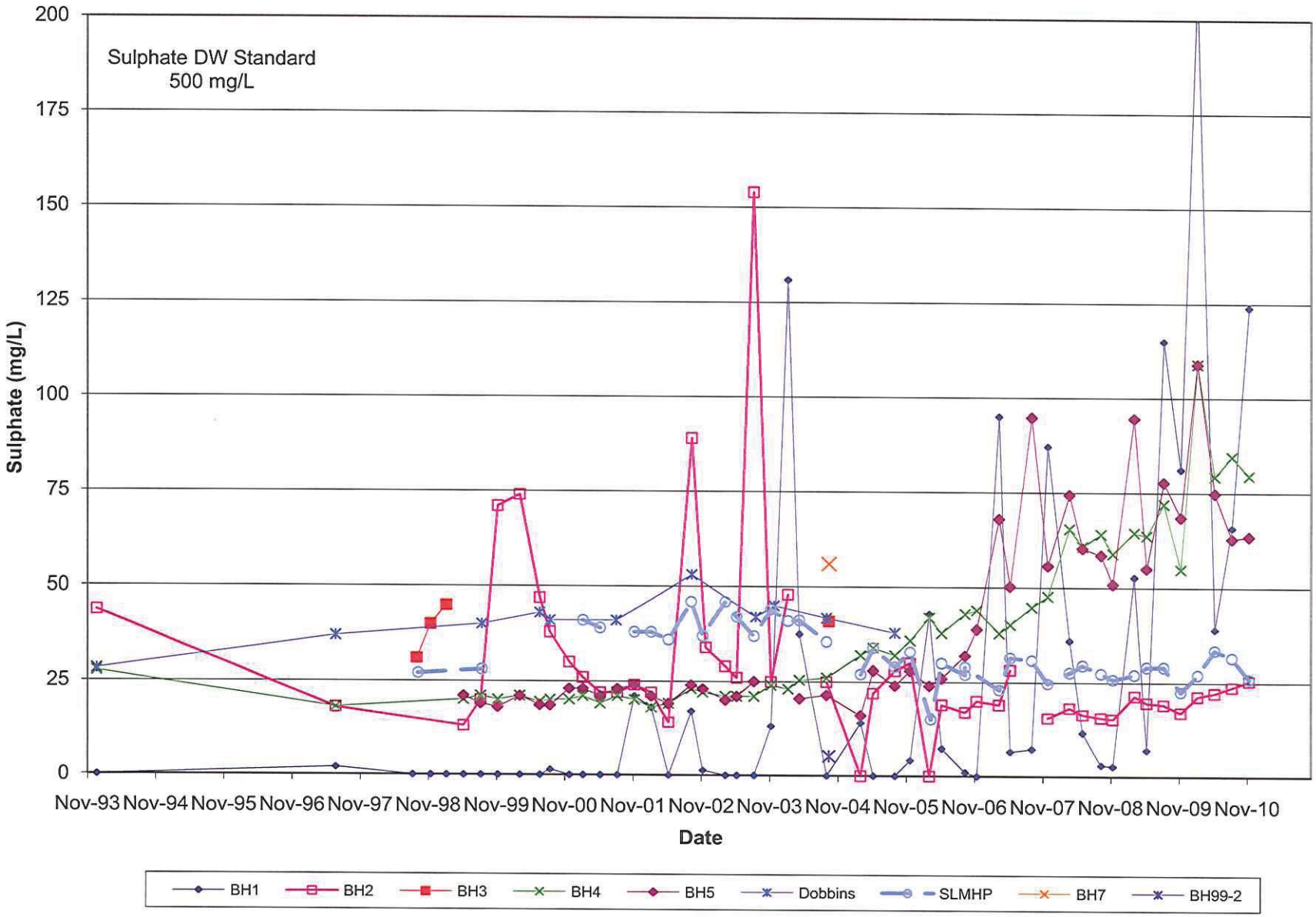
Sulphate
Westside Landfill



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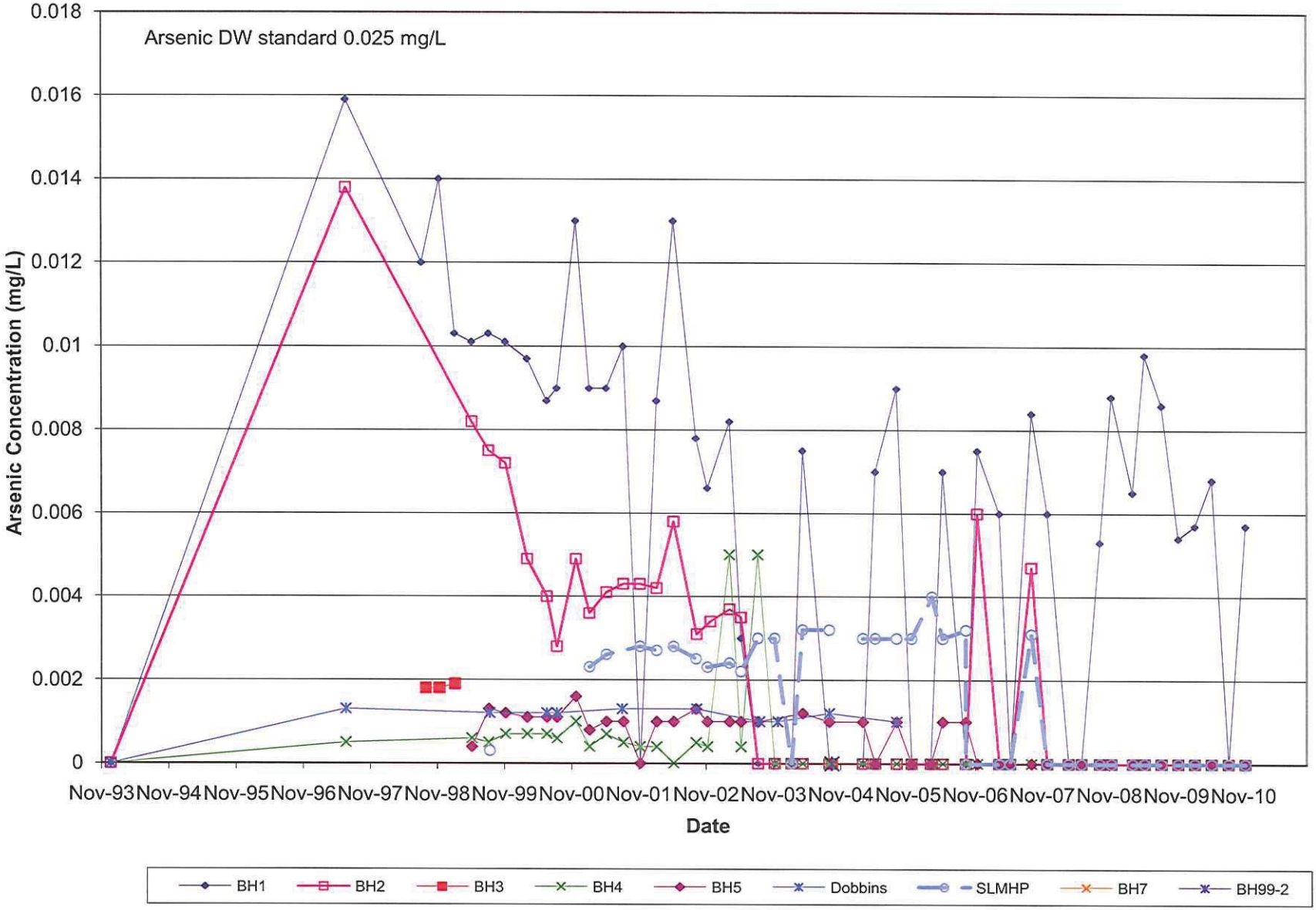
2010 Report Tables & AppA.xls [Sulph]

Arsenic
Westside Landfill



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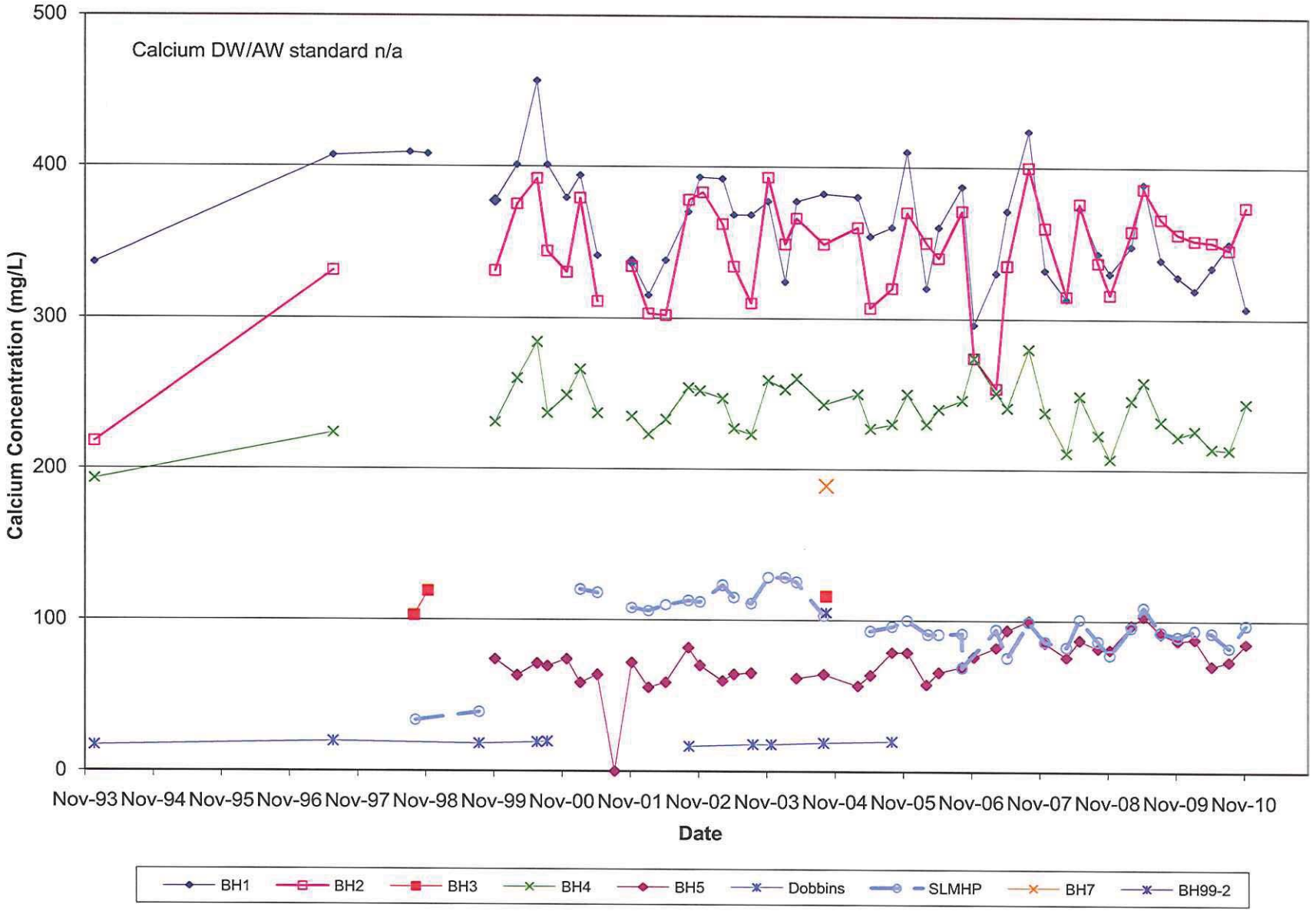
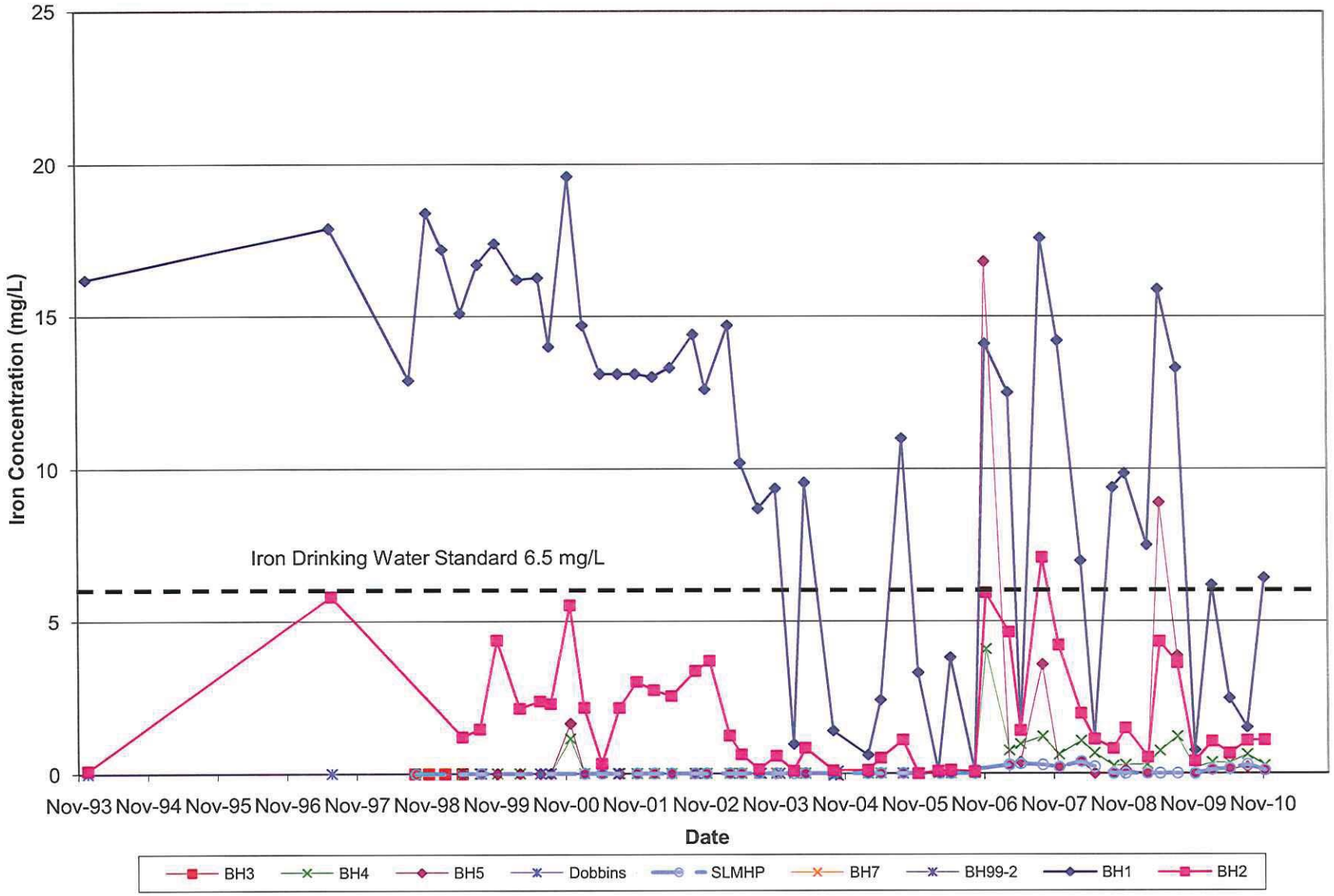
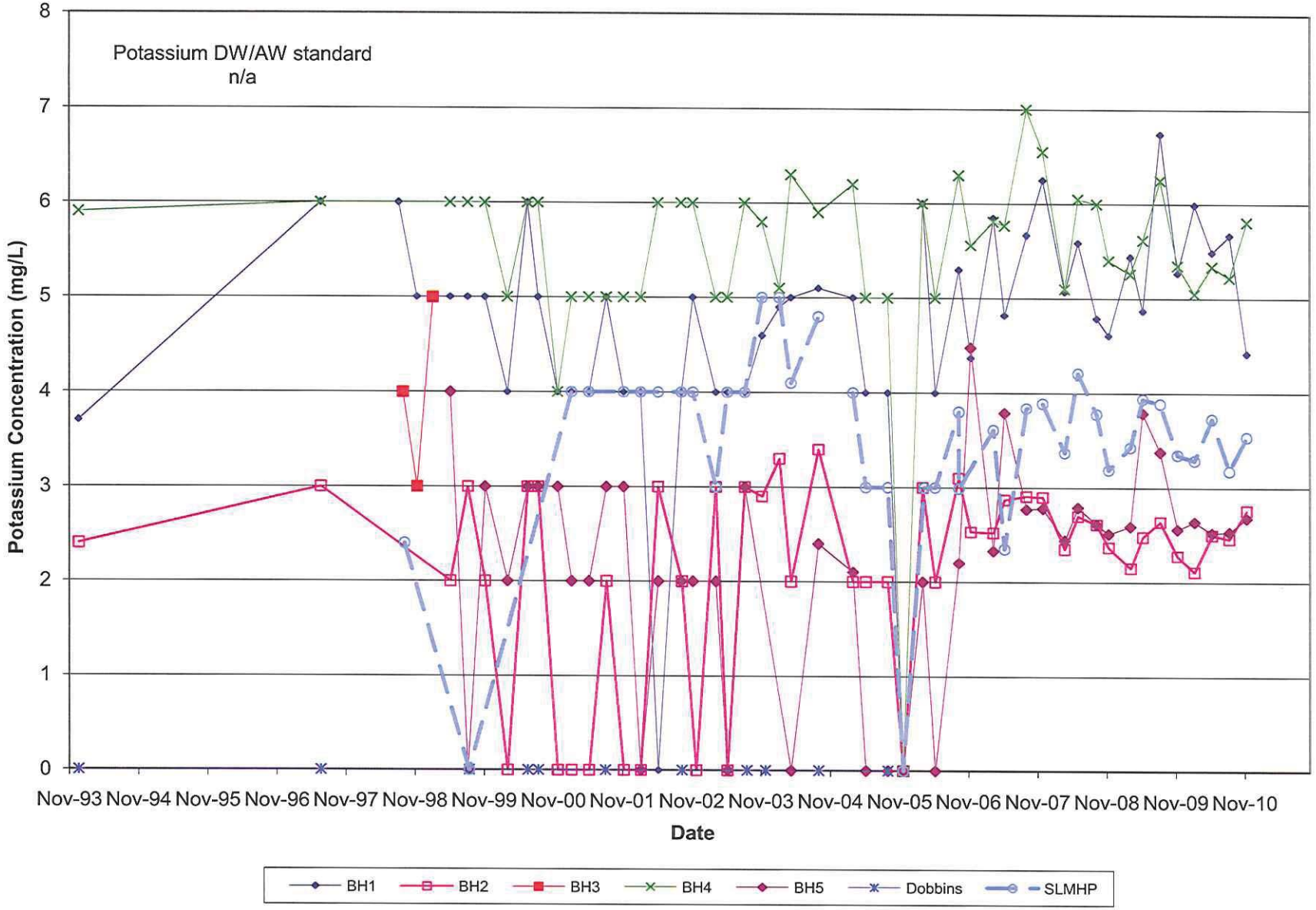
Calcium
Westside Landfill



Iron
Westside Landfill

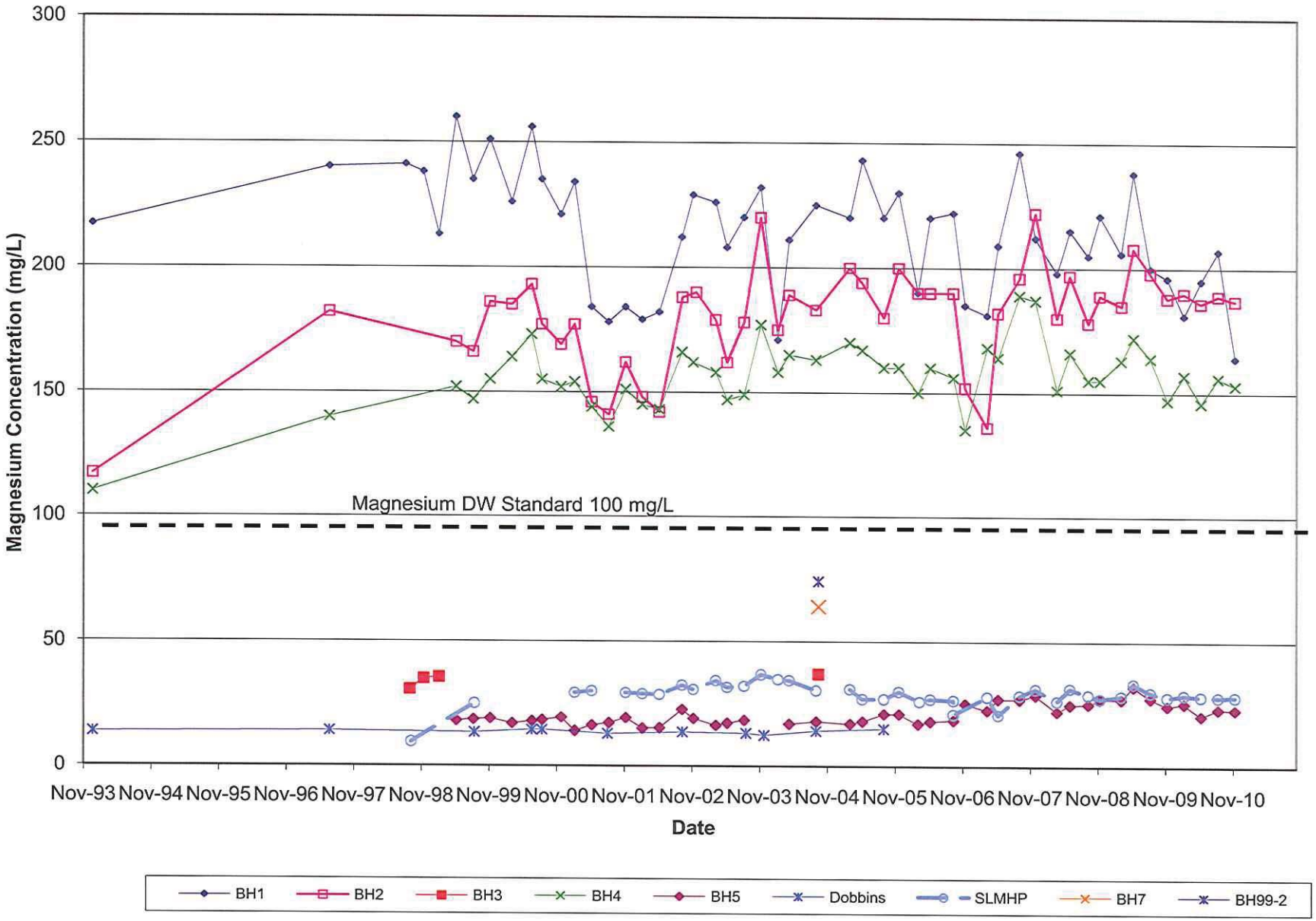


Potassium
Westside Landfill



Manganese
Westside Landfill

Magnesium
Westside Landfill



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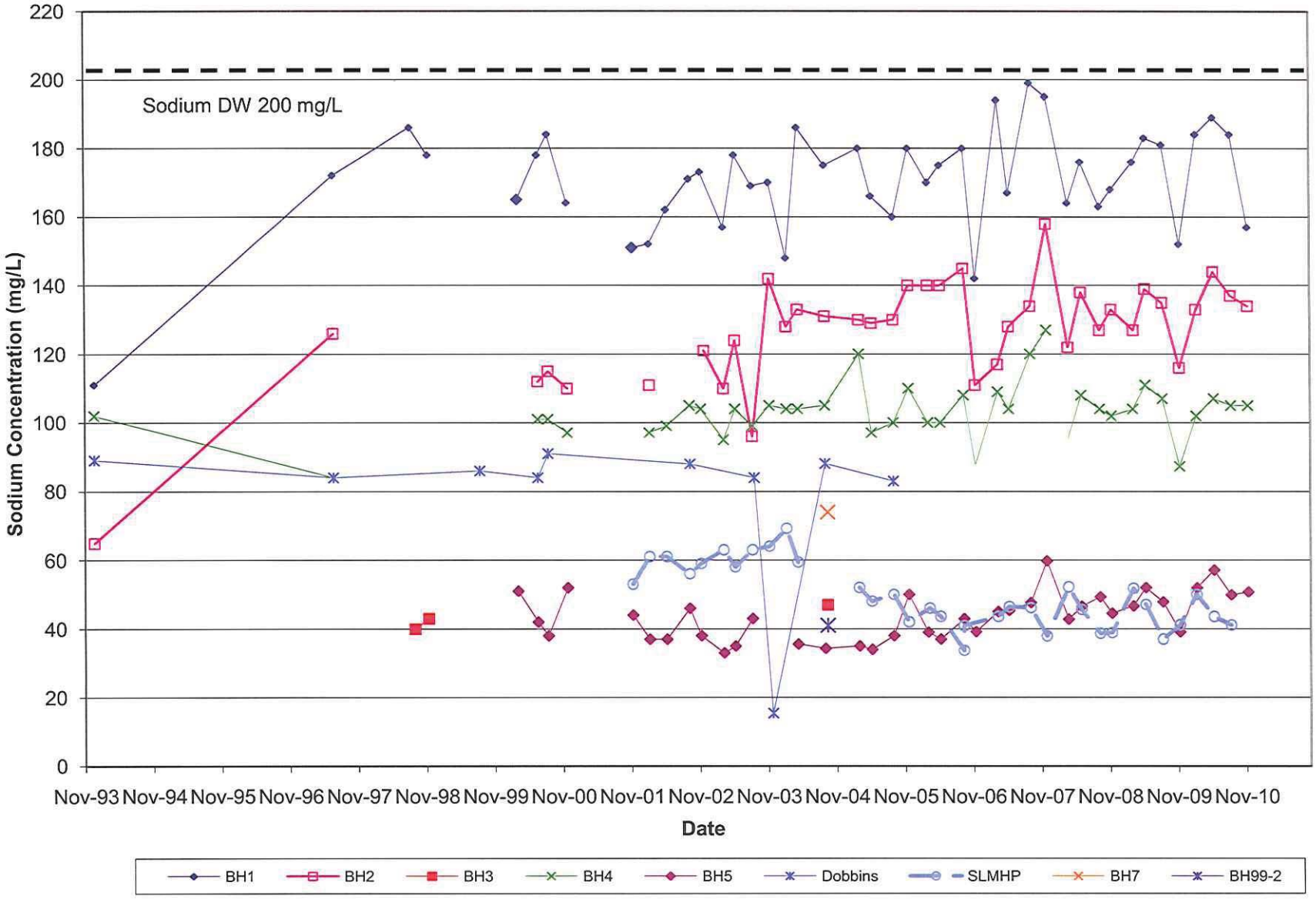
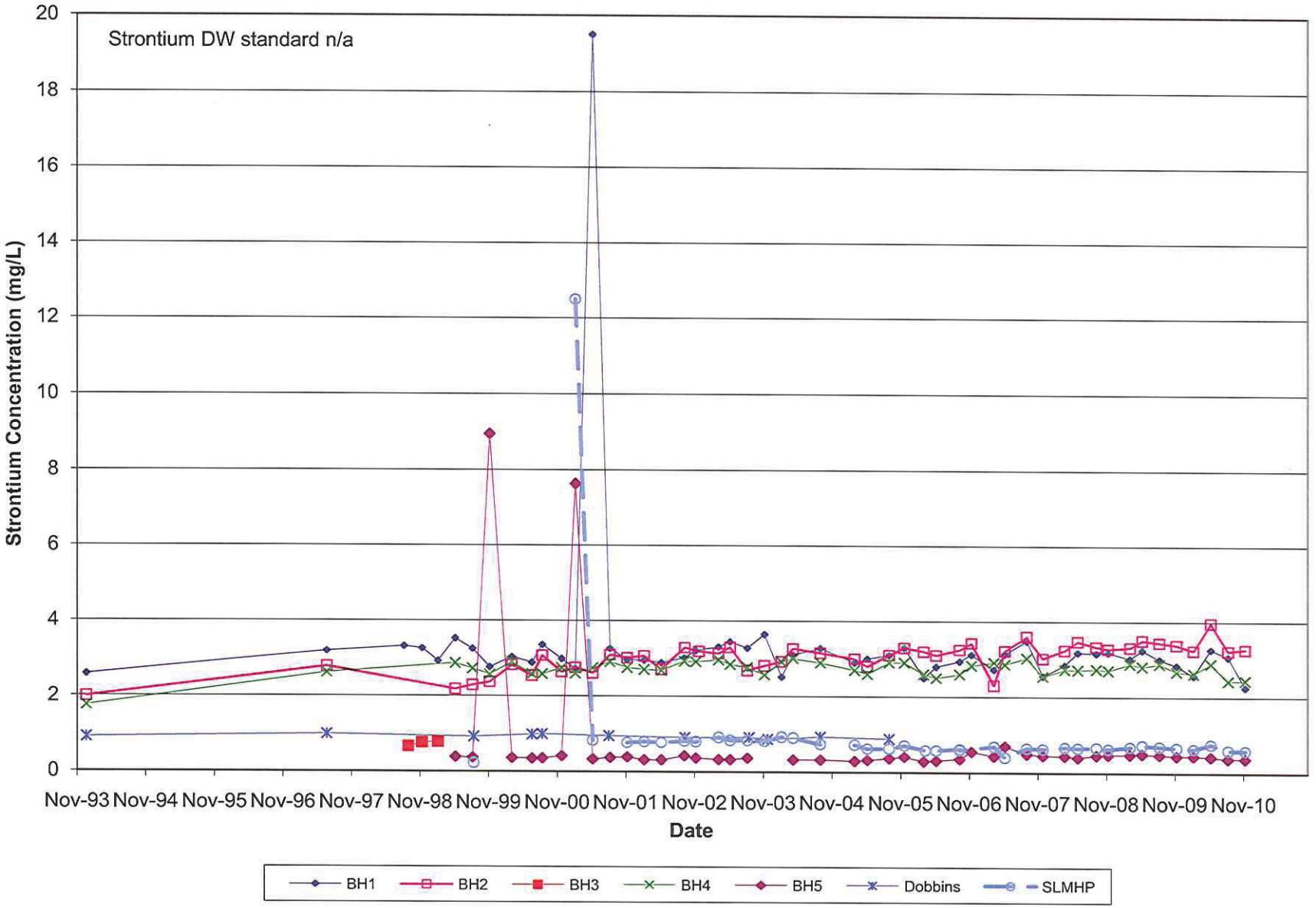
2010 Report Tables & AppA.xls [Mg]

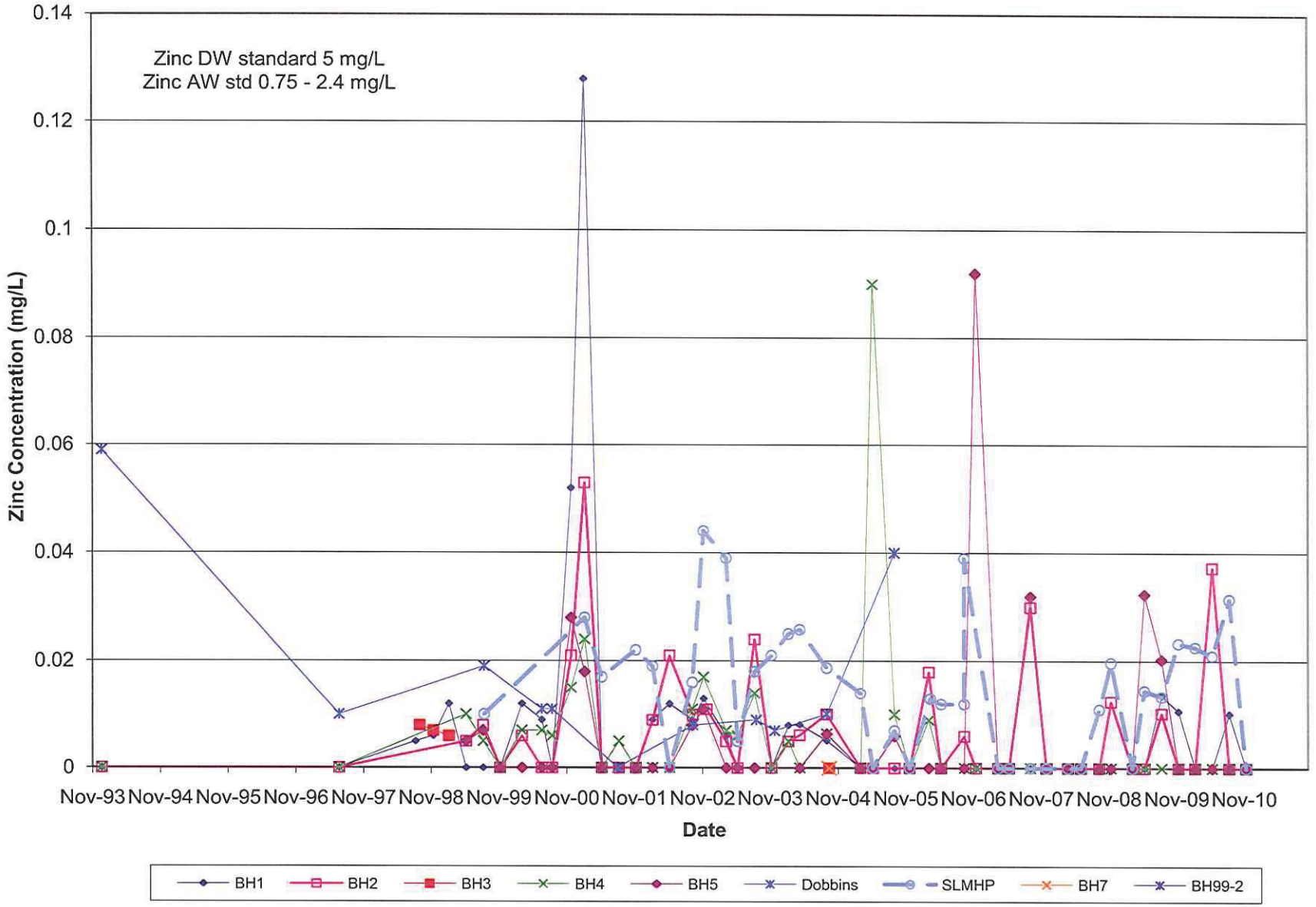
Sodium
Westside Landfill



Strontium
Westside Landfill



Zinc
Westside Landfill



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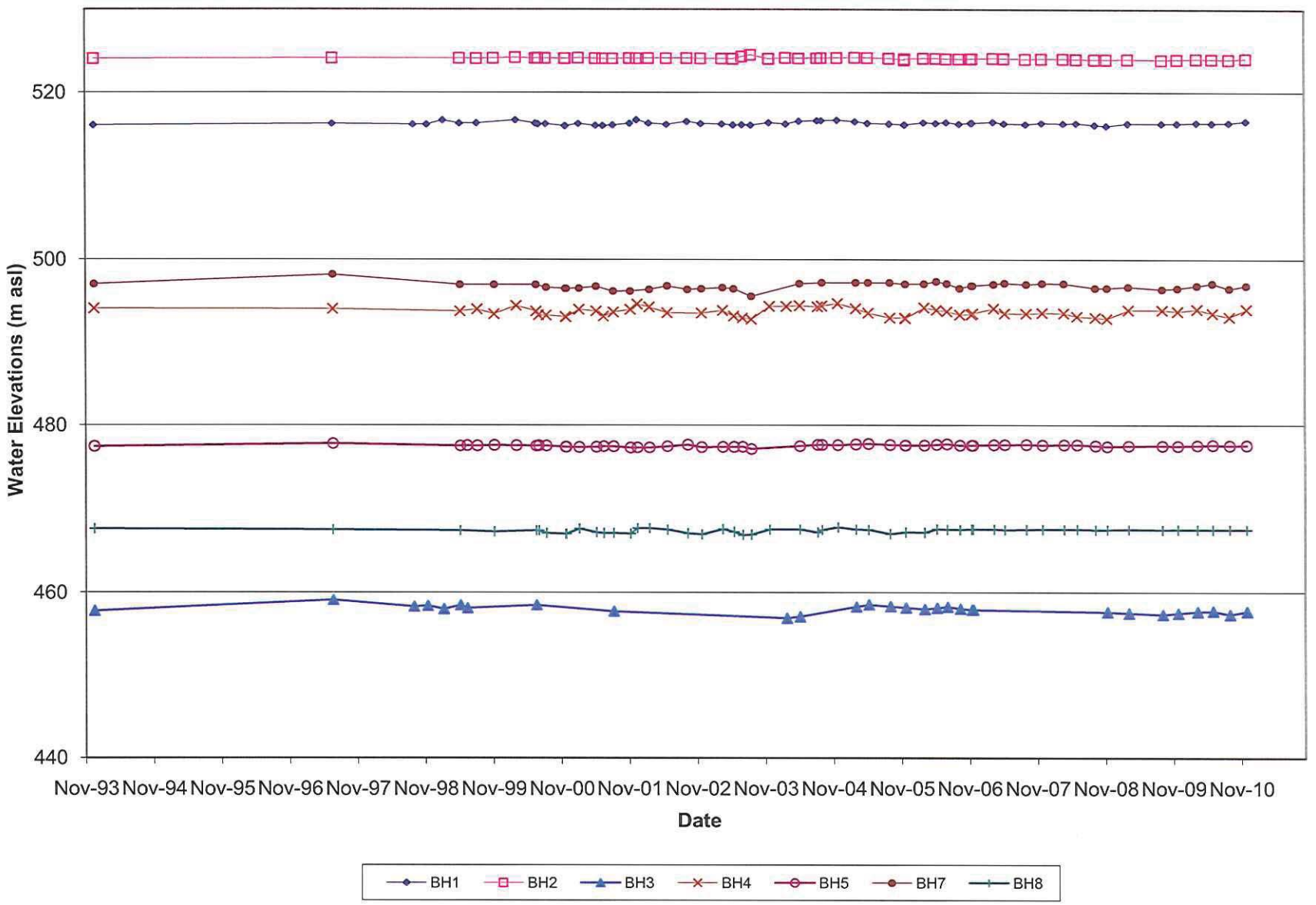
2010 Report Tables & AppA.xls [Zn]

Water Elevations
Westside Landfill



N:\Active\2004\1440 - Kelowna\04-1440-062 RDCO Westside Landfill\2010 Monitoring\Report\
2010 Report Tables & AppA.xls [Waterlevels]

APPENDIX B

Laboratory Reports

CERTIFICATE OF ANALYSIS

CLIENT	**Golder Associates Ltd.- Kelowna**		
	#220 - 1755 Springfield Road		
	KELOWNA BC	TEL	(250) 860-8424
	V1Y 5V5	FAX	(250) 860-9874
ATTENTION	**Al Robison**		

RECEIVED / TEMP	Mar-31-10 13:25 / 8.0 °C	**WORK ORDER**	K0C1001
REPORTED	Apr-09-10	**PROJECT**	Westside Landfill
COC #(s)	15599	**PROJECT INFO**	04-1440-062

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; and protocols published by the British Columbia Ministry of Environment (BCMOE).

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done 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 document. This analytical report must be reproduced in its entirity. 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.

- All solids results are reported on a dry weight basis unless otherwise noted

- Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
  mg/L = milligrams per litre, equivalent to parts per million (ppm)
  ug/L = micrograms per litre, equivalent to parts per billion (ppb)
  ug/g = micrograms per gram, equivalent to parts per million (ppm)
  ug/m3 = micrograms per cubic meter of air

- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = CARO - Richmond location, KEL = CARO - Kelowna location, SUB = Subcontracted

Please contact CARO if more information is needed.

CARO Analytical Services

Final Review Per: **Sarah Speier, B.Sc. For Ed Hoppe, B.Sc, P.Chem**
Laboratory Manager

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
General Parameters							
BH1 (K0C1001-01) Matrix: Water Sampled: Mar-31-10							
Alkalinity, Total as CaCO3	**1140**	1.0	mg/L	Apr-01-10	APHA 2320 B	KEL	
Chloride	**472**	2.50	mg/L	Mar-31-10	APHA 4110 B	KEL	
Conductivity (EC)	**3380**	5	uS/cm	Apr-01-10	APHA 2510 B	KEL	
Hardness, Total (Diss. as CaCO3)	**1540**	3	mg/L	Apr-08-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.67**	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.51**	0.05	mg/L	Mar-31-10	APHA 4110 B	KEL	
pH	**7.14**	0.10	pH Units	Apr-01-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2180**	5	mg/L	Apr-01-10	APHA 2540 C	KEL	
Sulfate	**209**	5.0	mg/L	Mar-31-10	APHA 4110 B	KEL	
BH2 (K0C1001-02) Matrix: Water Sampled: Mar-31-10							
Alkalinity, Total as CaCO3	**1500**	1.0	mg/L	Apr-01-10	APHA 2320 B	KEL	
Chloride	**359**	2.50	mg/L	Mar-31-10	APHA 4110 B	KEL	
Conductivity (EC)	**3330**	5	uS/cm	Apr-01-10	APHA 2510 B	KEL	
Hardness, Total (Diss. as CaCO3)	**1660**	3	mg/L	Apr-08-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.40**	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	<0.01	0.01	mg/L	Mar-31-10	APHA 4110 B	KEL	
pH	**7.35**	0.10	pH Units	Apr-01-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2880**	5	mg/L	Apr-06-10	APHA 2540 C	KEL	
Sulfate	**21.3**	5.0	mg/L	Mar-31-10	APHA 4110 B	KEL	
BH4 (K0C1001-03) Matrix: Water Sampled: Mar-31-10							
Alkalinity, Total as CaCO3	**826**	1.0	mg/L	Apr-01-10	APHA 2320 B	KEL	
Chloride	**642**	2.50	mg/L	Mar-31-10	APHA 4110 B	KEL	
Conductivity (EC)	**2690**	5	uS/cm	Apr-01-10	APHA 2510 B	KEL	
Hardness, Total (Diss. as CaCO3)	**1210**	3	mg/L	Apr-08-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.04**	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.82**	0.05	mg/L	Mar-31-10	APHA 4110 B	KEL	
pH	**7.50**	0.10	pH Units	Apr-01-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**149**	5	mg/L	Apr-06-10	APHA 2540 C	KEL	
Sulfate	**109**	25.0	mg/L	Mar-31-10	APHA 4110 B	KEL	
BH5 (K0C1001-04) Matrix: Water Sampled: Mar-31-10							
Alkalinity, Total as CaCO3	**224**	1.0	mg/L	Apr-01-10	APHA 2320 B	KEL	
Chloride	**73.3**	0.50	mg/L	Mar-31-10	APHA 4110 B	KEL	
Conductivity (EC)	**893**	5	uS/cm	Apr-01-10	APHA 2510 B	KEL	
Hardness, Total (Diss. as CaCO3)	**325**	3	mg/L	Apr-08-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	<0.02	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**9.09**	0.05	mg/L	Mar-31-10	APHA 4110 B	KEL	
pH	**7.91**	0.10	pH Units	Apr-01-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**565**	5	mg/L	Apr-06-10	APHA 2540 C	KEL	
Sulfate	**109**	5.0	mg/L	Mar-31-10	APHA 4110 B	KEL	
BHA (K0C1001-05) Matrix: Water Sampled: Mar-31-10							
Alkalinity, Total as CaCO3	**1130**	1.0	mg/L	Apr-08-10	APHA 2320 B	KEL	
Chloride	**472**	2.50	mg/L	Mar-31-10	APHA 4110 B	KEL	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

General Parameters, Continued

BHA (K0C1001-05) Matrix: Water Sampled: Mar-31-10, Continued

Conductivity (EC)	**3220**	5	uS/cm	Apr-03-10	APHA 2510 B	KEL
Hardness, Total (Diss. as CaCO3)	**1540**	3	mg/L	Apr-08-10	APHA 2340 B	RMD
Nitrogen, Ammonia as N	**0.72**	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL
Nitrogen, Nitrate as N	**0.50**	0.05	mg/L	Mar-31-10	APHA 4110 B	KEL
pH	**7.27**	0.10	pH Units	Apr-03-10	APHA 4500-H+	KEL
Solids, Total Dissolved	**2260**	5	mg/L	Apr-06-10	APHA 2540 C	KEL
Sulfate	**198**	5.0	mg/L	Mar-31-10	APHA 4110 B	KEL

SLMHP (K0C1001-06) Matrix: Water Sampled: Mar-31-10

Alkalinity, Total as CaCO3	**345**	1.0	mg/L	Apr-07-10	APHA 2320 B	KEL
Chloride	**65.1**	0.50	mg/L	Mar-31-10	APHA 4110 B	KEL
Conductivity (EC)	**862**	5	uS/cm	Apr-03-10	APHA 2510 B	KEL
Hardness, Total (Diss. as CaCO3)	**353**	3	mg/L	Apr-08-10	APHA 2340 B	RMD
Nitrogen, Ammonia as N	**0.03**	0.02	mg/L	Mar-31-10	APHA 4500-NH3 G	KEL
Nitrogen, Nitrate as N	**1.90**	0.05	mg/L	Mar-31-10	APHA 4110 B	KEL
pH	**7.94**	0.10	pH Units	Apr-03-10	APHA 4500-H+	KEL
Solids, Total Dissolved	**519**	5	mg/L	Apr-06-10	APHA 2540 C	KEL
Sulfate	**27.1**	5.0	mg/L	Mar-31-10	APHA 4110 B	KEL

Dissolved Metals by ICPMS

BH1 (K0C1001-01) Matrix: Water Sampled: Mar-31-10

Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Arsenic	**0.0057**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Barium	**0.0608**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Boron	**1.70**	0.040	mg/L	Apr-08-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD
Calcium	**319**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Cobalt	**0.00395**	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Copper	**0.0090**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Iron	**6.20**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Lithium	**0.0299**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Magnesium	**181**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Manganese	**4.92**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Molybdenum	**0.0016**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Nickel	**0.0407**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD
Potassium	**5.99**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD
Silicon	**39.4**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH1 (K0C1001-01) Matrix: Water Sampled: Mar-31-10, Continued

Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Sodium	**184**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Strontium	**2.58**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Uranium	**0.00401**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zirconium	**0.0039**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD

BH2 (K0C1001-02) Matrix: Water Sampled: Mar-31-10

Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Barium	**0.0186**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Boron	**0.429**	0.040	mg/L	Apr-08-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD
Calcium	**352**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Cobalt	**0.00313**	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Copper	**0.0034**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Iron	**1.05**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Lithium	**0.0223**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Magnesium	**190**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Manganese	**9.72**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Molybdenum	**0.0041**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Nickel	**0.0386**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD
Potassium	**2.11**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD
Silicon	**29.7**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Sodium	**133**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Strontium	**3.24**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
BH2 (K0C1001-02) Matrix: Water Sampled: Mar-31-10, Continued							
Uranium	**0.00497**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zirconium	**0.0044**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
BH4 (K0C1001-03) Matrix: Water Sampled: Mar-31-10							
Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Barium	**0.0607**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Boron	**0.361**	0.040	mg/L	Apr-08-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD	
Calcium	**226**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Cobalt	**0.00202**	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Copper	**0.0049**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Iron	**0.357**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Lithium	**0.0356**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Magnesium	**157**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Manganese	**0.632**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Molybdenum	**0.0048**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Nickel	**0.0368**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD	
Potassium	**5.05**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD	
Silicon	**10.1**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Sodium	**102**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Strontium	**2.63**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD	
Uranium	**0.0389**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
BH5 (K0C1001-04) Matrix: Water Sampled: Mar-31-10							
Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
BH5 (K0C1001-04) Matrix: Water Sampled: Mar-31-10, Continued							
Arsenic	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Barium	**0.0183**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Boron	<0.040	0.040	mg/L	Apr-08-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD	
Calcium	**88.2**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Cobalt	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Copper	**0.0017**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Iron	**0.105**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Lithium	**0.0156**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Magnesium	**25.4**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Manganese	**0.0021**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Molybdenum	**0.0095**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Nickel	**0.0022**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD	
Potassium	**2.64**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD	
Silicon	**12.9**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD	
Sodium	**51.9**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD	
Strontium	**0.446**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD	
Uranium	**0.00772**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
BHA (K0C1001-05) Matrix: Water Sampled: Mar-31-10							
Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Arsenic	**0.0051**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Barium	**0.0578**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD	
Boron	**1.67**	0.040	mg/L	Apr-08-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD	
Calcium	**311**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BHA (K0C1001-05) Matrix: Water Sampled: Mar-31-10, Continued

Cobalt	**0.00406**	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Copper	**0.0073**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Iron	**5.61**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Lithium	**0.0261**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Magnesium	**184**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Manganese	**4.80**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Molybdenum	**0.0016**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Nickel	**0.0401**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD
Potassium	**5.91**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD
Silicon	**31.2**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Sodium	**183**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Strontium	**2.62**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Uranium	**0.00387**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zirconium	**0.0037**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD

SLMHP (K0C1001-06) Matrix: Water Sampled: Mar-31-10

Aluminum	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Barium	**0.0119**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Boron	<0.040	0.040	mg/L	Apr-08-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Apr-08-10	EPA 6020A	RMD
Calcium	**93.8**	1.00	mg/L	Apr-08-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Cobalt	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Copper	**0.0464**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Iron	**0.120**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Lead	**0.0027**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Lithium	**0.0162**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Magnesium	**28.8**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Manganese	**0.0053**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

SLMHP (K0C1001-06) Matrix: Water Sampled: Mar-31-10, Continued

Molybdenum	**0.0028**	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Nickel	**0.0026**	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Apr-08-10	EPA 6020A	RMD
Potassium	**3.29**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Apr-08-10	EPA 6020A	RMD
Silicon	**14.0**	2.00	mg/L	Apr-08-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Apr-08-10	EPA 6020A	RMD
Sodium	**41.2**	0.100	mg/L	Apr-08-10	EPA 6020A	RMD
Strontium	**0.642**	0.0050	mg/L	Apr-08-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Apr-08-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Apr-08-10	EPA 6020A	RMD
Uranium	**0.00589**	0.00020	mg/L	Apr-08-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zinc	**0.0226**	0.0100	mg/L	Apr-08-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Apr-08-10	EPA 6020A	RMD

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

The following section reports quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with quality control 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 for.

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	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Dissolved Metals by ICPMS, Batch R000770

Blank (R000770-BLK1)				Analyzed: Apr-08-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							

Blank (R000770-BLK2)				Analyzed: Apr-08-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Dissolved Metals by ICPMS, Batch R000770, Continued

Blank (R000770-BLK2), Continued — Analyzed: Apr-08-10

Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							

Duplicate (R000770-DUP1) — **Source: K0C1001-05** — Analyzed: Apr-08-10

Aluminum	<	0.05	mg/L	<					20	
Antimony	<	0.001	mg/L	<					20	
Arsenic	0.006	0.005	mg/L	0.005					20	
Barium	0.06	0.005	mg/L	0.06				3	20	
Beryllium	<	0.001	mg/L	<					20	
Bismuth	<	0.001	mg/L	<					20	
Boron	2	0.04	mg/L	2				0.7	20	
Cadmium	<	0.0001	mg/L	<					20	
Calcium	322	1	mg/L	311				3	20	
Chromium	<	0.005	mg/L	<					20	
Cobalt	0.004	0.0005	mg/L	0.004				0.7	20	
Copper	0.007	0.001	mg/L	0.007				3	20	
Iron	6	0.1	mg/L	6				2	20	
Lead	<	0.001	mg/L	<					20	
Lithium	0.03	0.001	mg/L	0.03				10	20	
Magnesium	183	0.1	mg/L	184				0.3	20	
Manganese	4.9	0.002	mg/L	4.8				2	20	
Mercury	<	0.0005	mg/L	<					20	
Molybdenum	0.002	0.001	mg/L	0.002					20	
Nickel	0.04	0.002	mg/L	0.04				2	20	
Phosphorus	<	0.2	mg/L	<					20	
Potassium	6	0.1	mg/L	6				0.2	20	
Selenium	<	0.003	mg/L	<					20	
Silicon	42	2	mg/L	31				29	20	
Silver	<	0.0005	mg/L	<					20	
Sodium	180	0.1	mg/L	183				1	20	
Strontium	2.6	0.005	mg/L	2.6				2	20	
Tellurium	<	0.002	mg/L	<					20	
Thallium	<	0.0002	mg/L	<					20	
Thorium	<	0.001	mg/L	<					20	

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R000770, Continued										
Duplicate (R000770-DUP1), Continued		**Source: K0C1001-05**		Analyzed: Apr-08-10						
Tin	<	0.002	mg/L		<				20	
Titanium	<	0.05	mg/L		<				20	
Uranium	0.004	0.0002	mg/L		0.004			5	20	
Vanadium	<	0.01	mg/L		<				20	
Zinc	<	0.01	mg/L		<				20	
Zirconium	0.004	0.001	mg/L		0.004				20	
Matrix Spike (R000770-MS1)		**Source: K0C1001-06**		Analyzed: Apr-08-10						
Antimony	0.4	0.001	mg/L	0.400	<	95	81-114			
Arsenic	0.2	0.005	mg/L	0.200	<	96	89-115			
Barium	1.0	0.005	mg/L	1.00	0.01	95	86-115			
Beryllium	0.4	0.001	mg/L	0.400	<	99	77-124			
Cadmium	0.10	0.0001	mg/L	0.100	<	101	82-126			
Chromium	0.4	0.005	mg/L	0.400	<	95	85-117			
Cobalt	0.38	0.0005	mg/L	0.400	<	95	76-131			
Copper	0.5	0.001	mg/L	0.400	0.05	101	88-113			
Iron	2	0.1	mg/L	2.00	0.1	100	80-115			
Lead	0.2	0.001	mg/L	0.200	0.003	105	84-121			
Manganese	0.4	0.002	mg/L	0.400	0.005	104	75-135			
Nickel	0.4	0.002	mg/L	0.400	0.003	97	83-121			
Selenium	0.1	0.003	mg/L	0.100	<	98	91-122			
Silver	0.09	0.0005	mg/L	0.100	<	91	74-120			
Thallium	0.10	0.0002	mg/L	0.100	<	100	79-119			
Vanadium	0.2	0.01	mg/L	0.200	<	91	80-115			
Zinc	1.0	0.01	mg/L	1.00	0.02	99	89-123			
Reference (R000770-SRM1)				Analyzed: Apr-08-10						
Aluminum	0.2	0.05	mg/L	0.209		107	80-120			
Antimony	0.04	0.001	mg/L	0.0400		93	80-120			
Arsenic	0.4	0.005	mg/L	0.400		90	80-120			
Barium	3.0	0.005	mg/L	3.12		97	80-120			
Beryllium	0.2	0.001	mg/L	0.197		103	80-120			
Boron	2	0.04	mg/L	1.61		93	80-120			
Cadmium	0.19	0.0001	mg/L	0.200		97	80-120			
Calcium	7	1	mg/L	6.50		112	80-120			
Chromium	0.4	0.005	mg/L	0.401		99	80-120			
Cobalt	0.12	0.0005	mg/L	0.119		99	80-120			
Copper	0.8	0.001	mg/L	0.781		102	80-120			
Iron	1	0.1	mg/L	1.17		100	80-120			
Lead	0.1	0.001	mg/L	0.102		105	80-120			
Lithium	0.1	0.001	mg/L	0.0960		104	80-120			
Magnesium	7	0.1	mg/L	6.11		108	80-120			
Manganese	0.3	0.002	mg/L	0.318		104	80-120			
Molybdenum	0.4	0.001	mg/L	0.387		99	80-120			
Nickel	0.8	0.002	mg/L	0.789		102	80-120			
Phosphorus	0.4	0.2	mg/L	0.448		84	70-130			
Potassium	3	0.1	mg/L	2.84		91	80-120			
Selenium	0.03	0.003	mg/L	0.0300		97	80-120			
Sodium	17	0.1	mg/L	17.4		100	80-120			
Strontium	1.0	0.005	mg/L	0.979		98	80-120			
Thallium	0.04	0.0002	mg/L	0.0350		110	80-120			
Uranium	0.20	0.0002	mg/L	0.244		82	60-140			
Vanadium	0.8	0.01	mg/L	0.798		95	80-120			
Zinc	0.8	0.01	mg/L	0.800		95	80-120			
Reference (R000770-SRM2)				Analyzed: Apr-08-10						
Aluminum	0.2	0.05	mg/L	0.209		116	80-120			
Antimony	0.04	0.001	mg/L	0.0400		98	80-120			
Arsenic	0.4	0.005	mg/L	0.400		94	80-120			
Barium	3.2	0.005	mg/L	3.12		103	80-120			
Beryllium	0.2	0.001	mg/L	0.197		109	80-120			
Boron	2	0.04	mg/L	1.61		95	80-120			
Cadmium	0.21	0.0001	mg/L	0.200		104	80-120			

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R000770, Continued										
Reference (R000770-SRM2), Continued				Analyzed: Apr-08-10						
Calcium	8	1	mg/L	6.50		117	80-120			
Chromium	0.4	0.005	mg/L	0.401		105	80-120			
Cobalt	0.12	0.0005	mg/L	0.119		103	80-120			
Copper	0.8	0.001	mg/L	0.781		107	80-120			
Iron	1	0.1	mg/L	1.17		106	80-120			
Lead	0.1	0.001	mg/L	0.102		108	80-120			
Lithium	0.1	0.001	mg/L	0.0960		106	80-120			
Magnesium	7	0.1	mg/L	6.11		115	80-120			
Manganese	0.3	0.002	mg/L	0.318		109	80-120			
Molybdenum	0.4	0.001	mg/L	0.387		104	80-120			
Nickel	0.8	0.002	mg/L	0.789		107	80-120			
Phosphorus	0.4	0.2	mg/L	0.448		87	70-130			
Potassium	3	0.1	mg/L	2.84		94	80-120			
Selenium	0.03	0.003	mg/L	0.0300		109	80-120			
Sodium	19	0.1	mg/L	17.4		106	80-120			
Strontium	1.0	0.005	mg/L	0.979		103	80-120			
Thallium	0.04	0.0002	mg/L	0.0350		111	80-120			
Uranium	0.20	0.0002	mg/L	0.244		83	60-140			
Vanadium	0.8	0.01	mg/L	0.798		99	80-120			
Zinc	0.8	0.01	mg/L	0.800		101	80-120			
General Parameters, Batch K001077										
Blank (K001077-BLK1)				Analyzed: Mar-31-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K001077-BLK2)				Analyzed: Mar-31-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K001077-BLK3)				Analyzed: Mar-31-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K001077-BLK4)				Analyzed: Mar-31-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
LCS (K001077-BS1)				Analyzed: Mar-31-10						
Chloride	4.17	0.10	mg/L	4.00		104	85-115			
Nitrogen, Nitrate as N	4.05	0.01	mg/L	4.00		101	85-115			
Sulfate	4.1	1.0	mg/L	4.00		102	85-115			
LCS (K001077-BS2)				Analyzed: Mar-31-10						
Chloride	3.98	0.10	mg/L	4.00		99	85-115			
Nitrogen, Nitrate as N	4.02	0.01	mg/L	4.00		101	85-115			
Sulfate	4.0	1.0	mg/L	4.00		100	85-115			
LCS (K001077-BS3)				Analyzed: Mar-31-10						
Chloride	4.22	0.10	mg/L	4.00		105	85-115			
Nitrogen, Nitrate as N	3.94	0.01	mg/L	4.00		98	85-115			
Sulfate	4.0	1.0	mg/L	4.00		100	85-115			
LCS (K001077-BS4)				Analyzed: Mar-31-10						
Chloride	3.97	0.10	mg/L	4.00		99	85-115			
Nitrogen, Nitrate as N	4.07	0.01	mg/L	4.00		102	85-115			
Sulfate	4.0	1.0	mg/L	4.00		101	85-115			

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K001079										
Blank (K001079-BLK1)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	5	uS/cm							
Blank (K001079-BLK2)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	5	uS/cm							
Blank (K001079-BLK3)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	5	uS/cm							
Blank (K001079-BLK4)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	5	uS/cm							
Blank (K001079-BLK5)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	5	uS/cm							
LCS (K001079-BS1)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	98.5	1.0	mg/L	100		98	85-115			
LCS (K001079-BS2)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	100	1.0	mg/L	100		100	85-115			
LCS (K001079-BS3)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	97.3	1.0	mg/L	100		97	85-115			
LCS (K001079-BS4)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	98.3	1.0	mg/L	100		98	85-115			
LCS (K001079-BS5)				Analyzed: Mar-31-10						
Alkalinity, Total as CaCO3	98.4	1.0	mg/L	100		98	85-115			
LCS (K001079-BS6)				Analyzed: Mar-31-10						
Conductivity (EC)	1400	5	uS/cm	1410		99	95-105			
LCS (K001079-BS7)				Analyzed: Mar-31-10						
Conductivity (EC)	1390	5	uS/cm	1410		99	95-105			
LCS (K001079-BS8)				Analyzed: Mar-31-10						
Conductivity (EC)	1410	5	uS/cm	1410		100	95-105			
LCS (K001079-BS9)				Analyzed: Mar-31-10						
Conductivity (EC)	1400	5	uS/cm	1410		100	95-105			
LCS (K001079-BSA)				Analyzed: Mar-31-10						
Conductivity (EC)	1420	5	uS/cm	1410		101	95-105			
Reference (K001079-SRM1)				Analyzed: Mar-31-10						
pH	7.03	0.10	pH Units	7.00		100	98-102			
Reference (K001079-SRM2)				Analyzed: Mar-31-10						
pH	7.01	0.10	pH Units	7.00		100	98-102			
Reference (K001079-SRM3)				Analyzed: Mar-31-10						
pH	7.03	0.10	pH Units	7.00		100	98-102			

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K001079, Continued										
Reference (K001079-SRM4)				Analyzed: Mar-31-10						
pH	7.01	0.10	pH Units	7.00		100	98-102			
Reference (K001079-SRM5)				Analyzed: Mar-31-10						
pH	7.00	0.10	pH Units	7.00		100	98-102			
General Parameters, Batch K001081										
Blank (K001081-BLK1)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
Blank (K001081-BLK2)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
Blank (K001081-BLK3)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
Blank (K001081-BLK4)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
Blank (K001081-BLK5)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
Blank (K001081-BLK6)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	<	0.01	mg/L							
LCS (K001081-BS1)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	10.1	0.01	mg/L	10.0		101	80-120			
LCS (K001081-BS2)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	10.2	0.01	mg/L	10.0		102	80-120			
LCS (K001081-BS3)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	9.09	0.01	mg/L	10.0		91	80-120			
LCS (K001081-BS4)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	8.69	0.01	mg/L	10.0		87	80-120			
LCS (K001081-BS5)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	9.71	0.01	mg/L	10.0		97	80-120			
LCS (K001081-BS6)				Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	10.5	0.01	mg/L	10.0		105	80-120			
Duplicate (K001081-DUP4)	**Source: K0C1001-01**			Analyzed: Mar-31-10						
Nitrogen, Ammonia as N	0.63	0.01	mg/L		0.67			5	20	
General Parameters, Batch K001101										
Blank (K001101-BLK1)				Analyzed: Apr-01-10						
Solids, Total Dissolved	<	5	mg/L							
Blank (K001101-BLK2)				Analyzed: Apr-01-10						
Solids, Total Dissolved	<	5	mg/L							
Reference (K001101-SRM1)				Analyzed: Apr-01-10						
Solids, Total Dissolved	243	5	mg/L	240		101	85-115			
Reference (K001101-SRM2)				Analyzed: Apr-01-10						
Solids, Total Dissolved	246	5	mg/L	240		102	85-115			

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K001102										
Blank (K001102-BLK1)				Analyzed: Apr-03-10						
Conductivity (EC)	<	5	uS/cm							
Blank (K001102-BLK2)				Analyzed: Apr-03-10						
Conductivity (EC)	<	5	uS/cm							
Blank (K001102-BLK3)				Analyzed: Apr-03-10						
Conductivity (EC)	<	5	uS/cm							
Blank (K001102-BLK4)				Analyzed: Apr-03-10						
Conductivity (EC)	<	5	uS/cm							
LCS (K001102-BS5)				Analyzed: Apr-03-10						
Conductivity (EC)	1430	5	uS/cm	1410		102	95-105			
LCS (K001102-BS6)				Analyzed: Apr-03-10						
Conductivity (EC)	1420	5	uS/cm	1410		101	95-105			
LCS (K001102-BS7)				Analyzed: Apr-03-10						
Conductivity (EC)	1450	5	uS/cm	1410		103	95-105			
LCS (K001102-BS8)				Analyzed: Apr-03-10						
Conductivity (EC)	1440	5	uS/cm	1410		102	95-105			
Reference (K001102-SRM1)				Analyzed: Apr-03-10						
pH	7.06	0.10	pH Units	7.00		101	98-102			
Reference (K001102-SRM2)				Analyzed: Apr-03-10						
pH	7.03	0.10	pH Units	7.00		100	98-102			
Reference (K001102-SRM3)				Analyzed: Apr-03-10						
pH	7.04	0.10	pH Units	7.00		101	98-102			
Reference (K001102-SRM4)				Analyzed: Apr-03-10						
pH	7.05	0.10	pH Units	7.00		101	98-102			
General Parameters, Batch K001117										
Blank (K001117-BLK1)				Analyzed: Apr-06-10						
Solids, Total Dissolved	<	5	mg/L							
Blank (K001117-BLK2)				Analyzed: Apr-06-10						
Solids, Total Dissolved	<	5	mg/L							
Reference (K001117-SRM1)				Analyzed: Apr-06-10						
Solids, Total Dissolved	238	5	mg/L	240		99	85-115			
Reference (K001117-SRM2)				Analyzed: Apr-06-10						
Solids, Total Dissolved	244	5	mg/L	240		102	85-115			
General Parameters, Batch K001140										
Blank (K001140-BLK1)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Blank (K001140-BLK2)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Blank (K001140-BLK3)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Golder Associates Ltd.- Kelowna	**WORK ORDER #**	K0C1001
PROJECT	Westside Landfill	**REPORTED**	Apr-09-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K001140, Continued										
Blank (K001140-BLK4)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Blank (K001140-BLK5)				Analyzed: Apr-08-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
LCS (K001140-BS1)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	98.3	1.0	mg/L	100		98	85-115			
LCS (K001140-BS2)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	97.2	1.0	mg/L	100		97	85-115			
LCS (K001140-BS3)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	98.0	1.0	mg/L	100		98	85-115			
LCS (K001140-BS4)				Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	108	1.0	mg/L	100		108	85-115			
LCS (K001140-BS5)				Analyzed: Apr-08-10						
Alkalinity, Total as CaCO3	96.3	1.0	mg/L	100		96	85-115			
Duplicate (K001140-DUP1)	**Source: K0C1001-05**			Analyzed: Apr-07-10						
Alkalinity, Total as CaCO3	1120	1.0	mg/L		1130			0.5	15	
Conductivity (EC)	3310	5	uS/cm		3310			0	10	
pH	7.23	0.10	pH Units		7.20			0.4	5	

CERTIFICATE OF ANALYSIS

CARO ANALYTICAL SERVICES

CLIENT	**Regional District of Central Okanagan**		
	1450 KLO Road		
	KELOWNA BC	TEL	(250) 763-4918
	V1W 3Z4	FAX	(250) 768-2260
ATTENTION	**Mike Wyman**		

RECEIVED / TEMP	Jun-22-10 15:05 / 4.0 °C	**WORK ORDER**	K0F0950
REPORTED	Jun-30-10	**PROJECT**	Westside Landfill & Shannon Lake
COC #(s)	15605	**PROJECT INFO**	Sampling Via Golder - 04-1440-062

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; and protocols published by the British Columbia Ministry of Environment (BCMOE).

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done 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 document. This analytical report must be reproduced in its entirity. 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.

- All solids results are reported on a dry weight basis unless otherwise noted

- Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
  mg/L = milligrams per litre, equivalent to parts per million (ppm)
  ug/L = micrograms per litre, equivalent to parts per billion (ppb)
  ug/g = micrograms per gram, equivalent to parts per million (ppm)
  ug/m3 = micrograms per cubic meter of air

- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = CARO - Richmond location, KEL = CARO - Kelowna location, SUB = Subcontracted

Please contact CARO if more information is needed.

CARO Analytical Services

Final Review Per: **Ed Hoppe, B.Sc, P.Chem For Sarah Speier, B.Sc.**
Administration Coordinator (Acting)

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
General Parameters							
BH1 (K0F0950-01) Matrix: Water Sampled: Jun-22-10							
Alkalinity, Total as CaCO3	**1410**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL	
Chloride	**589**	2.50	mg/L	Jun-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3710**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1800**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1640**	3	mg/L	Jun-29-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.75**	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.36**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL	
pH	**7.04**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2440**	5	mg/L	Jun-24-10	APHA 2540 C	KEL	
Sulfate	**39.1**	1.0	mg/L	Jun-23-10	APHA 4110 B	KEL	
BH2 (K0F0950-02) Matrix: Water Sampled: Jun-22-10							
Alkalinity, Total as CaCO3	**1570**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL	
Chloride	**379**	2.50	mg/L	Jun-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3200**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1640**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1640**	3	mg/L	Jun-29-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.37**	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.13**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL	
pH	**7.31**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2350**	5	mg/L	Jun-24-10	APHA 2540 C	KEL	
Sulfate	**22.2**	1.0	mg/L	Jun-23-10	APHA 4110 B	KEL	
BH4 (K0F0950-03) Matrix: Water Sampled: Jun-22-10							
Alkalinity, Total as CaCO3	**834**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL	
Chloride	**460**	2.50	mg/L	Jun-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**2560**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1190**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1140**	3	mg/L	Jun-29-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.05**	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.20**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL	
pH	**7.37**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**1580**	5	mg/L	Jun-24-10	APHA 2540 C	KEL	
Sulfate	**79.3**	1.0	mg/L	Jun-23-10	APHA 4110 B	KEL	
BH5 (K0F0950-04) Matrix: Water Sampled: Jun-22-10							
Alkalinity, Total as CaCO3	**227**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL	
Chloride	**72.3**	1.00	mg/L	Jun-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**782**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**293**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**260**	3	mg/L	Jun-29-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.02**	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**8.06**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL	
pH	**7.75**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**495**	5	mg/L	Jun-24-10	APHA 2540 C	KEL	
Sulfate	**74.8**	10.0	mg/L	Jun-23-10	APHA 4110 B	KEL	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

General Parameters, Continued

BH A (K0F0950-05) Matrix: Water Sampled: Jun-22-10

Alkalinity, Total as CaCO3	**1410**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL
Chloride	**550**	2.50	mg/L	Jun-23-10	APHA 4110 B	KEL
Conductivity (EC)	**3650**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL
Hardness (as CaCO3)	**1720**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD
Hardness, Total (Diss. as CaCO3)	**1690**	3	mg/L	Jun-29-10	APHA 2340 B	RMD
Nitrogen, Ammonia as N	**0.75**	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL
Nitrogen, Nitrate as N	**1.19**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL
pH	**7.08**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL
Solids, Total Dissolved	**2440**	5	mg/L	Jun-24-10	APHA 2540 C	KEL
Sulfate	**39.1**	1.0	mg/L	Jun-23-10	APHA 4110 B	KEL

SLMHP (K0F0950-06) Matrix: Water Sampled: Jun-22-10

Alkalinity, Total as CaCO3	**370**	1.0	mg/L	Jun-24-10	APHA 2320 B	KEL
Chloride	**78.5**	1.00	mg/L	Jun-23-10	APHA 4110 B	KEL
Conductivity (EC)	**905**	2	uS/cm	Jun-24-10	APHA 2510 B	KEL
Hardness (as CaCO3)	**377**	0.41	mg/L	Jun-26-10	APHA 2340 B	RMD
Hardness, Total (Diss. as CaCO3)	**347**	3	mg/L	Jun-29-10	APHA 2340 B	RMD
Nitrogen, Ammonia as N	<0.02	0.02	mg/L	Jun-23-10	APHA 4500-NH3 G	KEL
Nitrogen, Nitrate as N	**1.99**	0.01	mg/L	Jun-23-10	APHA 4110 B	KEL
pH	**7.48**	0.10	pH Units	Jun-24-10	APHA 4500-H+	KEL
Solids, Total Dissolved	**546**	5	mg/L	Jun-24-10	APHA 2540 C	KEL
Sulfate	**33.6**	1.0	mg/L	Jun-23-10	APHA 4110 B	KEL

Dissolved Metals by ICPMS

BH1 (K0F0950-01) Matrix: Water Sampled: Jun-22-10

Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Arsenic	**0.0068**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Barium	**0.0588**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Boron	**1.71**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD
Calcium	**334**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Cobalt	**0.00490**	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Copper	**0.0068**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Iron	**2.46**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Lithium	**0.0196**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Magnesium	**195**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Manganese	**6.92**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Molybdenum	**0.0014**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Nickel	**0.0471**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH1 (K0F0950-01) Matrix: Water Sampled: Jun-22-10, Continued

Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD
Potassium	**5.49**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD
Silicon	**25.7**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Sodium	**189**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Strontium	**3.27**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Uranium	**0.00309**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zirconium	**0.0061**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD

BH2 (K0F0950-02) Matrix: Water Sampled: Jun-22-10

Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Barium	**0.0158**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Boron	**0.567**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD
Calcium	**351**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD
Chromium	**0.0056**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Cobalt	**0.00399**	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Copper	**0.0039**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Iron	**0.654**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Lithium	**0.0229**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Magnesium	**186**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Manganese	**10.6**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Molybdenum	**0.0050**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Nickel	**0.0431**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD
Potassium	**2.50**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD
Silicon	**27.2**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Sodium	**144**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Strontium	**3.97**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH2 (K0F0950-02) Matrix: Water Sampled: Jun-22-10, Continued

Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Uranium	**0.00539**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zinc	**0.0373**	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zirconium	**0.0052**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD

BH4 (K0F0950-03) Matrix: Water Sampled: Jun-22-10

Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Barium	**0.0583**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Boron	**0.410**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD
Calcium	**214**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Cobalt	**0.00205**	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Copper	**0.0051**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Iron	**0.337**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Lithium	**0.0352**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Magnesium	**146**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Manganese	**0.500**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Molybdenum	**0.0053**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Nickel	**0.0370**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD
Potassium	**5.34**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD
Silicon	**12.1**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Sodium	**107**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Strontium	**2.89**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Uranium	**0.0392**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
BH5 (K0F0950-04) Matrix: Water Sampled: Jun-22-10							
Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Barium	**0.0182**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Boron	**0.095**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD	
Calcium	**70.5**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Cobalt	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD	
Copper	**0.0015**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Iron	**0.131**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Lithium	**0.0145**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Magnesium	**20.4**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD	
Manganese	**0.0542**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD	
Molybdenum	**0.0111**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Nickel	**0.0027**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD	
Potassium	**2.52**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD	
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD	
Silicon	**9.08**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD	
Sodium	**57.1**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD	
Strontium	**0.423**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD	
Uranium	**0.00642**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
BH A (K0F0950-05) Matrix: Water Sampled: Jun-22-10							
Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Arsenic	**0.0070**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Barium	**0.0581**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD	
Boron	**1.70**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH A (K0F0950-05) Matrix: Water Sampled: Jun-22-10, Continued

Calcium	**340**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Cobalt	**0.00482**	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Copper	**0.0061**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Iron	**1.67**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Lithium	**0.0205**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Magnesium	**203**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Manganese	**7.05**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Molybdenum	**0.0015**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Nickel	**0.0467**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD
Potassium	**5.46**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD
Silicon	**30.9**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Sodium	**194**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Strontium	**3.23**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Uranium	**0.00296**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zirconium	**0.0061**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD

SLMHP (K0F0950-06) Matrix: Water Sampled: Jun-22-10

Aluminum	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Barium	**0.0097**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Boron	**0.079**	0.040	mg/L	Jun-29-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Jun-29-10	EPA 6020A	RMD
Calcium	**92.3**	1.00	mg/L	Jun-29-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Cobalt	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Copper	**0.0782**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Iron	**0.153**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Lead	**0.0034**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Lithium	**0.0171**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Magnesium	**28.2**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

SLMHP (K0F0950-06) Matrix: Water Sampled: Jun-22-10, Continued

Manganese	**0.0021**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Molybdenum	**0.0035**	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Nickel	**0.0031**	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Jun-29-10	EPA 6020A	RMD
Potassium	**3.73**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Jun-29-10	EPA 6020A	RMD
Silicon	**14.1**	2.00	mg/L	Jun-29-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Jun-29-10	EPA 6020A	RMD
Sodium	**50.0**	0.100	mg/L	Jun-29-10	EPA 6020A	RMD
Strontium	**0.765**	0.0050	mg/L	Jun-29-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Jun-29-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Jun-29-10	EPA 6020A	RMD
Uranium	**0.00741**	0.00020	mg/L	Jun-29-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zinc	**0.0210**	0.0100	mg/L	Jun-29-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Jun-29-10	EPA 6020A	RMD

Total Recoverable Metals by ICPMS

BH1 (K0F0950-01) Matrix: Water Sampled: Jun-22-10

Calcium	**354**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**224**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

BH2 (K0F0950-02) Matrix: Water Sampled: Jun-22-10

Calcium	**334**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**197**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

BH4 (K0F0950-03) Matrix: Water Sampled: Jun-22-10

Calcium	**219**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**156**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

BH5 (K0F0950-04) Matrix: Water Sampled: Jun-22-10

Calcium	**78.4**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**23.6**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

BH A (K0F0950-05) Matrix: Water Sampled: Jun-22-10

Calcium	**333**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**215**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

SLMHP (K0F0950-06) Matrix: Water Sampled: Jun-22-10

Calcium	**98.8**	1.0	mg/L	Jun-26-10	EPA 6020A	RMD
Magnesium	**31.5**	0.10	mg/L	Jun-26-10	EPA 6020A	RMD

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

The following section reports quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with quality control 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 for.

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	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Dissolved Metals by ICPMS, Batch R001537

Blank (R001537-BLK1)				Analyzed: Jun-29-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							

Blank (R001537-BLK2)				Analyzed: Jun-29-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Dissolved Metals by ICPMS, Batch R001537, Continued

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (R001537-BLK2), Continued				Analyzed: Jun-29-10						
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							
Blank (R001537-BLK3)				Analyzed: Jun-29-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R001537, Continued										
Blank (R001537-BLK3), Continued				Analyzed: Jun-29-10						
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							
Matrix Spike (R001537-MS1)	**Source: K0F0950-01**			Analyzed: Jun-29-10						
Antimony	0.4	0.001	mg/L	0.400	<	96	81-114			
Arsenic	0.2	0.005	mg/L	0.200	0.007	102	89-115			
Barium	1.1	0.005	mg/L	1.00	0.06	100	86-115			
Beryllium	0.4	0.001	mg/L	0.400	<	98	77-124			
Cadmium	0.10	0.0001	mg/L	0.100	<	101	82-126			
Chromium	0.4	0.005	mg/L	0.400	<	102	85-117			
Cobalt	0.40	0.0005	mg/L	0.400	0.005	98	76-131			
Copper	0.4	0.001	mg/L	0.400	0.007	102	88-113			
Iron	4	0.1	mg/L	2.00	2	95	80-115			
Lead	0.2	0.001	mg/L	0.200	<	100	84-121			
Manganese	7.3	0.002	mg/L	0.400	6.9	97	75-135			
Nickel	0.4	0.002	mg/L	0.400	0.05	99	83-121			
Selenium	0.1	0.003	mg/L	0.100	<	105	91-122			
Silver	0.10	0.0005	mg/L	0.100	<	97	74-120			
Thallium	0.10	0.0002	mg/L	0.100	<	97	79-119			
Vanadium	0.2	0.01	mg/L	0.200	<	97	80-115			
Zinc	1.0	0.01	mg/L	1.00	<	99	89-123			
Reference (R001537-SRM1)				Analyzed: Jun-29-10						
Aluminum	0.2	0.05	mg/L	0.209		101	76-121			
Antimony	0.04	0.001	mg/L	0.0400		93	89-126			
Arsenic	0.4	0.005	mg/L	0.400		101	88-112			
Barium	3.2	0.005	mg/L	3.12		101	90-114			
Beryllium	0.2	0.001	mg/L	0.197		99	82-125			
Boron	2	0.04	mg/L	1.61		96	78-116			
Cadmium	0.20	0.0001	mg/L	0.200		101	90-112			
Calcium	7	1	mg/L	6.50		105	88-125			
Chromium	0.4	0.005	mg/L	0.401		100	87-112			
Cobalt	0.12	0.0005	mg/L	0.119		100	87-114			
Copper	0.8	0.001	mg/L	0.781		106	94-114			
Iron	1	0.1	mg/L	1.17		106	86-117			
Lead	0.1	0.001	mg/L	0.102		104	88-113			
Lithium	0.09	0.001	mg/L	0.0960		97	80-129			
Magnesium	6	0.1	mg/L	6.11		92	83-119			
Manganese	0.3	0.002	mg/L	0.318		100	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		108	94-114			
Nickel	0.8	0.002	mg/L	0.789		105	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		87	70-114			
Potassium	3	0.1	mg/L	2.84		95	84-112			
Selenium	0.03	0.003	mg/L	0.0300		105	87-125			
Sodium	17	0.1	mg/L	17.4		98	81-116			
Strontium	1.0	0.005	mg/L	0.979		106	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		113	93-127			
Uranium	0.20	0.0002	mg/L	0.244		81	69-98			
Vanadium	0.8	0.01	mg/L	0.798		96	83-111			
Zinc	0.8	0.01	mg/L	0.800		101	90-121			
Reference (R001537-SRM2)				Analyzed: Jun-29-10						
Aluminum	0.2	0.05	mg/L	0.209		99	76-121			
Antimony	0.04	0.001	mg/L	0.0400		95	89-126			
Arsenic	0.4	0.005	mg/L	0.400		98	88-112			
Barium	3.2	0.005	mg/L	3.12		102	90-114			
Beryllium	0.2	0.001	mg/L	0.197		104	82-125			
Boron	2	0.04	mg/L	1.61		96	78-116			
Cadmium	0.20	0.0001	mg/L	0.200		102	90-112			

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R001537, Continued										
Reference (R001537-SRM2), Continued				Analyzed: Jun-29-10						
Calcium	6	1	mg/L	6.50		99	88-125			
Chromium	0.4	0.005	mg/L	0.401		98	87-112			
Cobalt	0.12	0.0005	mg/L	0.119		99	87-114			
Copper	0.8	0.001	mg/L	0.781		102	94-114			
Iron	1	0.1	mg/L	1.17		103	86-117			
Lead	0.1	0.001	mg/L	0.102		105	88-113			
Lithium	0.1	0.001	mg/L	0.0960		104	80-129			
Magnesium	5	0.1	mg/L	6.11		88	83-119			
Manganese	0.3	0.002	mg/L	0.318		98	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		107	94-114			
Nickel	0.8	0.002	mg/L	0.789		102	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		83	70-114			
Potassium	3	0.1	mg/L	2.84		91	84-112			
Selenium	0.03	0.003	mg/L	0.0300		105	87-125			
Sodium	17	0.1	mg/L	17.4		96	81-116			
Strontium	1.0	0.005	mg/L	0.979		106	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		117	93-127			
Uranium	0.21	0.0002	mg/L	0.244		87	69-98			
Vanadium	0.7	0.01	mg/L	0.798		94	83-111			
Zinc	0.8	0.01	mg/L	0.800		98	90-121			
Reference (R001537-SRM3)				Analyzed: Jun-29-10						
Aluminum	0.2	0.05	mg/L	0.209		98	76-121			
Antimony	0.04	0.001	mg/L	0.0400		98	89-126			
Arsenic	0.4	0.005	mg/L	0.400		97	88-112			
Barium	3.4	0.005	mg/L	3.12		108	90-114			
Beryllium	0.2	0.001	mg/L	0.197		88	82-125			
Boron	1	0.04	mg/L	1.61		84	78-116			
Cadmium	0.20	0.0001	mg/L	0.200		102	90-112			
Calcium	6	1	mg/L	6.50		91	88-125			
Chromium	0.4	0.005	mg/L	0.401		97	87-112			
Cobalt	0.12	0.0005	mg/L	0.119		102	87-114			
Copper	0.9	0.001	mg/L	0.781		110	94-114			
Iron	1	0.1	mg/L	1.17		96	86-117			
Lead	0.1	0.001	mg/L	0.102		107	88-113			
Lithium	0.09	0.001	mg/L	0.0960		91	80-129			
Magnesium	6	0.1	mg/L	6.11		93	83-119			
Manganese	0.3	0.002	mg/L	0.318		96	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		105	94-114			
Nickel	0.8	0.002	mg/L	0.789		106	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		85	70-114			
Potassium	3	0.1	mg/L	2.84		96	84-112			
Selenium	0.03	0.003	mg/L	0.0300		97	87-125			
Sodium	17	0.1	mg/L	17.4		95	81-116			
Strontium	1.0	0.005	mg/L	0.979		101	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		118	93-127			
Uranium	0.23	0.0002	mg/L	0.244		94	69-98			
Vanadium	0.7	0.01	mg/L	0.798		93	83-111			
Zinc	0.8	0.01	mg/L	0.800		101	90-121			
General Parameters, Batch K002258										
Blank (K002258-BLK1)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K002258-BLK2)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K002258-BLK3)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K002258, Continued										
Blank (K002258-BLK4)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
LCS (K002258-BS1)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	9.85	0.20	mg/L	10.0		99	80-120			
LCS (K002258-BS2)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	9.86	0.20	mg/L	10.0		99	80-120			
LCS (K002258-BS3)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	9.52	0.20	mg/L	10.0		95	80-120			
LCS (K002258-BS4)				Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	9.24	0.20	mg/L	10.0		92	80-120			
Duplicate (K002258-DUP3)	**Source: K0F0950-02**			Analyzed: Jun-23-10						
Nitrogen, Ammonia as N	0.37	0.02	mg/L		0.37			0	20	
General Parameters, Batch K002267										
Blank (K002267-BLK1)				Analyzed: Jun-23-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K002267-BLK2)				Analyzed: Jun-23-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K002267-BLK3)				Analyzed: Jun-23-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
LCS (K002267-BS1)				Analyzed: Jun-23-10						
Chloride	4.14	0.10	mg/L	4.00		104	85-115			
Nitrogen, Nitrate as N	4.19	0.01	mg/L	4.00		105	85-115			
Sulfate	4.1	1.0	mg/L	4.00		103	85-115			
LCS (K002267-BS2)				Analyzed: Jun-23-10						
Chloride	4.07	0.10	mg/L	4.00		102	85-115			
Nitrogen, Nitrate as N	4.10	0.01	mg/L	4.00		103	85-115			
Sulfate	4.2	1.0	mg/L	4.00		105	85-115			
LCS (K002267-BS3)				Analyzed: Jun-23-10						
Chloride	4.07	0.10	mg/L	4.00		102	85-115			
Nitrogen, Nitrate as N	4.13	0.01	mg/L	4.00		103	85-115			
Sulfate	4.2	1.0	mg/L	4.00		104	85-115			
Duplicate (K002267-DUP2)	**Source: K0F0950-02**			Analyzed: Jun-23-10						
Nitrogen, Nitrate as N	1.06	0.01	mg/L		1.13			7	15	
Sulfate	22.9	1.0	mg/L		22.2			3	20	
General Parameters, Batch K002271										
Blank (K002271-BLK1)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K002271, Continued										
Blank (K002271-BLK2)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
Blank (K002271-BLK3)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
LCS (K002271-BS1)				Analyzed: Jun-24-10						
Conductivity (EC)	1400	2	uS/cm	1410		99	95-105			
LCS (K002271-BS2)				Analyzed: Jun-24-10						
Conductivity (EC)	1400	2	uS/cm	1410		99	95-105			
LCS (K002271-BS3)				Analyzed: Jun-24-10						
Conductivity (EC)	1400	2	uS/cm	1410		99	95-105			
LCS (K002271-BS6)				Analyzed: Jun-25-10						
Alkalinity, Total as CaCO3	102	1.0	mg/L	100		102	85-115			
LCS (K002271-BS7)				Analyzed: Jun-25-10						
Alkalinity, Total as CaCO3	101	1.0	mg/L	100		101	85-115			
LCS (K002271-BS8)				Analyzed: Jun-25-10						
Alkalinity, Total as CaCO3	102	1.0	mg/L	100		102	85-115			
Reference (K002271-SRM1)				Analyzed: Jun-24-10						
pH	7.00	0.10	pH Units	7.00		100	98-102			
Reference (K002271-SRM2)				Analyzed: Jun-24-10						
pH	7.05	0.10	pH Units	7.00		101	98-102			
Reference (K002271-SRM3)				Analyzed: Jun-24-10						
pH	7.01	0.10	pH Units	7.00		100	98-102			
General Parameters, Batch K002273										
Blank (K002273-BLK1)				Analyzed: Jun-24-10						
Solids, Total Dissolved	<	5	mg/L							
Reference (K002273-SRM1)				Analyzed: Jun-24-10						
Solids, Total Dissolved	249	5	mg/L	240		104	85-115			
General Parameters, Batch K002289										
Blank (K002289-BLK1)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
Blank (K002289-BLK2)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
Blank (K002289-BLK3)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
LCS (K002289-BS1)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	102	1.0	mg/L	100		102	85-115			

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0F0950
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Jun-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K002289, Continued										
LCS (K002289-BS2)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	101	1.0	mg/L	100		101	85-115			
LCS (K002289-BS3)				Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	102	1.0	mg/L	100		102	85-115			
LCS (K002289-BS6)				Analyzed: Jun-24-10						
Conductivity (EC)	1380	2	uS/cm	1410		98	95-105			
LCS (K002289-BS7)				Analyzed: Jun-24-10						
Conductivity (EC)	1380	2	uS/cm	1410		98	95-105			
LCS (K002289-BS8)				Analyzed: Jun-24-10						
Conductivity (EC)	1400	2	uS/cm	1410		99	95-105			
Duplicate (K002289-DUP1)	**Source: K0F0950-02**			Analyzed: Jun-24-10						
Alkalinity, Total as CaCO3	1590	1.0	mg/L		1570			0.8	15	
Conductivity (EC)	3210	2	uS/cm		3200			0.3	10	
pH	7.32	0.10	pH Units		7.31			0.1	5	
Reference (K002289-SRM1)				Analyzed: Jun-24-10						
pH	7.02	0.10	pH Units	7.00		100	98-102			
Reference (K002289-SRM2)				Analyzed: Jun-24-10						
pH	6.98	0.10	pH Units	7.00		100	98-102			
Reference (K002289-SRM3)				Analyzed: Jun-24-10						
pH	7.01	0.10	pH Units	7.00		100	98-102			
Total Recoverable Metals by ICPMS, Batch R001521										
Blank (R001521-BLK1)				Analyzed: Jun-26-10						
Calcium	<	1.0	mg/L							
Magnesium	<	0.10	mg/L							
Blank (R001521-BLK2)				Analyzed: Jun-26-10						
Calcium	<	1.0	mg/L							
Magnesium	<	0.10	mg/L							
Duplicate (R001521-DUP1)	**Source: K0F0950-03**			Analyzed: Jun-26-10						
Calcium	219	1.0	mg/L		219			0.09	20	
Magnesium	159	0.10	mg/L		156			2	20	
Reference (R001521-SRM1)				Analyzed: Jun-26-10						
Calcium	10.1	1.0	mg/L	10.3		98	88-119			
Magnesium	3.38	0.10	mg/L	3.37		100	80-117			
Reference (R001521-SRM2)				Analyzed: Jun-26-10						
Calcium	11.0	1.0	mg/L	10.3		107	88-119			
Magnesium	3.35	0.10	mg/L	3.37		99	80-117			

CERTIFICATE OF ANALYSIS

CLIENT	**Regional District of Central Okanagan**		
	1450 KLO Road		
	KELOWNA BC	TEL	(250) 763-4918
	V1W 3Z4	FAX	(250) 768-2260
ATTENTION	**Mike Wyman**		

RECEIVED / TEMP	Sep-21-10 13:20 / 9.0 °C	**WORK ORDER**	K0I0798
REPORTED	Sep-28-10	**PROJECT**	Westside Landfill & Shannon Lake
COC #(s)	15309	**PROJECT INFO**	04-1440-062

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; and protocols published by the British Columbia Ministry of Environment (BCMOE).

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done 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 document. This analytical report must be reproduced in its entirity. 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.

- All solids results are reported on a dry weight basis unless otherwise noted
- Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
  mg/L = milligrams per litre, equivalent to parts per million (ppm)
  ug/L = micrograms per litre, equivalent to parts per billion (ppb)
  ug/g = micrograms per gram, equivalent to parts per million (ppm)
  ug/m3 = micrograms per cubic meter of air
- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = CARO - Richmond location, KEL = CARO - Kelowna location, SUB = Subcontracted

Please contact CARO if more information is needed.

CARO Analytical Services

Final Review Per: **Ed Hoppe, B.Sc, P.Chem For Sarah Speier, B.Sc.**
Administration Coordinator (Acting)

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
General Parameters							
BH1 (K0I0798-01) Matrix: Water Sampled: Sep-21-10							
Alkalinity, Total as CaCO3	**1400**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**583**	1.00	mg/L	Sep-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3840**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1750**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1730**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.85**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.40**	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.01**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**1980**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**65.7**	1.0	mg/L	Sep-23-10	APHA 4110 B	KEL	
BH2 (K0I0798-02) Matrix: Water Sampled: Sep-21-10							
Alkalinity, Total as CaCO3	**1590**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**370**	1.00	mg/L	Sep-24-10	APHA 4110 B	KEL	
Conductivity (EC)	**3440**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1730**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1640**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.46**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	<0.01	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.43**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2290**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**23.8**	1.0	mg/L	Sep-23-10	APHA 4110 B	KEL	
BH4 (K0I0798-03) Matrix: Water Sampled: Sep-21-10							
Alkalinity, Total as CaCO3	**828**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**442**	1.00	mg/L	Sep-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**2730**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1230**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1170**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.08**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**2.17**	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.43**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**1550**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**84.5**	10.0	mg/L	Sep-24-10	APHA 4110 B	KEL	
BH5 (K0I0798-04) Matrix: Water Sampled: Sep-21-10							
Alkalinity, Total as CaCO3	**252**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**66.5**	0.50	mg/L	Sep-24-10	APHA 4110 B	KEL	
Conductivity (EC)	**842**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**342**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**278**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.03**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**7.32**	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.78**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**485**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**62.8**	1.0	mg/L	Sep-23-10	APHA 4110 B	KEL	

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

General Parameters, Continued

BH A (K0I0798-05) Matrix: Water Sampled: Sep-21-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Alkalinity, Total as CaCO3	**1380**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**581**	1.00	mg/L	Sep-24-10	APHA 4110 B	KEL	
Conductivity (EC)	**3840**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**1840**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1810**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.79**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.42**	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.03**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**2530**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**67.3**	1.0	mg/L	Sep-23-10	APHA 4110 B	KEL	

SLMHP (K0I0798-06) Matrix: Water Sampled: Sep-21-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Alkalinity, Total as CaCO3	**362**	1.0	mg/L	Sep-21-10	APHA 2320 B	KEL	
Chloride	**67.3**	1.00	mg/L	Sep-24-10	APHA 4110 B	KEL	
Conductivity (EC)	**924**	2	uS/cm	Sep-21-10	APHA 2510 B	KEL	
Hardness (as CaCO3)	**368**	0.41	mg/L	Sep-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**321**	3	mg/L	Sep-25-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.05**	0.02	mg/L	Sep-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.84**	0.01	mg/L	Sep-23-10	APHA 4110 B	KEL	
pH	**7.52**	0.01	pH Units	Sep-21-10	APHA 4500-H+	KEL	
Solids, Total Dissolved	**512**	5	mg/L	Sep-27-10	APHA 2540 C	KEL	
Sulfate	**31.6**	1.0	mg/L	Sep-23-10	APHA 4110 B	KEL	

Dissolved Metals by ICPMS

BH1 (K0I0798-01) Matrix: Water Sampled: Sep-21-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Barium	**0.0642**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Boron	**1.91**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD	
Calcium	**350**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Chromium	**0.0064**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Cobalt	**0.00518**	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Copper	**0.0060**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Iron	**1.50**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Lithium	**0.0180**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Magnesium	**207**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Manganese	**6.35**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Molybdenum	**0.0014**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Nickel	**0.0502**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
Dissolved Metals by ICPMS, Continued							
BH1 (K0I0798-01) Matrix: Water Sampled: Sep-21-10, Continued							
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD	
Potassium	**5.67**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Selenium	**0.0031**	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD	
Silicon	**42.0**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Silver	**0.00050**	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Sodium	**184**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Strontium	**3.07**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Uranium	**0.00256**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zinc	**0.0102**	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zirconium	**0.0061**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
BH2 (K0I0798-02) Matrix: Water Sampled: Sep-21-10							
Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Barium	**0.0161**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Boron	**0.527**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD	
Calcium	**346**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Chromium	**0.0123**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Cobalt	**0.00428**	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Copper	**0.0024**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Iron	**1.07**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Lithium	**0.0221**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Magnesium	**189**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Manganese	**8.84**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Molybdenum	**0.0044**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Nickel	**0.0435**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD	
Potassium	**2.46**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Selenium	<0.0030	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD	
Silicon	**22.6**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Sodium	**137**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Strontium	**3.23**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes
BH2 (K0I0798-02) Matrix: Water Sampled: Sep-21-10, Continued							
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Uranium	**0.00489**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zirconium	**0.0046**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
BH4 (K0I0798-03) Matrix: Water Sampled: Sep-21-10							
Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Barium	**0.0610**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Boron	**0.433**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD	
Cadmium	**0.00010**	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD	
Calcium	**213**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Chromium	**0.0063**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Cobalt	**0.00202**	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Copper	**0.0037**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Iron	**0.618**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Lithium	**0.0345**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Magnesium	**156**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Manganese	**0.470**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Molybdenum	**0.0052**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Nickel	**0.0368**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD	
Potassium	**5.22**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Selenium	<0.0030	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD	
Silicon	**36.6**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD	
Sodium	**105**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD	
Strontium	**2.44**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD	
Uranium	**0.0350**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD	
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zinc	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH5 (K0I0798-04) Matrix: Water Sampled: Sep-21-10

Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Barium	**0.0166**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Boron	**0.075**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD
Calcium	**73.3**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Cobalt	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Copper	**0.0016**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Iron	**0.205**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Lithium	**0.0136**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Magnesium	**23.1**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Manganese	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Molybdenum	**0.0082**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Nickel	**0.0029**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD
Potassium	**2.53**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD
Silicon	**27.2**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Sodium	**49.9**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Strontium	**0.377**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Uranium	**0.00600**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zinc	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD

BH A (K0I0798-05) Matrix: Water Sampled: Sep-21-10

Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Arsenic	**0.0052**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Barium	**0.0655**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Boron	**1.93**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

BH A (K0I0798-05) Matrix: Water Sampled: Sep-21-10, Continued

Calcium	**349**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD
Chromium	**0.0166**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Cobalt	**0.00515**	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Copper	**0.0041**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Iron	**1.32**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Lead	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Lithium	**0.0173**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Magnesium	**229**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Manganese	**6.02**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Molybdenum	**0.0013**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Nickel	**0.0504**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD
Potassium	**5.28**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD
Silicon	**53.0**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Sodium	**183**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Strontium	**2.87**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Uranium	**0.00276**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zinc	**0.0132**	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zirconium	**0.0056**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD

SLMHP (K0I0798-06) Matrix: Water Sampled: Sep-21-10

Aluminum	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Antimony	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Arsenic	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Barium	**0.0077**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Beryllium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Bismuth	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Boron	**0.075**	0.040	mg/L	Sep-25-10	EPA 6020A	RMD
Cadmium	<0.00010	0.00010	mg/L	Sep-25-10	EPA 6020A	RMD
Calcium	**82.5**	1.00	mg/L	Sep-25-10	EPA 6020A	RMD
Chromium	<0.0050	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Cobalt	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Copper	**0.132**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Iron	**0.285**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Lead	**0.0054**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Lithium	**0.0126**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Magnesium	**28.0**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0I0798
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Sep-28-10

Analyte	Result	RDL	Units	Analyzed	Method	Lab	Notes

Dissolved Metals by ICPMS, Continued

SLMHP (K0I0798-06) Matrix: Water Sampled: Sep-21-10, Continued

Manganese	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Molybdenum	**0.0030**	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Nickel	**0.0042**	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Sep-25-10	EPA 6020A	RMD
Potassium	**3.18**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Selenium	<0.0030	0.0030	mg/L	Sep-25-10	EPA 6020A	RMD
Silicon	**13.1**	2.00	mg/L	Sep-25-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Sep-25-10	EPA 6020A	RMD
Sodium	**43.6**	0.100	mg/L	Sep-25-10	EPA 6020A	RMD
Strontium	**0.608**	0.0050	mg/L	Sep-25-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Sep-25-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Sep-25-10	EPA 6020A	RMD
Uranium	**0.00614**	0.00020	mg/L	Sep-25-10	EPA 6020A	RMD
Vanadium	<0.0100	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zinc	**0.0315**	0.0100	mg/L	Sep-25-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Sep-25-10	EPA 6020A	RMD

Total Recoverable Metals by ICPMS

BH1 (K0I0798-01) Matrix: Water Sampled: Sep-21-10

Calcium	**358**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**209**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

BH2 (K0I0798-02) Matrix: Water Sampled: Sep-21-10

Calcium	**365**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**199**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

BH4 (K0I0798-03) Matrix: Water Sampled: Sep-21-10

Calcium	**234**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**156**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

BH5 (K0I0798-04) Matrix: Water Sampled: Sep-21-10

Calcium	**89.8**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**28.7**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

BH A (K0I0798-05) Matrix: Water Sampled: Sep-21-10

Calcium	**358**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**229**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

SLMHP (K0I0798-06) Matrix: Water Sampled: Sep-21-10

Calcium	**95.7**	1.0	mg/L	Sep-24-10	EPA 6020A	RMD
Magnesium	**31.4**	0.10	mg/L	Sep-24-10	EPA 6020A	RMD

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The following section reports quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with quality control 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 for.

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.

Dissolved Metals by ICPMS, Batch R002456

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (R002456-BLK1)				Analyzed: Sep-24-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							
Blank (R002456-BLK2)				Analyzed: Sep-25-10						
Aluminum	<	0.05	mg/L							
Antimony	<	0.001	mg/L							
Arsenic	<	0.005	mg/L							
Barium	<	0.005	mg/L							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R002456, Continued										
Blank (R002456-BLK2), Continued				Analyzed: Sep-25-10						
Beryllium	<	0.001	mg/L							
Bismuth	<	0.001	mg/L							
Boron	<	0.04	mg/L							
Cadmium	<	0.0001	mg/L							
Calcium	<	1	mg/L							
Chromium	<	0.005	mg/L							
Cobalt	<	0.0005	mg/L							
Copper	<	0.001	mg/L							
Iron	<	0.1	mg/L							
Lead	<	0.001	mg/L							
Lithium	<	0.001	mg/L							
Magnesium	<	0.1	mg/L							
Manganese	<	0.002	mg/L							
Mercury	<	0.0005	mg/L							
Molybdenum	<	0.001	mg/L							
Nickel	<	0.002	mg/L							
Phosphorus	<	0.2	mg/L							
Potassium	<	0.1	mg/L							
Selenium	<	0.003	mg/L							
Silicon	<	2	mg/L							
Silver	<	0.0005	mg/L							
Sodium	<	0.1	mg/L							
Strontium	<	0.005	mg/L							
Tellurium	<	0.002	mg/L							
Thallium	<	0.0002	mg/L							
Thorium	<	0.001	mg/L							
Tin	<	0.002	mg/L							
Titanium	<	0.05	mg/L							
Uranium	<	0.0002	mg/L							
Vanadium	<	0.01	mg/L							
Zinc	<	0.01	mg/L							
Zirconium	<	0.001	mg/L							
Matrix Spike (R002456-MS1)		**Source: K0I0798-06**		Analyzed: Sep-25-10						
Antimony	0.4	0.001	mg/L	0.400	<	101	81-114			
Arsenic	0.2	0.005	mg/L	0.200	<	97	89-115			
Barium	1.0	0.005	mg/L	1.00	0.008	102	86-115			
Beryllium	0.4	0.001	mg/L	0.400	<	99	77-124			
Cadmium	0.10	0.0001	mg/L	0.100	<	96	82-126			
Chromium	0.4	0.005	mg/L	0.400	<	94	85-117			
Cobalt	0.38	0.0005	mg/L	0.400	<	94	76-131			
Copper	0.5	0.001	mg/L	0.400	0.1	97	88-113			
Iron	2	0.1	mg/L	2.00	0.3	92	80-115			
Lead	0.2	0.001	mg/L	0.200	0.005	95	84-121			
Manganese	0.4	0.002	mg/L	0.400	<	92	75-135			
Nickel	0.4	0.002	mg/L	0.400	0.004	95	83-121			
Selenium	0.1	0.003	mg/L	0.100	<	113	91-122			
Silver	0.06	0.0005	mg/L	0.100	<	55	74-120			MS1
Thallium	0.09	0.0002	mg/L	0.100	<	94	79-119			
Vanadium	0.2	0.01	mg/L	0.200	<	89	80-115			
Zinc	1.0	0.01	mg/L	1.00	0.03	92	89-123			
Reference (R002456-SRM1)				Analyzed: Sep-24-10						
Aluminum	0.2	0.05	mg/L	0.209		93	76-121			
Antimony	0.04	0.001	mg/L	0.0400		103	89-126			
Arsenic	0.4	0.005	mg/L	0.400		91	88-112			
Barium	3.4	0.005	mg/L	3.12		108	90-114			
Beryllium	0.2	0.001	mg/L	0.197		99	82-125			
Boron	2	0.04	mg/L	1.61		100	78-116			
Cadmium	0.20	0.0001	mg/L	0.200		99	90-112			
Calcium	8	1	mg/L	6.50		120	88-125			
Chromium	0.4	0.005	mg/L	0.401		95	87-112			
Cobalt	0.11	0.0005	mg/L	0.119		93	87-114			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R002456, Continued										
Reference (R002456-SRM1), Continued				Analyzed: Sep-24-10						
Copper	0.8	0.001	mg/L	0.781		97	94-114			
Iron	1	0.1	mg/L	1.17		93	86-117			
Lead	0.1	0.001	mg/L	0.102		102	88-113			
Lithium	0.1	0.001	mg/L	0.0960		102	80-129			
Magnesium	5	0.1	mg/L	6.11		89	83-119			
Manganese	0.3	0.002	mg/L	0.318		96	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		99	94-114			
Nickel	0.8	0.002	mg/L	0.789		95	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		85	70-114			
Potassium	3	0.1	mg/L	2.84		96	84-112			
Selenium	0.03	0.003	mg/L	0.0300		101	87-125			
Sodium	15	0.1	mg/L	17.4		86	81-116			
Strontium	0.9	0.005	mg/L	0.979		96	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		112	93-127			
Uranium	0.20	0.0002	mg/L	0.244		80	69-98			
Vanadium	0.7	0.01	mg/L	0.798		93	83-111			
Zinc	0.8	0.01	mg/L	0.800		96	90-121			
Reference (R002456-SRM2)				Analyzed: Sep-25-10						
Aluminum	0.2	0.05	mg/L	0.209		99	76-121			
Antimony	0.04	0.001	mg/L	0.0400		110	89-126			
Arsenic	0.4	0.005	mg/L	0.400		97	88-112			
Barium	3.3	0.005	mg/L	3.12		107	90-114			
Beryllium	0.2	0.001	mg/L	0.197		98	82-125			
Boron	2	0.04	mg/L	1.61		100	78-116			
Cadmium	0.20	0.0001	mg/L	0.200		98	90-112			
Calcium	7	1	mg/L	6.50		106	88-125			
Chromium	0.4	0.005	mg/L	0.401		94	87-112			
Cobalt	0.12	0.0005	mg/L	0.119		100	87-114			
Copper	0.8	0.001	mg/L	0.781		101	94-114			
Iron	1	0.1	mg/L	1.17		102	86-117			
Lead	0.1	0.001	mg/L	0.102		99	88-113			
Lithium	0.09	0.001	mg/L	0.0960		96	80-129			
Magnesium	6	0.1	mg/L	6.11		103	83-119			
Manganese	0.3	0.002	mg/L	0.318		98	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		104	94-114			
Nickel	0.8	0.002	mg/L	0.789		100	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		85	70-114			
Potassium	3	0.1	mg/L	2.84		95	84-112			
Selenium	0.03	0.003	mg/L	0.0300		95	87-125			
Sodium	17	0.1	mg/L	17.4		100	81-116			
Strontium	0.9	0.005	mg/L	0.979		96	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		109	93-127			
Uranium	0.18	0.0002	mg/L	0.244		74	69-98			
Vanadium	0.7	0.01	mg/L	0.798		91	83-111			
Zinc	0.8	0.01	mg/L	0.800		94	90-121			
General Parameters, Batch K003646										
Blank (K003646-BLK1)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
Blank (K003646-BLK2)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							
Blank (K003646-BLK3)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	<	1.0	mg/L							
Conductivity (EC)	<	2	uS/cm							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K003646, Continued										
LCS (K003646-BS1)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	103	1.0	mg/L	100		103	95-109			
LCS (K003646-BS2)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	102	1.0	mg/L	100		102	95-109			
LCS (K003646-BS3)				Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	105	1.0	mg/L	100		105	95-109			
LCS (K003646-BS4)				Analyzed: Sep-21-10						
Conductivity (EC)	1450	2	uS/cm	1410		103	95-105			
LCS (K003646-BS5)				Analyzed: Sep-21-10						
Conductivity (EC)	1430	2	uS/cm	1410		101	95-105			
LCS (K003646-BS6)				Analyzed: Sep-21-10						
Conductivity (EC)	1450	2	uS/cm	1410		103	95-105			
Duplicate (K003646-DUP3)	**Source: K0I0798-02**			Analyzed: Sep-21-10						
Alkalinity, Total as CaCO3	1600	1.0	mg/L		1590			0.4	10	
Conductivity (EC)	3430	2	uS/cm		3440			0.3	5	
pH	7.41	0.01	pH Units		7.43			0.3	5	
Reference (K003646-SRM1)				Analyzed: Sep-21-10						
pH	7.03	0.01	pH Units	7.00		100	98-102			
Reference (K003646-SRM2)				Analyzed: Sep-21-10						
pH	7.03	0.01	pH Units	7.00		100	98-102			
Reference (K003646-SRM3)				Analyzed: Sep-21-10						
pH	7.02	0.01	pH Units	7.00		100	98-102			
General Parameters, Batch K003669										
Blank (K003669-BLK1)				Analyzed: Sep-22-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K003669-BLK2)				Analyzed: Sep-22-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K003669-BLK3)				Analyzed: Sep-24-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K003669-BLK4)				Analyzed: Sep-22-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
Blank (K003669-BLK5)				Analyzed: Sep-24-10						
Chloride	<	0.10	mg/L							
Nitrogen, Nitrate as N	<	0.01	mg/L							
Sulfate	<	1.0	mg/L							
LCS (K003669-BS1)				Analyzed: Sep-22-10						
Chloride	9.69	0.10	mg/L	10.0		97	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K003669, Continued										
LCS (K003669-BS1), Continued				Analyzed: Sep-22-10						
Nitrogen, Nitrate as N	10.9	0.01	mg/L	10.0		109	85-115			
Sulfate	9.9	1.0	mg/L	10.0		99	85-115			
LCS (K003669-BS2)				Analyzed: Sep-22-10						
Chloride	9.73	0.10	mg/L	10.0		97	85-115			
Nitrogen, Nitrate as N	10.4	0.01	mg/L	10.0		104	85-115			
Sulfate	9.8	1.0	mg/L	10.0		98	85-115			
LCS (K003669-BS3)				Analyzed: Sep-24-10						
Chloride	9.70	0.10	mg/L	10.0		97	85-115			
Nitrogen, Nitrate as N	10.4	0.01	mg/L	10.0		104	85-115			
Sulfate	9.8	1.0	mg/L	10.0		98	85-115			
LCS (K003669-BS4)				Analyzed: Sep-24-10						
Chloride	9.78	0.10	mg/L	10.0		98	85-115			
Nitrogen, Nitrate as N	10.7	0.01	mg/L	10.0		107	85-115			
Sulfate	9.7	1.0	mg/L	10.0		97	85-115			
LCS (K003669-BS5)				Analyzed: Sep-24-10						
Chloride	10.5	0.10	mg/L	10.0		105	85-115			
Nitrogen, Nitrate as N	11.0	0.01	mg/L	10.0		110	85-115			
Sulfate	10.6	1.0	mg/L	10.0		106	85-115			
Duplicate (K003669-DUP5)	**Source: K0I0798-06**			Analyzed: Sep-24-10						
Chloride	63.0	0.10	mg/L		67.3			7	15	
Nitrogen, Nitrate as N	1.83	0.01	mg/L		1.84			0.4	15	
Sulfate	31.6	1.0	mg/L		31.6			0.008	15	
General Parameters, Batch K003672										
Blank (K003672-BLK1)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK2)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK3)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK4)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK5)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK6)				Analyzed: Sep-27-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
Blank (K003672-BLK7)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	<	0.02	mg/L							
LCS (K003672-BS1)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	9.91	0.20	mg/L	10.0		99	85-115			
LCS (K003672-BS2)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	10.1	0.20	mg/L	10.0		101	85-115			
LCS (K003672-BS3)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	10.1	0.20	mg/L	10.0		101	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
General Parameters, Batch K003672, Continued										
LCS (K003672-BS4)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	10.0	0.20	mg/L	10.0		100	85-115			
LCS (K003672-BS5)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	9.48	0.20	mg/L	10.0		95	85-115			
LCS (K003672-BS6)				Analyzed: Sep-27-10						
Nitrogen, Ammonia as N	9.48	0.02	mg/L	10.0		95	85-115			
LCS (K003672-BS7)				Analyzed: Sep-23-10						
Nitrogen, Ammonia as N	9.55	0.20	mg/L	10.0		96	85-115			
General Parameters, Batch K003691										
Blank (K003691-BLK1)				Analyzed: Sep-27-10						
Solids, Total Dissolved	<	5	mg/L							
Blank (K003691-BLK2)				Analyzed: Sep-27-10						
Solids, Total Dissolved	<	5	mg/L							
Reference (K003691-SRM1)				Analyzed: Sep-27-10						
Solids, Total Dissolved	234	5	mg/L	240		98	85-115			
Reference (K003691-SRM2)				Analyzed: Sep-27-10						
Solids, Total Dissolved	244	5	mg/L	240		102	85-115			
Total Recoverable Metals by ICPMS, Batch R002455										
Blank (R002455-BLK1)				Analyzed: Sep-24-10						
Calcium	<	1.0	mg/L							
Magnesium	<	0.10	mg/L							
Blank (R002455-BLK2)				Analyzed: Sep-25-10						
Calcium	<	1.0	mg/L							
Magnesium	<	0.10	mg/L							
Duplicate (R002455-DUP1)	**Source: K0I0798-05**			Analyzed: Sep-24-10						
Calcium	386	1.0	mg/L		358			7	20	
Magnesium	215	0.10	mg/L		229			6	20	
Reference (R002455-SRM1)				Analyzed: Sep-24-10						
Calcium	11.4	1.0	mg/L	10.3		111	88-119			
Magnesium	3.22	0.10	mg/L	3.37		95	80-117			
Reference (R002455-SRM2)				Analyzed: Sep-25-10						
Calcium	11.1	1.0	mg/L	10.3		108	88-119			
Magnesium	3.64	0.10	mg/L	3.37		108	80-117			

QC Qualifiers:

MS1 The recovery was outside of QC acceptance limits for the Matrix Spike. Data accepted based on acceptable performance of other batch QC.

CERTIFICATE OF ANALYSIS

CARO ANALYTICAL SERVICES

CLIENT	**Regional District of Central Okanagan**		
	1450 KLO Road		
	KELOWNA BC	TEL	(250) 763-4918
	V1W 3Z4	FAX	(250) 768-2260
ATTENTION	**Mike Wyman**		

RECEIVED / TEMP	Dec-21-10 15:30 / 7.0 °C	**WORK ORDER**	K0L0787
REPORTED	Dec-30-10	**PROJECT**	Westside Landfill & Shannon Lake
COC #(s)	15327	**PROJECT INFO**	Sampling Via Golder

General Comments:

CARO Analytical Services employs methods which are based on those found in "Standard Methods for the Examination of Water and Wastewater", 21st Edition, 2005, published by the American Public Health Association (APHA); US EPA protocols found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846", 3rd Edition; protocols published by the British Columbia Ministry of Environment (BCMOE); and/or CCME Canada-wide Standard Reference methods.

Methods not described in these publications are conducted according to procedures accepted by appropriate regulatory agencies, and/or are done 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 document. This analytical report must be reproduced in its entirity. 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.

- All solids results are reported on a dry weight basis unless otherwise noted

- Units: mg/kg = milligrams per kilogram, equivalent to parts per million (ppm)
  mg/L = milligrams per litre, equivalent to parts per million (ppm)
  ug/L = micrograms per litre, equivalent to parts per billion (ppb)
  ug/g = micrograms per gram, equivalent to parts per million (ppm)
  ug/m3 = micrograms per cubic meter of air

- "RDL" Reported detection limit
- "<" Less than reported detection limit
- "AO" Aesthetic objective
- "MAC" Maximum acceptable concentration (health-related guideline)
- "LAB" RMD = Richmond location, KEL = Kelowna location, EDM = Edmonton location, SUB = Subcontracted

Please contact CARO if more information is needed.

CARO Analytical Services

Final Review Per: **Ed Hoppe, B.Sc, P.Chem For Sarah Speier, B.Sc.**
Administration Coordinator (Acting)

CARO Analytical Services (Kelowna)
102 - 3677 Highway 97N Kelowna, BC Canada V1X 5C3
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SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
General Parameters							
BH1 (K0L0787-01) Matrix: Water Sampled: Dec-21-10 10:30							
Alkalinity, Total as CaCO3	**1210**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**315**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3190**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**869**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1440**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.95**	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.43**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.03**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**2200**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**124**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	
BH2 (K0L0787-02) Matrix: Water Sampled: Dec-21-10 12:30							
Alkalinity, Total as CaCO3	**1600**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**301**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3420**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**1890**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1700**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.52**	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.51**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.06**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**2310**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**25.5**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	
BH4 (K0L0787-03) Matrix: Water Sampled: Dec-21-10							
Alkalinity, Total as CaCO3	**865**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**356**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**2690**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**1320**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1240**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.05**	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.74**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.34**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**1580**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**79.5**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	
BH5 (K0L0787-04) Matrix: Water Sampled: Dec-21-10							
Alkalinity, Total as CaCO3	**262**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**55.4**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**865**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**345**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**307**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	<0.02	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**7.16**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.66**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**503**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**63.4**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
General Parameters, Continued							
DUP A (K0L0787-05) Matrix: Water Sampled: Dec-21-10							
Alkalinity, Total as CaCO3	**1590**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**303**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**3470**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**1660**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**1780**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	**0.45**	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**0.40**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.20**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**2250**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**24.8**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	
SLMHP (K0L0787-06) Matrix: Water Sampled: Dec-21-10							
Alkalinity, Total as CaCO3	**366**	1.0	mg/L	Dec-22-10	APHA 2320 B	KEL	
Chloride	**49.3**	0.10	mg/L	Dec-23-10	APHA 4110 B	KEL	
Conductivity (EC)	**875**	2	uS/cm	Dec-22-10	APHA 2510 B	KEL	
Hardness, Total (Total as CaCO3)	**375**	2.91	mg/L	Dec-24-10	APHA 2340 B	RMD	
Hardness, Total (Diss. as CaCO3)	**359**	12	mg/L	Dec-24-10	APHA 2340 B	RMD	
Nitrogen, Ammonia as N	<0.02	0.02	mg/L	Dec-23-10	APHA 4500-NH3 G	KEL	
Nitrogen, Nitrate as N	**1.62**	0.01	mg/L	Dec-23-10	APHA 4110 B	KEL	
pH	**7.50**	0.01	pH Units	Dec-22-10	APHA 4500-H+ B	KEL	
Solids, Total Dissolved	**475**	5	mg/L	Dec-24-10	APHA 2540 C	KEL	
Sulfate	**26.0**	1.0	mg/L	Dec-23-10	APHA 4110 B	KEL	
Dissolved Metals by ICPMS							
BH1 (K0L0787-01) Matrix: Water Sampled: Dec-21-10 10:30							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	**0.0057**	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	<0.0500	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**1.71**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	
Calcium	**307**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	**0.0074**	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	**0.00360**	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**6.43**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0124**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**164**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Manganese	**6.20**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Molybdenum	**0.0013**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Nickel	**0.0342**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
BH1 (K0L0787-01) Matrix: Water Sampled: Dec-21-10 10:30, Continued							
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Potassium	**4.42**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Silicon	**30.0**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Sodium	**157**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Strontium	**2.27**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Uranium	**0.00078**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD	
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD	
Zirconium	**0.0038**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
BH2 (K0L0787-02) Matrix: Water Sampled: Dec-21-10 12:30							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	<0.0500	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**0.436**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	
Calcium	**374**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	**0.0071**	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	**0.00390**	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	**0.0026**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**1.09**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0230**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**187**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Manganese	**9.74**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Molybdenum	**0.0043**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Nickel	**0.0395**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Potassium	**2.76**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Silicon	**34.3**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Sodium	**134**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Strontium	**3.27**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
BH2 (K0L0787-02) Matrix: Water Sampled: Dec-21-10 12:30, Continued							
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Uranium	**0.00493**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD	
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD	
Zirconium	**0.0045**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
BH4 (K0L0787-03) Matrix: Water Sampled: Dec-21-10							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	**0.0571**	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**0.371**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	
Calcium	**244**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	**0.0058**	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	**0.00189**	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	**0.0039**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**0.257**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0368**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**153**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Manganese	**0.547**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Molybdenum	**0.0053**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Nickel	**0.0363**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Potassium	**5.81**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Silicon	**27.2**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Sodium	**105**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Strontium	**2.45**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Uranium	**0.0364**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD	
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Dissolved Metals by ICPMS, Continued

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
BH5 (K0L0787-04) Matrix: Water Sampled: Dec-21-10							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	<0.0500	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**0.058**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	
Calcium	**85.2**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**0.110**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0145**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**22.9**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Manganese	**0.0061**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Molybdenum	**0.0101**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Nickel	**0.0023**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Potassium	**2.68**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Silicon	**19.2**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Sodium	**50.7**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Strontium	**0.376**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Uranium	**0.00682**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD	
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD	
Zirconium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
DUP A (K0L0787-05) Matrix: Water Sampled: Dec-21-10							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	<0.0500	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**0.428**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes
Dissolved Metals by ICPMS, Continued							
DUP A (K0L0787-05) Matrix: Water Sampled: Dec-21-10, Continued							
Calcium	**392**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	**0.0081**	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	**0.00441**	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	**0.0021**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**0.758**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0240**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**194**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Manganese	**9.69**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Molybdenum	**0.0045**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Nickel	**0.0411**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Potassium	**2.53**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Silicon	**28.5**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Sodium	**137**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD	
Strontium	**3.18**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD	
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Uranium	**0.00514**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD	
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD	
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD	
Zirconium	**0.0043**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
SLMHP (K0L0787-06) Matrix: Water Sampled: Dec-21-10							
Aluminum	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD	
Antimony	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Arsenic	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Barium	<0.0500	0.0500	mg/L	Dec-24-10	EPA 6020A	RMD	
Beryllium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Bismuth	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Boron	**0.046**	0.040	mg/L	Dec-24-10	EPA 6020A	RMD	
Cadmium	<0.00010	0.00010	mg/L	Dec-24-10	EPA 6020A	RMD	
Calcium	**97.4**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD	
Chromium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD	
Cobalt	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD	
Copper	**0.0217**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD	
Iron	**0.102**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	
Lead	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Lithium	**0.0155**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD	
Magnesium	**28.1**	0.100	mg/L	Dec-24-10	EPA 6020A	RMD	

SAMPLE DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	RDL	Units	Analyzed	Method (mod. from)	Lab	Notes

Dissolved Metals by ICPMS, Continued

SLMHP (K0L0787-06) Matrix: Water Sampled: Dec-21-10, Continued

Manganese	**0.0034**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD
Mercury	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD
Molybdenum	**0.0031**	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD
Nickel	**0.0024**	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD
Phosphorus	<0.200	0.200	mg/L	Dec-24-10	EPA 6020A	RMD
Potassium	**3.54**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD
Selenium	<0.0050	0.0050	mg/L	Dec-24-10	EPA 6020A	RMD
Silicon	**21.2**	5.00	mg/L	Dec-24-10	EPA 6020A	RMD
Silver	<0.00050	0.00050	mg/L	Dec-24-10	EPA 6020A	RMD
Sodium	**41.1**	0.200	mg/L	Dec-24-10	EPA 6020A	RMD
Strontium	**0.597**	0.005	mg/L	Dec-24-10	EPA 6020A	RMD
Tellurium	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD
Thallium	<0.00020	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD
Thorium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD
Tin	<0.0020	0.0020	mg/L	Dec-24-10	EPA 6020A	RMD
Titanium	<0.050	0.050	mg/L	Dec-24-10	EPA 6020A	RMD
Uranium	**0.00549**	0.00020	mg/L	Dec-24-10	EPA 6020A	RMD
Vanadium	<0.010	0.010	mg/L	Dec-24-10	EPA 6020A	RMD
Zinc	<0.0400	0.0400	mg/L	Dec-24-10	EPA 6020A	RMD
Zirconium	<0.0010	0.0010	mg/L	Dec-24-10	EPA 6020A	RMD

Total Recoverable Metals by ICPMS

BH1 (K0L0787-01) Matrix: Water Sampled: Dec-21-10 10:30

Calcium	**32.2**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**191**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

BH2 (K0L0787-02) Matrix: Water Sampled: Dec-21-10 12:30

Calcium	**402**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**215**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

BH4 (K0L0787-03) Matrix: Water Sampled: Dec-21-10

Calcium	**249**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**168**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

BH5 (K0L0787-04) Matrix: Water Sampled: Dec-21-10

Calcium	**91.4**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**28.3**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

DUP A (K0L0787-05) Matrix: Water Sampled: Dec-21-10

Calcium	**357**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**187**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

SLMHP (K0L0787-06) Matrix: Water Sampled: Dec-21-10

Calcium	**99.7**	1.0	mg/L	Dec-24-10	EPA 6020A	RMD
Magnesium	**30.6**	0.10	mg/L	Dec-24-10	EPA 6020A	RMD

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

The following section reports quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with quality control 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 for.

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	Reporting Limit	Units	Spike Level	Source Result	% REC	% REC Limits	% RPD	% RPD Limit	Notes

Dissolved Metals by ICPMS, Batch R003434

Blank (R003434-BLK1)				Analyzed: Dec-24-10						
Aluminum	< 0.05	0.05	mg/L							
Antimony	< 0.001	0.001	mg/L							
Arsenic	< 0.005	0.005	mg/L							
Barium	< 0.05	0.05	mg/L							
Beryllium	< 0.001	0.001	mg/L							
Bismuth	< 0.001	0.001	mg/L							
Boron	< 0.04	0.04	mg/L							
Cadmium	< 0.0001	0.0001	mg/L							
Calcium	< 5	5	mg/L							
Chromium	< 0.005	0.005	mg/L							
Cobalt	< 0.0005	0.0005	mg/L							
Copper	< 0.002	0.002	mg/L							
Iron	< 0.1	0.1	mg/L							
Lead	< 0.001	0.001	mg/L							
Lithium	< 0.001	0.001	mg/L							
Magnesium	< 0.1	0.1	mg/L							
Manganese	< 0.002	0.002	mg/L							
Mercury	< 0.0005	0.0005	mg/L							
Molybdenum	< 0.001	0.001	mg/L							
Nickel	< 0.002	0.002	mg/L							
Phosphorus	< 0.2	0.2	mg/L							
Potassium	< 0.2	0.2	mg/L							
Selenium	< 0.005	0.005	mg/L							
Silicon	< 5	5	mg/L							
Silver	< 0.0005	0.0005	mg/L							
Sodium	< 0.2	0.2	mg/L							
Strontium	< 0.005	0.005	mg/L							
Tellurium	< 0.002	0.002	mg/L							
Thallium	< 0.0002	0.0002	mg/L							
Thorium	< 0.001	0.001	mg/L							
Tin	< 0.002	0.002	mg/L							
Titanium	< 0.05	0.05	mg/L							
Uranium	< 0.0002	0.0002	mg/L							
Vanadium	< 0.01	0.01	mg/L							
Zinc	< 0.04	0.04	mg/L							
Zirconium	< 0.001	0.001	mg/L							
Duplicate (R003434-DUP1)		**Source: K0L0787-05**		Analyzed: Dec-24-10						
Aluminum	0.03	0.05	mg/L		0.03				20	
Antimony	0.0002	0.001	mg/L		0.0001				20	
Arsenic	0.003	0.005	mg/L		0.004				20	
Barium	0.02	0.05	mg/L		0.02				20	

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	% REC	% REC Limits	% RPD	% RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R003434, Continued										
Duplicate (R003434-DUP1), Continued		**Source: K0L0787-05**		Analyzed: Dec-24-10						
Beryllium	< 0.001	0.001	mg/L		< 0.001				20	
Bismuth	< 0.001	0.001	mg/L		< 0.001				20	
Boron	0.4	0.04	mg/L		0.4			4	20	
Cadmium	< 0.0001	0.0001	mg/L		< 0.0001				20	
Calcium	383	5	mg/L		392			2	20	
Chromium	0.009	0.005	mg/L		0.008				20	
Cobalt	0.004	0.0005	mg/L		0.004			2	20	
Copper	0.002	0.002	mg/L		0.002				20	
Iron	0.8	0.1	mg/L		0.8			< 1	20	
Lead	0.0002	0.001	mg/L		0.0002				20	
Lithium	0.02	0.001	mg/L		0.02			6	20	
Magnesium	184	0.1	mg/L		194			5	20	
Manganese	9.6	0.002	mg/L		9.7			< 1	20	
Mercury	< 0.0005	0.0005	mg/L		< 0.0005				20	
Molybdenum	0.005	0.001	mg/L		0.004				20	
Nickel	0.04	0.002	mg/L		0.04			3	20	
Phosphorus	0.05	0.2	mg/L		0.04				20	
Potassium	2	0.2	mg/L		3			3	20	
Selenium	< 0.005	0.005	mg/L		< 0.005				20	
Silicon	25	5	mg/L		29			11	20	
Silver	0.0001	0.0005	mg/L		0.0001				20	
Sodium	131	0.2	mg/L		137			5	20	
Strontium	3	0.005	mg/L		3			< 1	20	
Tellurium	< 0.002	0.002	mg/L		< 0.002				20	
Thallium	< 0.0002	0.0002	mg/L		< 0.0002				20	
Thorium	< 0.001	0.001	mg/L		< 0.001				20	
Tin	0.0004	0.002	mg/L		0.0003				20	
Titanium	< 0.05	0.05	mg/L		< 0.05				20	
Uranium	0.005	0.0002	mg/L		0.005			2	20	
Vanadium	0.008	0.01	mg/L		0.008				20	
Zinc	0.008	0.04	mg/L		0.008				20	
Zirconium	0.004	0.001	mg/L		0.004				20	
Matrix Spike (R003434-MS1)		**Source: K0L0787-06**		Analyzed: Dec-24-10						
Antimony	0.4	0.001	mg/L	0.400	0.00009	97	81-114			
Arsenic	0.2	0.005	mg/L	0.200	0.002	94	89-115			
Barium	0.9	0.05	mg/L	1.00	0.01	92	86-115			
Beryllium	0.4	0.001	mg/L	0.400	< 0.001	100	77-124			
Cadmium	0.09	0.0001	mg/L	0.100	< 0.0001	93	82-126			
Chromium	0.4	0.005	mg/L	0.400	0.004	102	85-117			
Cobalt	0.39	0.0005	mg/L	0.400	0.0002	97	76-131			
Copper	0.4	0.002	mg/L	0.400	0.02	101	88-113			
Iron	2	0.1	mg/L	2.00	0.1	99	80-115			
Lead	0.2	0.001	mg/L	0.200	0.0004	98	84-121			
Manganese	0.4	0.002	mg/L	0.400	0.003	100	75-135			
Nickel	0.4	0.002	mg/L	0.400	0.002	97	83-121			
Selenium	0.1	0.005	mg/L	0.100	< 0.005	99	91-122			
Silver	0.08	0.0005	mg/L	0.100	0.0001	84	74-120			
Thallium	0.10	0.0002	mg/L	0.100	< 0.0002	95	79-119			
Vanadium	0.2	0.01	mg/L	0.200	0.005	96	80-115			
Zinc	1.0	0.04	mg/L	1.00	0.04	96	89-123			
Reference (R003434-SRM1)				Analyzed: Dec-24-10						
Aluminum	0.2	0.05	mg/L	0.209		97	76-121			
Antimony	0.04	0.001	mg/L	0.0400		97	89-126			
Arsenic	0.4	0.005	mg/L	0.400		92	88-112			
Barium	3.0	0.05	mg/L	3.12		95	90-114			
Beryllium	0.2	0.001	mg/L	0.197		98	82-125			
Boron	1	0.04	mg/L	1.61		90	78-116			
Cadmium	0.19	0.0001	mg/L	0.200		93	90-112			
Calcium	7	5	mg/L	6.50		111	88-125			
Chromium	0.4	0.005	mg/L	0.401		102	87-112			
Cobalt	0.12	0.0005	mg/L	0.119		100	87-114			

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	% REC	% REC Limits	% RPD	% RPD Limit	Notes
Dissolved Metals by ICPMS, Batch R003434, Continued										
Reference (R003434-SRM1), Continued				Analyzed: Dec-24-10						
Copper	0.8	0.002	mg/L	0.781		106	94-114			
Iron	1	0.1	mg/L	1.17		101	86-117			
Lead	0.1	0.001	mg/L	0.102		103	88-113			
Lithium	0.1	0.001	mg/L	0.0960		104	80-129			
Magnesium	6	0.1	mg/L	6.11		100	83-119			
Manganese	0.3	0.002	mg/L	0.318		99	85-114			
Molybdenum	0.4	0.001	mg/L	0.387		101	94-114			
Nickel	0.8	0.002	mg/L	0.789		102	92-113			
Phosphorus	0.4	0.2	mg/L	0.448		91	70-114			
Potassium	3	0.2	mg/L	2.84		97	84-112			
Selenium	0.03	0.005	mg/L	0.0300		93	87-125			
Sodium	17	0.2	mg/L	17.4		98	81-116			
Strontium	0.9	0.005	mg/L	0.979		95	92-112			
Thallium	0.04	0.0002	mg/L	0.0350		115	93-127			
Uranium	0.19	0.0002	mg/L	0.244		80	69-98			
Vanadium	0.8	0.01	mg/L	0.798		99	83-111			
Zinc	0.8	0.04	mg/L	0.800		100	90-121			
General Parameters, Batch K005048										
Blank (K005048-BLK1)				Analyzed: Dec-22-10						
Chloride	< 0.10	0.10	mg/L							
Nitrogen, Nitrate as N	< 0.01	0.01	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (K005048-BLK2)				Analyzed: Dec-22-10						
Chloride	< 0.10	0.10	mg/L							
Nitrogen, Nitrate as N	< 0.01	0.01	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (K005048-BLK3)				Analyzed: Dec-23-10						
Chloride	< 0.10	0.10	mg/L							
Nitrogen, Nitrate as N	< 0.01	0.01	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (K005048-BLK4)				Analyzed: Dec-23-10						
Chloride	< 0.10	0.10	mg/L							
Nitrogen, Nitrate as N	< 0.01	0.01	mg/L							
Sulfate	< 1.0	1.0	mg/L							
Blank (K005048-BLK5)				Analyzed: Dec-23-10						
Chloride	< 0.10	0.10	mg/L							
Nitrogen, Nitrate as N	< 0.01	0.01	mg/L							
Sulfate	< 1.0	1.0	mg/L							
LCS (K005048-BS1)				Analyzed: Dec-22-10						
Chloride	3.52	0.10	mg/L	4.00		88	85-115			
Nitrogen, Nitrate as N	3.51	0.01	mg/L	4.00		88	85-115			
Sulfate	4.2	1.0	mg/L	4.00		104	85-115			
LCS (K005048-BS2)				Analyzed: Dec-22-10						
Chloride	3.60	0.10	mg/L	4.00		90	85-115			
Nitrogen, Nitrate as N	3.70	0.01	mg/L	4.00		93	85-115			
Sulfate	3.6	1.0	mg/L	4.00		90	85-115			
LCS (K005048-BS3)				Analyzed: Dec-23-10						
Chloride	3.63	0.10	mg/L	4.00		91	85-115			
Nitrogen, Nitrate as N	3.75	0.01	mg/L	4.00		94	85-115			
Sulfate	3.7	1.0	mg/L	4.00		93	85-115			

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	% REC	% REC Limits	% RPD	% RPD Limit	Notes
General Parameters, Batch K005048, Continued										
LCS (K005048-BS4)				Analyzed: Dec-23-10						
Chloride	3.62	0.10	mg/L	4.00		90	85-115			
Nitrogen, Nitrate as N	3.66	0.01	mg/L	4.00		91	85-115			
Sulfate	3.7	1.0	mg/L	4.00		93	85-115			
LCS (K005048-BS5)				Analyzed: Dec-23-10						
Chloride	3.62	0.10	mg/L	4.00		90	85-115			
Nitrogen, Nitrate as N	3.75	0.01	mg/L	4.00		94	85-115			
Sulfate	3.7	1.0	mg/L	4.00		93	85-115			
General Parameters, Batch K005054										
Blank (K005054-BLK1)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2	2	uS/cm							
Blank (K005054-BLK2)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2	2	uS/cm							
Blank (K005054-BLK3)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	< 1.0	1.0	mg/L							
Conductivity (EC)	< 2	2	uS/cm							
LCS (K005054-BS1)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	104	1.0	mg/L	100		104	95-109			
LCS (K005054-BS2)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	104	1.0	mg/L	100		104	95-109			
LCS (K005054-BS3)				Analyzed: Dec-22-10						
Alkalinity, Total as CaCO3	103	1.0	mg/L	100		103	95-109			
LCS (K005054-BS4)				Analyzed: Dec-22-10						
Conductivity (EC)	1410	2	uS/cm	1410		100	95-105			
LCS (K005054-BS5)				Analyzed: Dec-22-10						
Conductivity (EC)	1440	2	uS/cm	1410		102	95-105			
LCS (K005054-BS6)				Analyzed: Dec-22-10						
Conductivity (EC)	1470	2	uS/cm	1410		104	95-105			
Reference (K005054-SRM1)				Analyzed: Dec-22-10						
pH	7.00	0.01	pH Units	7.00		100	98-102			
Reference (K005054-SRM2)				Analyzed: Dec-22-10						
pH	6.97	0.01	pH Units	7.00		100	98-102			
Reference (K005054-SRM3)				Analyzed: Dec-22-10						
pH	6.97	0.01	pH Units	7.00		100	98-102			
General Parameters, Batch K005061										
Blank (K005061-BLK1)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	< 0.02	0.02	mg/L							
Blank (K005061-BLK2)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	< 0.02	0.02	mg/L							

QUALITY CONTROL DATA

CARO ANALYTICAL SERVICES

CLIENT	Regional District of Central Okanagan	**WORK ORDER #**	K0L0787
PROJECT	Westside Landfill & Shannon Lake	**REPORTED**	Dec-30-10

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	% REC	% REC Limits	% RPD	% RPD Limit	Notes
General Parameters, Batch K005061, Continued										
Blank (K005061-BLK3)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	< 0.02	0.02	mg/L							
Blank (K005061-BLK4)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	< 0.02	0.02	mg/L							
LCS (K005061-BS1)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	9.76	0.20	mg/L	10.0		98	85-115			
LCS (K005061-BS2)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	10.2	0.20	mg/L	10.0		102	85-115			
LCS (K005061-BS3)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	9.79	0.20	mg/L	10.0		98	85-115			
LCS (K005061-BS4)				Analyzed: Dec-23-10						
Nitrogen, Ammonia as N	10.1	0.20	mg/L	10.0		101	85-115			
General Parameters, Batch K005077										
Blank (K005077-BLK1)				Analyzed: Dec-24-10						
Solids, Total Dissolved	< 5	5	mg/L							
Blank (K005077-BLK2)				Analyzed: Dec-24-10						
Solids, Total Dissolved	< 5	5	mg/L							
Reference (K005077-SRM1)				Analyzed: Dec-24-10						
Solids, Total Dissolved	240	5	mg/L	240		100	85-115			
Reference (K005077-SRM2)				Analyzed: Dec-24-10						
Solids, Total Dissolved	242	5	mg/L	240		101	85-115			
Total Recoverable Metals by ICPMS, Batch R003428										
Blank (R003428-BLK1)				Analyzed: Dec-24-10						
Calcium	< 1.0	1.0	mg/L							
Magnesium	< 0.10	0.10	mg/L							
Blank (R003428-BLK2)				Analyzed: Dec-24-10						
Calcium	< 1.0	1.0	mg/L							
Magnesium	< 0.10	0.10	mg/L							
Blank (R003428-BLK3)				Analyzed: Dec-24-10						
Calcium	< 1.0	1.0	mg/L							
Magnesium	< 0.10	0.10	mg/L							
Reference (R003428-SRM1)				Analyzed: Dec-24-10						
Calcium	10.5	1.0	mg/L	10.3		101	88-119			
Magnesium	3.23	0.10	mg/L	3.37		96	80-117			
Reference (R003428-SRM2)				Analyzed: Dec-24-10						
Calcium	10.7	1.0	mg/L	10.3		103	88-119			
Magnesium	3.44	0.10	mg/L	3.37		102	80-117			
Reference (R003428-SRM3)				Analyzed: Dec-24-10						
Calcium	10.0	1.0	mg/L	10.3		97	88-119			
Magnesium	3.26	0.10	mg/L	3.37		97	80-117			

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