

2010 Groundwater Monitoring Report

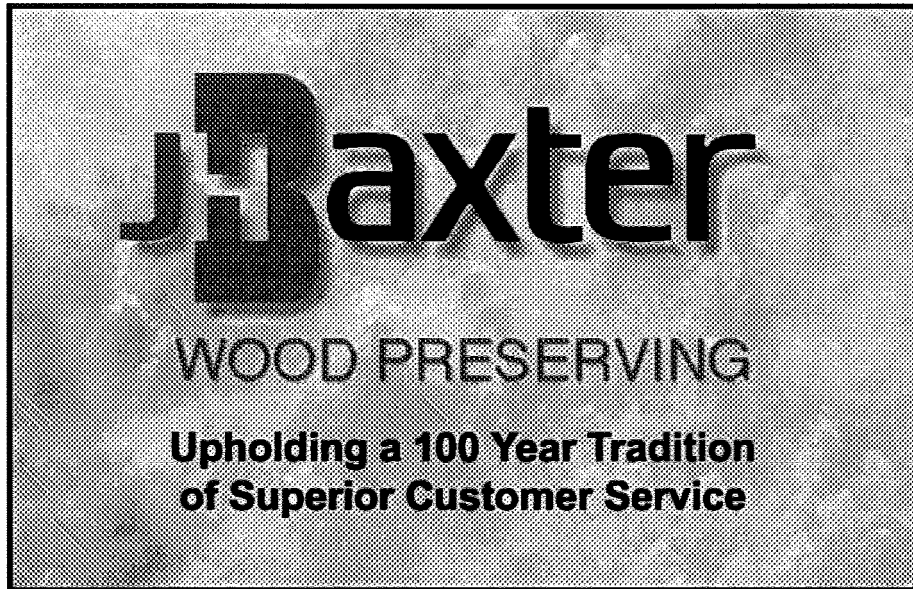
South Woodwaste Landfill

J.H. Baxter & Company
Arlington, Washington

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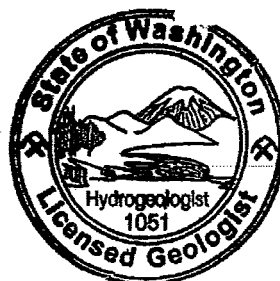
June 2011



2010 Groundwater Monitoring Report Arlington, Washington

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The J. H. Baxter & Co. (Baxter) Project Team (Baxter and Premier Environmental Services, Inc.) is submitting this Groundwater Monitoring Report for Baxter's South Woodwaste Landfill in Arlington, Washington. This report was prepared by or performed under the direction of a State of Washington Licensed Hydrogeologist. If you have any questions or comments concerning the report, please contact the individuals listed below.



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Acronyms and Abbreviations

AVD	absolute value difference
Baxter	J. H. Baxter & Company
COD	chemical oxygen demand
CAS	Columbia Analytical Services, Inc.
EAL	Edge Analytical Laboratory
EPA	Environmental Protection Agency
MCL	maximum contaminant level
MDL	method detection limit
MRL	method reporting limit
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
RPD	relative percent difference
SMCL	secondary maximum contaminant level
TDS	total dissolved solids
TOC	total organic carbon
WAC	Washington Administrative Code

1 Introduction

This report presents quarterly groundwater data collected from February to November 2010 for the J. H. Baxter & Company's (Baxter) closed South Woodwaste Landfill (South Landfill), located at 6520 188th Street NE in the City of Arlington, Snohomish County, Washington (Figure 1). The South Landfill is closed and covered with a vegetated soil cap.

Groundwater sampling was performed on monitoring wells BXS-1, BXS-2, BXS-3, and BXS-4 during quarterly monitoring events conducted in February, May, August, and November 2010. Field measurements were taken for pH, conductivity, temperature, redox potential (Eh), and dissolved oxygen. In addition, methane measurements were collected in May and November 2010. Field measurement data are summarized in Table 3a.

Groundwater samples were submitted for laboratory analysis of pH, conductivity, ammonia as nitrogen, chemical oxygen demand (COD), chloride, nitrite plus nitrate as nitrogen, total dissolved solids (TDS), sulfate, tannin and lignin, total organic carbon (TOC), total Coliform, and dissolved metals (arsenic, barium, cadmium, copper, iron, manganese, nickel, and zinc). Laboratory results are presented in Tables 3b and 3c.

All of the monitoring wells were installed in 1988. Monitoring wells BXS-1, BXS-2, and BXS-3 are located hydraulically downgradient of the South Landfill. Monitoring well BXS-4 is located hydraulically upgradient of the South Landfill (Figure 2). Monitoring well BXS-4 represents the background groundwater analytical data, the benchmark which to compare the analytical data from the downgradient wells. Boring logs, groundwater monitoring procedures, and a summary of site conditions encountered during the

installation of the monitoring wells are included in the hydrogeologic report prepared by Sweet-Edwards/EMCON, Inc. (EMCON 1989) in 1989.

2 Hydrogeology

As discussed, quarterly groundwater monitoring events were performed during February, May, August, and November 2010 for the South Landfill. Monitoring activities included well purging, water level measurement, groundwater sampling, and laboratory analysis. Groundwater samples were collected from monitoring well locations BXS-1, BXS-2, BXS-3, and BXS-4 during each quarterly sampling event.

2.1 Groundwater Elevations

Groundwater levels were measured in each well during each of the four monitoring events. The elevation of the groundwater surface was calculated relative to the Baxter plant datum by subtracting the depth to water from the surveyed top of casing elevation. Measured groundwater levels throughout the 2010 monitoring period are summarized in Table 1.

Groundwater elevations were highest during the February event for wells BXS-1 and BXS-4 and during the May event for wells BXS-2 and BXS-3. Groundwater elevations were lowest during the August event for well BXS-4 and during the November event for wells BXS-1, BXS-2, and BXS-3. The static groundwater level in wells BXS-1, BXS-2, BXS-3, and BXS-4 fluctuated throughout the year by 2.60 feet, 2.24 feet, 2.88 feet, and 3.58 feet, respectively. Groundwater surface elevations measured in February 2010 (Figure 2) and the November 2010 (Figure 3) are provided for reference.

The groundwater flow direction throughout the year was toward the northwest and is consistent with the regional groundwater flow in the aquifer (Figure 4). The average gradient varied between 0.0180 and 0.0224 during 2010 (Table 2).

2.2 Groundwater Velocities

Groundwater velocities (v_x) for each monitoring event were estimated using Darcy's Law.

$$v_x = -Ki/n_e$$

Hydraulic conductivity (K) in the fine sand unit beneath the landfill was estimated at 3×10^{-2} to 6×10^{-2} centimeters per second (cm/sec) based on slug tests performed in wells BXS-2 and BXS-4 (EMCON 1989). Porosity (n_e) was assumed to be 0.300 (i.e., 30%).

The average gradient (i) ranged from 0.0180 to 0.0224, resulting in velocity estimates of 5.102 to 12.699 feet per day. Table 2 shows the calculated hydraulic gradients and groundwater velocities during the monitoring events in 2010.

3 Groundwater Quality

Groundwater samples were collected February 10th for the first quarter, May 26th for the second quarter, August 18th for the third quarter, and November 18th for the fourth quarter of 2010 using sampling procedures originally described in Appendix C of EMCON's Hydrogeologic Report (EMCON 1989). Field sampling records are located in Appendix A.

Samples for total Coliform analyses were submitted to Edge Analytical Laboratory (EAL) in Burlington, Washington. Samples for pH, conductivity, ammonia as nitrogen, COD, chloride, nitrate plus nitrite as nitrogen, TDS, sulfate, tannin and lignin, TOC, and dissolved metals (arsenic, barium, cadmium, copper, iron, manganese, nickel and zinc) were submitted to Columbia Analytical Services, Inc. (CAS) in Kelso, Washington. Groundwater levels were measured in each well prior to purging.

3.1 Groundwater Sampling

Groundwater sampling was performed using dedicated submersible pumps (bladder pumps). A field duplicate, labeled BXS-5 or BXS-6, was collected from well BXS-2 during the first quarter event and from well BXS-1 during the second, third, and fourth quarter sampling events. Field blanks (i.e., equipment rinsate blanks) were collected during the four quarterly sampling events.

Prior to sample collection, field measurements were taken for pH, conductivity, temperature, redox potential, and dissolved oxygen. In addition, the well headspace was

tested for methane using a methane meter during the May and November 2010 events. Field measurement data are summarized in Table 3a.

Groundwater samples were submitted for laboratory analysis of pH, conductivity, ammonia as nitrogen, COD, chloride, nitrite plus nitrate as nitrogen, TDS, sulfate, tannin and lignin, TOC, total Coliform, and dissolved metals (arsenic, barium, cadmium, copper, iron, manganese, nickel, and zinc). The analytical data for the groundwater samples are summarized in Tables 3a, 3b, and 3c. Laboratory analytical reports and chain-of-custody forms for the 2010 groundwater monitoring events are presented in Appendix B.

4 Data Review

This section describes the data review process that was performed to evaluate the adequacy and quality of the analytical data from the 2010 groundwater monitoring events. The objective of the data review is to identify estimated, unreliable, or invalid measurements. Information on the reliability of the data is critical to the interpretation of the results. The review was performed according to guidelines prepared by the United States Environmental Protection Agency (EPA) (EPA 1994).

4.1 Field Quality Assurance/Quality Control (QA/QC)

During the quarterly groundwater sampling events, field duplicates were prepared and containerized by Baxter field personnel in accordance with standard practice. The field duplicate samples were collected from wells BXS-1 and BXS-2 and were labeled BXS-5 or BXS-6.

Field duplicate results aid in the assessment of sampling and analytical precision. Analytical results for the original and duplicate samples collected from each sampling event were evaluated using the relative percent difference (RPD). RPD is the difference between the two results divided by the mean and expressed as a percent. The RPD between the two results was calculated when both the natural sample and duplicate sample had positive results. When the RPD is greater than 35 percent, the reported values are considered estimated concentrations.

The precision of the field duplicate samples collected in 2010 is acceptable, with the following exceptions.

- The February sulfate, August total Coliform, November dissolved copper, and the May, August, and November dissolved iron, results are imprecise. The RPD values are 36, 105, 54, 87, 79, and 37, respectively.

4.2 Laboratory QA/QC

Collected groundwater samples were received by the laboratory with the proper chain-of-custody (COC) documentation, were properly preserved, and at the proper temperature. Samples for total Coliform were analyzed by Edge Analytical. The remaining analyses were performed by CAS.

With the exception of pH, all analyses were performed within the required holding time for the parameters of interest. The samples were analyzed for pH between one and two days after collection. The method used for pH analysis, Standard Methods 4500-H+ B (APHA 1998), does not list an analysis holding time. The EPA method for pH analysis of water samples, Method 150.1 (EPA 1999), specifies that pH analyses be performed “as soon as possible preferably in the field at the time of sampling”. For that reason, the field analyzed pH results are utilized for trend analysis and statistical evaluation.

The laboratory reports are complete and contain results for all samples and corresponding analyses requested on the COC forms.

4.3 Statistical Analysis of Data

Groundwater sample analysis results were statistically evaluated to assess if there was a significant difference between the downgradient wells and the upgradient background well. The following approach was used for performing the statistical analysis:

- **Non-Detects.** Non-detect results were replaced with a value of half of the laboratory method reporting limit (MRL).
- **Data Distribution.** A key assumption of Student's t-test was that the data are normally distributed.
- **Parametric hypothesis testing.** Parametric hypothesis testing was performed using Student's t-test for all parameters in both the upgradient and downgradient wells. For each comparison the null hypothesis was that there was no difference between the downgradient and upgradient concentrations. The null hypothesis was tested using a two-tailed test at a significance level of 0.025. The t-test statistic (t_{stat}) was calculated from the average and variance of quarterly sampling results in a downgradient well and the upgradient well. Each quarterly sample was compared to the previous three quarterly samples to provide a four sample running average. The average concentration in the downgradient well was significantly higher than the upgradient well if t_{stat} was greater than the critical test statistic (t_c). The critical test statistic was computed using the percent point function. The percent point function (ppf) is the inverse of the cumulative distribution function.

Statistically significant detections above background well (BXS-4) concentrations are shown in **bold** in the tables presented in Appendix C. Statistically significant detections below background concentrations are shown in ***bold italics*** in the tables presented in Appendix C.

5 Discussion of Results

5.1 Statistical Results

Appendix C presents the results of the statistical analyses for each individual parameter tested in the groundwater samples from wells BXS-1 through BXS-4. These include average concentration, variance, standard deviation, and Student's t-test statistic. The parameters detected at statistically higher concentrations in specific downgradient wells compared to the upgradient well are listed below:

- Field conductivity, chloride, TDS, and TOC for wells BXS-1, BXS-2, and BXS-3
- COD, tannin and lignin, and dissolved iron for wells BXS-2 and BXS-3
- Sulfate for well BXS-1
- Nitrate plus nitrite as nitrogen for wells BXS-1 and BXS-3
- Total Coliform for well BXS-2
- Ammonia, dissolved arsenic, and dissolved manganese for well BXS-3.

5.2 Concentration Trends over Time

Figures 5 through 18 show the concentration trends from 2006 through 2010 for each parameter discussed below.

Ammonia as Nitrogen (Figure 5) – The samples collected from well BXS-3 during all four events in 2010 are higher than the concentrations in background well BXS-4. The ammonia concentrations in wells BXS-1, BXS-2, and BXS-4 have remained steady since 2006. Ammonia levels in well BXS-3 were within their historic range during 2010.

Arsenic (Figure 6) – Dissolved arsenic concentrations in well BXS-3 were above background levels during all four quarters of 2010. The dissolved arsenic level detected in well BXS-3 in November was the highest observed concentration (186 µg/L) since monitoring began in April 2000. Concentrations of arsenic in wells BXS-1 and BXS-2 have been stable during the last five years.

Barium (Figure 7) – Concentrations of dissolved barium in downgradient wells BXS-2 and BXS-3 were higher than the concentrations in background well BXS-4 during 2010. The concentrations of barium in the most downgradient well, BXS-1, were below the corresponding concentrations in the background well. Concentrations of barium in background well BXS-4 and upgradient wells BSX-1, BXS-2, and BXS-3 were stable during 2010 and within their historical ranges.

Chemical Oxygen Demand (COD) (Figure 8) – The COD concentrations in the downgradient wells were higher than the corresponding COD concentrations in background well BXS-4 during 2010. COD concentrations in all wells were within historical levels during 2010.

Chloride (see Figure 9) – The concentrations of chloride in down gradient wells BXS-1, BXS-2, and BXS-3 for all 2010 sampling events were slightly greater than the corresponding concentrations in background well BXS-4. Concentrations of chloride have been stable over the last five years.

Conductivity (Field) (Figure 10) – Field conductivity measurements of the groundwater samples from all of the downgradient wells were greater than the conductivity of the background well during all four sampling events. Field conductivity of well BXS-4 in August was at a historic high of 230 μ S/cm. Conductivity values observed in wells BXS-1, BXS-2 and BXS-3 were within historical levels in 2010.

Iron (Figure 11) – The dissolved iron concentrations in wells BXS-2 and BXS-3 were above the corresponding background concentrations in 2010. Iron concentrations in well BXS-1 were below the background concentrations in well BXS-4 during all of 2010. The dissolved iron concentrations were within their historical ranges during 2010.

Manganese (Figure 12) – The concentrations of dissolved manganese in downgradient wells BXS-2 and BXS-2 during all four quarters of 2010 were higher than the corresponding levels in the background well BXS-4. During 2010, the manganese concentrations in well BXS-1 were below the background concentrations in well BXS-4. Manganese concentrations were within historical levels in wells BXS-2, BXS-3, and BXS-4 during 2010. Dissolved manganese concentrations in well BXS-1 appear to be slowly decreasing since January 2006.

Nickel (Figure 13) – Dissolved nickel was detected at low concentrations in wells BXS-1, BXS-2, and BXS-3 during the quarterly monitoring events of 2010. Excluding the spike in August 2009, dissolved nickel concentrations have been relatively stable for the last five years.

Sulfate (Figure 14) – During all four sampling events of 2010, the sulfate concentrations in downgradient well BXS-1 were greater than corresponding background well concentrations. The sulfate concentrations in wells BXS-2 and BXS-3 were lower than the concentrations in the background well. The concentration of sulfate in all wells has remained within historical levels.

Tannin and Lignin (Figure 15) – Concentrations of tannin and lignin detected in wells BXS-2 and BXS-3 for all four sampling events were greater than the corresponding concentrations in the background well. Tannin and lignin concentrations in well BXS-1 were lower than the corresponding background well concentrations during 2010. Tannin and lignin levels in wells BXS-1, BXS-2, and BXS-4 have remained stable for the last five years. The tannin and lignin concentration observed in well BXS-3 was at a historical high level (31.3 mg/L) in May 2010, however, the concentration returned to normal levels in August and November.

Total Organic Carbon (TOC) (Figure 16) – Concentrations of TOC in the groundwater samples collected from the downgradient wells were greater than the TOC detected in background well BXS-4. Concentrations of TOC in all wells have remained relatively stable over the last five years.

Field pH (Figure 17) – Field pH measurements in all of the downgradient wells were less than the background well value. Field pH measurements have been stable for the last four years.

Total Dissolved Solids (TDS) (Figure 18) – TDS measured in the downgradient wells were higher than the TDS in the background well for all 2010 sampling events. TDS concentrations were within historical levels during 2010.

Methane – The headspace of each well was tested for methane during the May and November 2010 sampling events. Methane has not been detected above the detection

limit of 1 part per million in any of the monitoring wells since methane testing began in 2005.

5.3 Comparison to Standards

MCLs for groundwater were established in WAC 173-304-9901 as equal to the primary drinking water standards set forth in WAC 246-290-310. MCLs are the maximum permissible concentration of a contaminant in drinking water supplies, whereas SMCLs are guidelines related to criteria other than adverse health effects. MCLs and SMCLs are listed in Tables 3a, 3b, and 3c and are shown on the time series plots on Figures 5 through 18 for reference.

5.3.1 Comparison to MCLs

Of the monitored parameters, MCLs apply to arsenic, barium, cadmium, copper, nickel, and nitrate plus nitrite as nitrogen. Concentrations in all of the groundwater samples were lower than the MCLs for barium, cadmium, copper, nickel, and nitrate plus nitrite as nitrogen during the 2010 monitoring events. Only dissolved arsenic exceeded the MCL as discussed below.

Dissolved arsenic – The dissolved arsenic concentrations in well BXS-3 during the all four quarterly sampling events are greater than the MCL of 10 µg/L. The arsenic concentrations ranged from 133 to 186 µg/L in well BXS-3.

The MCL for total Coliform is a drinking water criteria used to alert treatment system operators of potential bacterial contamination. This criterion does not apply to groundwater and the MCL is provided for informational purposes only. The levels of total Coliform found in the monitoring wells during the 2010 sampling events are relatively low.

5.3.2 Comparison to SMCLs

Among the monitored parameters, SMCLs apply to pH, conductivity, chloride, TDS, sulfate, iron, manganese, and zinc. The data from the 2010 monitoring events indicated that the groundwater concentrations from all the monitoring wells were lower than the SMCLs for chloride, sulfate, and zinc. Samples exceeded the SMCLs for conductivity, TDS, dissolved iron, dissolved manganese, and several samples were below the SMCL for pH, as described below:

Field Conductivity values were higher than the SMCL of 700 $\mu\text{S}/\text{cm}$ for groundwater collected from wells BXS-2 and BXS-3. Conductivity values were above the SMCL for all four sampling events for BXS-2, with values ranging from 799 to 853 $\mu\text{S}/\text{cm}$. Conductivity values were above the SMCL for the first and second quarters of 2010 for well BXS-3, with values of 726 and 719 $\mu\text{S}/\text{cm}$, respectively. Conductivity measurements were below the SMCL in background well BXS-4 and in the most downgradient well BXS-1.

Laboratory Conductivity values for well BXS-2 were higher than the SMCL of 700 $\mu\text{mhos}/\text{cm}$, with values ranging from 805 to 901 $\mu\text{mhos}/\text{cm}$. Conductivity values for the background well BXS-4 and down gradient wells BXS-1 and BXS-3 were below the SMCL during 2010.

TDS levels in down gradient wells BXS-1 and BXS-3, and background wells BXS-4 were below the SMCL of 500 mg/L. TDS was slightly higher than the SMCL in well BXS-2 during the February, May, and August events with values of 518, 508, and 564 mg/L, respectively.

Dissolved iron concentrations detected in groundwater samples from wells BXS-2 and BXS-3 were higher than the SMCL of 300 $\mu\text{g}/\text{L}$ during 2010. Dissolved iron detected in well BXS-2 ranged from 420 to 482 $\mu\text{g}/\text{L}$. Dissolved iron concentrations in well BXS-3

ranged from 94,700 to 116,000 µg/L. The dissolved iron concentrations in the wells BXS-1 and BXS-4 were below the SMCL.

Dissolved manganese concentrations detected in wells BXS-2, BXS-3, and BXS-4 exceeded the 50 µg/L SMCL during the 2010 monitoring period. The SMCL was exceeded in well BXS-1 during the May and November events (78 and 93 µg/L, respectively). Concentrations detected in well BXS-2 ranged from 1,260 to 1,340 µg/L, concentrations in well BXS-3 were the highest, ranging from 7,880 to 11,200 µg/L, concentrations in well BXS-1 ranged from 108 to 116 µg/L.

Field pH measurements were below the SMCL range of 6.5 to 8.5 standard pH units during several events for wells BXS-1, BXS-2, and BXS-3 in 2010. Field pH values were below the SMCL for well BXS-1 during the May, August, and November events, with a low 5.90 standard pH units in May and a high of 6.34 standard pH units in November. The field pH readings of well BXS-2 were below the SMCL during the May and August events, with values of 5.96 and 5.87 standard pH units. Field pH readings were below the SMCL during the May, August, and November for well BXS-3, with values of 6.04, 5.98, and 6.37 standard pH units, respectively. The field pH values were within the SMCL range for well BXS-4 during 2010.

Laboratory pH measurements were below the SMCL range of 6.5 to 8.5 standard pH units for well BXS-3 during all four 2010 monitoring events and during the second, third and fourth quarter monitoring events for wells BXS-2 and BXS-1. Laboratory pH values were within the SMCL range for well BXS-4 during 2010.

6 Summary

Quarterly groundwater monitoring samples were collected from one upgradient well and three downgradient wells during 2010 at the J.H. Baxter South Woodwaste Landfill. The samples were analyzed for eleven groundwater quality parameters and eight dissolved metals. Well headspace was tested for vapor phase methane during the second and fourth quarterly monitoring events.

Groundwater samples collected during the 2010 monitoring events did not exceed the MCLs for any of the monitored parameters, with the exception of arsenic.

Dissolved arsenic – Dissolved arsenic concentrations in well BXS-3 exceeded the MCL during all four 2010 quarterly sampling events. The statistical analysis of dissolved arsenic concentrations in well BXS-3 indicates that concentrations detected in February, August, and November were statistically greater than background.

There were no exceedances of the SMCLs for chloride, sulfate, or dissolved zinc in the groundwater samples collected during the quarterly groundwater monitoring events. The parameters that exceeded the SMCLs in the groundwater samples collected during the 2010 monitoring events include field and laboratory conductivity, field and laboratory pH, TDS, dissolved iron, and dissolved manganese. These exceedances are discussed below.

Field Conductivity – Field conductivity measurements exceeded the SMCL in well BXS-2 during all 2010 monitoring events and in well BXS-3 during the first and second events. The statistical evaluation indicated that all measured field conductivity values in

the downgradient wells are statistically greater than background. Field conductivity in the farthest downgradient well BXS-1 was below the SMCL during 2010. Field conductivity in all wells has remained relatively stable over the last several years.

Laboratory Conductivity – Laboratory conductivity measurements exceeded the SMCL in well BXS-2 during all 2010 events. Laboratory conductivity measurements have remained fairly stable in all wells for the last five years.

Field pH – Field pH values were below the lower SMCL for second, third and fourth quarterly events in wells BXS-1 and BXS-3, and the second and third quarterly events for well BXS-2. Statistical analysis shows that field pH of the downgradient wells is not statistically greater than the upgradient well. Field pH values for the downgradient wells have remained stable for the last three years.

Laboratory pH – Laboratory pH values were below the lower SMCL for wells BXS-1 and BXS-2 during May, August, and November and well BXS-3 during all four 2010 sampling events. Laboratory pH values for all wells have been relatively stable since 2003.

TDS – TDS exceeded the SMCL in well BXS-2 during the February, May, and August 2010 monitoring events. All TDS concentrations in the downgradient wells BXS-2 and BXS-3, and the first three quarters for well BXS-1 were determined to be statistically greater than background. TDS concentrations in the wells have remained relatively stable over the last five years.

Dissolved Iron – The iron SMCL was exceeded in wells BXS-2 and BXS-3 during all quarterly sampling events of 2010. Dissolved iron concentrations in wells BXS-2 and BXS-3 were statistically greater than background. With the exception of the anomalous concentrations seen in August 2009, dissolved iron levels have been relatively stable for the last four years.

Dissolved Manganese – Dissolved manganese concentrations exceeded the SMCL in the upgradient well BXS-4, well BXS-3, and BXS-2 during all of 2010 and well BXS-1 during May and November. Dissolved manganese levels in well BXS-3 were statistically greater than background. Except for the high levels observed in August 2009, dissolved manganese levels have remained stable for the last five years.

For parameters without MCLs or SMCLs, the statistical evaluation of groundwater results for the three downgradient wells indicated that the following parameter concentrations are statistically greater than the corresponding background concentrations.

Ammonia as nitrogen – Ammonia concentrations in the downgradient well BXS-3 were statistically greater than background during the 2010 monitoring events. Ammonia levels were with historical ranges during 2010.

COD – COD levels in downgradient wells BXS-2 and BXS-3 were statistically greater than background during 2010. With the exception of the high levels observed in 2009, COD levels have remained stable over the last five years.

Chloride – Chloride concentrations in all three downgradient wells during all of 2010 were statistically greater than background. Chloride levels have been stable for the last six years.

Nitrate plus nitrite as nitrogen – Nitrate plus nitrite as nitrogen concentrations in well BXS-1 in November and well BXS-3 during all four events were statistically greater than background. Nitrite plus nitrite levels have remained stable.

Sulfate – Sulfate concentrations in well BXS-1 were statistically greater than background during 2010. All sulfate concentrations were below the SMCL. Sulfate levels in all wells were within historical ranges.

TOC – TOC levels were statistically greater than background for the downgradient wells during all 2010 sampling events. TOC levels in all wells have been stable since 2002.

Tannin and Lignin – Tannin and lignin concentrations in wells BXS-2 and BXS-3 during all four monitoring events were statistically greater than background. Tannin and lignin levels in well BXS-3 exhibit wide variation with a historically high concentration observed during the May event. Tannin and lignin levels in wells BXS-1, BXS-2, and BXS-4 have been stable since 2002.

Methane – The headspace of each well was tested for methane during the May and November 2010 sampling events. Methane was not detected in any of the monitoring wells during 2010 and has not been detected in any of the wells since methane monitoring began in 2005.

Concentrations of three parameters were at historically high levels during 2010. Dissolved arsenic in well BXS-3, tannin and lignin in well BXS-3, and TDS in well BXS-4 were at their highest since April 2000.

- The high field conductivity observed in well BXS-4 in August (230 $\mu\text{S}/\text{cm}$) was slightly above the historical range of 166 to 222 $\mu\text{S}/\text{cm}$. Field conductivity returned to its normal range in November 2010.
- Historically high concentration of tannin and lignin was observed in well BXS-3 during May 2010 (31.3 mg/L). Tannin and lignin levels returned to within its normal range in August (5.22 mg/L) and November (13.1 mg/L).
- A high dissolved arsenic concentration was observed in well BXS-3 in November 2010 (186 $\mu\text{g}/\text{L}$). Quarterly monitoring in 2011 will determine if this is a trend or anomaly.

7 Limitations

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of J. H. Baxter & Co. for specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

8 References

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Figures

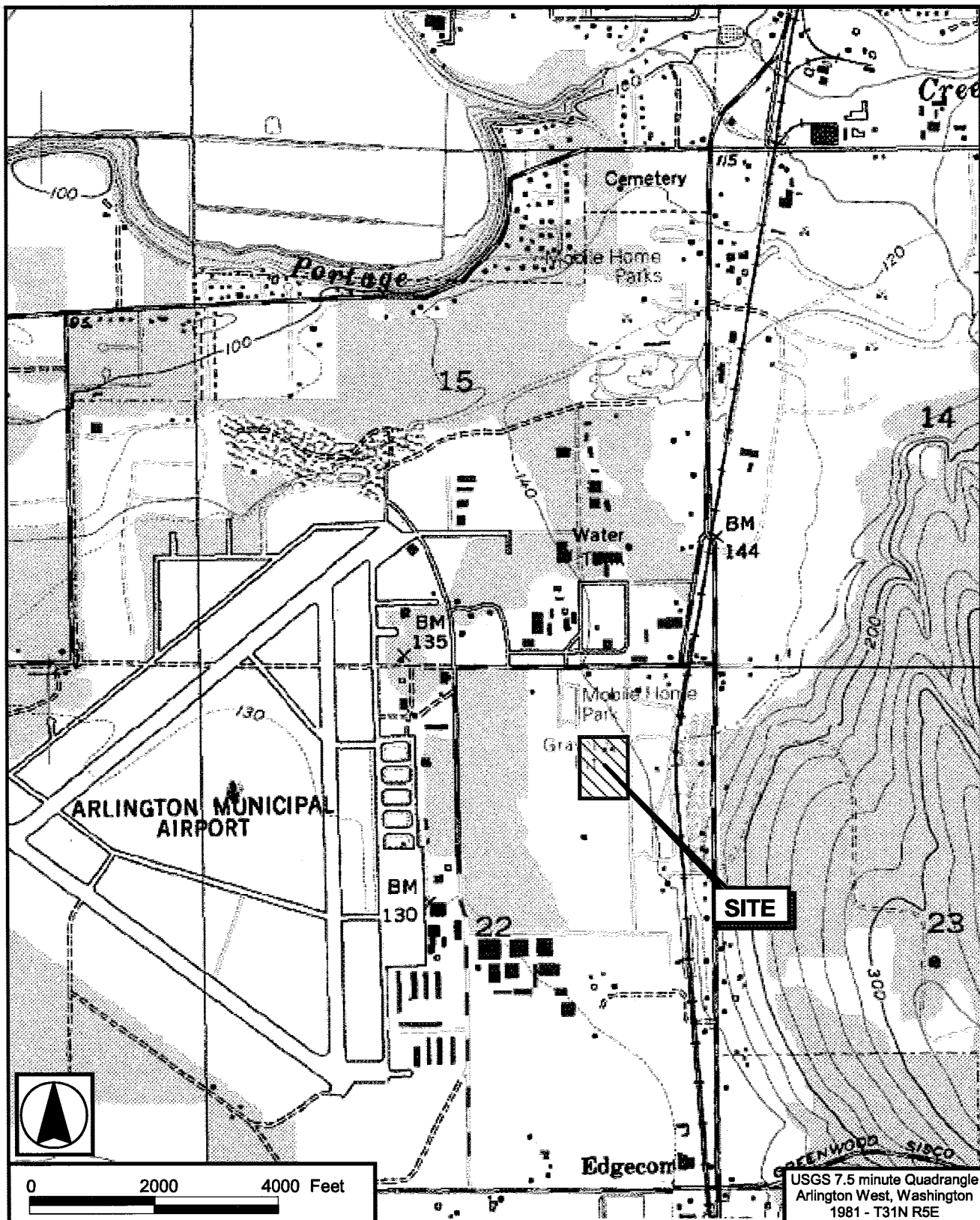
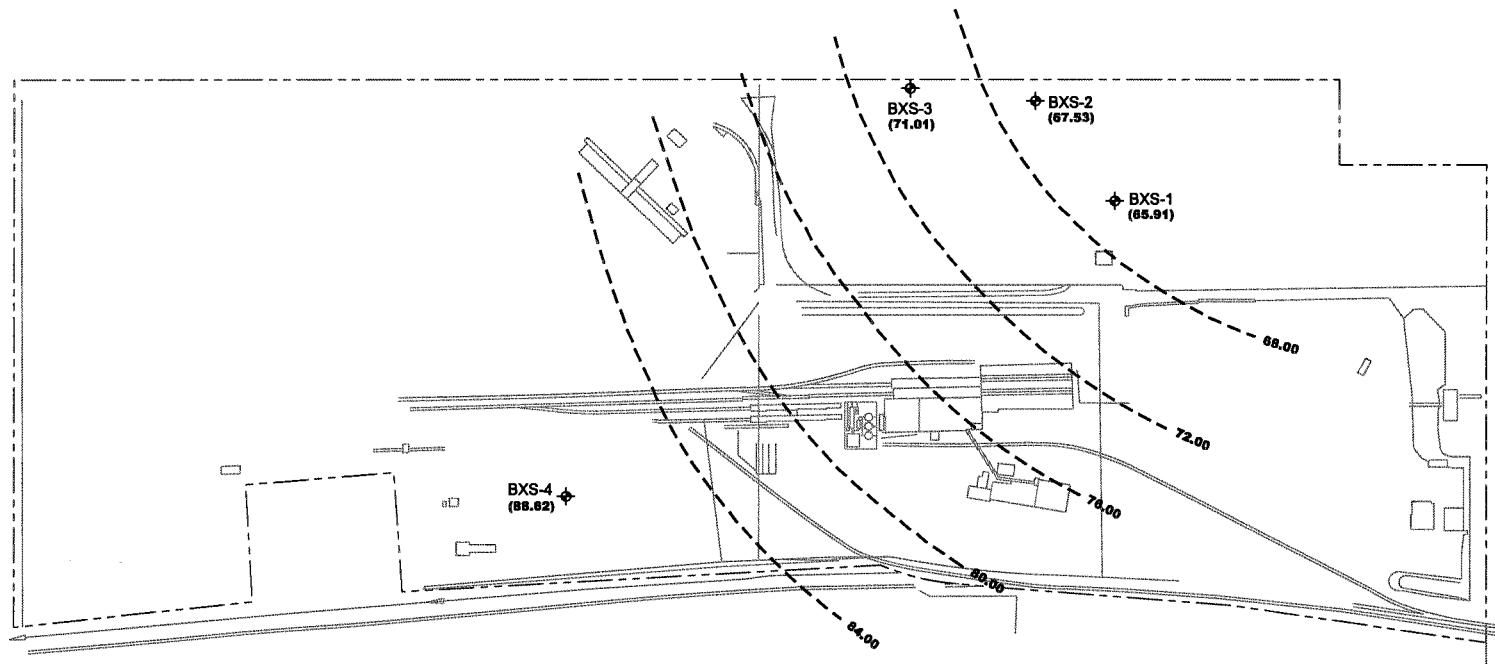


Figure 1. Site Location Map - South Landfill

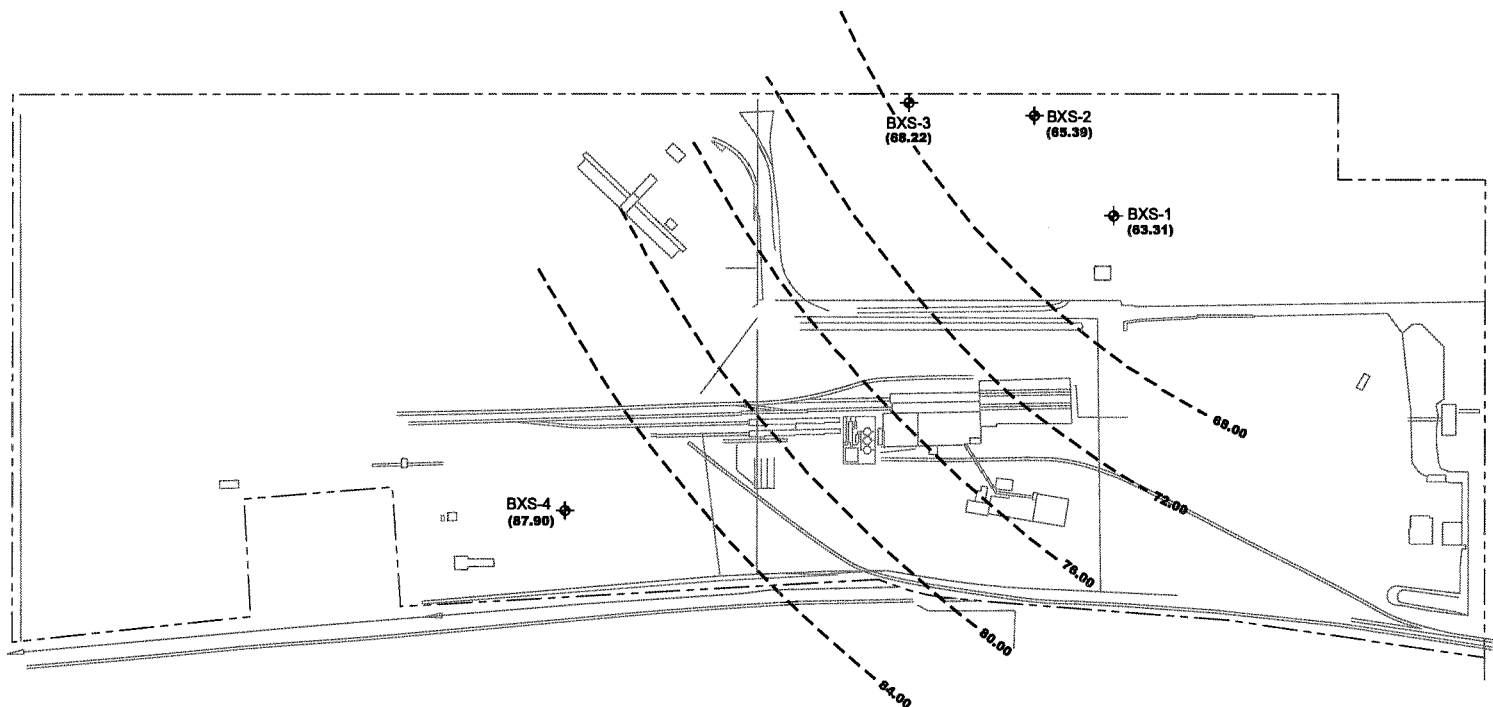


0 200 FEET
SCALE

LEGEND

- BXS-1 (65.91) MONITORING WELL
- GROUNDWATER ELEVATION (FEET ABOVE ASSUMED SITE DATUM)
- INFERRED ELEVATION CONTOUR
- SITE BOUNDARY

 PREMIER ENVIRONMENTAL SERVICES, INC. 333 SW FIFTH AVENUE, SUITE 410 PORTLAND, OR 97204 (503) 241-8172 PROJECT NO. 211087.00.002	DRAWN BY: DCN	GROUNDWATER ELEVATION CONTOUR MAP FEBRUARY 8, 2010 - SOUTH LANDFILL	FIGURE 2
	DATE: 03/22/11		
	REVISED BY: DCN		
	REVISED: 03/22/11		
	APPROVED BY: KG		
	DATE: 03/22/11	PATH: S:\DATA\PREMIER\J H BAXTER\FILE: SP_03-21-11.DWG TAB: [72-FEB.2010-SOUTH] DATE PLOTTED: 03/22/11	

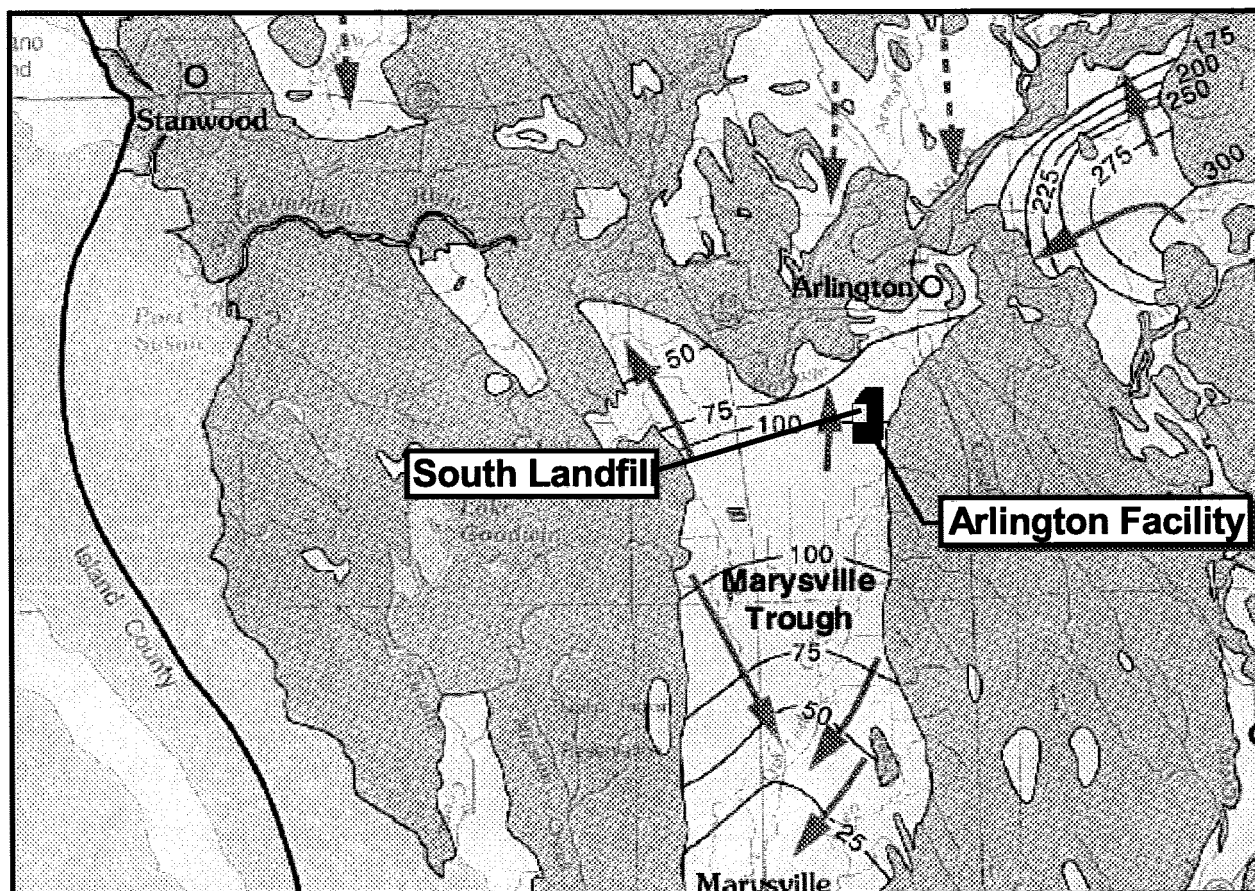


0 200 FEET
SCALE

LEGEND

- BXS-1  MONITORING WELL
(63.31) GROUNDWATER ELEVATION (FEET ABOVE ASSUMED SITE DATUM)
- INFERRED ELEVATION CONTOUR
- SITE BOUNDARY

 PREMIER ENVIRONMENTAL SERVICES, INC. 333 SW FIFTH AVENUE, SUITE 410 PORTLAND, OR 97204 (503) 241-8172	DRAWN BY: DCN	GROUNDWATER ELEVATION CONTOUR MAP NOVEMBER 15, 2010 - SOUTH LANDFILL	FIGURE 3
	DATE: 03/22/11		
	REVISED BY: DCN		
	REVISED: 03/22/11 APPROVED BY: KG		
PROJECT NO. 211087.00.002	DATE: 03/22/11	PATH: S:\CAD\PREMIER\J H BAXTER FILE: SP 03-21-11.DWG TAB: [F3-NOV.2010-SOUTH] DATE PLOTTED: 03/22/11	



Note:
Map created by base map by B.E. Thomas, J.M. Wilkinson,
and S.S. Embrey, entitled "Plate 6. Areal Recharge From
Precipitation and Potentiometric Surfaces of Principal
Aquifers, Western Snohomish County, Washington,"
dated 1997

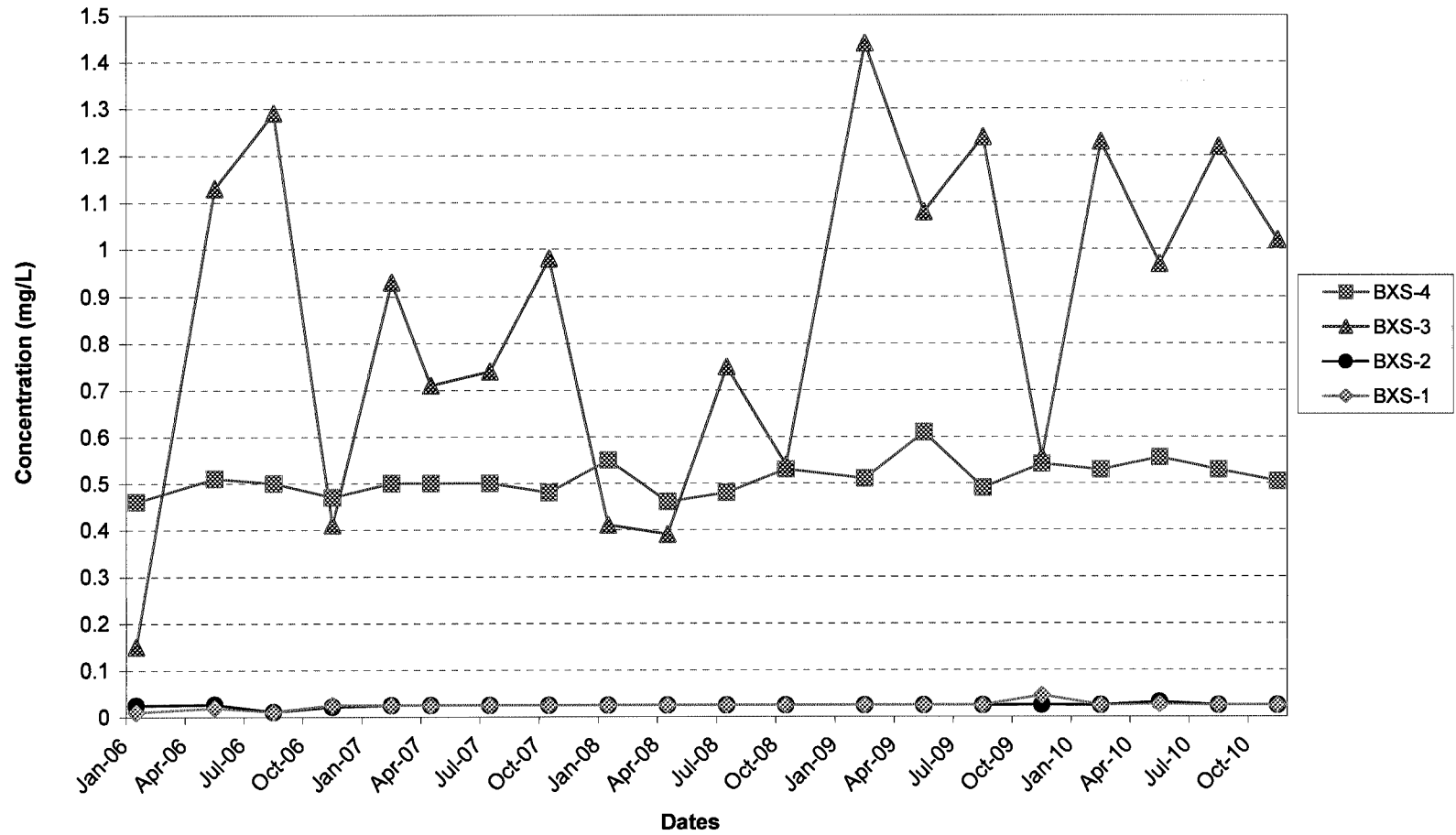
0 4 8 Miles

LEGEND

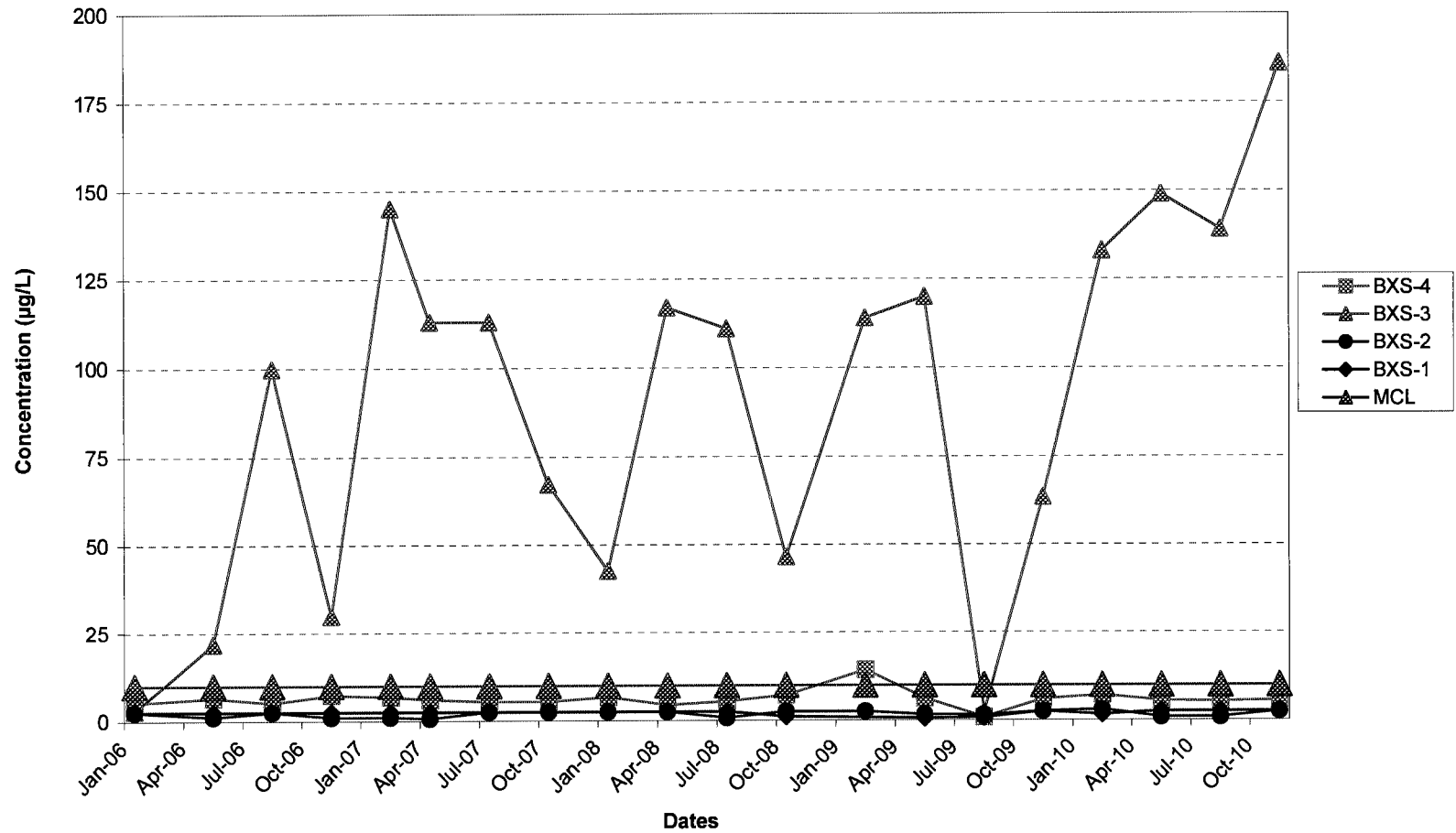
- 50 Groundwater Elevation
- Groundwater Elevation Contour
- Inferred Groundwater Flow Direction

Figure 4. Regional Groundwater Flow Directions

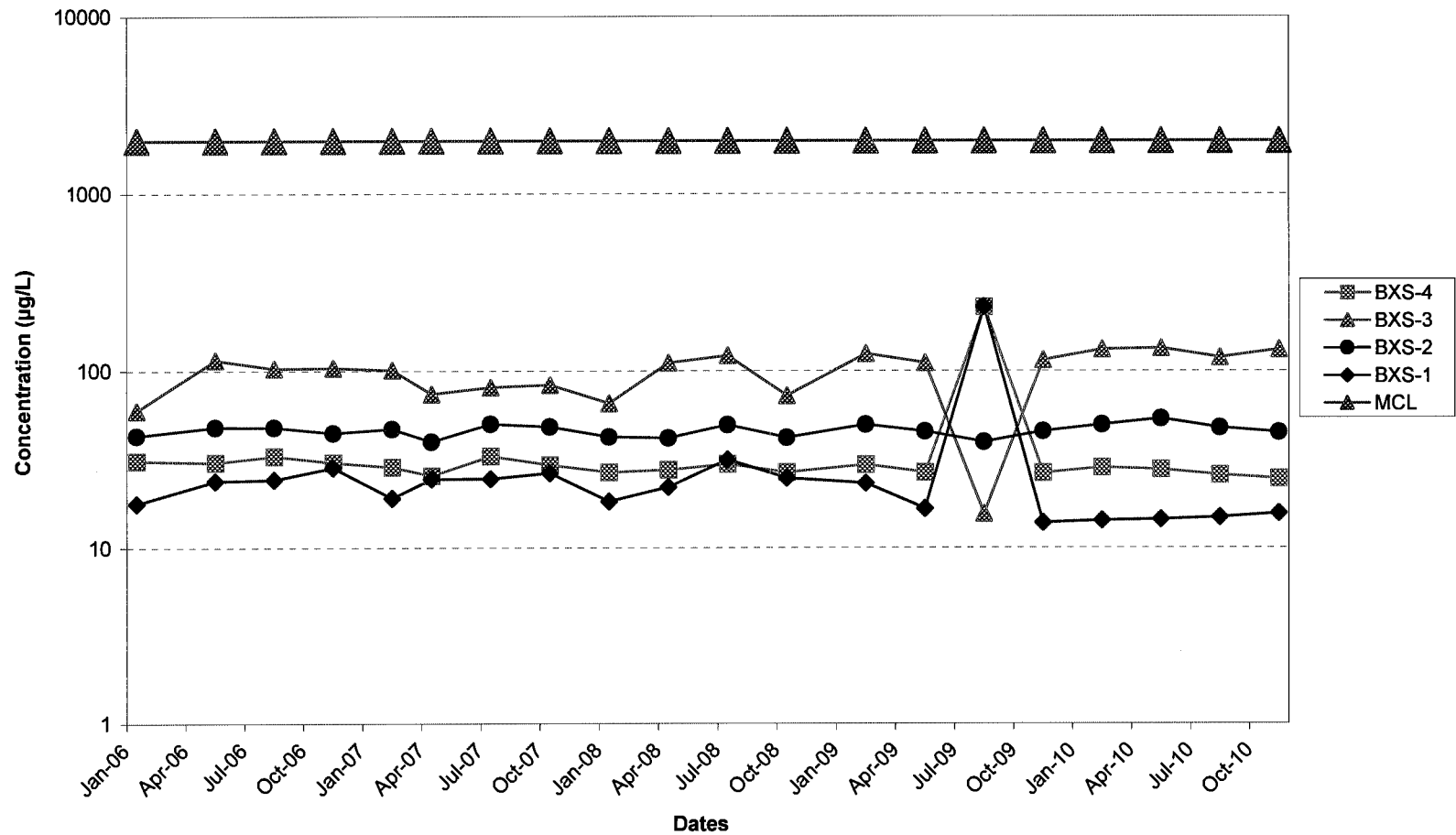
**Figure 5. Concentration Trends for Ammonia
South Woodwaste Landfill Monitoring Well Data**



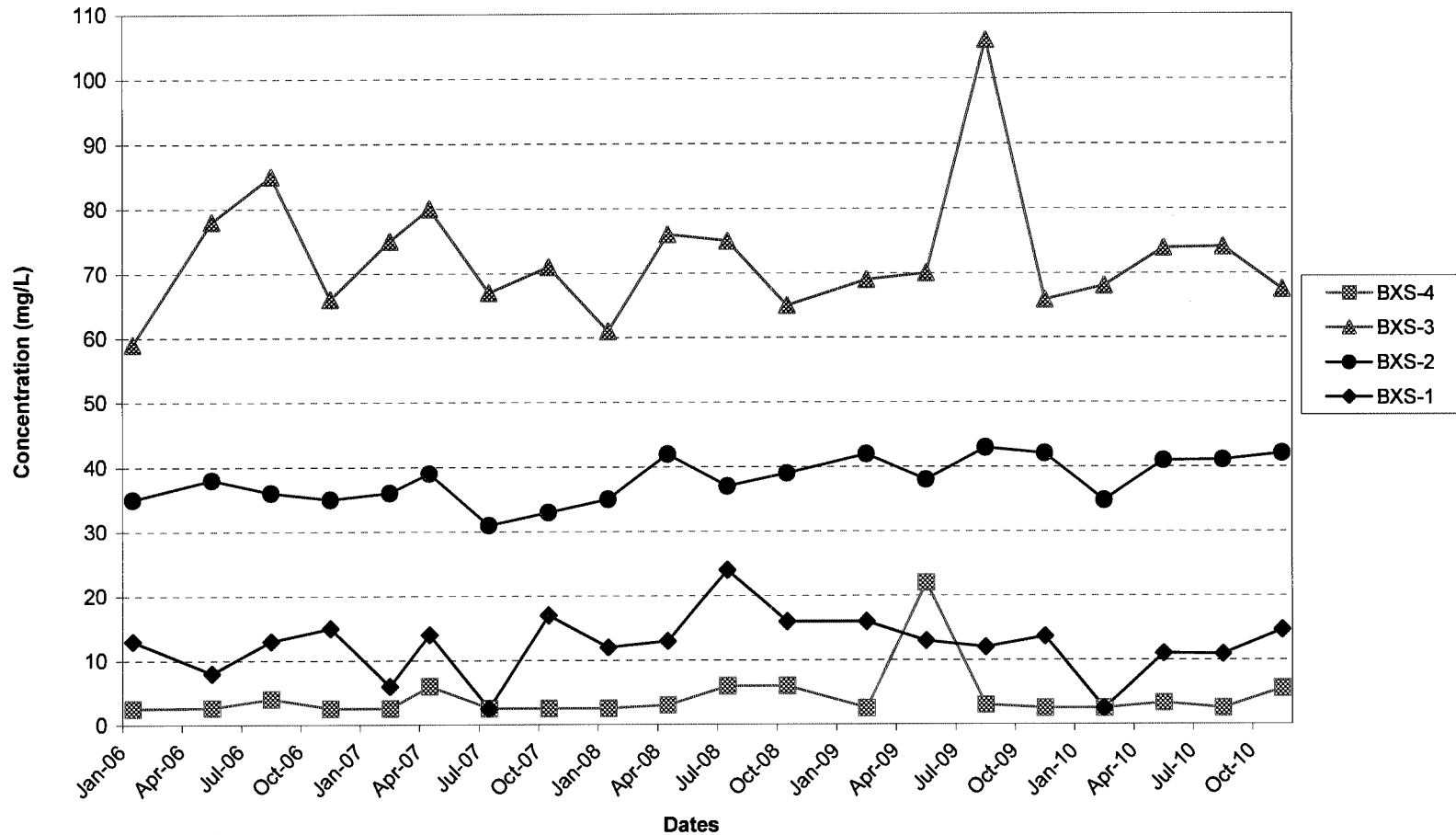
**Figure 6. Concentration Trends for Arsenic
South Woodwaste Landfill Monitoring Well Data**



**Figure 7. Concentration Trends for Barium
South Woodwaste Landfill Monitoring Well Data**

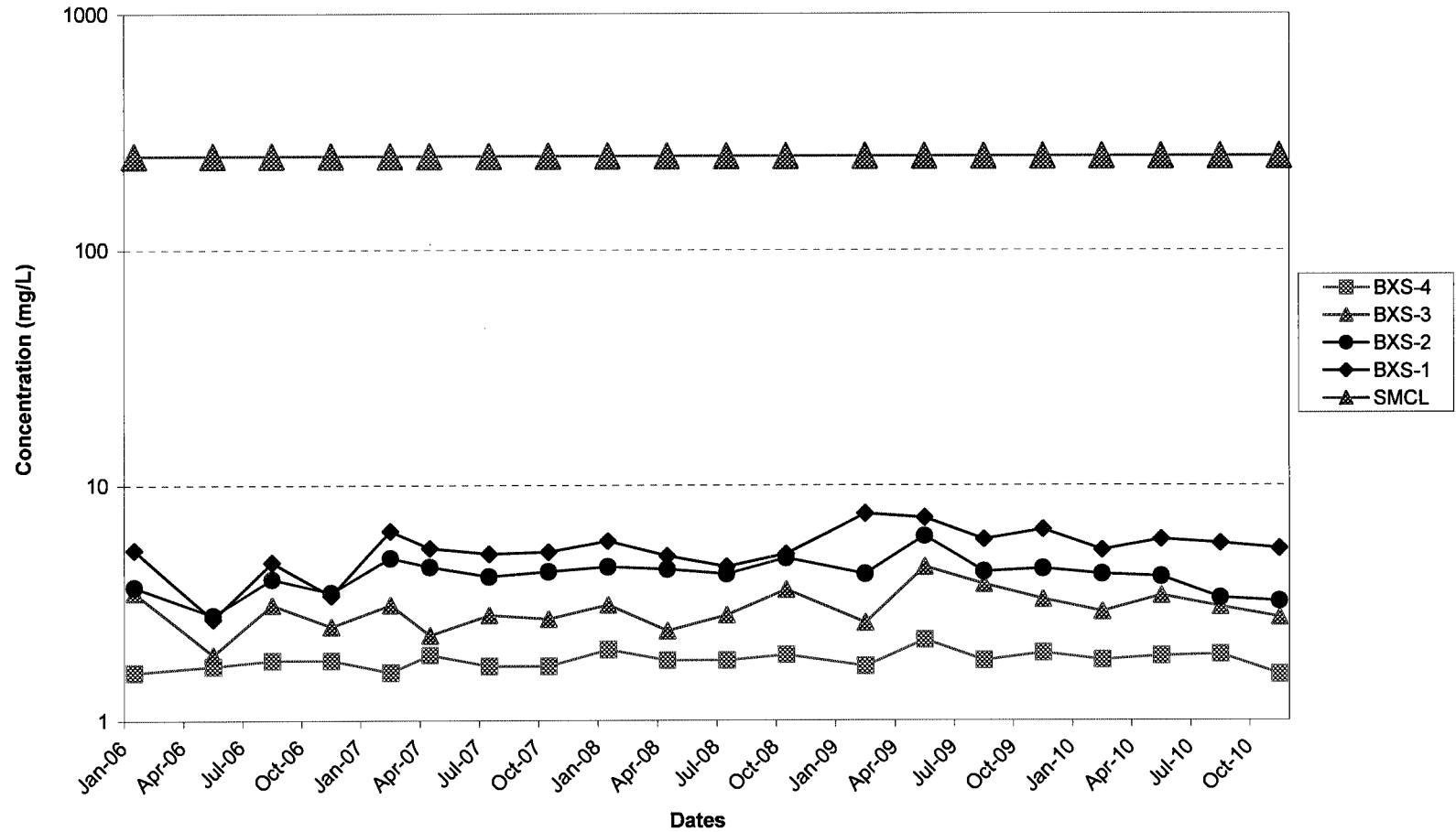


**Figure 8. Concentration Trends for Chemical Oxygen Demand
South Woodwaste Landfill Monitoring Well Data**

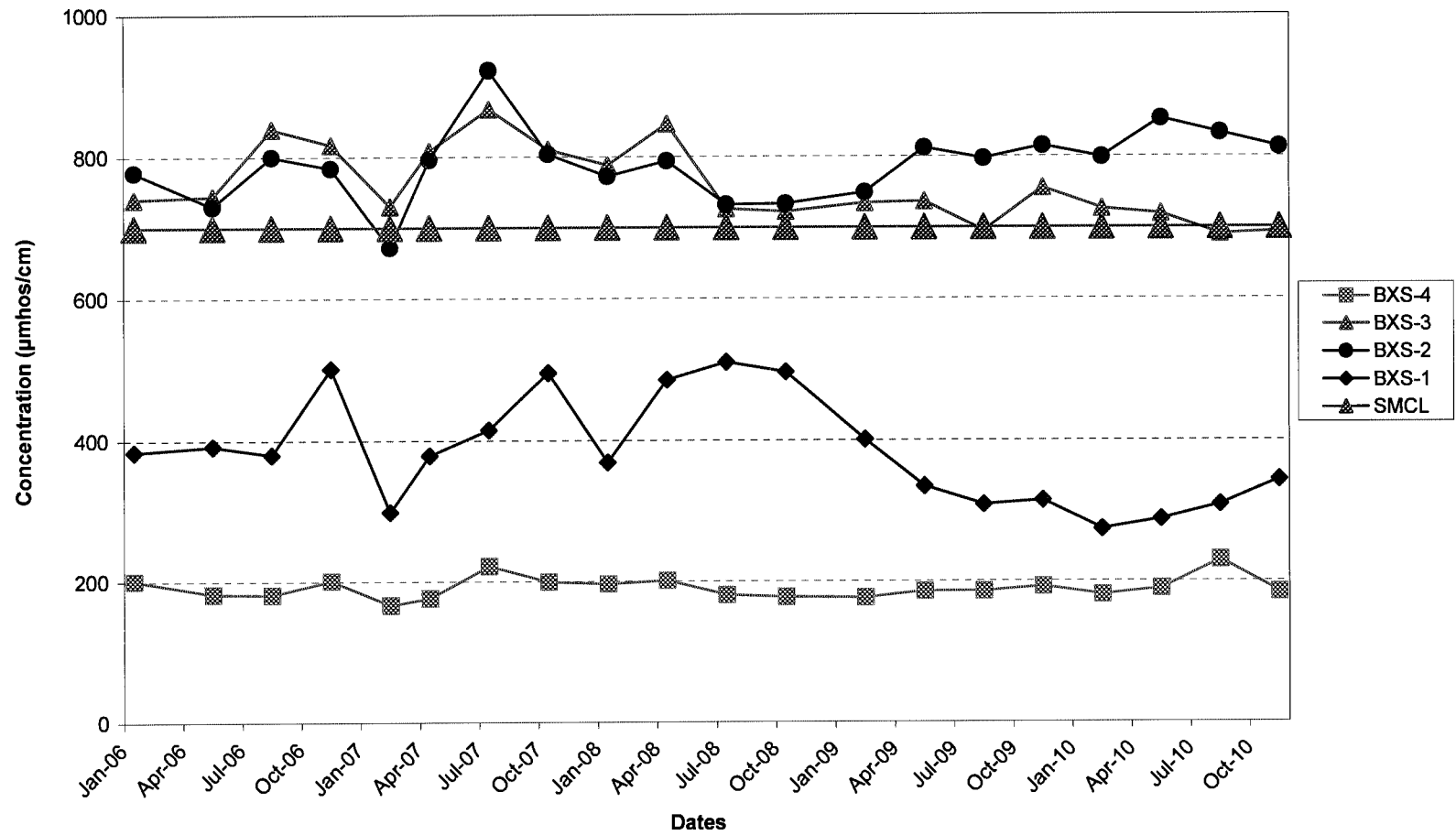


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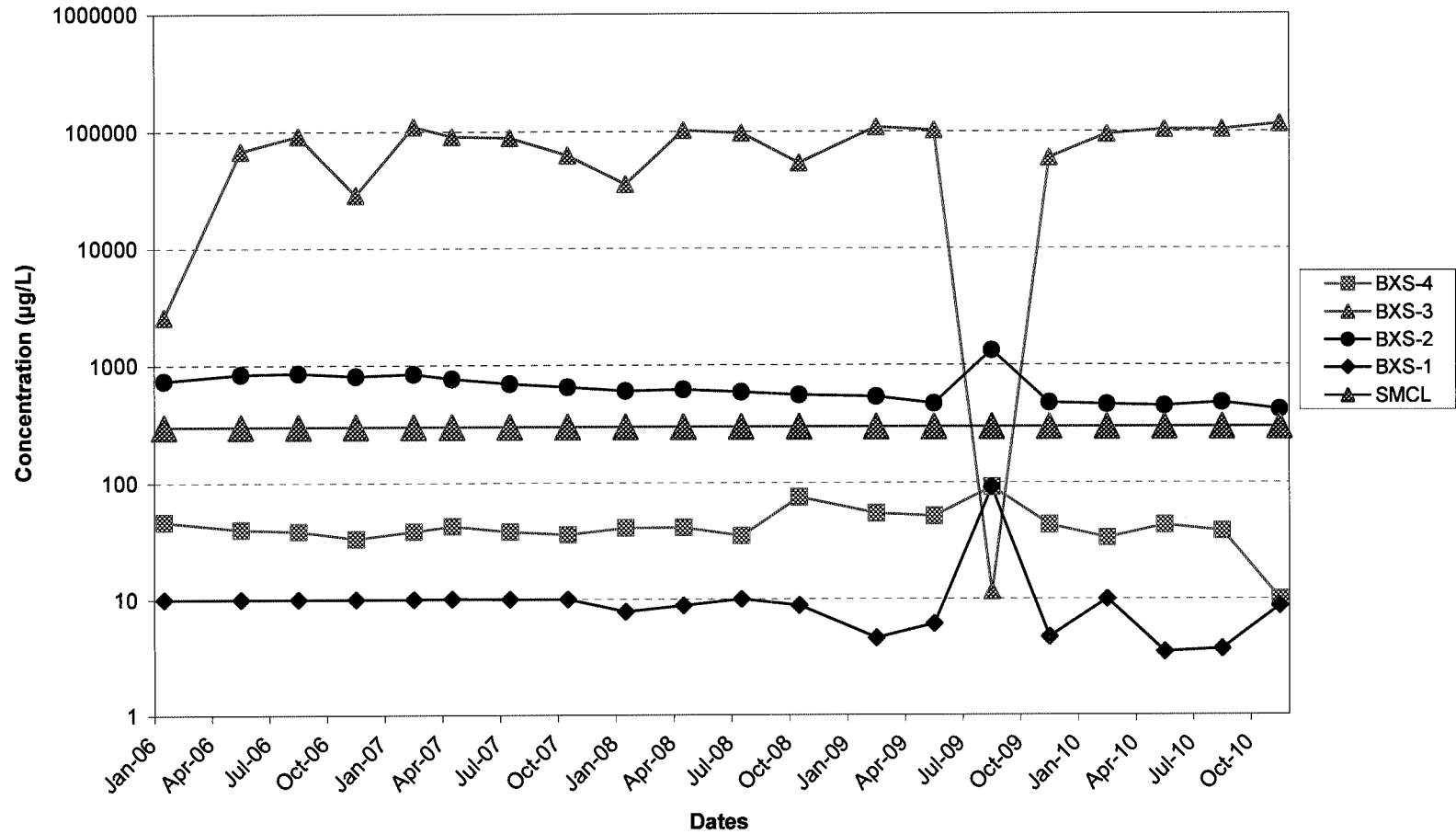
**Figure 9. Concentration Trends for Chloride
South Woodwaste Landfill Monitoring Well Data**



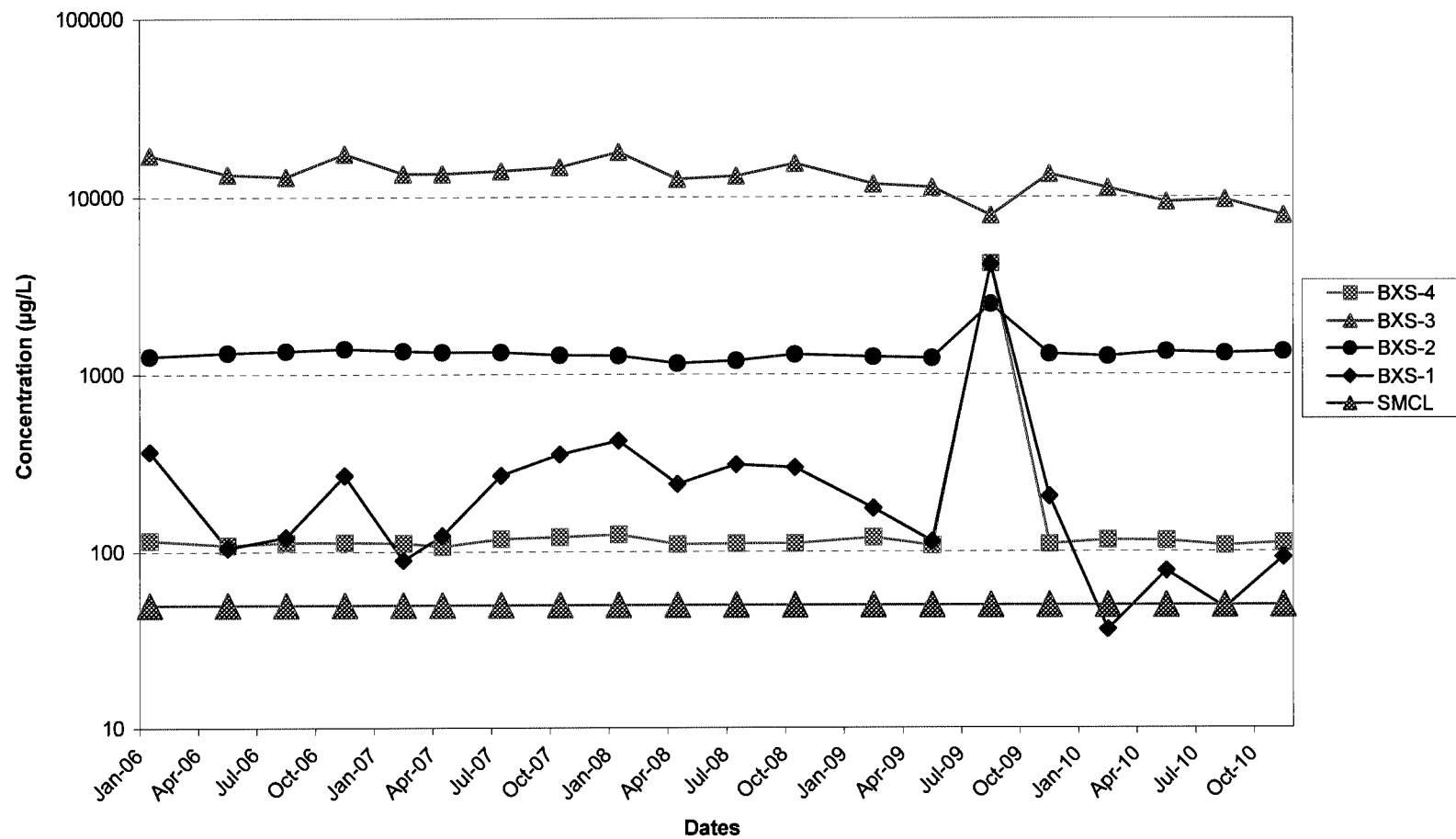
**Figure 10. Concentration Trends for Field Conductivity
South Woodwaste Landfill Monitoring Well Data**



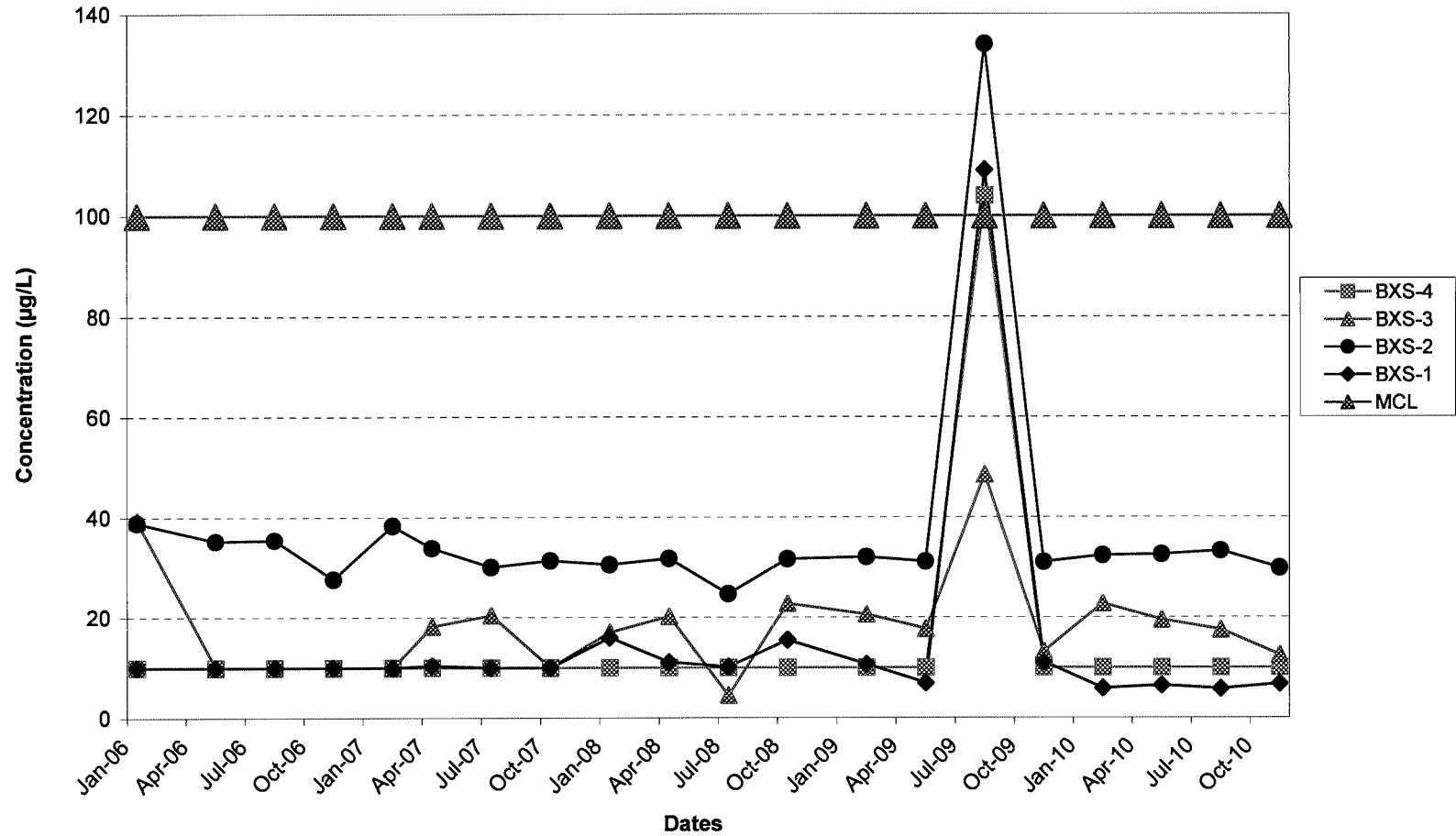
**Figure 11. Concentration Trends for Iron
South Woodwaste Landfill Monitoring Well Data**



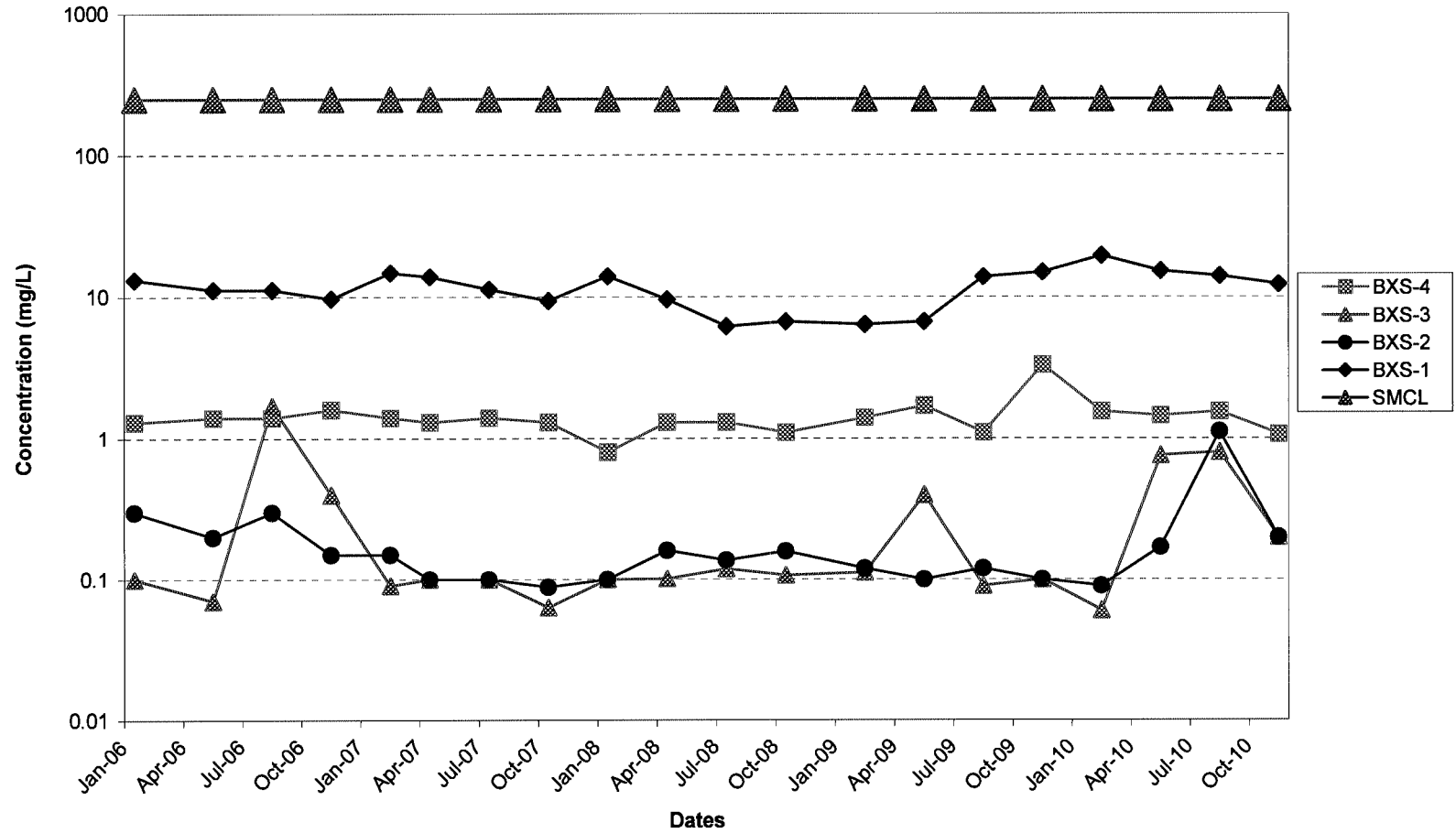
**Figure 12. Concentration Trends for Manganese
South Woodwaste Landfill Monitoring Well Data**



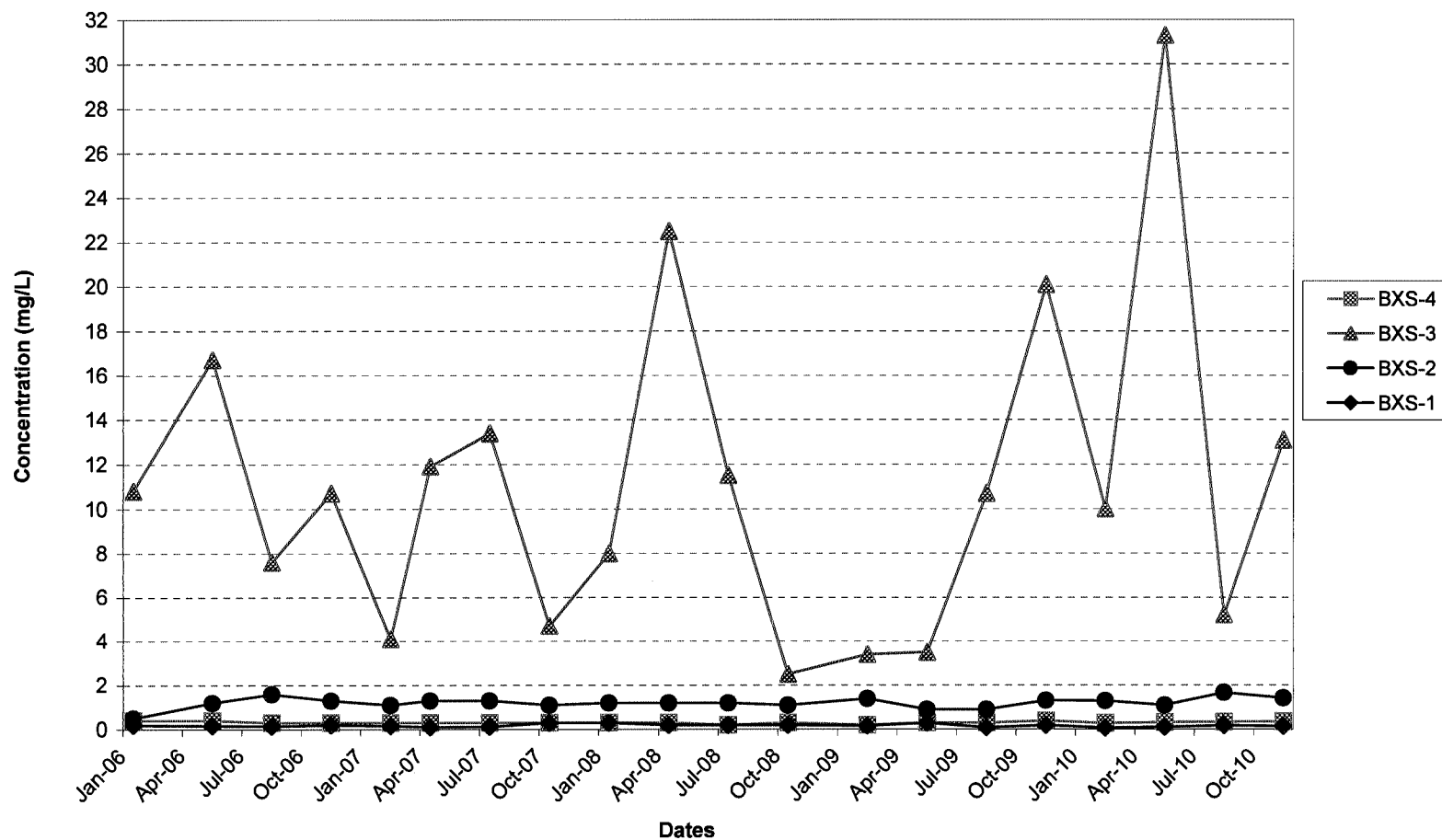
**Figure 13. Concentration Trends for Nickel
South Woodwaste Landfill Monitoring Well Data**



**Figure 14. Concentration Trends for Sulfate
South Woodwaste Landfill Monitoring Well Data**



**Figure 15. Concentration Trends for Tannin and Lignin
South Woodwaste Landfill Monitoring Well Data**



**Figure 16. Concentration Trends for Total Organic Carbon
South Woodwaste Landfill Monitoring Well Data**

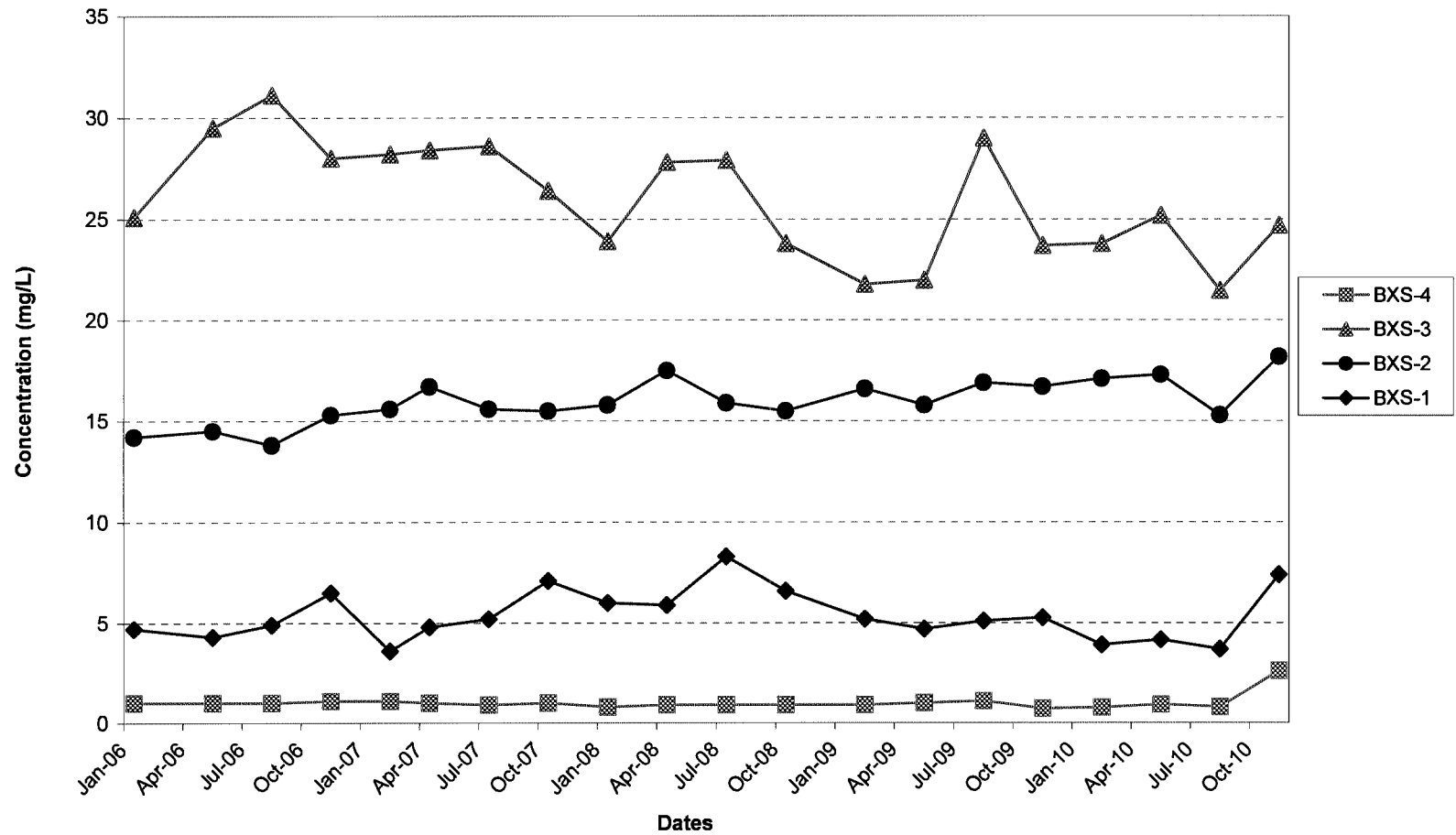
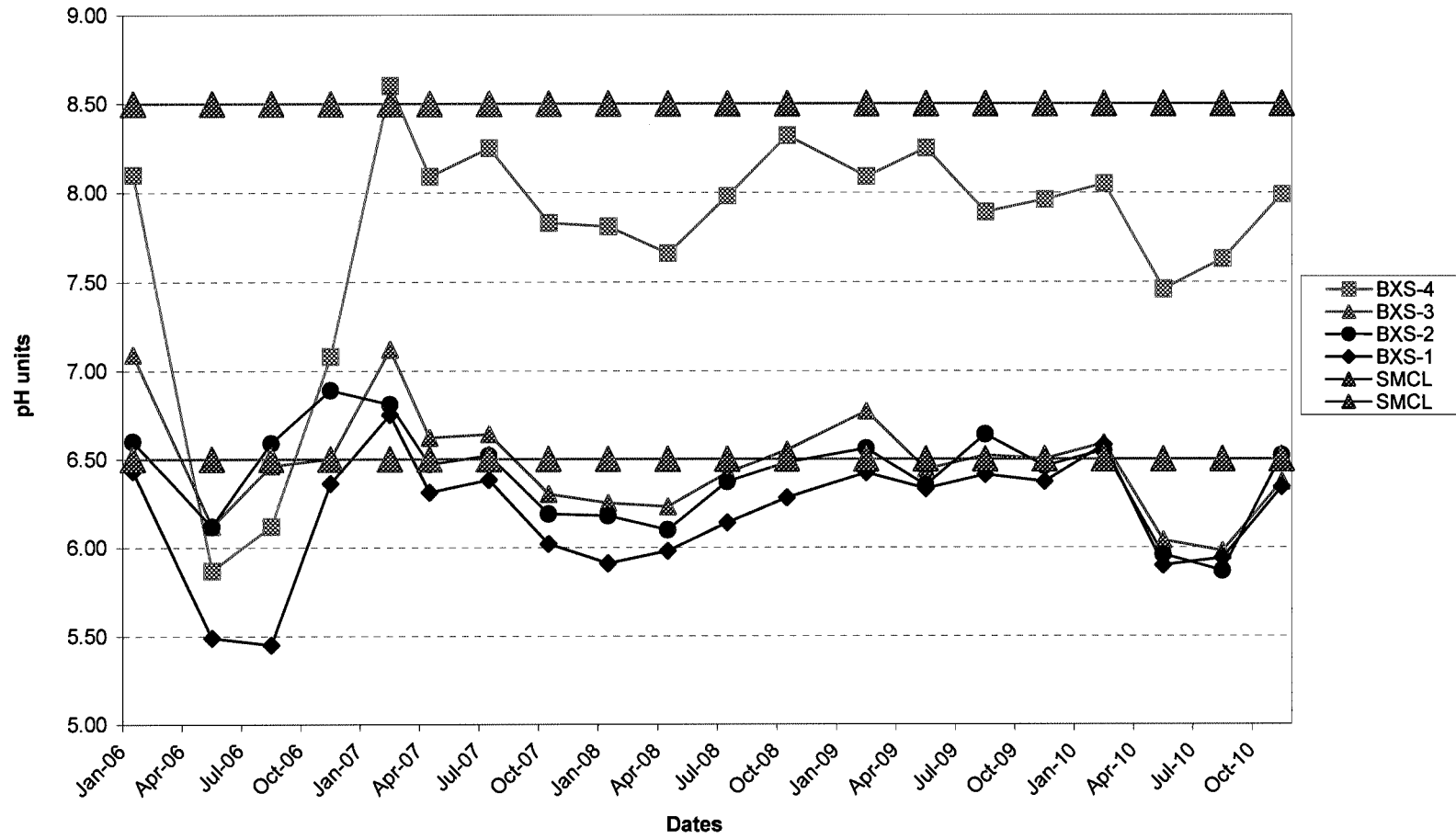
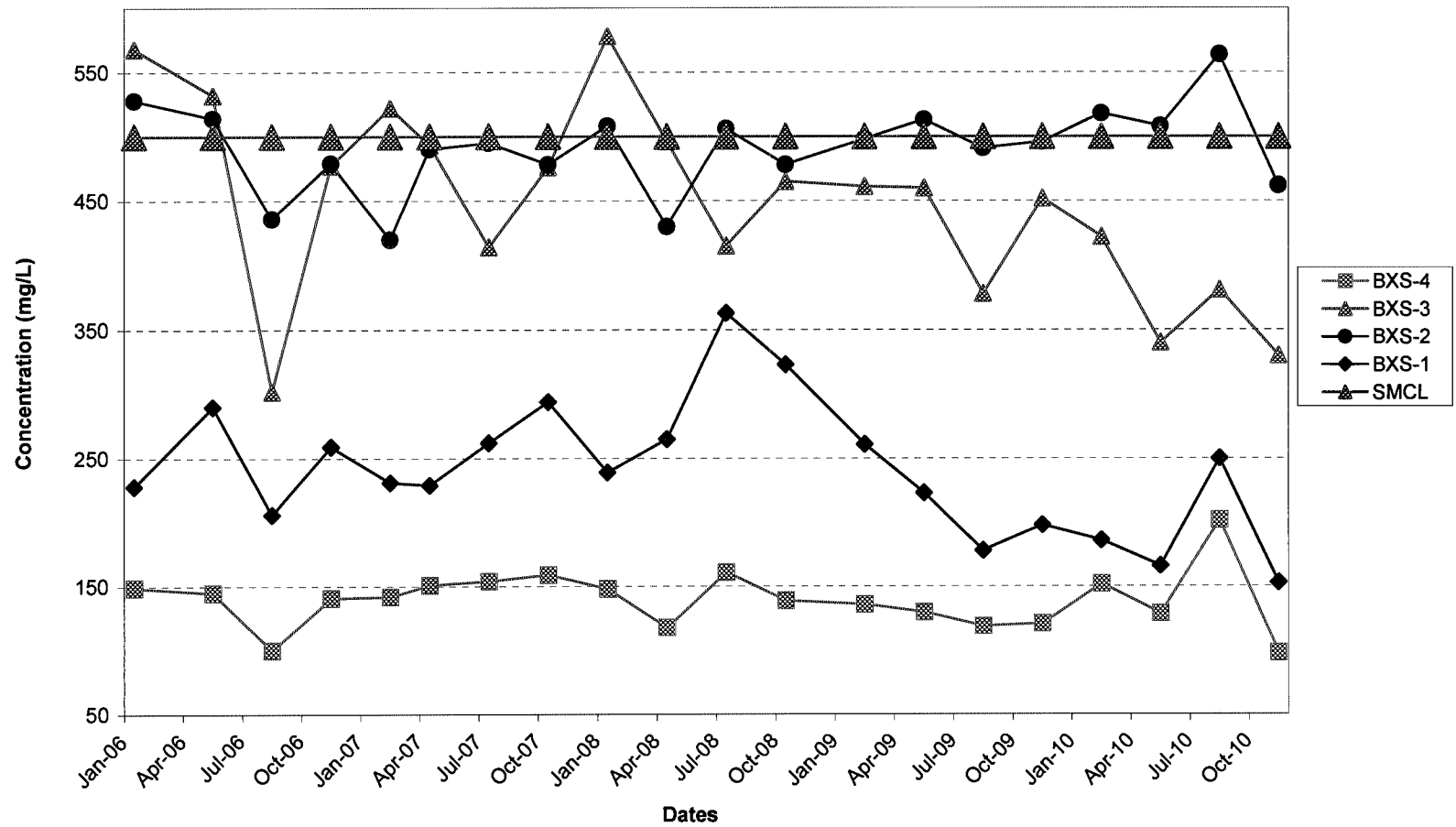


Figure 17. Concentration Trends for Field pH
South Woodwaste Landfill Monitoring Well Data



**Figure 18. Concentration Trends for Total Dissolved Solids
South Woodwaste Landfill Monitoring Well Data**



Tables

Table 1. Summary of Groundwater Elevations in 2010 (South Landfill)

	Inner Casing Diameter (inches)	Depth of Well (ft bgs)	Length of Screen (ft)	TOC Elevation (ft asd)	TOC Elevation 10/2002a (ft msl)	Screened Interval (ft bgs)		Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft asd)
BXS-1	2	47.90	10	99.59	142.90	37.90	47.90	2/08/10	33.68	65.91
								5/24/10	33.99	65.60
								8/16/10	34.33	65.26
								11/15/10	36.28	63.31
BXS-2	2	45.40	10	99.77	143.02	35.40	45.40	2/08/10	32.24	67.53
								5/24/10	32.14	67.63
								8/16/10	32.35	67.42
								11/15/10	34.38	65.39
BXS-3	2	44.15	10	98.99	142.07	34.15	44.15	2/08/10	27.98	71.01
								5/24/10	27.89	71.10
								8/16/10	27.91	71.08
								11/15/10	30.77	68.22
BXS-4	2	47.40	10	100.34	143.42	37.40	47.40	2/08/10	11.72	88.62
								5/24/10	12.74	87.60
								8/16/10	15.30	85.04
								11/15/10	12.44	87.90

Notes:

- a) Wells were resurveyed in October 2002. Groundwater elevations are based on the earlier survey.
- bgs - below ground surface
- ft msl - feet above mean sea level.
- ft asd - feet above assumed site datum
- TOC - top of casing

Table 2. Hydraulic Gradient and Groundwater Velocity Calculations (South Landfill)

Average Gradient		Hydraulic Conductivity		Porosity	Velocity		Velocity				
<i>i</i>		<i>K</i>		<i>n_e</i>	<i>v</i>		<i>v</i>				
Date	(cm/cm)	(cm/sec)			(cm/sec)		(ft/day)				
2/08/10	0.0206	3.00E-02	to	6.00E-02	0.300	0.002	to	0.004	5.839	to	11.679
5/24/10	0.0200					0.002	to	0.004	5.669	to	11.339
8/16/10	0.0180					0.002	to	0.004	5.102	to	10.205
11/15/10	0.0224					0.002	to	0.004	6.350	to	12.699

Table 3a. Field Parameters from Groundwater Sampling, April 2000 to November 2009 (South Landfill)

	pH (standard units)				Conductivity (µS/cm)				Temperature (°C)			
Primary MCL ^(a)												
Secondary MCL ^(a)	6.5 - 8.5				700							
	BXS-4	BXS-3	BXS-2	BXS-1	BXS-4	BXS-3	BXS-2	BXS-1	BXS-4	BXS-3	BXS-2	BXS-1
Apr-00	7.59	7.51	7.53	7.50	187	831	875	431	10.8	15.3	16.1	15.2
Jul-00	7.74	6.58	6.52	6.18	182	822	905	464	13.5	19.9	15.9	14.4
Oct-00	7.92	6.39	6.45	6.22	185	855	833	502	9.9	16.2	19.4	12.6
Jan-01	8.07	7.11	6.73	6.55	182	925	893	522	8.0	11.4	10.6	9.6
Apr-01	7.52	6.49	6.47	6.07	184	860	860	476	9.4	14.9	15.3	14.0
Jul-01	6.89	7.87	8.37	7.26	183	833	850	477	8.6	17.3	14.1	13.8
Oct-01	6.91	6.70	6.05	5.71	203	872	847	495	11.5	15.4	15.5	14.0
Jan-02	7.30	6.38	6.28	6.14	186	825	844	474	7.1	10.6	10.8	9.3
Apr-02	7.73	6.57	6.35	6.09	181	832	838	441	10.4	14.9	13.4	11.9
Jul-02	7.68	6.26	6.31	6.06	178	827	840	469	11.9	16.4	14.4	13.1
Oct-02	6.95	6.36	6.49	nt	205	930	930	nt	9.8	13.2	13.2	nt
Jan-03	7.77	6.14	6.12	5.93	178	1430	1400	1130	9.8	13.4	13.3	11.6
Apr-03	7.91	6.96	6.52	5.97	191	899	808	442	9.6	13.6	13.4	11.7
Jul-03	7.90	6.33	6.25	6.12	193	945	869	441	10.9	13.6	13.4	16.2
Oct-03	7.84	6.26	6.07	nt	207	945	883	nt	10.2	13.8	13.9	nt
Feb-04	7.14	5.31	4.73	8.87	174	699	737	297	9.6	13.1	12.8	12.5
Apr-04	7.48	6.11	6.07	5.84	197	836	838	339	9.7	13.4	12.9	13.7
Jul-04	7.38	6.02	5.96	5.92	216	926	874	417	10.3	13.8	13.5	13.7
Oct-04	7.54	6.16	6.11	6.01	203	949	834	478	10.8	13.8	14.5	13.1
Jan-05	6.11	5.03	5.16	5.51	187	571	768	328	9.9	13.5	12.9	11.9
Apr-05	7.50	6.30	6.20	6.10	194	785	812	380	9.6	13.5	13.0	11.9
Aug-05	5.37	5.84	5.77	5.87	195	788	794	426	10.5	13.2	12.8	12.6
Dec-05	8.00	6.47	6.36	6.15	194	854	778	439	9.7	12.2	12.5	11.7
Jan-06	8.10	7.09	6.60	6.43	201	740	778	384	9.6	12.6	12.4	11.7
May-06	5.87	6.12	6.12	5.49	182	744	730	392	10.1	138.0	13.9	12.6
Aug-06	6.12	6.46	6.59	5.45	181	839	800	380	10.2	13.4	12.9	12.3
Nov-06	7.08	6.50	6.89	6.36	201	817	784	501	10.9	12.0	12.4	11.7
Feb-07	8.60	7.12	6.81	6.75	166	730	672	299	9.5	13.2	12.1	11.4
Apr-07	8.09	6.62	6.47	6.31	176	808	796	379	9.5	13.1	12.3	11.7
Jul-07	8.25	6.64	6.52	6.38	222	867	922	415	9.8	13.1	12.5	12.0
Oct-07	7.83	6.30	6.19	6.02	199	810	804	495	9.8	12.8	12.5	12.0
Jan-08	7.81	6.25	6.18	5.91	196	788	772	369	9.3	12.1	12.1	11.4
Apr-08	7.66	6.23	6.10	5.98	201	846	794	485	9.1	12.9	12.2	11.8
Jul-08	7.98	6.42	6.37	6.14	180	726	732	510	9.4	12.9	12.4	12.0
Oct-08	8.32	6.55	6.48	6.28	177	722	733	496	9.6	12.7	12.4	12.0
Feb-09	8.09	6.77	6.56	6.42	176	734	749	401	9.2	12.7	12.0	11.6
May-09	8.25	6.44	6.35	6.33	185	736	812	335	9.4	13.2	12.6	12.0
Aug-09	7.89	6.52	6.64	6.41	185	695	797	309	9.4	12.6	12.3	11.9
Nov-09	7.96	6.50	6.46	6.37	192	755	815	315	9.3	12.2	12.0	11.5
Feb-10	8.05	6.59	6.55	6.58	180	726	799	274	9.3	12.9	12.1	12.0
May-10	7.46	6.04	5.96	5.90	189	719	853	288	9.3	12.8	17.0	12.0
Aug-10	7.63	5.98	5.87	5.94	230	690	833	309	9.7	12.5	12.3	12.3
Nov-10	7.99	6.37	6.52	6.34	184	694	813	344	9.7	12.8	12.1	11.9

Table 3a. Field Parameters from Groundwater Sampling, April 2000 to November 2009 (South Landfill)

Primary MCL ^(a) Secondary MCL ^(a)	EH (mV)				Dissolved Oxygen (mg/L)				Methane (Percent)			
	BXS-4	BXS-3	BXS-2	BXS-1	BXS-4	BXS-3	BXS-2	BXS-1	BXS-4	BXS-3	BXS-2	BXS-1
Apr-00	-80	-70	80	120	0.00	0.80	0.00	0.00	nt	nt	nt	nt
Jul-00	-70	-45	120	135	2.22	1.62	2.33	0.76	nt	nt	nt	nt
Oct-00	-1	0	0	130	4.99	5.24	5.22	5.89	nt	nt	nt	nt
Jan-01	nt	-20	90	110	4.30	2.54	1.28	6.98	nt	nt	nt	nt
Apr-01	-65	45	105	100	0.75	1.37	1.11	1.22	nt	nt	nt	nt
Jul-01	-1	1	0	120	1.46	0.99	1.32	0.33	nt	nt	nt	nt
Oct-01	180	20	50	115	0.99	0.83	0.93	0.86	nt	nt	nt	nt
Jan-02	-65	-5	80	160	1.37	1.39	1.01	1.96	nt	nt	nt	nt
Apr-02	-45	0.5	135	180	0.87	2.17	0.79	0.49	nt	nt	nt	nt
Jul-02	-55	-5	90	180	1.24	0.84	1.01	0.40	nt	nt	nt	nt
Oct-02	60	57	166	nt	7.97	1.72	1.37	nt	nt	nt	nt	nt
Jan-03	-3	183	217	258	3.92	2.04	2.74	3.40	nt	nt	nt	nt
Apr-03	-31	43	126	366	7.80	5.50	3.64	5.56	nt	nt	nt	nt
Jul-03	-253	-57	-9	202	0.82	2.28	0.44	2.79	nt	nt	nt	nt
Oct-03	-162	35	59	nt	1.53	2.82	3.31	nt	nt	nt	nt	nt
Feb-04	-110	-6	35	143	11.24	4.81	8.84	7.39	nt	nt	nt	nt
Apr-04	-174	-28	51	212	0.35	1.27	1.28	3.18	nt	nt	nt	nt
Jul-04	-92	6	30	182	0.41	0.46	1.52	2.73	nt	nt	nt	nt
Oct-04	-198	-39	11	148	4.57	3.06	10.92	3.36	nt	nt	nt	nt
Jan-05	5	3	3	4	7.10	4.66	3.80	4.46	nt	nt	nt	nt
Apr-05	-171	-1	67	317	1.10	4.40	1.70	6.40	0.0	0.0	0.0	0.0
Aug-05	-86	-1	84	84	4.13	9.66	4.74	3.98	nt	nt	nt	nt
Dec-05	-120	-25	51	177	8.00	1.90	6.50	0.70	0.0	0.0	0.0	0.0
Jan-06	5	28	76	179	2.70	10.50	3.70	0.90	nt	nt	nt	nt
May-06	-147	-85	59	225	3.60	0.70	1.40	1.60	0.0	0.0	0.0	0.0
Aug-06	-126	-77	48	148	2.90	4.50	2.00	0.90	nt	nt	nt	nt
Nov-06	-138	3	80	212	1.30	7.40	3.00	1.70	0.0	0.0	0.0	0.0
Feb-07	-40	-103	0.8	241	9.80	2.40	3.00	2.30	nt	nt	nt	nt
Apr-07	-136	-113	45	187	1.20	1.80	1.20	0.80	nt	nt	nt	nt
Jul-07	-145	-113	62	219	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Oct-07	-148	-97	40	226	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Jan-08	-147	-67	54	251	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Apr-08	-157	-126	32	138	0.00	0.00	0.08	0.15	nt	nt	nt	nt
Jul-08	-150	-90	31	185	0.33	0.37	1.77	5.80	0.0	0.0	0.0	0.0
Oct-08	-173	-93	20	157	0.07	0.12	0.14	1.10	nt	nt	nt	nt
Feb-09	-154	-118	59	299	2.33	2.04	1.87	2.66	0.0	0.0	0.0	0.0
May-09	-192	-99	86	121	1.21	0.08	0.10	0.53	nt	nt	nt	nt
Aug-09	-172	-128	36	245	8.60	6.28	6.03	6.04	0.0	0.0	0.0	0.0
Nov-09	-167	-98	52	257	6.73	2.86	1.98	1.18	nt	nt	nt	nt
Feb-10	-183	-73	-3	74	0.11	0.17	0.31	1.23	nt	nt	nt	nt
May-10	-247	-142	59	129	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Aug-10	-285	-51	141	258	0.00	0.18	0.38	0.93	nt	nt	nt	nt
Nov-10	-287	-193	-42	-30	0.43	0.12	1.98	0.24	0.0	0.0	0.0	0.0

Notes: (a) Primary and secondary MCLs (maximum contaminant levels) per WAC 246-290-310.

nt Not tested

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	pH (standard units)									Conductivity (umhos/cm)								
Primary MCL	6.5 - 8.5									700								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	7.97		6.47		6.39		6.15	6.08	6.01	150		568		685		342	344	2 U
Jul-00	7.78		6.34		6.31		5.96	5.93	5.16	165		589		767		401	429	2 U
Oct-00	7.99		6.47		6.37		6.15	6.12	5.72	159		614		719		414	436	2 U
Jan-01	8.03		6.83		6.48		6.06	6.1	5.52	189		872		878		473	494	2
Apr-01	7.87		6.9		6.36		6.33	6.01	5.4	193		901		884		506	474	3
Jul-01	7.96		6.64		6.44		6.09	6.12	5.53	193		885		890		489	490	1
Oct-01	7.58		6.36		6.27		6.07	5.96	5.92	195		887		861		504	500	6
Jan-02	8.03		6.45		6.34		6.17	6.14	5.77	192		806		842		471	474	2 U
Apr-02	8.02 J		6.6 J		6.32 J		6 J	6.06 J	5.9 J	192		804		863		443	445	2
Jul-02	8		6.4		6.51		6.21	6.2	5.9	176		710		794		434	425	2 U
Oct-02			6.51		6.57							817		785				
Jan-03																		
Apr-03																		
Jul-03									5.86									2 U
Oct-03	8.04	7.99	6.56		6.41				7.05	182	182	851		789				2 U
Feb-04	8	8	6.37		6.39		6.22		5.76	182	179	692		736		286		0.6 J
Apr-04	7.91	7.92	6.41		6.38		6.14		5.65	172	175	696		716		295		2 U
Jul-04	8	8.01	6.52		6.5		6.28		5.78	171	168	739		681		347		2 U
Oct-04	7.96	7.97	6.57		6.67		6.26		6.5	179	178	933		819		395		0.2 J
Jan-05	7.95	7.97	6.28		6.55		6.29		5.63	194	195	526		813		334		1.8 J
Apr-05	8.06	8.1	6.82		6.6		6.42		6.06	191	188	749		803		370		1.4 J
Aug-05	7.98	8.02	6.67		6.54		6.28		5.95	190	192	741		799		418		2 U
Nov-05	8	7.91	6.73		6.63		6.33		5.78	194	194	793		778		442		1.4 J
Jan-06	7.87	7.85	6.36		6.36		6.15		5.42	194	194	735		772		368		3
May-06	7.94	7.94	6.36		6.41		6.31		5.45	195	195	682		792		404		1.5 J
Aug-06	7.88	7.9	6.4		6.33		6.39		5.19	226	228	824		935		481		2
Nov-06	7.62	6.08	6.43		6.41		6.09		5.56	188	406	682		719		424		1.8 J
Feb-07	7.81	7.9	6.38		6.36		6.36		5.5	193	192	517		743		338		5
Apr-07	7.61	7.45	6.05		6.1		5.94		5.77	195	199	565		779		377		2 U
Jul-07	7.69		6.34		6.96		6.28	6.23		201		518		798		410	401	
Oct-07	7.82	7.85	6.36		6.35		6.18			200	201	638		814		482		
Jan-08	7.75		6.41		6.46		6.23	6.25		215		681		747		375	360	
Apr-08	7.76		6.36		6.44		6.38	6.38		188		658		797		475	472	
Jul-08	7.83		6.32		6.45	6.4	6.27			206		659		853	865	592		
Oct-08	7.83		6.33		6.41	6.4	6.49			210		700		892	877	592		
Feb-09	7.94		6.3		6.5		6.67	6.42	5.89	209		604		889		489	479	6
May-09	7.92		6.29		6.29		6.38	6.3	5.64	171		496		768		357	328	0
Aug-09	6.32		6.45	6.42	6.4		6.31		5.44	176		412	413	757		299		3
Nov-09	7.66		6.41		6.41		6.42	6.42	6.4	194		598		823		299	314	3.4
Feb-10	8.04		6.38		6.56	6.56	6.7		6.43	187		634		848	854	298		1.7 J
May-10	7.87		6.26		6.33		6.41	6.48	4.93	192		461		881		297	300	4
Aug-10	7.83		6.15		6.3		6.42	6.46	7.91	209		423		805		311	316	137
Nov-10	7.72		5.99		6.27		6.35	6.34	6	172		543		901		377	364	2.9

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Ammonia as N (mg/L)									Chemical Oxygen Demand (COD) (mg/L)								
Primary MCL																		
Secondary MCL																		
	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	0.51		0.3		0.05 U		0.05 U	0.05 U	0.05 U	16		91		44		24	21	5 U
Jul-00	0.54		0.31		0.05		0.05 U	0.05	0.05 U	5 U		49		49		29	14	5 U
Oct-00	0.46		0.16		0.05 U		0.05 U	0.05 U	0.05 U	29		77		41		26	27	5 U
Jan-01	0.63		0.12		0.05 U		0.1	0.07	0.06	7		68		40		21	23	5 U
Apr-01	0.48		0.14		0.05 U		0.05 U	0.05 U	0.05 U	14		79		47		27	27	5 U
Jul-01	0.53		0.11		0.05 U		0.05 U	0.05 U	0.05 U	38		71		46		23	24	5 U
Oct-01	0.37		0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	10		60		37		18	19	5 U
Jan-02	0.47		0.07		0.05 U		0.05 U	0.05 U	0.05 U	7		54		41		20	17	5 U
Apr-02	0.38		0.19		0.05 U		0.05 U	0.05 U	0.05 U	19		59		36		14	16	5 U
Jul-02	0.49		0.3		0.05 U		0.05 U	0.05 U	0.05 U	25		57		29			14 J	5 U
Oct-02	0.05 U		0.2		0.05 U					37		49		33				
Jan-03	0.44		0.02 J		0.05 U		0.05 U	0.46	0.025	3		53		35		22	3	5 U
Apr-03	0.53		0.15		0.05 U		0.05 U	0.05 U	0.025	2 J		59		40		16	16	5 U
Jul-03	0.55		0.18		0.02 J		0.05 U	0.05 U		5 U		56		37		14	14	
Oct-03	0.48	0.53	0.25		0.05 U				0.05 U	4 J	3 J	55		36				5 U
Feb-04	0.51	0.51	0.12		0.04 J		0.05 U		0.05 U	5 U	5 U	49		35		5		5
Apr-04	0.55	0.55	0.61		0.05		0.05 U		0.05 U	5 U	5 U	65		37		10		5 U
Jul-04	0.5	0.47	0.13		0.06		0.05 U		0.05 U	5 U	5 U	58		37		14		5 U
Oct-04	0.53	0.51	0.12		0.05 U		0.05 U		0.05 U	4 J	3 J	63		43		15		5 U
Jan-05	0.52	0.51	0.21		0.05 U		0.05 U		0.05 U	24	16	72		52		20		2 J
Apr-05	0.51	0.53	0.58		0.05 U		0.05 U		0.05 U	5	6	69		43		14		5
Aug-05	0.5	0.5	0.74		0.03 J		0.05 U		0.05 U	2 J	5 U	71		36		13		5 U
Nov-05	0.49	0.48	0.17		0.05 U		0.05 U		0.05 U	5 U	3 J	66		40		17		5 U
Jan-06	0.46	0.47	0.15		0.05 U		0.01 J		0.05 U	5 U	3 J	59		35		13		5 U
May-06	0.51	0.51	1.13		0.027 J		0.019 J		0.018 J	2.6 J	2.6 J	78		38		8		5 U
Aug-06	0.5	0.51	1.29		0.011 J		0.011 J		0.05 U	4 J	2.5 J	85		36		13		5 U
Nov-06	0.47	0.05 U	0.41		0.022 J		0.05 U		0.05 U	5 U	16	66		35		15		5 U
Feb-07	0.5	0.52	0.93		0.05 U		0.05 U		0.05 U	5 U	5 U	75		36		6		5 U
Apr-07	0.5	0.5	0.71		0.05 U		0.05 U		0.05 U	6	6	80		39		14		5 U
Jul-07	0.5		0.74		0.05 U		0.05 U	0.05 U		5 U		67		31		5 U	6	
Oct-07	0.48	0.49	0.98		0.05 U		0.05 U			5 U	5 U	71		33		17		
Jan-08	0.55		0.41		0.05 U		0.05 U	0.05 U		5 U		61		35		12	13	
Apr-08	0.46		0.39		0.05 U		0.05 U	0.05 U		3 J		76		42		13	14	
Jul-08	0.48		0.75		0.05 U	0.05 U	0.05 U			6		75		37	35	24		
Oct-08	0.53		0.54		0.05 U	0.05 U	0.05 U			6		65		39	41	16		
Feb-09	0.51		1.44		0.05 U		0.05 U	0.05 U	0.05 U	5 U		69		42		16	16	5 U
May-09	0.61		1.08		0.05 U		0.05 U	0.05 U	0.05 U	22		70		38		13	11	5 U
Aug-09	0.49		1.24	1.14	0.05 U		0.05 U		0.009 J	3 J		106	83	43		12		3 J
Nov-09	0.542		0.557		0.026 J		0.046 J	0.181	0.016 J	5 U		65.9		42.1		13.7	13.7	5 U
Feb-10	0.529		1.23		0.05 U	0.05 U	0.05 U		0.05 U	5 U		68.1		34.8	34.8	5 U		5 U
May-10	0.556		0.969		0.032 J		0.027 J	0.021 J	0.05 U	3.3 J		73.9		41		11	10.5	5 U
Aug-10	0.529		1.22		0.05 U		0.05 U	0.05 U	0.05 U	5 U		74.1		41.1		10.9	11.8	5 U
Nov-10	0.504		1.02		0.05 U		0.05 U	0.05 U	0.05 U	5.6		67.5		42.1		14.7	12.2	7.6

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Chloride (mg/L)									Nitrate + Nitrite as N (mg/L)								
Primary MCL	250									10								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	2		3.9		7.4		8.2	8.2	0.2 U	0.2 U		0.2 U		0.2 U		0.4	0.4	0.2 U
Jul-00	2		5.5		8.8		8.3	8.2	0.2 U	0.1		0.2 U		0.2 U		0.5	0.5	
Oct-00	2		5		8.1		6.7	7	0.2 U	0.2 U		0.2 U		0.2 U		0.2 U	0.2 U	0.2 U
Jan-01	2.2		5.5		8.7		7.7	7.7	0.2 U	0.2 U		0.2 U		0.2 U		0.3	0.3	0.2 U
Apr-01	2		4.8		7.6		5.9	5.8	0.2 U	0.2 U		0.2 U		0.2 U		0.2	0.4	0.2 U
Jul-01	2		4.4		6.7		5.6	5.5	0.2 U	0.2 U		0.2 U		0.2 U		0.4	0.4	0.2 U
Oct-01	2		4.1		6.7		4.3	4.3	0.2 U									
Jan-02	2		3.2		6.1		5	4.9	0.2 U	0.2 U		0.2 U		0.2 U		0.2	0.3	0.2 U
Apr-02	2		2.9		6.3		5.7	5.9	0.2 U	0.2 U		0.2 U		0.2 U		1.1	1.1	0.2 U
Jul-02	2.2		4		6.7		6	6.4	0.2 U	0.2 U		0.2 U		0.2 U		0.7	0.6	0.2 U
Oct-02	1.9		3		5.6					0.9				0.2 U				
Jan-03	2		3.5		5.8		4	2.2	0.2 U									
Apr-03	2.1		4		6		4.9	4.7	0.2 U	0.2 U		0.2 U		0.2 U		0.9	0.8	0.2 U
Jul-03	1.8		3		5.2		4.8	5	0.2 U	0.2 U		0.2 U		0.2 U		1.5	1.5	0.02 J
Oct-03	2	1.8	3.1		5				0.2 U	0.2 U	0.2 U	0.2 U		0.2 U				0.2 U
Feb-04	1.9	1.9	2.7		4.6		6.1		0.2 U	0.06 J	0.06 J	0.08 J		0.1 J		1.1		0.2 U
Apr-04	1.8	1.8	3.1		4.6		4.8		0.2 U	0.2 U	0.2 U	0.2 U		0.2 U		1.4		0.2 U
Jul-04	1.9	1.8	2.7		4.8		4.3		0.2 U	0.05 J	0.05 J	0.2 U		0.2 U		0.6		0.04 J
Oct-04	1.6	1.6	0.8		3.3		3		0.2 U	0.05 U	0.05 U	0.01 J		0.01 J		0.3		0.2 U
Jan-05	1.7	1.7	4.6		5		5		0.2 U	0.01 J	0.02 J	0.03 J		0.01 J		0.75		0.01 J
Apr-05	1.9	1.9	3.8		4.7		4.6		0.2 U	0.2 U	0.2 U	0.2 U		0.2 U		1		0.2 U
Aug-05	1.7	1.7	3.6		4.2		5.4		0.2 U	0.05 U	0.05 U	0.02 J		0.01 J		0.95		0.05 U
Nov-05	1.8	1.9	2.8		3.7		3.1		0.04 J	0.1 J	0.09 J	0.08 J		0.11 J		0.3		0.1 J
Jan-06	1.6	1.6	3.5		3.7		5.3		0.2 U	0.09 J	0.1 J	0.07 J		0.2 U		0.5		0.1 J
May-06	1.7	1.9	1.9		2.8		2.7		0.4 U	0.05 U	0.05 U	0.16		0.039 J		0.92		0.05 U
Aug-06	1.8	1.8	3.1		4		4.7		0.4 U	0.05 U	0.05 U	0.14		0.01 J		0.96		0.05 U
Nov-06	1.8	3.4	2.5		3.5		3.4		0.2 U	0.05 U	0.46	0.07		0.008 J		0.46		0.05 U
Feb-07	1.6	1.6	3.1		4.9		6.4		0.2 U	0.28	0.58	0.96		0.94		0.75		1.02
Apr-07	1.9	1.9	2.3		4.5		5.4		0.2	0.23	1.21	0.2		0.63		0.85		0.63
Jul-07	1.7		2.8		4.1		5.1	5		0.05 U		0.19		0.08		0.7	0.68	
Oct-07	1.7	1.7	2.7		4.3		5.2			0.05 U	0.05 U	0.17		0.05 U		0.47		
Jan-08	2		3.1		4.5		5.8	5.8		0.05 U		0.07		0.05 U		0.58	0.54	
Apr-08	1.8		2.4		4.4		5	5.1		0.05 U		0.05 U		0.05 U		0.74	0.73	
Jul-08	1.8		2.8		4.2	4.4	4.5			0.1		0.15		0.05 U	0.05 U	1.48		
Oct-08	1.9		3.6		4.9	4.9	5.1			0.05 U		0.1		0.026 J	0.008 J	0.51		
Feb-09	1.7		2.6		4.2		7.6	7.6	0.02 J	0.05 U		0.17		0.01 J		0.99	1.02	0.05
May-09	2.2		4.5		6.1		7.3	7.3	0.2 U	0.013 J		0.21		0.029 J		0.12	0.13	0.019 J
Aug-09	1.8		3.8	3.7	4.3		5.9		0.2 U	0.05 U		0.17	0.17	0.017 J		0.11		0.05 U
Nov-09	1.94		3.28		4.43		6.52	6.55	0.2 U	0.05 U		0.063		0.05 U		0.05 U	0.05 U	0.05 U
Feb-10	1.81		2.9		4.2	4.2	5.3		0.06 J	0.05 U		0.126		0.05 U	0.05 U	0.042 J		0.05 U
May-10	1.88		3.4		4.1		5.9	6	0.04 J	0.03 J		0.218		0.037 J		0.109	0.105	0.04 J
Aug-10	1.91		3.04		3.32		5.67	5.7	1.57	0.039 J		0.176		0.038 J		0.139	0.143	0.174
Nov-10	1.57		2.74		3.21		5.38	5.29	0.4 U	0.05 U		0.118		0.05 U		0.086	0.086	0.05 U

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Nitrate as N (mg/L)									Nitrite as N (mg/L)								
Primary MCL																		
Secondary MCL																		
	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00																		
Jul-00									0.05 U									0.1 U
Oct-00																		
Jan-01																		
Apr-01																		
Jul-01																		
Oct-01	0.2 UJ		0.3 UJ		0.3 UJ		0.3 UJ	0.3 UJ	0.3	0.1 U		0.2		0.1 J		0.1 UJ	0.1 U	0.1 U
Jan-02																		
Apr-02																		
Jul-02																		
Oct-02			0.003									0.004						
Jan-03	0.003		0.1 UJ		0.1 UJ		0.3 J	0.3	0.05	0.007		0.1 UJ		0.1 UJ		0.1 UJ	0.007	0.1 UJ
Apr-03																		
Jul-03																		
Oct-03																		
Feb-04																		
Apr-04																		
Jul-04																		
Oct-04																		
Jan-05																		
Apr-05																		
Aug-05																		
Nov-05																		
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Jul-08																		
Oct-08																		
Feb-09																		
May-09																		
Aug-09																		
Nov-09																		
Feb-10																		
May-10																		
Aug-10																		
Nov-10																		

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Solids, total dissolved (TDS) (mg/L)									Sulfate (mg/L)								
Primary MCL	500									250								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	180		561		598		330	318	27	1.6		0.3		0.3		7.7	7.6	0.2
Jul-00	156		517		532		323	291	5 U	1.7		0.2		0.2		7.8	7.2	0.2
Oct-00	94		503		501		281	275	5 U	1.6		0.2 U		0.3		6.1	6.1	0.2
Jan-01	131						286	272	5 U	1.2		0.2		0.4		7.7	7.8	0.2
Apr-01	134		556		456		284	258	5 U	1.6		0.4		0.4		8.3	8	0.3
Jul-01	134		420		320		212	262	5 U	1.6		0.2		0.3		7.2	7.1	0.2
Oct-01	140		408		420		262	274	8	1.2		0.2		0.3		6.7	6.5	0.2
Jan-02	136		496		428		275	246	5 U	1.1		0.7		0.3		6.8	7	0.2
Apr-02	167		520		584		356	302	5 U	1.6		0.3		0.5		7.9	8.1	0.2
Jul-02	174		592		532		384	352	10	1.6		0.3		0.3		7.5	7.6	0.2
Oct-02	112		518		564					1.1		0.4		0.3				
Jan-03	117		604		620		392	168	5 U	1		0.4		0.4		4.2	1.1	0.2
Apr-03	143		524		460		236	252	5 U	1.1		0.19 J		0.3		8.2	7.6	0.2
Jul-03	128		592		492		245	250	5 U	1.5		0.2 U		0.2		9.6	9.7	0.2
Oct-03	140	137	568		528				5	1	0.7	0.2 U		0.2				0.2
Feb-04	123	113	404		428		202		5 U	1.3	1.3	0.15 J		0.14 J		12.1		0.2
Apr-04	126	138	512		492		226		5 U	0.9	1	0.2 U		0.2 U		10.5		0.2
Jul-04	128	123	528		396		222		5 U	0.9	0.9	0.2 U		0.2 U		7.7		0.2
Oct-04	129	132	528		440		262		5 U	1.5	1.4	0.2 U		0.2 U		6.9		0.2
Jan-05	151	150	440		564		248		5 UX	1	0.9	0.2 U		0.2 U		12.6		0.2
Apr-05	129	128	468		484		242		5 U	1.8	1.6	0.2 U		1.4		11.7		0.2
Aug-05										0.9	1	0.2 U		0.2 U		8.3		0.2
Nov-05	126	127	440		500		276		5 U	1.6	1.6	0.2 U		0.3		7.9		0.2
Jan-06	149	169	568		528		228		34	1.3	1.4	0.2 U		0.3		13.2		0.2
May-06	145	156	532		514		290		27	1.4	1.5	0.07 J		0.4 U		11.2		0.4
Aug-06	100	90	302		436		206		5 U	1.4	1.4	1.7		0.3		11.2		0.4
Nov-06	141	242	477		479		259		6	1.6	3.4	0.4		0.15 J		9.7		0.2
Feb-07	142	146	522		420		231		5 U	1.4	1.4	0.09 J		0.15 J		14.8		0.03
Apr-07	151	140	493		490		229		5 U	1.3	1.3	0.2 U		0.2 U		13.9		0.2
Jul-07	154		414		495		262	248		1.4		0.2 U		0.2 U		11.3	11.4	
Oct-07	159	151	476		478		294			1.3	1.3	0.063 J		0.088 J		9.4		
Jan-08	148		578		508		239	233		0.8		0.2 U		0.2 U		14	14.9	
Apr-08	118		496		430		265	256		1.3		0.101 J		0.161 J		9.6	9.7	
Jul-08	161		415		506	505	363			1.3		0.119 J		0.137 J	0.152	6.2		
Oct-08	139		465		478	491	323			1.1		0.107 J		0.159 J	0.4	6.7		
Feb-09	136		461		498		261	263	5 U	1.4		0.112 J		0.12 J		6.4	6.4	0.027
May-09	130		460		513		223	220	7	1.7		0.4		0.2 U		6.7	6.6	0.2
Aug-09	119		378	425	491		178		5 U	1.1		0.09 J	0.1 J	0.12 J		13.9		0.2
Nov-09	121		452		496		198	201	5 U	3.32		0.2 U		0.2 U		15	14.9	0.2
Feb-10	152		422		518	501	186		5	1.55		0.06 J		0.09 J	0.13 J	19.6		0.01 J
May-10	129		340		508		166	178	5 U	1.45		0.76		0.17 J		15.3	13.4	0.43
Aug-10	202		381		564		250	241	134	1.55		0.8		1.12		14.1	14	1.06
Nov-10	98		330		462		153	161	5 U	1.07		0.4 U		0.4 U		12.3	11.7	0.4 U

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Tannin & Lignin (mg/L)									Total Organic Carbon (TOC) (mg/L)								
Primary MCL																		
Secondary MCL																		
	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	0.3		9.1		1.1		0.3	0.3	0.2 U	0.7		28.8		13.5		6.6	6.6	0.5 U
Jul-00	0.3		7.1		1.1		0.3	0.4	0.2 U	1.1		29.2		16.8		7.7	7.1	0.5 U
Oct-00	0.4		8.2		1		0.5	0.5	0.2 U	1.3		0.5 U		15.5		9.7	9.7	0.5 U
Jan-01	0.6		12.2		1.7		0.6	0.7	0.2 U	1		27.1		14.8		8.6	8.6	0.5 U
Apr-01	0.2		3.2		0.9		0.4	0.4	0.2 U	1.2		26.1		14.6		7.5	7.5	0.5 U
Jul-01	0.4		6.4		1.4		0.5	0.5	0.2 U	9.3		25.9		15.1		6.8	7.3	0.5 U
Oct-01	0.5		21.6		2.8		0.6	0.8	0.2 U	0.9		21.6		13.7		7.1	7.1	0.5 U
Jan-02	0.5		9.9		1.3		0.3	0.4	0.2 U	1		19.1		13.5		5.9	5.8	0.5 U
Apr-02	0.5		10.9		1.5		0.4	0.6	0.2 U	1		23		14.2		6.4	6.4	0.5 U
Jul-02	0.4		8		1		0.5	0.3	0.2 U	0.8		21.8		11.9		6	5.7	0.5 U
Oct-02	0.3		8.1		1.1							23.1		15				
Jan-03	0.3		9.5		0.9		0.8	0.3	0.2 U	1.1		21		13.2		8.4	0.9	0.4 J
Apr-03	0.6		2.5		2		0.3	0.3	0.2 U	1		22.2		14.1		5.9	6	0.5 U
Jul-03	0.3		4.6		1.5		0.2	0.2	0.2 U	0.7								
Oct-03	0.5	0.5	8.5		1.9				0.2 U	0.25 U	10.4	21.2		14.6				0.4 J
Feb-04	0.4	0.5	10		1.9		0.2		0.08 J	1	0.9	19.7		14		3.7		1
Apr-04	0.5	0.5	9.9		1.8		0.2 U		0.2 U	0.8	0.9	24.8		15		4.6		0.5 U
Jul-04	0.5	0.5	4.4		0.2 U		0.3		0.14 J	0.9	1	23.6		15		6.1		0.17 J
Oct-04	0.5	0.4	8.3		1.6		0.3		0.08 J	1	0.9	24.4		14.7		5.8		0.5 U
Jan-05	0.3	0.3	4.5		1		0.1 J		0.2 U	1	0.9	18.6				4.1		0.5 U
Apr-05	0.4	0.5	8.9		1.2		0.18 J		0.18 J	1.2	1	26.7		16		6		0.6
Aug-05	0.4	0.4	8.7		1		0.2		0.05 J	1.1	1	29.9		17		6.5		0.2 J
Nov-05	0.4	0.4	10.3		1.5		0.4		0.09 J	1.1	0.9	25.2		14.5		6		0.1 J
Jan-06	0.4	0.4	10.8		0.5		0.2		0.2 U	1	1	25.1		14.2		4.7		0.07 J
May-06	0.4	0.4	16.7		1.2		0.17 J		0.5	1	0.9	29.5		14.5		4.3		0.09 J
Aug-06	0.3	0.3	7.6		1.6		0.15 J		0.2 U	1	0.9	31.1		13.8		4.9		0.5 U
Nov-06	0.3	0.2	10.7		1.3		0.2		0.2 U	1.1	6.8	28		15.3		6.5		0.5 U
Feb-07	0.3	0.4	4.1		1.1		0.16 J		0.05 J	1.1	1	28.2		15.6		3.6		0.5 U
Apr-07	0.3	0.3	11.9		1.3		0.2 U		0.2 U	1	1	28.4		16.7		4.8		0.5 U
Jul-07	0.3		13.4		1.3		0.12 J	0.13 J		0.9		28.6		15.6		5.2	5.2	
Oct-07	0.3	0.3	4.7		1.1		0.3			1	0.9	26.4		15.5		7.1		
Jan-08	0.3		8		1.2		0.3	0.3		0.8		23.9		15.8		6	6.1	
Apr-08	0.3		22.5		1.2		0.2	0.2		0.9		27.8		17.5		5.9	5.9	
Jul-08	0.2		11.5		1.2	1.2	0.2			0.9		27.9		15.9	16.2	8.3		
Oct-08	0.3		2.5		1.1	1.1	0.2			0.9		23.8		15.5	16.3	6.6		
Feb-09	0.2		3.4		1.4		0.17 J	0.2	0.2 U	0.9		21.8		16.6		5.2	5.2	0.5 U
May-09	0.3		3.5		0.9		0.3	0.3	0.2 U	1		22		15.8		4.7	4.9	0.5 U
Aug-09	0.3		10.7	31.4	0.9		0.09 J		0.2 U	1.1		29	28.4	16.9		5.1		0.17 J
Nov-09	0.39		20.1		1.32		0.19 J	0.18 J	0.04 J	0.72		23.7		16.7		5.27	5.15	0.5 U
Feb-10	0.28		10		1.3	1	0.07 J		0.2 U	0.77		23.8		17.1	16.5	3.91		0.5 U
May-10	0.32		31.3		1.1		0.11 J	0.11 J	0.2 U	0.93		25.2		17.3		4.17	4.14	0.1 J
Aug-10	0.34		5.22		1.68		0.18 J	0.14 J	0.04 J	0.81		21.5		15.3		3.7	3.46	0.5 U
Nov-10	0.36		13.1		1.43		0.15 J	0.16 J	0.04 J	2.61		24.7		18.2		7.41	7.18	0.08 J

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Total Coliforms (MPN/100 mL)								
Primary MCL	<5% ^(a)								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	2 U		2 U		2 U		11	7	
Jul-00	2 U		110		6		2 U	2 U	2 U
Oct-00	4 J		80 J		11 J		2 UJ	2 J	2 UJ
Jan-01	2 UJ		14 J		4 J		2 UJ	2 UJ	2 UJ
Apr-01	2 UJ		2 UJ		17 J		2 UJ	2 UJ	2 UJ
Jul-01	2 UJ		2 UJ		500 J		2 UJ	2 UJ	2 UJ
Oct-01	2 UJ		900 J		2 UJ		2 U	2 UJ	2 UJ
Jan-02	2 U		2 UJ		2 UJ		2 UJ	2 UJ	2 UJ
Apr-02	2 UJ				2 UJ		2 UJ	2 UJ	2 UJ
Jul-02	2 UX		1600 E		8		2 U	2 UX	2 UX
Oct-02	2 U		2						
Jan-03	2		2 U		2 U		2 U	2	2 U
Apr-03	2 U		2 U		2 U		2 UJ	2 UJ	2 UJ
Jul-03	23 J		2 UJ		1600 J		30 J	300 J	
Oct-03	900 J	300 J	2 UJ		2 UJ				2 UJ
Feb-04	1	1 U	2 UX		2 UX		25 X		1 U
Apr-04	2 UX	2 UX	2 UX		2 UX		2 UX		2 UX
Jul-04	23	23	14		4		2 U		2 U
Oct-04	2 U	2	12		2 U		4		2 U
Jan-05	2 U	2 U	27		2 U		2 U		2 U
Apr-05	2 U	2 U	2 U		220		2 U		2 U
Aug-05	2 U	2 U	2 U		2 U		2 U		2 U
Nov-05	2 U	2 U	170		17		2 U		2 U
Jan-06	2 U	2 U	5.1		2 U		2 U		2 U
May-06	-9 U	2 U	2 U		2 U		2 U		2 U
Aug-06	2 U	2 U	2 U		2 U		36.4		2 U
Nov-06	2 U	8.7	2 U		129.8		5.3		2 U
Feb-07	1 U	1 U	1 U		1 U		1 U		1 U
Apr-07	1 U	1 U	1 U		1 U		1 U		1 U
Jul-07	1		6		2419.6 >		1 U	1	
Oct-07	1 U	1 U	1 U		5.1		1 U		
Jan-08	1 U		1 U		1 U		1 U	1 U	
Apr-08	1 U		1 U		2		1 U	1 U	
Jul-08	1 U		1 U		248.9	70.8	1 U		
Oct-08	1 U		1 U		1 U	1 U	1 U		
Feb-09	1 U		1 U		17.5		1	1 U	1 U
May-09	1 U		1		1		1 U	1 U	4.2
Aug-09	1 U		1 U	1 U	1 U		1 U		1
Nov-09	1 U		1 U		1 U		1 U	1 U	3.1
Feb-10	1 U		1 U		1	1	1 U		1
May-10	1 U		1 U		2		165.2	165.2	47.8
Aug-10	1 U		1 U		1		9.7	3	18.9
Nov-10	1		5.2		2		1	1 U	1

Table 3b. Conventional Parameters from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

Notes: (a) <5% criteria indicates less than 5 percent of total Coliform samples can be positive in a month.
MCL - Maximum contaminant levels per WAC 246-290-310.
SMCL - Secondary maximum contaminant levels per WAC 246-290-310.
J - Estimated Value
U - Not detected. Reporting limit shown.
X - Analysis performed past method holding time
> - Exceeds maximum detection level of test

Table 3c. Metals from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Arsenic, dissolved (µg/L)									Barium, dissolved (µg/L)								
Primary MCL	10									2000								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	5		46		5 U		5 U	5 U	5 U	26		83		56		29	27	5 U
Jul-00	6		49		5 U		5 U	5 U	5 U	26		105		51		28	27	5 U
Oct-00	5		6 U		5 U		5 U	5 U	5 U	29		103		56		34	33	5 U
Jan-01	5 U		8		5 U		5 U	5 U	5 U	25		60		51		30	30	5 U
Apr-01	5		16		5 U		5 U	5 U	5 U	26		67		50		25	25	5 U
Jul-01	5		9		5 U		5 U	5 U	5 U	32		64		53		27	27	5 U
Oct-01	5		5		5 U		5 U	5 U	5 U	26		49		50		31	28	5 U
Jan-02	5 U		6		5 U		5 U	5 U	5 U	27.1		71.2		52.3		27.1	27.2	5 U
Apr-02	5		14		5 U		5 U	5 U	5 U	26		99		47		24	23	5 U
Jul-02	10 U		21.9		10 U		10 U	10 U	10 U	29.6		129		52.8		28.4	28.1	5 U
Oct-02	5.4		8		5 U					26.6		64.9		43.8				
Jan-03	4.7 B		5.3		1.4 B		1 B	4.9 B	5 U	26.8		55.7		47.2		30.8	28	5 U
Apr-03	5.2		4.6 B		1.2 B		5 U	5 U	5 U	29.1		54.4		48.7		20.3	20.1	5 U
Jul-03	6		5 U		5 U		5 U	5 U	5 U	32		58.1		42.1		18	18.9	5 U
Oct-03	4.9 B	5.3	3.7 B		5 U				5 U		28.8	50.7		47.8				5 U
Feb-04	5 U	5 B	3 B		5 U		5 U		4.9 B	5 U	28.3	65.3		45		10		29.1
Apr-04	5.6	5.5	8.5		5 U		5 U		5 U	29.3	29.1	111		48.8		19.9		5 U
Jul-04	5	5	3 B		1 B		5 U		5 U	31	29	54		55		21		5 U
Oct-04	5.7	5.3	4.4 B		5 U		5 U		5 U	29.4	28.3	53.3		43.3		23.4		5 U
Jan-05	5	5.1	2.8 B		5 U		5 U		5 U	30.2	30.2	103		47.2		16		5 U
Apr-05	5	5 B	6		1 B		5 U		5 U	29	28	91		44		23		5 U
Aug-05	4 B	5 B	9		5 U		5 U		5 U	28	28.4	94.4		41.9		23		5 U
Nov-05	6	5 U	7		2 B		5 U		5 U	29	5 U	63		44		23		5 U
Jan-06	5.2	5.6	2.9 B		5 U		5 U		5 U	31	28.3	59.5		43		17.8		5 U
May-06	6.5	5.8	21.9		1.2 B		5 U		5 U	30.4	32	115		48.1		23.9		5 U
Aug-06	5.1	5 B	99.8		5 U		5 U		5 U	33	35.3	103		48		24.3		5 U
Nov-06	7.3	5 U	29.8		1.1 B		5 U		5 U	30.4	25	104		44.6		28.4		3 B
Feb-07	6.8	5.8	145		1.1 B		5 U		5 U	28.6	28.9	101		47		19.1		5 U
Apr-07	6	6	113		0.7 B		5 U		5 U	25.6	25.6	73.8		39.8		24.5		5 U
Jul-07	5.4		113		5 U		5 U	5 U		33		80.6		50.1		24.6	23	
Oct-07	5.4	4.8 B	67.2		5 U		5 U			29.4	29.3	83.2		48.3		26.5		
Jan-08	6.7		42.6		5 U		5 U	5 U		26.7		65.4		42.3		18.3	19.0	
Apr-08	4.4 J		117.0		5 U		5 U	5 U		27.6		111.0		41.7		22.1	22.6	
Jul-08	5.4		111.0		0.8 J	5 U	5 U			29.7		122.0		49.5	50.9	31.5		
Oct-08	7.2		46.5		5 U	5 U	1.1 J			26.7		72.2		41.9	43.3	24.8		
Feb-09	14.4		114		5 U		5 U	5 U	5 U	29.5		125.0		49.7		23.2	22.6	5 U
May-09	6.2		120		1.6 J		0.6 J	0.7 J	5 U	26.7		111.0		45.4		16.7	16.8	5 U
Aug-09	0.8 J		5 U	2.5 J	1.5 J		0.8 J		5 U	229		15.6	22.7	39.6		230.0		5 U
Nov-09	6		63.5		5 U		5 U	5 U	5 U	26.5		115.0		45.5		13.9	13.1	5 U
Feb-10	7.1		133		3.0 J	2.5 J	1.6 J		5 U	28.4		132.0		49.6	52.2	14.3		5 U
May-10	5.5		149		0.9 J		5.0 U	5.0 U	5 U	27.7		134.0		53.7		14.5	14.6	5 U
Aug-10	5.3		139		0.9 J		5.0 U	5.0 U	3 J	25.8		119.0		47.7		14.9	14.3	2 J
Nov-10	5.6		186		5 U		5 U	5 U	5 U	24.6		132.0		44.9		15.7	15.7	5 U

Table 3c. Metals from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Cadmium, dissolved (µg/L)									Copper, dissolved (µg/L)								
Primary MCL	5									1300								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Jul-00	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Oct-00	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Jan-01	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Apr-01	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Jul-01	4 U		4 U		4 U		4 U	4 U	4 U	10 U		10 U		10 U		10 U	10 U	10 U
Oct-01	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Jan-02	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Apr-02	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Jul-02	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Oct-02	5 U		1.1 B		1.1 B					10 U		10 U		10 U				
Jan-03	0.5 B		3.6 B		5 U		5 U	5 U	5 U	10 U		10 U		10 U		5.1 B	10 U	10 U
Apr-03	2 R		2 R		2 R		2 R	2 R	2 R	10 U		10 U		10 U		16.8 J	9.2 J	5.4 B
Jul-03	5 UJ		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Oct-03	5 U	5 U	5 B		5 U				5 U	10 U	10 U	10 U		10 U				10 U
Feb-04	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Apr-04	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Jul-04	5 U	5 U	6		5 U		5 U		5 U	5 B	6 B	5 B		10 U		11		10 U
Oct-04	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Jan-05	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		6.1 B		10 U
Apr-05	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		8 B		9 B		10 U
Aug-05	0.8 B	0.3 B	1.4 B		0.3 B		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Nov-05	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Jan-06	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
May-06	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		2.6 B		10 U
Aug-06	5 U	5 U	3.2 B		5 U		5 U		5 U	10 U	10 U	20 U		2.5 B		3.1 B		10 U
Nov-06	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Feb-07	5 U	5 U	5 U		5 U		5 U		5 U	10 U	10 U	10 U		10 U		3 B		10 U
Apr-07	5 U	5 U	2.9 B		0.7 B		1.9 B		5 U	10 U	10 U	10 U		10 U		10 U		10 U
Jul-07	5 U		5 U		5 U		5 U	5 U		10 U		4.4 B		5.4 B		4.2 B	6 B	
Oct-07	5 U	5 U	5 U		5 U		5 U			10 U	10 U	10 U		10 U		10 U		
Jan-08	5 U		1.8 J		1.4 J		5 U	1.3 J		10 U		10 U		10 U		10 U	10 U	
Apr-08	5 U		5 U		1.1 J		5 U	0.7 J		10 U		10 U		10 U		10 U	10 U	
Jul-08	5 U		4.3 J		5 U	5 U	0.2 J			10 U		10 U		1.4 J	1.4 J	3.3 J		
Oct-08	5 U		5 U		5 U	5 U	5 U			10 U		10 U		10 U	10 U	10 U		
Feb-09	5 U		1.2 J		5 U		0.2 J	0.3 J	0.2 J	10 U		10 U		2.1 J		1.6 J	2.6 J	10 U
May-09	5 U		2.1 J		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	5.8 J
Aug-09	5 U		5 U	5 U	5 U		5 U		5 U	22.2		10 U	10 U	10 U		21.2		10 U
Nov-09	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10 U	10 U	10 U
Feb-10	5 U		5 U		5 U	5.0 U	5 U		5 U	1.3 J		2 J		3.8 J	4.1 J	3.9 J		10 U
May-10	5 U		5 U		5 U		5 U	5 U	5 U	10 U		10 U		1.6 J		2.0 J	2 J	10 U
Aug-10	5 U		4.5 J		5 U		5 U	5 U	5 U	10 U		10 U		10 U		10.0 U	10 U	10 U
Nov-10	5 U		3 J		5 U		5 U	5 U	5 U	4.2 J		7 J		4.4 J		4 J	7 J	6 J

Table 3c. Metals from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Iron, dissolved (µg/L)									Manganese, dissolved (µg/L)								
Primary MCL	300									50								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	40		56,600		690		20 U	20 U	20 U	123		15,900		1,450		264	272	5 U
Jul-00	40		52,600		720		20 U	20 U	20 U	120		13,900		1,500		307	308	5 U
Oct-00	60		34,200		630		20 U	20 U	20 U	129		15,800		1,390		346	348	5 U
Jan-01	50		7,560		620		20 U	30	20 U	123		14,500		1,460		409	397	5 U
Apr-01	50		5,530		780		20 U	20 U	20 U	116		16,200		1,470		341	345	5 U
Jul-01	43.8		8,530		736		20 U	20 U	20 U	123		17,100		1,540		396	400	5 U
Oct-01	35		4,740		789		20 U	20 U	20 U	114		13,600		1,580		556	534	5 U
Jan-02	50		5,760		806		20 U	20 U	20 U	127		15,600		1,500		464	470	5 U
Apr-02	40		19,600		640		20 U	20 U	20 U	112		15,600		1,430		362	353	5 U
Jul-02	32.9		21,900		670		20 U	20 U	20 U	123		17,900		1,520		373	384	5 U
Oct-02	41.8		5,340		628					105		16,000		1,410				
Jan-03	39.9 J		3,220		714		20 U	126	20 U	103		14,800		1,560		733	107	5 U
Apr-03	40.8		4,280		780		20 U	20 U	20 U	118		17,800		1,560		431	451	5 U
Jul-03	53		3,680		926		20 U	20 U	20 U	115		15,900		1,390		370	377	5 U
Oct-03	36.1	36.9	903		836				20 U	115	110	14,500		1,580				5 U
Feb-04	20 U	41.4	2,950		753		20 U		48.1	5 U	113	15,700		1,410		277		115
Apr-04	42.4	90.6	8,890		796		20 U		20 U	110	111	14,900		1,420		144		5 U
Jul-04	60	50	4,290		750		20 U		20 U	189	114	18,200		1,420		326		5 U
Oct-04	40.3	39.3	1,710		836		20 U		20 U	110	107	17,700		1,430		478		5 U
Jan-05	41.6	42.4	6,520		761		20 U		20 U	110	112	8,510		1,270		172		2.8 B
Apr-05	46	48	10,900		769		20 U		20 U	120	120	14,200		1,350		210		5 U
Aug-05	41	40	18,300		732		5 B		20 U	107	107	14,100		1,300		160		0.3 B
Nov-05	42	20 U	4,330		770		20 U		4 B	112	5 U	17,200		1,300		429		5 U
Jan-06	46.6	43.2	2,590		740		20 U		20 U	116	114	17,200		1,260		367		5 U
May-06	40.1	41.9	67,900		842		20 U		20 U	109	114	13,400		1,320		105		5 U
Aug-06	38.7	40.5	91,400		860		20 U		5 B	113	112	13,000		1,350		121		5 U
Nov-06	33.3	20 U	28,700		811		20 U		20 U	113	261	17,500		1,390		268		0.5 B
Feb-07	38.6	36.7	110,000		846		20 U		20 U	112	114	13,500		1,350		89.5		5 U
Apr-07	42.8	36.4	90,500		771		10.1 B		20 U	107	106	13,500		1,330		123		5 U
Jul-07	38.3		88,100		699		20 U	20 U		118		14,000		1,330		268	268	
Oct-07	36.1	36	62,700		656		20 U			121	120	14,700		1,280		353		
Jan-08	41.3		35,500		608		7.8 J	8.2 J		125		17,900		1,270		422	428	
Apr-08	41.5		102,000		624		8.8 J	8.3 J		110		12,600		1,150		240	234	
Jul-08	35.2		96,800		593	591	20 U			111		13,100		1,190	1,210	309		
Oct-08	74.8		53,800		560	571	8.8 J			111		15,400		1,290	1,300	297		
Feb-09	54.6		109,000		542		4.6 J	20 U	5 J	120		11,800		1,250		175	174	0.2 J
May-09	51.7		102,000		473		6.1 J	5 J	20 U	108		11,300		1,230		114	116	0.4 J
Aug-09	91.1		11.6 J	2,280	1340		91		1 J	4,220		7,870	2540	2,500		4,180		0.2 J
Nov-09	43.6		59,700		480		4.7 J	4 J	20 U	110		13,400		1,300		204	204	0.7 J
Feb-10	33.7		94,700		465	493	20 U		20 U	116		11,200		1,260	1330	36		5.0 U
May-10	43.5		104,000		451		3.5 J	8.9 J	20 U	115		9,380		1,340		78	78	5.0 U
Aug-10	38.6		104,000		482		3.7 J	1.6 J	20 U	108		9,670		1,310		48	47.2	5.0 U
Nov-10	20 U		116,000		420		8.7 J	6 J	20 U	112		7,880		1,340		93	95.4	5.0 U

Table 3c. Metals from Groundwater Sampling, April 2000 to November 2010 (South Landfill)

	Nickel, dissolved (µg/L)									Zinc, dissolved (µg/L)								
Primary MCL	100									5000								
Secondary MCL	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field blk
Apr-00	20 U		20 U		40		20 U	20 U	20 U	10 U		10 U		10 U		10 U	10 U	10 U
Jul-00	20 U		20 U		38		20	20	20 U	10 U		15		10 U		10 U	10 U	10 U
Oct-00	20 U		20 U		30		20 U	20 U	20 U	10 U		10 U		10 U		10	10 U	10 U
Jan-01	20 U		20 U		40		20 U	20	20 U	10 U		10 U		10 U		10 U	10	10 U
Apr-01	20 U		20 U		30		20 U	20 U	20 U	10 U		20		10		10 U	10	10 U
Jul-01	20 U		38		41		27	26	20 U	10 U		10 U		10 U		10 U	10 U	10 U
Oct-01	20 U		20 U		39		24	21	20 U	10 U		10 U		11		13	12	10 U
Jan-02	20 U		33		39		27	22	20 U	10 U		10 U		11		14	10 U	10 U
Apr-02	20 U		20		40		20 U	20 U	20 U	10 U		10 U		10 U		10 U	10 U	10 U
Jul-02	20 U		36.3		38.7		26.5	26.6	20 U	10 U		10.2		10 U		10 U	10 U	10 U
Oct-02	20 U		19.8 B		32.9					10 U		8.8 B		6.5 B				
Jan-03	20 U		32.2		37.3		34.7	20 U	20 U	10 U		10 U		14.7		16.8	10 U	10 U
Apr-03	20 U		22.9		39		20 U	20 U	20 U	10 U		14.5		10 U		36.1	32.2	10 U
Jul-03	20 U		18.5 B		35.9		14.8 B	15.3 B	20 U	6 B		5.8 B		9.9 B		26.2	29.4	10 U
Oct-03	20 U	20 U	33.3		37.1				20 U	10 U	10 U	10 U		12.7				10 U
Feb-04	20 U	20 U	49		36.2		20 U		20 U	10 U	10 U	10.6		6.1 B		10 U		10 U
Apr-04	20 U	20 U	30.8		40.3		20 U		20 U	10 U	10 U	10 U		10 U		33		10 U
Jul-04	20 U	20 U	20 U		50		20		20 U	4 B	7 B	21		8 B		24		9 B
Oct-04	20 U	20 U	29.5		36.5		18.8 B		20 U	10 U	10 U	8 B		12.8		9.9 B		10 U
Jan-05	20 U	20 U	98.9		52.6		20 U		20 U	10 U	10 U	11.2		7.9 B		15.1		10 U
Apr-05	20 U	20 U	40		30		20		20 U	10 U	10 U	63		10		13		10 U
Aug-05	20 U	20 U	25		32		11 B		20 U	10 U	10 U	5 B		15		5 B		10 U
Nov-05	20 U	20 U	20 U		30		20 U		20 U	10 U	10 U	7 B		51		7 B		10 U
Jan-06	20 U	20 U	39.4		39		20 U		20 U	6.2 B	10 U	18.9		19.4		25.5		10 U
May-06	20 U	20 U	20 U		35.3		20 U		20 U	3 B	3.9 B	22.1		46.7		8.5 B		2.7 B
Aug-06	20 U	20 U	20 U		35.5		20 U		20 U	2.6 B	10 U	13.7		21.9		8.1 B		10 U
Nov-06	20 U	20 U	20 U		27.7		20 U		20 U	10 U	9.2 B	14		18.5		9.6 B		2.1 B
Feb-07	20 U	20 U	20 U		38.4		20 U		20 U	2.4 B	10 U	12.9		5.8 B		4 B		10 U
Apr-07	20 U	20 U	18.2 B		33.9		10.4 B		20 U	10 U	10 U	8.5 B		30.2		10 U		10 U
Jul-07	20 U		20.4		30.1		20 U	20 U		10 U		12.4		11.1		8 B	6.5 B	
Oct-07	20 U	20 U	20 U		31.4		20 U			10 U	12.9	15.9		22.3		7.9 B		
Jan-08	20 U		17.0 J		30.6		16.0 J	15.5 J		8.3 J		10 U		14.8		10 U	8 J	
Apr-08	20 U		20.2		31.8		11.1 J	11.8 J		10 U		10 U		10 U		10 U	10 U	
Jul-08	20 U		4.5 J		24.8	25.1	10.2 J			1.0 J		4.8 J		4.4 J	4.2 J	9.1 J		
Oct-08	20 U		22.8		31.7	32.4	15.5 J			10 U		3.9 J		6.2 J	7.1 J	12.1		
Feb-09	20 U		20.6		32.1		10.7 J	10.5 J	20 U	1.5 J		2.1 J		6.5 J		3.6 J	3.5 J	1.6 J
May-09	20 U		17.7 J		31.2		7 J	7.9 J	20 U	10 U		3.9 J		3.7 J		1.5 J	2.2 J	5.0 J
Aug-09	104		48.5	26.7	134		109		20 U	3.8 J		2.6 J	2.4 J	10 U		3.4 J		2.4 J
Nov-09	20 U		13.2 J		31.1		11.1 J	10.1 J	20 U	10 U		1.5 J		2.8 J		1.5 J	10 U	10 U
Feb-10	20 U		22.8		32.4	34.0	5.9 J		20 U	10 U		1.6 J		5.3 J	5.8 J	1.7 J		10 U
May-10	20 U		19.5 J		32.6		6.5 J	6.7 J	20 U	10 U		10 U		3.5 J		2.1 J	2.5 J	10 U
Aug-10	20 U		17.5 J		33.3		5.8 J	5.2 J	20 U	10 U		2.3 J		4.8 J		10 U	1.9 J	1.9 J
Nov-10	20 U		12.5 J		29.9		6.8 J	5.5 J	20 U	10 U		10 U		1.7 J		10 U	10 U	10 U

Notes: J Estimated Value
R Rejected Value

MCL Maximum Contaminant Level

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Conventional	Ammonia as Nitrogen	2001			0.10	0.50
Conventional	Ammonia as Nitrogen	2007			0.84	0.50
Conventional	Ammonia as Nitrogen	2009			1.08	0.54
Conventional	Ammonia as Nitrogen	2010			1.11	0.53
Conventional	Carbon, Total Organic	1992	3.6	5.0	18.7	1.5
Conventional	Carbon, Total Organic	1993		7.3	20.0	2.0
Conventional	Carbon, Total Organic	1994		8.6	21.9	2.3
Conventional	Carbon, Total Organic	1995		10.7	30.6	3.4
Conventional	Carbon, Total Organic	1996	4.9	12.7	38.5	2.3
Conventional	Carbon, Total Organic	1997		15.0		3.8
Conventional	Carbon, Total Organic	1998			32.1	10.8
Conventional	Carbon, Total Organic	1999		15.8	31.8	6.6
Conventional	Carbon, Total Organic	2000	8.1	15.2		1.0
Conventional	Carbon, Total Organic	2001	7.5	14.6	25.2	3.1
Conventional	Carbon, Total Organic	2002	6.4	13.8	22.2	2.0
Conventional	Carbon, Total Organic	2003		14.0	21.5	0.7
Conventional	Carbon, Total Organic	2004	5.1	14.7	23.1	0.9
Conventional	Carbon, Total Organic	2005	5.7	15.8	25.1	1.1
Conventional	Carbon, Total Organic	2006	5.1	14.5	28.4	1.0
Conventional	Carbon, Total Organic	2007	5.2	15.8	27.9	1.0
Conventional	Carbon, Total Organic	2008	6.7	16.2	25.9	0.9
Conventional	Carbon, Total Organic	2009	5.1	16.5	24.1	0.9
Conventional	Carbon, Total Organic	2010	4.8	17.0	23.8	1.3
Conventional	Chemical Oxygen Demand	1990	27.9	41.2	97.8	2.2
Conventional	Chemical Oxygen Demand	1993			106.0	30.5
Conventional	Chemical Oxygen Demand	1994		30.0	83.0	22.0
Conventional	Chemical Oxygen Demand	1995			90.0	32.0
Conventional	Chemical Oxygen Demand	1996		41.0	98.0	16.0
Conventional	Chemical Oxygen Demand	1997		43.0	87.0	19.0
Conventional	Chemical Oxygen Demand	1998		51.0	98.0	20.1
Conventional	Chemical Oxygen Demand	1999			92.0	40.5
Conventional	Chemical Oxygen Demand	2000		43.5	71.3	13.6
Conventional	Chemical Oxygen Demand	2001	22.3	42.5	69.5	17.3
Conventional	Chemical Oxygen Demand	2002	19.0	38.0	60.0	18.0
Conventional	Chemical Oxygen Demand	2003		37.0	55.8	2.9
Conventional	Chemical Oxygen Demand	2004		38.0	58.8	2.9
Conventional	Chemical Oxygen Demand	2005		42.8	69.5	8.4
Conventional	Chemical Oxygen Demand	2006	12.5	36.0	72.0	2.9
Conventional	Chemical Oxygen Demand	2007	9.9	34.8	73.3	3.4

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Conventional	Chemical Oxygen Demand	2008	16.3	38.3	69.3	4.4
Conventional	Chemical Oxygen Demand	2009	13.7	41.3	77.7	7.5
Conventional	Chemical Oxygen Demand	2010	9.8	39.8	70.9	3.5
Conventional	Chloride	1989	45.0	61.0	17.0	6.6
Conventional	Chloride	1990	22.5	14.5	6.8	2.2
Conventional	Chloride	1992	16.7	6.7	7.7	2.2
Conventional	Chloride	1993	12.1	6.6	12.8	2.3
Conventional	Chloride	1994	13.0	7.4	7.4	2.1
Conventional	Chloride	1995	14.0	10.0	9.6	1.9
Conventional	Chloride	1996	14.6	17.3	9.1	2.0
Conventional	Chloride	1997	12.6	14.8	35.0	2.0
Conventional	Chloride	1998	11.6	11.0	6.3	2.1
Conventional	Chloride	1999	10.0		6.1	2.2
Conventional	Chloride	2000	7.8	8.3	5.0	2.1
Conventional	Chloride	2001	5.9	7.4	4.7	2.1
Conventional	Chloride	2002	5.3	6.5	3.8	2.0
Conventional	Chloride	2003	4.6	5.5		2.0
Conventional	Chloride	2004		4.3	2.3	1.8
Conventional	Chloride	2005	4.5	4.4	3.7	1.8
Conventional	Chloride	2006	4.0	3.5	2.8	1.7
Conventional	Chloride	2007	5.5	4.4	2.7	1.7
Conventional	Chloride	2008	5.1	4.5	3.0	1.9
Conventional	Chloride	2009	6.8	4.8	3.6	1.9
Conventional	Chloride	2010	5.6	3.7	3.0	1.8
Conventional	Coliform, total	2010		2.0		0.6
Conventional	Conductivity (umhos/cm)	1989	351	607	514	180
Conventional	Conductivity (umhos/cm)	1990	366	624	500	214
Conventional	Conductivity (umhos/cm)	1992	292	586	533	189
Conventional	Conductivity (umhos/cm)	1993		487	526	173
Conventional	Conductivity (umhos/cm)	1994	214	479	602	169
Conventional	Conductivity (umhos/cm)	1995	333	623		149
Conventional	Conductivity (umhos/cm)	1996	290	602	787	161
Conventional	Conductivity (umhos/cm)	1997	326		765	169
Conventional	Conductivity (umhos/cm)	1998	393	678	738	177
Conventional	Conductivity (umhos/cm)	1999	406	786	748	177
Conventional	Conductivity (umhos/cm)	2000	417	762	651	166
Conventional	Conductivity (umhos/cm)	2001	493	878	886	193
Conventional	Conductivity (umhos/cm)	2002	470	849	825	187
Conventional	Conductivity (umhos/cm)	2004		821	853	198

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Conventional	Conductivity (umhos/cm)	2005	393	788	750	192
Conventional	Conductivity (umhos/cm)	2006	414	773	785	191
Conventional	Conductivity (umhos/cm)	2007	397	799	804	191
Conventional	Conductivity (umhos/cm)	2008	465	758	771	189
Conventional	Conductivity (umhos/cm)	2009	340	793	730	185
Conventional	Conductivity (umhos/cm)	2010	304	825	707	196
Conventional	Nitrate + Nitrite as Nitrogen	1990	0.72			0.10
Conventional	Nitrate + Nitrite as Nitrogen	1993	0.79			0.18
Conventional	Nitrate + Nitrite as Nitrogen	1994	0.50			ND
Conventional	Nitrate + Nitrite as Nitrogen	1996	1.65			ND
Conventional	Nitrate + Nitrite as Nitrogen	1997	0.75			ND
Conventional	Nitrate + Nitrite as Nitrogen	1999	0.43			ND
Conventional	Nitrate + Nitrite as Nitrogen	2000	0.33			0.10
Conventional	Nitrate + Nitrite as Nitrogen	2002	0.50			0.20
Conventional	Nitrate + Nitrite as Nitrogen	2004	0.85			0.06
Conventional	Nitrate + Nitrite as Nitrogen	2005	0.75			0.06
Conventional	Nitrate + Nitrite as Nitrogen	2006	0.71			0.04
Conventional	Nitrate + Nitrite as Nitrogen	2007	0.69			0.14
Conventional	Nitrate + Nitrite as Nitrogen	2008	0.83			0.04
Conventional	Nitrate + Nitrite as Nitrogen	2009	0.31		0.15	0.02
Conventional	Nitrate + Nitrite as Nitrogen	2010	0.09		0.16	0.03
Conventional	pH	1992	6.1	6.3	6.4	7.9
Conventional	pH	2000	6.1	6.4	6.5	7.9
Conventional	pH	2001	6.1	6.4	6.7	7.9
Conventional	Solids, Total Dissolved	1990		397	436	228
Conventional	Solids, Total Dissolved	1992		352	351	147
Conventional	Solids, Total Dissolved	1993		330		141
Conventional	Solids, Total Dissolved	1994	161	330	418	134
Conventional	Solids, Total Dissolved	1995	188	361	492	141
Conventional	Solids, Total Dissolved	1996	224	423	604	153
Conventional	Solids, Total Dissolved	1997	236	456	613	150
Conventional	Solids, Total Dissolved	1998	273	473	562	137
Conventional	Solids, Total Dissolved	1999	256	524	517	156
Conventional	Solids, Total Dissolved	2000	297	544	527	140
Conventional	Solids, Total Dissolved	2001	261	299	346	135
Conventional	Solids, Total Dissolved	2002	298	466	518	145
Conventional	Solids, Total Dissolved	2003	291	525	572	132
Conventional	Solids, Total Dissolved	2004	228	439	493	127
Conventional	Solids, Total Dissolved	2005	255	516	449	135

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Conventional	Solids, Total Dissolved	2006	259	507	526	145
Conventional	Solids, Total Dissolved	2007	254	471	476	152
Conventional	Solids, Total Dissolved	2008	298	481	489	142
Conventional	Solids, Total Dissolved	2009	215	500	438	127
Conventional	Solids, Total Dissolved	2010	189	513	368	145
Conventional	Sulfate	1989	5.9			2.3
Conventional	Sulfate	1990	6.6			1.9
Conventional	Sulfate	1992	9.1			2.0
Conventional	Sulfate	1993	10.0			2.0
Conventional	Sulfate	1994	11.8			1.9
Conventional	Sulfate	1995	12.0			1.8
Conventional	Sulfate	1996	10.7			1.7
Conventional	Sulfate	1997	11.8			1.6
Conventional	Sulfate	1998	9.5			1.3
Conventional	Sulfate	1999	7.8			1.4
Conventional	Sulfate	2001	7.5			1.4
Conventional	Sulfate	2002	7.3			1.4
Conventional	Sulfate	2005	10.1			1.3
Conventional	Sulfate	2006	11.3			1.4
Conventional	Sulfate	2007	12.4			1.4
Conventional	Sulfate	2008	9.1			1.1
Conventional	Sulfate	2009	10.5			1.9
Conventional	Sulfate	2010	15.3			1.4
Conventional	Tannin and Lignin	1990			3.1	1.4
Conventional	Tannin and Lignin	1993		0.5		0.3
Conventional	Tannin and Lignin	1994		0.5	1.0	0.2
Conventional	Tannin and Lignin	1995			3.1	0.6
Conventional	Tannin and Lignin	1996		0.7	5.6	0.3
Conventional	Tannin and Lignin	1998			8.1	0.7
Conventional	Tannin and Lignin	1999			12.2	0.5
Conventional	Tannin and Lignin	2000		9.1	9.2	0.4
Conventional	Tannin and Lignin	2002		1.6	11.1	0.4
Conventional	Tannin and Lignin	2003			6.3	0.4
Conventional	Tannin and Lignin	2004		1.4		0.5
Conventional	Tannin and Lignin	2005			8.1	0.4
Conventional	Tannin and Lignin	2006			11.5	0.4
Conventional	Tannin and Lignin	2007		1.2	8.5	0.3
Conventional	Tannin and Lignin	2008		1.2	11.1	0.3
Conventional	Tannin and Lignin	2009		1.1	9.4	0.3

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Conventional	Tannin and Lignin	2010		1.4	14.9	0.3
Metals	Arsenic	1996			9.0	4.0
Metals	Arsenic	1997			15.0	5.0
Metals	Arsenic	1998			20.0	4.6
Metals	Arsenic	1999			34.0	5.8
Metals	Arsenic	2002			10.4	3.8
Metals	Arsenic	2007			110	5.9
Metals	Arsenic	2008			79.3	5.9
Metals	Arsenic	2009			75.0	6.9
Metals	Arsenic	2010			151.8	5.9
Metals	Barium	1993		36.0	38.0	28.0
Metals	Barium	1994		38.0	51.0	25.0
Metals	Barium	1995		45.0	58.0	27.0
Metals	Barium	1996		48.0	74.0	26.0
Metals	Barium	1997		50.0	58.0	21.0
Metals	Barium	1998		51.0	65.0	26.0
Metals	Barium	1999		51.0	58.0	27.0
Metals	Barium	2000			87.8	26.5
Metals	Barium	2001	28.3	51.0	60.0	27.3
Metals	Barium	2002		50.0	78.0	28.0
Metals	Barium	2003		46.5	54.7	29.2
Metals	Barium	2004		48.0	70.9	23.1
Metals	Barium	2005		44.3	87.8	29.1
Metals	Barium	2006		45.9	95.4	31.2
Metals	Barium	2007		46.3	84.6	29.2
Metals	Barium	2008		43.9	92.7	27.7
Metals	Barium	2009		45.1	91.7	77.9
Metals	Cadmium	2002		1.1	1.1	<1.1
Metals	Copper	1993			8	5
Metals	Iron	1990		140	1,950	48
Metals	Iron	1994		748	1,950	45
Metals	Iron	1995		1,120	341	50
Metals	Iron	1996		1,520	9,490	46
Metals	Iron	1997		1,220	17,800	50
Metals	Iron	1998		1,130	20,700	56
Metals	Iron	1999		950	34,500	30
Metals	Iron	2000		665	37,740	47.5
Metals	Iron	2001	10	715	6,538	42.5
Metals	Iron	2002		729	10,474	42

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Metals	Iron	2003		814		42.45
Metals	Iron	2004		784		38.18
Metals	Iron	2005		758	10,013	42.6
Metals	Iron	2006		813	47,648	39.7
Metals	Iron	2007		743	87,825	39.0
Metals	Iron	2008		596	72,025	48.2
Metals	Iron	2009		709	67,678	60.3
Metals	Iron	2010		455	104,675	31.5
Metals	Lead	1993			2	1
Metals	Manganese	1989	210	580	1,100	120
Metals	Manganese	1990		650	1,820	99
Metals	Manganese	1993		570		110
Metals	Manganese	1994		670	1,110	120
Metals	Manganese	1995		834	3,780	122
Metals	Manganese	1996		1,120	10,800	121
Metals	Manganese	1997		1,510	13,000	90
Metals	Manganese	1998	175	1,650	13,800	126
Metals	Manganese	1999	200	1,420	14,800	116
Metals	Manganese	2000	331	1,450	15,025	124
Metals	Manganese	2001	426	1,513	15,350	119
Metals	Manganese	2002	430	1,502	15,763	119
Metals	Manganese	2003		1,523	15,750	113
Metals	Manganese	2004		1,420	16,625	103
Metals	Manganese	2005		1,305	13,503	112
Metals	Manganese	2006		1,330	15,275	113
Metals	Manganese	2007		1,323	13,925	114
Metals	Manganese	2008	317	1,225	14,750	114
Metals	Manganese	2009	1,168	1,570	11,093	1,140
Metals	Manganese	2010			9,533	113
Metals	Nickel	1993		18.0		1.0
Metals	Nickel	1994		18.0		ND
Metals	Nickel	1995		21.0	30.0	ND
Metals	Nickel	1996			25.0	ND
Metals	Nickel	1997		34.0	20.0	ND
Metals	Nickel	1998		43.0	29.0	ND
Metals	Nickel	1999		36.0	22.0	ND
Metals	Nickel	2000		37.0		ND
Metals	Nickel	2001	20.3	37.5	17.5	10.0
Metals	Nickel	2002	21.3	38.5	24.0	5.5

Table 4. Parameters Statistically Higher than Background (1988-2010), South Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient
			BXS-1	BXS-2	BXS-3	BXS-4
Metals	Nickel	2003		37.0		10.0
Metals	Nickel	2004		40.8		10.0
Metals	Nickel	2005		36.2		10.0
Metals	Nickel	2006		34.4		10.0
Metals	Nickel	2007		33.4		10.0
Metals	Nickel	2008		29.7	16.1	10.0
Metals	Nickel	2009		57.1		33.5
Metals	Zinc	2002	8.0	6.8		<2.4
Metals	Zinc	2005	10.0			5.0
Metals	Zinc	2007	6.2	17.3	12.4	4.4
Metals	Zinc	2008		7.6		4.8

Mean values are yearly averages

ND = not detected

< = not detected above listed reporting limit

Metals units are ug/L

Conventional units are mg/L, unless otherwise noted

Appendix A

Field Groundwater Sampling Records

WATER LEVEL MONITORING
J.H. Baxter Co. Wood Treating Facility
Arlington, Washington

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Date	HCMW-6		MW-26		MW-27		MW-25		MW-32		MW-24		MW-10	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
1/28/08	11:05	39.52	10:54	37.27	10:41	37.3	10:28	35.92	10:32	37.65	10:25	37.11	12:15	30.09
	1056	35.32	1105	33.71	1110	33.88	1037	29.12	1035	34.38	1030	33.81	1115	24.65

Date	HCMW-5		MW-4		MW-14		BXS-4		MW-11		MW-1	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
1/28/08	15:15	23.33	11:37	9.84	11:45	21.72	11:51	11.32	11:59	20.32	12:05	23.11
	1121	21.21	1131	11.58	1136	21.19	1141	11.72	1146	19.37	1150	21.97

WATER LEVEL MONITORING
J.H. Baxer Co. Wood Treating Facility
Arlington, Washington

Page 1 of 2

Date	MW-18		HCMW-7		MW-16		MW-37		MW-17		MW-15		MW-31	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
1/28/08	14:14	40.4	14:19	42.06	13:57	39	14:05	38.8	13:52	40.38	13:47	37.5	13:42	35.72
2/8/10	855	37.72	902	39.18	907	36.07	912	34.93	917	37.52	921	34.58	940	32.81
Date	MW-36		MW-30		MW-34		MW-29		MW-28		BXS-1		BXS-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
1/28/08	13:41	35.55	13:28	36.93	14:51	36.31	14:46	36.28	9:47	35.76	8:41	Below top of pump	8:22	36.26
	940	32.81	943	32.65	946	33.90	1017	33.43	1019	32.00	11:56	33.68	1159	32.24
	943	32.65	946	33.90	1016	33.46								
Date	BXS-3		MW-22		MW-23		MW-3		MW-33		MW-35		MW-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
1/28/08	8:30	32.25	10:10	34.03	10:02	36.68	10:22	39.26	10:17	36.59	11:12	37.53	14:23	42.28
	1202	27.98	1020	29.01	1022	34.49	1033	36.13	1027	33.43	1043	34.35	1207	38.97

Groundwater Sampling Field Form

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WATER LEVEL MONITORING
J.H. Baxer Co. Wood Treating Facility
Arlington, Washington

Page 1 of 2

Date	MW-18		HCMW-7		MW-16		MW-37		MW-17		MW-15		MW-31	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	8:55	37.72	9:02	39.18	9:07	36.07	9:12	34.93	9:17	37.52	9:21	34.58	9:40	32.81
5/24/10	09:50	37.49	09:57	39.18	10:05	36.08	10:10	34.91	10:25	37.49	10:22	34.65	10:28	32.93
Date	MW-36		MW-30		MW-34		MW-29		MW-28		BXS-1		BXS-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	9:43	32.65	9:46	33.9	10:16	33.46	10:17	33.43	10:19	32	11:56	33.68	11:59	32.24
	10:33	32.90	10:38	34.19	10:43	33.86	10:45	33.84	10:47	32.46	10:51	33.99	10:55	32.14
Date	BXS-3		MW-22		MW-23		MW-3		MW-33		MW-35		MW-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	12:02	27.98	10:20	29.01	10:22	34.49	10:33	36.13	10:27	33.43	10:43	34.35	12:07	38.97
5/24/10	11:00	27.89	11:16	29.68	11:19	31.98	11:22	36.68	11:24	33.98	11:28	34.89	11:32	39.28

WATER LEVEL MONITORING
J.H. Baxer Co. Wood Treating Facility
Arlington, Washington

Page 2 of 2

Date	HCMW-6		MW-26		MW-27		MW-25		MW-32		MW-24		MW-10	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	10:56	35.32	11:05	33.71	11:10	33.88	10:37	29.12	10:35	34.38	10:30	33.81	11:15	24.65
	11:37	36.48	5/25 11:00	34.67	11:46	34.69	11:52	29.45	11:54	35.02	11:56	34.44	12:02	26.74
Date	HCMW-5		MW-4		MW-14		BXS-4		MW-11		MW-1			
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC		
2/8/10	11:21	21.21	11:31	11.58	11:36	21.19	11:41	11.72	11:46	19.37	11:50	21.97		
	12:15	23.17	12:23	12.24	12:29	21.89	12:36	12.74	12:42	20.95	12:46	23.30		

HCMW-6 - casing is loose
 HCMW-5 - needs new bolts

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WATER LEVEL MONITORING
J.H. Baxer Co. Wood Treating Facility
Arlington, Washington

Page 1 of 2

Date	MW-18		HCMW-7		MW-16		MW-37		MW-17		MW-15		MW-31	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	8:55	37.72	9:02	39.18	9:07	36.07	9:12	34.93	9:17	37.52	9:21	34.58	9:40	32.81
8/16/10	0950	37.54	0956	39.29	1001	36.26	1003	35.06	1009	37.66	1013	34.89	1017	33.23
Date	MW-36		MW-30		MW-34		MW-29		MW-28		BXS-1		* BXS-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	9:43	32.65	9:46	33.9	10:16	33.46	10:17	33.43	10:19	32	11:56	33.68	11:59	32.24
8/16	1019	33.28	1024	34.52	1028	34.34	1031	34.33	1035	32.99	1229	34.33	1235	32.791
													1245	32.35
Date	BXS-3		MW-22		MW-23		MW-3		MW-33		MW-35		MW-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	12:02	27.98	10:20	29.01	10:22	34.49	10:33	36.13	10:27	33.43	10:43	34.35	12:07	38.97
8/16	1235	27.91	1040	30.36	1042	32.53	1046	37.26	1044	34.55	10:51	35.40	1055	39.55

WATER LEVEL MONITORING
J.H. Baxter Co. Wood Treating Facility
Arlington, Washington

Page 2 of 2

Date	HCMW-6		MW-26		MW-27		MW-25		MW-32		MW-24		MW-10	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	10:56	35.32	11:05	33.71	11:10	33.88	10:37	29.12	10:35	34.38	10:30	33.81	11:15	24.65
	11:00	37.28	12:09	35.33	11:10	35.32	11:17	29.98	11:19	35.65	11:13	35.06	11:24	28.39

Date	HCMW-5		MW-4		MW-14		BXS-4		MW-11		MW-1	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	11:21	21.21	11:31	11.58	11:36	21.19	11:41	11.72	11:46	19.37	11:50	21.97
8/16	11:29	25.69	11:38	13.98	11:45	23.83	11:51	15.30	11:58	23.16	12:01	25.59
			11:39						Dripping puddles			

Date	MW-38		MW-39		MW-40		MW-41		MW-42	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
8/16	10:32	35.03	12:16	36.57	10:14	35.28	10:05	35.73	09:48	37.86

New Wells

[illegible]

[illegible]

JH Baxter & Co.

Groundwater Sampling Field Form

[illegible]

WATER LEVEL MONITORING
J.H. Baxter Co. Wood Treating Facility
Arlington, Washington

Page 1 of 2

Date	MW-18		HCMW-7		MW-16		MW-37		MW-17		MW-15		MW-31	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	8:55	37.72	9:02	39.18	9:07	36.07	9:12	34.93	9:17	37.52	9:21	34.58	9:40	32.81
11/15/10	9:05	39.53	9:21	41.30	9:26	38.30	9:29	37.14	9:46	39.74	9:40	36.97	9:52	35.22
Date	MW-36		MW-30		MW-34		MW-29		MW-28		BXS-1		BXS-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	9:43	32.65	9:46	33.9	10:16	33.46	10:17	33.43	10:19	32	11:56	33.68	11:59	32.24
11/15/10	9:56	35.20	14:07	36.45	10:30	36.15	10:32	36.15	10:34	34.65	10:15	36.28	14:15	34.38
Date	BXS-3		MW-22		MW-23		MW-3		MW-33		MW-35		MW-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	12:02	27.98	10:20	29.01	10:22	34.49	10:33	36.13	10:27	33.43	10:43	34.35	12:07	38.97
11/15/10	14:21	30.77	10:36	31.76	10:38	34.0	10:44	39.01	10:42	36.31	10:46	37.24	11:48	41.55

11/19/2010 SOCK INSPECTION - FIVE SOCKS INSPECTED 10:45 - 11:55 NONE NEEDED REPLACEMENT

WATER LEVEL MONITORING
J.H. Baxter Co. Wood Treating Facility
Arlington, Washington

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Date	MW-18		HCMW-7		MW-16		MW-37		MW-17		MW-15		MW-31	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	8:55	37.72	9:02	39.18	9:07	36.07	9:12	34.93	9:17	37.52	9:21	34.58	9:40	32.81
11/15/10	9:05	39.53	9:21	41.30	9:26	38.30	9:29	37.14	9:46	39.74	9:40	36.97	9:52	35.22
Date	MW-36		MW-30		MW-34		MW-29		MW-28		BXS-1		BXS-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	9:43	32.65	9:46	33.9	10:16	33.46	10:17	33.43	10:19	32	11:56	33.68	11:59	32.24
11/15/10	9:56	35.20	14:07	36.45	10:30	36.15	10:32	36.15	10:34	34.65	10:15	36.28	14:15	34.38
Date	BXS-3		MW-22		MW-23		MW-3		MW-33		MW-35		MW-2	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	12:02	27.98	10:20	29.01	10:22	34.49	10:33	36.13	10:27	33.43	10:43	34.35	12:07	38.97
11/15/10	14:21	30.77	10:36	31.76	10:38	34.0	10:44	39.01	10:42	36.31	10:46	37.24	11:48	41.55

11/19/2010 SOCK INSPECTION - FIVE SOCKS INSPECTED 10:45 - 11:55 NONE NEEDED REPLACEMENT

WATER LEVEL MONITORING
J.H. Baxter Co. Wood Treating Facility
Arlington, Washington

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Date	HCMW-6		MW-26		MW-27		MW-25		MW-32		MW-24		MW-10	
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC
2/8/10	10:56	35.32	11:05	33.71	11:10	33.88	10:37	29.12	10:35	34.38	10:30	33.81	11:15	24.65
11/15/10	11:46	39.15	11:10	36.99	10:48	37.01	11:00	30.82	11:02	37.32	10:40	36.83	11:44	30.48
Date	HCMW-5		MW-4		MW-14		BXS-4		MW-11		MW-1			
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC		
2/8/10	11:21	21.21	11:31	11.58	11:36	21.19	11:41	11.72	11:46	19.37	11:50	21.97		
11/15/10	11:42	24.90	11:35	10.83	11:40	26.15	11:30	12.44	11:12	20.28	11:15	23.02		
Date	MW-38		MW-39		MW-40		MW-41		MW-42		MW-43			
	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC	Time	Depth (ft) below TOC		
11/15/10	10:04	36.87	9:32	38.55	9:44	37.31	9:30	37.73	9:07	39.88	9:13	41.37		

Appendix B

Chain of Custody Records and Laboratory Reports

March 1, 2010

Analytical Report for Service Request No: K1001320

Kathy Gunderson
Premier Environmental Services
129 Monohon Landing Road
Raymond, WA 98577

RE: J.H. Baxter Arlington/Landfills-South

Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on February 11, 2010. For your reference, these analyses have been assigned our service request number K1001320.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at CLeaf@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.
Chris Leaf
Project Chemist

CL/afs

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: J.H. Baxter Arlington/Landfills-South
Sample Matrix: Water

Service Request No.: K1001320
Date Received: 2/11/2010

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Five water samples were received for analysis at Columbia Analytical Services on 2/11/2010. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

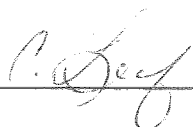
Dissolved Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Iron and Manganese for sample BXS-3 were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No anomalies associated with the remaining analysis of these samples were observed.

Approved by



Date

3/4/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Conductivity at 25 Degrees Celsius

Analysis Method 120.1
Test Notes :

Units : uMHOS/cm
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
BXS-3	K1001320-001	2.0	0.4	1	02/12/10 16:00	634	
BXS-4	K1001320-002	2.0	0.4	1	02/12/10 16:00	187	
BXS-2	K1001320-003	2.0	0.4	1	02/12/10 16:00	848	
BXS-1	K1001320-004	2.0	0.4	1	02/12/10 16:00	298	
BXS-5	K1001320-005	2.0	0.4	1	02/12/10 16:00	854	
Method Blank	K1001320-MB	2.0	0.4	1	02/12/10 16:00	1.3	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/12/10

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1001317-001DUP
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Conductivity at 25 Degrees Celsius	120.1	2.0	1.7	1.4	1.6	19	J

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/12/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Conductivity at 25 Degrees Celsius	NONE	120.1	839	858	102	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Chloride

Analysis Method 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	1.0	0.2	5	02/17/10	2.9	
BXS-4	K1001320-002	0.20	0.06	2	02/16/10	1.81	
BXS-2	K1001320-003	1.0	0.2	5	02/17/10	4.2	
BXS-1	K1001320-004	1.0	0.2	5	02/17/10	5.3	
BXS-5	K1001320-005	1.0	0.2	5	02/17/10	4.2	
Method Blank	K1001320-MB	0.20	0.03	1	02/17/10	ND	
Method Blank	K1001320-MB	0.20	0.03	1	02/16/10	0.07	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/17/10

Duplicate Summary Inorganic Parameters

Sample Name : BXS-1
Lab Code : K1001320-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	1.0	5.3	5.3	5.3	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/17/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : BXS-1
Lab Code : K1001320-004MS K1001320-004DMS
Test Notes :
Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chloride	NONE	300.0	1.0	7.5	7.5	5.3	11.7	11.7	85	85	80-120	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/16/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.00	4.78	96	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/17/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.00	4.86	97	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Sulfate

Analysis Method 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	0.20	0.02	2	02/16/10	0.06	J
BXS-4	K1001320-002	0.20	0.02	2	02/16/10	1.55	
BXS-2	K1001320-003	0.20	0.02	2	02/16/10	0.09	J
BXS-1	K1001320-004	0.20	0.02	2	02/16/10	19.6	
BXS-5	K1001320-005	0.20	0.02	2	02/16/10	0.13	J
Method Blank	K1001320-MB	0.20	0.01	1	02/16/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/16/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1001402-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	0.20	2.00	1.99	2.00	<1	

COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/16/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
Lab Code : K1001402-001MS K1001402-001DMS Basis : NA
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Sulfate	NONE	300.0	0.20	3.00	3.00	2.00	4.96	5.02	99	101	80-120	1	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/16/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Sulfate	NONE	300.0	5.00	5.00	100	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Ammonia as Nitrogen

Analysis Method 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	0.050	0.020	1	02/18/10	1.23	
BXS-4	K1001320-002	0.050	0.020	1	02/18/10	0.529	
BXS-2	K1001320-003	0.050	0.020	1	02/18/10	ND	
BXS-1	K1001320-004	0.050	0.020	1	02/18/10	ND	
BXS-5	K1001320-005	0.050	0.020	1	02/18/10	ND	
Method Blank	K1001320-MB	0.050	0.020	1	02/18/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/18/10

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1001317-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.050	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/18/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC **Units :** mg/L
Lab Code : K1001317-001MS **Basis :** NA **K1001317-001DMS**
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Ammonia as Nitrogen	NONE	350.1	0.050	2.00	2.00	ND	2.05	2.03	103	102	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/18/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.0	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Nitrate+Nitrite as Nitrogen

Analysis Method 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	0.050	0.009	1	02/22/10	0.126	
BXS-4	K1001320-002	0.050	0.009	1	02/22/10	ND	
BXS-2	K1001320-003	0.050	0.009	1	02/22/10	ND	
BXS-1	K1001320-004	0.050	0.009	1	02/22/10	0.042	J
BXS-5	K1001320-005	0.050	0.009	1	02/22/10	ND	
Method Blank	K1001320-MB	0.050	0.009	1	02/22/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/22/10

Duplicate Summary
 Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1001317-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/22/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
Lab Code : K1001317-001MS Basis : NA K1001317-001DMS
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	ND	2.17	2.10	109	105	86-117	3	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/22/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	15.1	102	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Solids, Total Dissolved

Analysis Method SM 2540 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	5.0	5.0	1	02/17/10	422	
BXS-4	K1001320-002	5.0	5.0	1	02/17/10	152	
BXS-2	K1001320-003	5.0	5.0	1	02/17/10	518	
BXS-1	K1001320-004	5.0	5.0	1	02/17/10	186	
BXS-5	K1001320-005	5.0	5.0	1	02/17/10	501	
Method Blank	K1001320-MB	5.0	5.0	1	02/17/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/17/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1001258-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Dissolved	SM 2540 C	5.0	1160	1140	1150	2	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/17/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery	Result Notes
						Acceptance Limits	
Solids, Total Dissolved	NONE	SM 2540 C	750	744	99	83-117	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

pH

Analysis Method SM 4500-H+ B
Test Notes :

Units : pH Units
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	-	-	1	02/12/10	6.38	
BXS-4	K1001320-002	-	-	1	02/12/10	8.04	
BXS-2	K1001320-003	-	-	1	02/12/10	6.56	
BXS-1	K1001320-004	-	-	1	02/12/10	6.70	
BXS-5	K1001320-005	-	-	1	02/12/10	6.56	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/12/10

Duplicate Summary
Inorganic Parameters

Sample Name : BXS-3
Lab Code : K1001320-001DUP
Test Notes :

Units : pH Units
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
pH	SM 4500-H+ B	-	6.38	6.41	6.40	<1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/12/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : pH Units
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Acceptance Limits	
pH	NONE	SM 4500-H+ B	6.46	6.42	99	85-115	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Chemical Oxygen Demand (COD)

Analysis Method SM 5220 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	5.0	3.0	1	02/19/10	68.1	
BXS-4	K1001320-002	5.0	3.0	1	02/19/10	ND	
BXS-2	K1001320-003	5.0	3.0	1	02/19/10	34.8	
BXS-1	K1001320-004	5.0	3.0	1	02/19/10	ND	
BXS-5	K1001320-005	5.0	3.0	1	02/19/10	34.8	
Method Blank	K1001320-MB	5.0	3.0	1	02/19/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/19/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1001258-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	64.1	59.7	61.9	7	

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COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/19/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
Lab Code : K1001258-001MS Basis : NA
Test Notes : K1001258-001DMS

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chemical Oxygen Demand (COD)	NONE	SM 5220 C	13	100	100	64	155	154	91	90	75-125	<1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/19/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chemical Oxygen Demand (COD)	NONE	SM 5220 C	188	189	101	85-115	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Carbon, Total Organic

Analysis Method SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	1.0	0.1	2	02/21/10	23.8	
BXS-4	K1001320-002	0.50	0.07	1	02/21/10	0.77	
BXS-2	K1001320-003	2.5	0.4	5	02/21/10	17.1	
BXS-1	K1001320-004	0.50	0.07	1	02/21/10	3.91	
BXS-5	K1001320-005	2.5	0.4	5	02/21/10	16.5	
Method Blank	K1001320-MB	0.50	0.04	1	02/21/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/21/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : BXS-4
Lab Code : K1001320-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample		Relative Percent Difference	Result Notes
				Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.77	0.82	0.80	6	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/21/10

Matrix Spike Summary Inorganic Parameters

Sample Name : BXS-4
Lab Code : K1001320-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Carbon, Total Organic	SM 5310 C	0.50	25.0	0.77	25.0	97	85-108	

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COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/21/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic (TOC)	NONE	SM 5310 C	24.7	23.6	96	83-117	

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 02/10/10
Date Received : 02/11/10

Tannin and Lignin

Analysis Method SM 5550 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1001320-001	1.0	0.2	5	02/23/10	10.0	
BXS-4	K1001320-002	0.20	0.03	1	02/23/10	0.28	
BXS-2	K1001320-003	0.20	0.03	1	02/23/10	1.30	
BXS-1	K1001320-004	0.20	0.03	1	02/23/10	0.07	J
BXS-5	K1001320-005	0.20	0.03	1	02/23/10	1.04	
Method Blank	K1001320-MB	0.20	0.03	1	02/23/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/23/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : BXS-1
Lab Code : K1001320-004DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Tannin and Lignin	SM 5550 B	0.20	0.07	0.07	0.07	<1	J

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COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : 2/10/2010
Date Received : 2/11/2010
Date Prepared : NA
Date Analyzed : 02/23/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : BXS-1 Units : mg/L
Lab Code : K1001320-004MS K1001320-004DMS Basis : NA
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Tannin and Lignin	NONE	SM 5550 B	0.20	1.00	2.00	0.07	1.09	2.04	102	99	61-127	3	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H. Baxter Arlington
Project Number : Landfills-South
Sample Matrix : WATER

Service Request : K1001320
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 02/23/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1001320-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Tannin and Lignin	NONE	SM 5550 B	1.00	1.00	100	82-115	

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Columbia Analytical Services

- Cover Page - INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: J.H. Baxter Arlington
Project No.: Landfills-South

Service Request: K1001320

Sample Name:

BXS-3

BXS-3D

BXS-3S

BXS-4

BXS-2

BXS-1

BXS-5

Method Blank

Lab Code:

K1001320-001 DISS

K1001320-001D DISS

K1001320-001S DISS

K1001320-002 DISS

K1001320-003 DISS

K1001320-004 DISS

K1001320-005 DISS

K1001320-MB

Comments:

Approved By: _____

Date: _____

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1001320

Project No.: Landfills-South

Date Collected: 2/10/2010

Project Name: J.H. Baxter Arlington

Date Received: 2/11/2010

Matrix: WATER

Units: ug/L

Basis: N/A

Sample Name: BXS-3

Lab Code: K1001320-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	50.0	10.0	10.0	02/18/10	02/19/10	133		
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	132		
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	2.0	J	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	94700		
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	11200		
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	22.8		
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	1.6	J	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE**

Client: JH Baxter & Company
Project No.: Landfills-South
Project Name: J.H. Baxter Arlington
Matrix: WATER

Service Request: K1001320
Date Collected: 2/10/2010
Date Received: 2/11/2010
Units: ug/L
Basis: N/A

Sample Name: BXS-4**Lab Code:** K1001320-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/18/10	02/19/10	7.1		
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	28.4		
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	1.3	J	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	33.7		
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	116		
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	0.7	U	
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	0.7	U	

% Solids: 0.0**Comments:**

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company Service Request: K1001320
Project No.: Landfills-South Date Collected: 2/10/2010
Project Name: J.H. Baxter Arlington Date Received: 2/11/2010
Matrix: WATER Units: ug/L
Basis: N/A

Sample Name: BXS-2 Lab Code: K1001320-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/18/10	02/19/10	3.0	J	
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	49.6		
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	3.8	J	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	465		
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	1260		
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	32.4		
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	5.3	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project No.: Landfills-South
Project Name: J.H. Baxter Arlington
Matrix: WATER

Service Request: K1001320
Date Collected: 2/10/2010
Date Received: 2/11/2010
Units: ug/L
Basis: N/A

Sample Name: BXS-1**Lab Code:** K1001320-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/18/10	02/19/10	1.6	J	
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	14.3		
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	3.9	J	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	3.0	U	
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	36.2		
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	5.9	J	
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	1.7	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company Service Request: K1001320
Project No.: Landfills-South Date Collected: 2/10/2010
Project Name: J.H. Baxter Arlington Date Received: 2/11/2010
Matrix: WATER Units: ug/L
Basis: N/A

Sample Name: BXS-5 Lab Code: K1001320-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/18/10	02/19/10	2.5	J	
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	52.2		
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	4.1	J	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	493		
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	1330		
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	34.0		
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	5.8	J	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE**

Client: JH Baxter & Company **Service Request:** K1001320
Project No.: Landfills-South **Date Collected:**
Project Name: J.H. Baxter Arlington **Date Received:**
Matrix: WATER **Units:** ug/L
Basis: N/A

Sample Name: Method Blank**Lab Code:** K1001320-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/18/10	02/19/10	1.0	U	
Barium	6010B	5.0	0.4	1.0	02/18/10	02/22/10	0.4	U	
Cadmium	6010B	5.0	0.3	1.0	02/18/10	02/22/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	02/18/10	02/22/10	0.8	U	
Iron	6010B	20.0	3.0	1.0	02/18/10	02/22/10	3.0	U	
Manganese	6010B	5.0	0.2	1.0	02/18/10	02/22/10	0.2	U	
Nickel	6010B	20.0	0.7	1.0	02/18/10	02/22/10	0.7	U	
Zinc	6010B	10.0	0.7	1.0	02/18/10	02/22/10	0.7	U	

% Solids: 0.0**Comments:**

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1001320

Project No.: Landfills-South

Units: UG/L

Project Name: J.H. Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-3S

Lab Code: K1001320-001S DISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	63 - 127	177		133		40.00	110.0		7060A
Barium	80 - 124	2160		132		2000.00	101.4		6010B
Cadmium	71 - 142	48.8		0.3	U	50.00	97.6		6010B
Copper	86 - 113	246		2.0	J	250.00	97.6		6010B
Iron		98100		94700		1000.00	340.0		6010B
Manganese		11800		11200		500.00	120.0		6010B
Nickel	86 - 120	511		22.8		500.00	97.6		6010B
Zinc	87 - 113	497		1.6	J	500.00	99.1		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1001320

Project No.: Landfills-South

Units: UG/L

Project Name: J.H. Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-3D

Lab Code: K1001320-001D DISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		133		147		10.0		7060A
Barium	20	132		134		1.5		6010B
Cadmium		0.3	U	0.7	J	200.0		6010B
Copper		2.0	J	2.1	J	4.9		6010B
Iron	20	94700		96200		1.6		6010B
Manganese	20	11200		11300		0.9		6010B
Nickel		22.8		24.7		8.0		6010B
Zinc		1.6	J	1.6	J	0.0		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 7 -

LABORATORY CONTROL SAMPLE

Client: JH Baxter & Company

Service Request: K1001320

Project No.: Landfills-South

Project Name: J.H. Baxter Arlington

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	25	27.2	108.8					
Barium	5000	4900	98.0					
Cadmium	1250	1200	96.0					
Copper	625	617	98.7					
Iron	2500	2380	95.2					
Manganese	1250	1230	98.4					
Nickel	1250	1210	96.8					
Zinc	1250	1250	100.0					

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CL

Client / Project: Bio

Service Request K10 01320

Received: 2/11/10 Opened: 2/11/10 By: fer

1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	Tracking Number	Filed
4.3	2.7	275	NA	NA	
3.7	3.3	266			
3.5	3.3	269			

7. Packing material used. Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
14. Were VOA vials received without headspace? Indicate in the table below. NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

June 24, 2010

Analytical Report for Service Request No: K1005490

Kathy Gunderson
Premier Environmental Services
129 Monohon Landing Road
Raymond, WA 98577

RE: Arlington Landfill Wells South

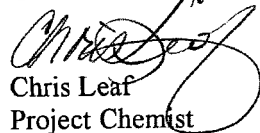
Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on May 27, 2010. For your reference, these analyses have been assigned our service request number K1005490.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at CLeaf@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.
Chris Leaf
Project Chemist

CL/ln

Page 1 of 51

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: Arlington Landfill Wells South
Sample Matrix: Water

Service Request No.: K1005490
Date Received: 05/27/2010

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Five water samples were received for analysis at Columbia Analytical Services on 05/27/2010. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Dissolved Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Iron for the Batch QC sample were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Approved by _____



Date _____

6/25/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Conductivity at 25 Degrees Celsius

Analysis Method : 120.1
Test Notes :
Units : uMHOS/cm
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	2.0	0.4	1	06/10/10	461	
BXS-2	K1005490-002	2.0	0.4	1	06/10/10	881	
BXS-1	K1005490-003	2.0	0.4	1	06/10/10	297	
BXS-4	K1005490-004	2.0	0.4	1	06/10/10	192	
BXS-6	K1005490-005	2.0	0.4	1	06/10/10	300	
Method Blank	K1005490-MB	2.0	0.4	1	06/10/10	1.9	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/10/10

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005489-002DUP
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Conductivity at 25 Degrees Celsius	120.1	2.0	333	334	334	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/10/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Conductivity at 25 Degrees Celsius	NONE	120.1	839	819	98	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	1.0	0.2	5	06/08/10	3.4	
BXS-2	K1005490-002	1.0	0.2	5	06/08/10	4.1	
BXS-1	K1005490-003	1.0	0.2	5	06/08/10	5.9	
BXS-4	K1005490-004	0.20	0.06	2	06/08/10	1.88	
BXS-6	K1005490-005	1.0	0.2	5	06/08/10	6.0	
Method Blank	K1005490-MB	0.20	0.03	1	06/08/10	0.03	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/08/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005862-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	0.20	4.21	4.24	4.23	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/08/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1005862-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance	Result Notes
							Limits	
Chloride	300.0	0.20	3.00	4.21	7.26	101	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/08/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.00	4.96	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	0.20	0.02	2	06/07/10	0.76	
BXS-2	K1005490-002	0.20	0.02	2	06/07/10	0.17	J
BXS-1	K1005490-003	0.20	0.02	2	06/07/10	15.3	
BXS-4	K1005490-004	0.20	0.02	2	06/08/10	1.45	
BXS-6	K1005490-005	1.0	0.1	5	06/08/10	13.4	
Method Blank	K1005490-MB	0.20	0.01	1	06/08/10	ND	
Method Blank	K1005490-MB	0.20	0.01	1	06/07/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 5/26/2010
Date Received : 5/27/2010
Date Prepared : NA
Date Analyzed : 06/07/10

Duplicate Summary
Inorganic Parameters

Sample Name : BXS-2
Lab Code : K1005490-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	0.20	0.17	0.14	0.16	19	J

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 5/26/2010
Date Received : 5/27/2010
Date Prepared : NA
Date Analyzed : 06/07/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : BXS-2
Lab Code : K1005490-002MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	300.0	0.20	3.00	0.17	3.12	98	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/07/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	NONE	300.0	5.00	4.76	95	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	0.050	0.020	1	06/01/10	0.969	
BXS-2	K1005490-002	0.050	0.020	1	06/01/10	0.032	J
BXS-1	K1005490-003	0.050	0.020	1	06/01/10	0.027	J
BXS-4	K1005490-004	0.050	0.020	1	06/01/10	0.556	
BXS-6	K1005490-005	0.050	0.020	1	06/01/10	0.021	J
Method Blank	K1005490-MB	0.050	0.020	1	06/01/10	0.029	J
Method Blank	K1005490-MB	0.050	0.020	1	06/01/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Duplicate Summary
 Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005518-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.050	ND	ND	ND	-	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1005518-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	350.1	0.050	2.00	ND	2.18	108	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.5	101	90-112	
Ammonia as Nitrogen	NONE	350.1	14.3	13.9	97	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.**Analytical Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	0.050	0.009	1	06/02/10	0.218	
BXS-2	K1005490-002	0.050	0.009	1	06/02/10	0.037	J
BXS-1	K1005490-003	0.050	0.009	1	06/02/10	0.109	
BXS-4	K1005490-004	0.050	0.009	1	06/02/10	0.030	J
BXS-6	K1005490-005	0.050	0.009	1	06/02/10	0.105	
Method Blank	K1005490-MB	0.050	0.009	1	06/02/10	0.030	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
 Project Name : Arlington Landfill Wells South
 Project Number : NA
 Sample Matrix : WATER

Service Request : K1005490
 Date Collected : NA
 Date Received : NA
 Date Prepared : NA
 Date Analyzed : 06/02/10

Duplicate Summary
 Inorganic Parameters

Sample Name : Batch QC
 Lab Code : K1005489-001DUP
 Test Notes :

Units : mg/L
 Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.040	0.041	0.041	2	J

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/02/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1005489-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.040	2.03	99	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/02/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.7	99	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Solids, Total Dissolved

Analysis Method : SM 2540 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	5.0	5.0	1	06/02/10	340	
BXS-2	K1005490-002	5.0	5.0	1	06/02/10	508	
BXS-1	K1005490-003	5.0	5.0	1	06/02/10	166	
BXS-4	K1005490-004	5.0	5.0	1	06/02/10	129	
BXS-6	K1005490-005	5.0	5.0	1	06/02/10	178	
Method Blank	K1005490-MB	5.0	5.0	1	06/02/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 5/26/2010
Date Received : 5/27/2010
Date Prepared : NA
Date Analyzed : 06/02/10

Duplicate Summary
Inorganic Parameters

Sample Name : BXS-2
Lab Code : K1005490-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Dissolved	SM 2540 C	5.0	508	496	502	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/02/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Solids, Total Dissolved	NONE	SM 2540 C	750	742	99	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

pH

Analysis Method : SM 4500-H+ B
Test Notes :

Units : pH Units
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
BXS-3	K1005490-001	-	-	1	05/27/10 18:08	6.26	
BXS-2	K1005490-002	-	-	1	05/27/10 18:09	6.33	
BXS-1	K1005490-003	-	-	1	05/27/10 18:10	6.41	
BXS-4	K1005490-004	-	-	1	05/27/10 18:11	7.87	
BXS-6	K1005490-005	-	-	1	05/27/10 18:12	6.48	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/27/10

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005489-001DUP
Test Notes :

Units : pH Units
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
pH	SM 4500-H+ B	-	4.93	5.01	4.97	2	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 05/27/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : pH Units
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
pH	NONE	SM 4500-H+ B	6.46	6.39	99	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.**Analytical Report**

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Chemical Oxygen Demand (COD)

Analysis Method : SM 5220 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	5.0	3.0	1	06/08/10	73.9	
BXS-2	K1005490-002	5.0	3.0	1	06/08/10	41.0	
BXS-1	K1005490-003	5.0	3.0	1	06/08/10	11.0	
BXS-4	K1005490-004	5.0	3.0	1	06/08/10	3.3	J
BXS-6	K1005490-005	5.0	3.0	1	06/08/10	10.5	
Method Blank	K1005490-MB	5.0	3.0	1	06/08/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 5/26/2010
Date Received : 5/27/2010
Date Prepared : NA
Date Analyzed : 06/08/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : BXS-3
Lab Code : K1005490-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	73.9	73.0	73.5	1	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 5/26/2010
Date Received : 5/27/2010
Date Prepared : NA
Date Analyzed : 06/08/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : BXS-3
Lab Code : K1005490-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Chemical Oxygen Demand (COD)	SM 5220 C	13	100	73.9	190	116	75-125	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/08/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chemical Oxygen Demand (COD)	NONE	SM 5220 C	188	192	102	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	1.0	0.1	2	06/04/10	25.2	
BXS-2	K1005490-002	2.5	0.4	5	06/04/10	17.3	
BXS-1	K1005490-003	0.50	0.07	1	06/04/10	4.17	
BXS-4	K1005490-004	0.50	0.07	1	06/04/10	0.93	
BXS-6	K1005490-005	0.50	0.07	1	06/04/10	4.14	
Method Blank	K1005490-MB	0.50	0.07	1	06/04/10	ND	

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/04/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005489-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	0.50	0.10	ND	NC	NC	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/04/10

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005489-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Carbon, Total Organic	SM 5310 C	0.50	25.0	0.10	26.1	104	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/04/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	25.4	103	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : 05/26/10
Date Received : 05/27/10

Tannin and Lignin

Analysis Method : SM 5550 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS-3	K1005490-001	0.20	0.03	1	06/01/10	31.3	
BXS-2	K1005490-002	0.20	0.03	1	06/01/10	1.10	
BXS-1	K1005490-003	0.20	0.03	1	06/01/10	0.11	J
BXS-4	K1005490-004	0.20	0.03	1	06/01/10	0.32	
BXS-6	K1005490-005	0.20	0.03	1	06/01/10	0.11	J
Method Blank	K1005490-MB	0.20	0.03	1	06/01/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005418-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Tannin and Lignin	SM 5550 B	0.20	ND	0.05	NC	-	J

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1005418-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Tannin and Lignin	SM 5550 B	0.20	1.00	ND	1.05	103	61-127	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
Lab Code : K1005418-001MS K1005418-001DMS Basis : NA
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Tannin and Lignin	NONE	SM 5550 B	0.20	1.00	2.00	ND	1.05	2.08	103	102	61-127	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : Arlington Landfill Wells South
Project Number : NA
Sample Matrix : WATER

Service Request : K1005490
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 06/01/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1005490-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Tannin and Lignin	NONE	SM 5550 B	1.00	1.10	110	82-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Columbia Analytical Services

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INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: Arlington Landfill Wells South
Project No.:

Service Request: K1005490

Sample Name:

BXS-3

BXS-3D

BXS-3S

BXS-2

BXS-1

BXS-4

BXS-6

Method Blank

Batch QCD

Batch QCS

Lab Code:

K1005490-001 DISS

K1005490-001D DISS

K1005490-001S DISS

K1005490-002 DISS

K1005490-003 DISS

K1005490-004 DISS

K1005490-005 DISS

K1005490-MB

K1005705-002D

K1005705-002S

Comments:

Approved By:

3C

Date:

6/24/10

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1005490**Project No.:** NA**Date Collected:** 5/26/2010**Project Name:** Arlington Landfill Wells South**Date Received:** 5/27/2010**Matrix:** WATER**Units:** ug/L**Basis:** N/A**Sample Name:** BXS-3**Lab Code:** K1005490-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	50.0	5.0	10.0	06/16/10	06/22/10	149		
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	134		
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	0.8	U	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	104000		
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	9380		
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	19.5	J	
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	0.7	U	

% Solids: 0.0**Comments:**

Columbia Analytical Services

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company Service Request: K1005490
Project No.: NA Date Collected: 5/26/2010
Project Name: Arlington Landfill Wells South Date Received: 5/27/2010
Matrix: WATER Units: ug/L
Basis: N/A

Sample Name: BXS-2 Lab Code: K1005490-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	06/16/10	06/22/10	0.9	J	
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	53.7		
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	1.6	J	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	451		
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	1340		
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	32.6		
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	3.5	J	

% Solids: 0.0

Comments:

Columbia Analytical Services

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Date Collected: 5/26/2010

Project Name: Arlington Landfill Wells South

Date Received: 5/27/2010

Matrix: WATER

Units: ug/L

Basis: N/A

Sample Name: BXS-1

Lab Code: K1005490-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	06/16/10	06/22/10	0.5	U	
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	14.5		
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	2.0	J	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	3.5	J	
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	77.6		
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	6.5	J	
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	2.1	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company Service Request: K1005490
 Project No.: NA Date Collected: 5/26/2010
 Project Name: Arlington Landfill Wells South Date Received: 5/27/2010
 Matrix: WATER Units: ug/L
 Basis: N/A

Sample Name: BXS-4 Lab Code: K1005490-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	06/16/10	06/22/10	5.5		
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	27.7		
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	0.8	U	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	43.5		
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	115		
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	0.7	U	
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	0.7	U	

% Solids: 0.0

Comments:

Columbia Analytical Services

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Date Collected: 5/26/2010

Project Name: Arlington Landfill Wells South

Date Received: 5/27/2010

Matrix: WATER

Units: ug/L

Basis: N/A

Sample Name: BXS-6

Lab Code: K1005490-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	06/16/10	06/22/10	0.5	U	
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	14.6		
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	2.3	J	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	8.9	J	
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	78.0		
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	6.7	J	
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	2.5	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company Service Request: K1005490
 Project No.: NA Date Collected:
 Project Name: Arlington Landfill Wells South Date Received:
 Matrix: WATER Units: ug/L
 Basis: N/A

Sample Name: Method Blank Lab Code: K1005490-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	06/16/10	06/22/10	0.5	U	
Barium	6010B	5.0	0.4	1.0	06/16/10	06/17/10	0.4	U	
Cadmium	6010B	5.0	0.3	1.0	06/16/10	06/17/10	0.3	U	
Copper	6010B	10.0	0.8	1.0	06/16/10	06/17/10	0.8	U	
Iron	6010B	20.0	3.0	1.0	06/16/10	06/17/10	3.0	U	
Manganese	6010B	5.0	0.2	1.0	06/16/10	06/17/10	0.2	U	
Nickel	6010B	20.0	0.7	1.0	06/16/10	06/17/10	0.7	U	
Zinc	6010B	10.0	0.7	1.0	06/16/10	06/17/10	0.7	U	

% Solids: 0.0

Comments:

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Units: UG/L

Project Name: Arlington Landfill Wells South

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-3S

Lab Code: K1005490-001S DISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	63 - 127	191		149		40.00	105.0		7060A

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Units: UG/L

Project Name: Arlington Landfill Wells South

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QCS

Lab Code: K1005705-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	2100		26.9		2000.00	103.7		6010B
Cadmium	71 - 142	47.9		0.3	U	50.00	95.8		6010B
Copper	86 - 113	246		1.5	J	250.00	97.8		6010B
Iron		39300		37400		1000.00	190.0		6010B
Manganese	84 - 121	2360		1780		500.00	116.0		6010B
Nickel	86 - 120	489		3.8	J	500.00	97.0		6010B
Zinc	87 - 113	693		173		500.00	104.0		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

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DUPLICATES

Client: JH Baxter & Company **Service Request:** K1005490
Project No.: NA **Units:** UG/L
Project Name: Arlington Landfill Wells South **Basis:** N/A
Matrix: WATER **% Solids:** 0.0

Sample Name: BXS-3D

Lab Code: K1005490-001D DISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		149		149		0.0		7060A

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Units: UG/L

Project Name: Arlington Landfill Wells South

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QCD

Lab Code: K1005705-002D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium	20	26.9		27.4		1.8		6010B
Cadmium		0.3	U	0.3	U			6010B
Copper		1.5	J	0.8	U	200.0		6010B
Iron	20	37400		38300		2.4		6010B
Manganese	20	1780		1790		0.6		6010B
Nickel		3.8	J	3.6	J	5.4		6010B
Zinc	20	173		175		1.1		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

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LABORATORY CONTROL SAMPLE

Client: JH Baxter & Company

Service Request: K1005490

Project No.: NA

Project Name: Arlington Landfill Wells South

Aqueous LCS Source: Inorganic Ventures

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg				
	True	Found	%R	True	Found	C	Limits	%R
Arsenic	25	27.7	110.8					
Barium	5000	5150	103.0					
Cadmium	1250	1190	95.2					
Copper	625	614	98.2					
Iron	2500	2480	99.2					
Manganese	1250	1250	100.0					
Nickel	1250	1200	96.0					
Zinc	1250	1210	96.8					

PROJECT NAME <u>J.H. Baxter Arlington</u>					NUMBER OF CONTAINERS	Semi-volatile Organics by GC/MS 625 ☐ 8270 ☐ 8270LL ☐ Volatile Organics 824 ☐ 8260 ☐ Hydrocarbons (*see below) Gas ☐ 8021 ☐ BTEX ☐ Fuel Fingerprint (FIO) ☐ Oil & Grease/TPH Screen ☐ 1664 HEM ☐ 1664 SGT ☐ PCBs ☐ Arctols ☐ Congeners ☐ 608 ☐ 8081A ☐ 8141A ☐ 8151A ☐ Tri ☐ Tetra ☐ PAHS 8310 ☐ SIM ☐ Metals, Total or Dissolved (See list below) Cyanide ☐ Hex-Chrom ☐ pH, Cond., Cl, SO ₄ , PO ₄ , F, NO ₂ , NH ₃ -N, COD, Total-P, TKN, TOC, DOC (circle) NO ₂ -NO ₃ TOX 9020 ☐ AOX 1650 ☐ 506 ☐ COD, TPC, Nitrate, Nitrite, TDS, Sulfates, Chloride, Cond. pH, Heavy Metals
PROJECT NUMBER <u>landfills - South</u>						
PROJECT MANAGER <u>Anita Ragan</u>						
COMPANY/ADDRESS <u>85 Baxter Rd</u>						
CITY/STATE/ZIP <u>Eugene, OR 97402</u>						
E-MAIL ADDRESS <u>aragan@jhboxter.com</u>						
PHONE # <u>541 689 3801</u> FAX # <u>541 689 8303</u>						
SAMPLER'S SIGNATURE <u>Anita Ragan</u>						
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX		
<u>BXS-3</u>	<u>5/26</u>	<u>1123</u>		<u>H₂O</u>	<u>3</u>	
<u>BXS-2</u>	<u>5/26</u>	<u>1100</u>				
<u>BXS-1</u>	<u>5/26</u>	<u>0955</u>				
<u>BXS-4</u>	<u>5/26</u>	<u>0910</u>				
<u>BXS-6</u>	<u>5/26</u>	<u>AM</u>				

REPORT REQUIREMENTS I. Routine Report: Method Blank, Surrogate, as required X II. Report Dup., MS, MSD as required III. Data Validation Report (includes all raw data) IV. CLP Deliverable Report V. EDD		INVOICE INFORMATION P.O. # <u> </u> Bill To: <u>Baxter</u> TURNAROUND REQUIREMENTS 24 hr. ☐ 48 hr. ☐ 5 Day ☐ X Standard (10-15 working days) Provide FAX Results ☐ Requested Report Date <u> </u>		Circle which metals are to be analyzed: Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al <u>As</u> Sb <u>Ba</u> Be B Ca <u>Cd</u> Co Cr <u>Cu</u> <u>Fe</u> Pb Mg <u>Mn</u> <u>Mo</u> <u>Ni</u> K Ag Na Se Sr Ti Sn V <u>Zn</u> Hg *INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: <u> </u> (CIRCLE ONE)	
RELINQUISHED BY: <u>Anita Ragan</u> Signature <u>5/27/10 1555</u> Date/Time <u>Baxter</u> Printed Name Firm		RECEIVED BY: <u>John Flor</u> Signature <u>5-27-10/1455</u> Date/Time <u>CAS</u> Printed Name Firm		RELINQUISHED BY: Signature <u> </u> Date/Time <u> </u> Printed Name <u> </u> Firm <u> </u>	
RECEIVED BY: Signature <u> </u> Date/Time <u> </u> Printed Name <u> </u> Firm <u> </u>		SPECIAL INSTRUCTIONS/COMMENTS: <u>-metals are field filtered</u> <u>-please contact Kathy Gunderson</u> <u>w/ questions 360 942 3409</u> ☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)			

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CC

Client / Project: J.H. Baxter Arlington Service Request K10 05490
 Received: S-27-10 Opened: S-27-10 By: JF

1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
 2. Samples were received in: (circle) Cooler Box Envelope Other NA
 3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	Tracking Number	Filed
-0.5	3.3	281	<u>NA</u>		
1.9	4.5	276			
-0.4	8.9	280			

7. Packing material used. Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
 8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
 9. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA Y N
 10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
 11. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
 12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
 13. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
 14. Were VOA vials received without headspace? Indicate in the table below. NA Y N
 15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

September 20, 2010

Analytical Report for Service Request No: K1008920

Kathy Gunderson
Premier Environmental Services
129 Monohon Landing Road
Raymond, WA 98577

RE: J.H.Baxter Arlington/Landfill - South

Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on August 19, 2010. For your reference, these analyses have been assigned our service request number K1008920.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at CLeaf@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.


Chris Leaf
Project Chemist

CL/kcd

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Colorado DPHE	-
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Utah DOH	COLU
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: J. H. Baxter Arlington/Landfill-South
Sample Matrix: Water

Service Request No.: K1008920
Date Received: 8/19/2010

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), and Laboratory Control Sample (LCS).

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 8/19/2010. Any discrepancies noted upon initial sample inspection are listed on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Chemical Oxygen Demand by SM 5220 C:

The Relative Percent Difference (RPD) criterion for the replicate analysis of Chemical Oxygen Demand in sample Batch QC was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Sulfate by EPA Method 300.0:

The Relative Percent Difference (RPD) criterion for the replicate analysis of Sulfate in sample BXS-3 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Dissolved Metals

Matrix Spike Recovery Exceptions:

The control criteria for matrix spike recovery of Iron for the Batch QC sample were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Approved by _____



Date _____

8/21/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Conductivity at 25 Degrees Celsius

Analysis Method : 120.1
Test Notes :

Units : uMHOS/cm
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	2.0	0.4	1	09/07/10	423	
BXS - 2	K1008920-002	2.0	0.4	1	09/07/10	805	
BXS - 1	K1008920-003	2.0	0.4	1	09/07/10	311	
BXS - 4	K1008920-004	2.0	0.4	1	09/07/10	209	
BXS - 5	K1008920-005	2.0	0.4	1	09/07/10	316	
Equ Check	K1008920-006	2.0	0.4	1	09/07/10	137	
Method Blank	K1008920-MB	2.0	0.4	1	09/07/10	0.9	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/07/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1008919-004DUP
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Conductivity at 25 Degrees Celsius	120.1	2.0	653	649	651	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/07/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : uMHOS/cm
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Conductivity at 25 Degrees Celsius	NONE	120.1	839	851	101	85-115	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Chloride

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	0.40	0.06	2	08/24/10	3.04	
BXS - 2	K1008920-002	0.40	0.06	2	08/25/10	3.32	
BXS - 1	K1008920-003	0.40	0.06	2	08/25/10	5.67	
BXS - 4	K1008920-004	0.40	0.06	2	08/25/10	1.91	
BXS - 5	K1008920-005	0.40	0.06	2	08/25/10	5.70	
Equ Check	K1008920-006	0.40	0.06	2	08/24/10	1.57	
Method Blank	K1008920-MB	0.20	0.03	1	08/24/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/23/10

Duplicate Summary Inorganic Parameters

Sample Name : BXS - 3
Lab Code : K1008920-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chloride	300.0	0.40	3.04	3.17	3.11	4	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/25/10

Matrix Spike Summary
Inorganic Parameters

Sample Name : BXS - 3
Lab Code : K1008920-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Chloride	300.0	0.40	4.00	3.04	7.32	107	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/25/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : BXS - 3 **Units :** mg/L
Lab Code : K1008920-001MS **K1008920-001DMS** **Basis :** NA
Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chloride	NONE	300.0	0.40	4.00	4.00	3.04	7.32	7.32	107	107	80-120	<1	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/24/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chloride	NONE	300.0	5.00	4.93	99	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Sulfate

Analysis Method : 300.0
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	0.40	0.02	2	08/25/10	0.80	
BXS - 2	K1008920-002	0.40	0.02	2	08/25/10	1.12	
BXS - 1	K1008920-003	0.40	0.02	2	08/25/10	14.1	
BXS - 4	K1008920-004	0.40	0.02	2	08/25/10	1.55	
BXS - 5	K1008920-005	0.40	0.02	2	08/25/10	14.0	
Equ Check	K1008920-006	0.40	0.02	2	08/24/10	1.06	
Method Blank	K1008920-MB	0.20	0.01	1	08/24/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/25/10

Duplicate Summary
Inorganic Parameters

Sample Name : BXS - 3
Lab Code : K1008920-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Sulfate	300.0	0.40	0.80	1.01	0.91	23	*

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/25/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : BXS - 3
Lab Code : K1008920-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	300.0	0.40	4.00	0.80	5.16	109	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/25/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : BXS - 3 Units : mg/L
Lab Code : K1008920-001MS Basis : NA
Test Notes : K1008920-001DMS

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Sulfate	NONE	300.0	0.40	4.00	4.00	0.80	5.16	5.12	109	108	80-120	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/24/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Sulfate	NONE	300.0	5.00	4.85	97	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Ammonia as Nitrogen

Analysis Method : 350.1
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	0.050	0.020	1	08/25/10	1.22	
BXS - 2	K1008920-002	0.050	0.020	1	08/25/10	ND	
BXS - 1	K1008920-003	0.050	0.020	1	08/25/10	ND	
BXS - 4	K1008920-004	0.050	0.020	1	08/25/10	0.529	
BXS - 5	K1008920-005	0.050	0.020	1	08/25/10	ND	
Equ Check	K1008920-006	0.050	0.020	1	08/25/10	ND	
Method Blank	K1008920-MB	0.050	0.020	1	08/25/10	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1009078-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Ammonia as Nitrogen	350.1	0.050	0.385	0.389	0.387	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
 Project Name : J.H.Baxter Arlington
 Project Number : Landfill - South
 Sample Matrix : WATER

Service Request : K1008920
 Date Collected : NA
 Date Received : NA
 Date Prepared : NA
 Date Analyzed : 08/25/10

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
 Lab Code : K1009078-001MS
 Test Notes :

Units : mg/L
 Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Ammonia as Nitrogen	350.1	0.050	2.00	0.385	2.41	101	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC
Lab Code : K1009078-001MS
Test Notes :

K1009078-001DMS

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Ammonia as Nitrogen	NONE	350.1	0.050	2.00	2.00	0.385	2.41	2.43	101	102	90-112	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

**Laboratory Control Sample Summary
 Inorganic Parameters**

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Ammonia as Nitrogen	NONE	350.1	14.3	14.0	98	90-112	

COLUMBIA ANALYTICAL SERVICES, INC.**Analytical Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Nitrate+Nitrite as Nitrogen

Analysis Method : 353.2
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	0.050	0.009	1	08/25/10	0.176	
BXS - 2	K1008920-002	0.050	0.009	1	08/25/10	0.038	J
BXS - 1	K1008920-003	0.050	0.009	1	08/25/10	0.139	
BXS - 4	K1008920-004	0.050	0.009	1	08/25/10	0.039	J
BXS - 5	K1008920-005	0.050	0.009	1	08/25/10	0.143	
Equ Check	K1008920-006	0.050	0.009	1	08/25/10	0.174	
Method Blank	K1008920-MB	0.050	0.009	1	08/25/10	0.024	J

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1008964-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.206	0.206	0.206	<1	

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1008964-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	353.2	0.050	2.00	0.206	2.17	98	86-117	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
 Project Name : J.H.Baxter Arlington
 Project Number : Landfill - South
 Sample Matrix : WATER

Service Request : K1008920
 Date Collected : NA
 Date Received : NA
 Date Prepared : NA
 Date Analyzed : 08/25/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
 Lab Code : K1008964-001MS K1008964-001DMS Basis : NA
 Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Nitrate+Nitrite as Nitrogen	NONE	353.2	0.050	2.00	2.00	0.206	2.17	2.20	98	100	86-117	1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/25/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Nitrate+Nitrite as Nitrogen	NONE	353.2	14.8	14.2	96	88-110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Solids, Total Dissolved

Analysis Method : SM 2540 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	10	10	1	08/23/10	381	
BXS - 2	K1008920-002	14	14	1	08/23/10	564	
BXS - 1	K1008920-003	10	10	1	08/23/10	250	
BXS - 4	K1008920-004	10	10	1	08/23/10	202	
BXS - 5	K1008920-005	10	10	1	08/23/10	241	
Equ Check	K1008920-006	10	10	1	08/23/10	134	
Method Blank	K1008920-MB	5.0	5.0	1	08/23/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/23/10

Duplicate Summary Inorganic Parameters

Sample Name : BXS - 2
Lab Code : K1008920-002DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Solids, Total Dissolved	SM 2540 C	14	564	597	581	6	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/23/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Solids, Total Dissolved	NONE	SM 2540 C	1090	1030	94	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

pH

Analysis Method : SM 4500-H+ B
Test Notes :

Units : pH Units
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
BXS - 3	K1008920-001			1	08/20/10 14:26	6.15	
BXS - 2	K1008920-002			1	08/20/10 14:27	6.30	
BXS - 1	K1008920-003			1	08/20/10 14:28	6.42	
BXS - 4	K1008920-004			1	08/20/10 14:29	7.83	
BXS - 5	K1008920-005			1	08/20/10 14:30	6.46	
Equ Check	K1008920-006			1	08/20/10 14:31	7.91	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/20/10

Duplicate Summary
Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1008946-001DUP
Test Notes :

Units : pH Units
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
pH	SM 4500-H+ B		7.45	7.54	7.50	1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/20/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : pH Units
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
pH	NONE	SM 4500-H+ B	7.24	7.18	99	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Chemical Oxygen Demand (COD)

Analysis Method : SM 5220 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	5.0	3.0	1	08/26/01	74.1	
BXS - 2	K1008920-002	5.0	3.0	1	08/26/01	41.1	
BXS - 1	K1008920-003	5.0	3.0	1	08/26/01	10.9	
BXS - 4	K1008920-004	5.0	3.0	1	08/26/01	ND	
BXS - 5	K1008920-005	5.0	3.0	1	08/26/01	11.8	
Equ Check	K1008920-006	5.0	3.0	1	08/26/01	ND	
Method Blank	K1008920-MB	5.0	3.0	1	08/26/01	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/26/01

Duplicate Summary Inorganic Parameters

Sample Name : Batch QC
Lab Code : K1008919-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	4.2	3.3	3.8	24	*J

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
 Project Name : J.H.Baxter Arlington
 Project Number : Landfill - South
 Sample Matrix : WATER

Service Request : K1008920
 Date Collected : NA
 Date Received : NA
 Date Prepared : NA
 Date Analyzed : 08/26/01

Matrix Spike Summary Inorganic Parameters

Sample Name : Batch QC
 Lab Code : K1008919-001MS
 Test Notes :

Units : mg/L
 Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
							Percent Recovery Acceptance Limits	
Chemical Oxygen Demand (COD)	SM 5220 C	13	100	4.2	109	104	75-125	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.
QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/26/01

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC
Lab Code : K1008919-001MS K1008919-001DMS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Chemical Oxygen Demand (COD)	NONE	SM 5220 C	13	100	100	4.2	109	109	104	104	75-125	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/26/01

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Chemical Oxygen Demand (COD)	NONE	SM 5220 C	131	119	91	85-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Carbon, Total Organic

Analysis Method : SM 5310 C
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	1.0	0.2	2	08/31/10	21.5	
BXS - 2	K1008920-002	0.50	0.07	1	08/31/10	15.3	
BXS - 1	K1008920-003	0.50	0.07	1	08/31/10	3.70	
BXS - 4	K1008920-004	0.50	0.07	1	08/31/10	0.81	
BXS - 5	K1008920-005	0.50	0.07	1	08/31/10	3.46	
Equ Check	K1008920-006	0.50	0.07	1	08/31/10	ND	
Method Blank	K1008920-MB	0.50	0.07	1	08/31/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/31/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : BXS - 3
Lab Code : K1008920-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Carbon, Total Organic	SM 5310 C	1.0	21.5	21.3	21.4	<1	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 8/18/2010
Date Received : 8/19/2010
Date Prepared : NA
Date Analyzed : 08/31/10

Matrix Spike Summary Inorganic Parameters

Sample Name : BXS - 3
Lab Code : K1008920-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery	Result Notes
							Acceptance Limits	
Carbon, Total Organic	SM 5310 C	1.0	50.0	21.5	69.5	96	85-108	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 08/31/10

Laboratory Control Sample Summary
Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Carbon, Total Organic	NONE	SM 5310 C	24.7	23.5	95	83-117	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : 08/18,19/10
Date Received : 08/19/10

Tannin and Lignin

Analysis Method : SM 5550 B
Test Notes :

Units : mg/L
Basis : NA

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Analyzed	Result	Result Notes
BXS - 3	K1008920-001	0.40	0.06	2	09/02/10	5.22	
BXS - 2	K1008920-002	0.20	0.03	1	09/02/10	1.68	
BXS - 1	K1008920-003	0.20	0.03	1	09/02/10	0.18	J
BXS - 4	K1008920-004	0.20	0.03	1	09/02/10	0.34	
BXS - 5	K1008920-005	0.20	0.03	1	09/02/10	0.14	J
Equ Check	K1008920-006	0.20	0.03	1	09/02/10	0.04	J
Method Blank	K1008920-MB	0.20	0.03	1	09/02/10	ND	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/02/10

**Duplicate Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1008919-001DUP
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
Tannin and Lignin	SM 5550 B	0.20	1.14	1.18	1.16	3	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.**QA/QC Report**

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/02/10

**Matrix Spike Summary
Inorganic Parameters**

Sample Name : Batch QC
Lab Code : K1008919-001MS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Tannin and Lignin	SM 5550 B	0.20	1.00	1.14	2.11	97	61-127	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
 Project Name : J.H.Baxter Arlington
 Project Number : Landfill - South
 Sample Matrix : WATER

Service Request : K1008920
 Date Collected : NA
 Date Received : NA
 Date Prepared : NA
 Date Analyzed : 09/02/10

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name : Batch QC Units : mg/L
 Lab Code : K1008919-001MS K1008919-001DMS Basis : NA
 Test Notes :

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Spike Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Tannin and Lignin	NONE	SM 5550 B	0.20	1.00	2.00	1.14	2.11	3.26	97	106	61-127	9	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : JH Baxter & Company
Project Name : J.H.Baxter Arlington
Project Number : Landfill - South
Sample Matrix : WATER

Service Request : K1008920
Date Collected : NA
Date Received : NA
Date Prepared : NA
Date Analyzed : 09/02/10

Laboratory Control Sample Summary Inorganic Parameters

Sample Name : Lab Control Sample
Lab Code : K1008920-LCS
Test Notes :

Units : mg/L
Basis : NA

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Tannin and Lignin	NONE	SM 5550 B	1.00	0.98	98	82-115	

SM Standard Methods for the Examination of Water and Wastewater, 20th Ed., 1998.

Columbia Analytical Services

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INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: J.H.Baxter Arlington
Project No.: Landfill - South

Service Request: K1008920

Sample Name:

Batch QC1D

Batch QC1S

Batch QC2D

Batch QC2S

BXS - 3

BXS - 2

BXS - 1

BXS - 4

BXS - 5

Equ Check

Method Blank

Lab Code:

K1008447-001D

K1008447-001S

K1008602-011D

K1008602-011S

K1008920-001 DISS

K1008920-002 DISS

K1008920-003 DISS

K1008920-004 DISS

K1008920-005 DISS

K1008920-006 DISS

K1008920-MB

Comments:

Approved By:

3C

Date:

8/31/10

Metals**-1-****INORGANIC ANALYSIS DATA PACKAGE**

Client: JH Baxter & Company
Project No.: Landfill - South
Project Name: J.H.Baxter Arlington
Matrix: WATER

Service Request: K1008920
Date Collected: 08/18/10
Date Received: 08/19/10
Units: ug/L
Basis: N/A

Sample Name: BXS - 3**Lab Code:** K1008920-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	139		
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	119		
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	4.5	J	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	104000		
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	9670		
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	17.5	J	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	2.3	J	

% Solids: 0.0**Comments:**

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Date Collected: 08/18/10

Project Name: J.H.Baxter Arlington

Date Received: 08/19/10

Matrix: WATER

Units: ug/L

Basis: N/A

Sample Name: BXS - 2

Lab Code: K1008920-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	0.9	J	
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	47.7		
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	482		
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	1310		
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	33.3		
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	4.8	J	

% Solids: 0.0

Comments:

Metals**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1008920**Project No.:** Landfill - South**Date Collected:** 08/18/10**Project Name:** J.H.Baxter Arlington**Date Received:** 08/19/10**Matrix:** WATER**Units:** ug/L**Basis:** N/A**Sample Name:** BXS - 1**Lab Code:** K1008920-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	14.9		
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	3.7	J	
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	48.00		
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	5.8	J	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	0.8	U	

% Solids: 0.0**Comments:**

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	JH Baxter & Company	Service Request:	K1008920
Project No.:	Landfill - South	Date Collected:	08/18/10
Project Name:	J.H.Baxter Arlington	Date Received:	08/19/10
Matrix:	WATER	Units:	ug/L
		Basis:	N/A

Sample Name:	BXS - 4	Lab Code:	K1008920-004 DISS
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Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	5.3		
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	25.8		
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	38.6		
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	108		
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	0.8	U	

% Solids: 0.0

Comments:

Metals**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1008920**Project No.:** Landfill - South**Date Collected:** 08/18/10**Project Name:** J.H.Baxter Arlington**Date Received:** 08/19/10**Matrix:** WATER**Units:** ug/L**Basis:** N/A**Sample Name:** BXS - 5**Lab Code:** K1008920-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	14.3		
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	1.6	J	
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	47.20		
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	5.2	J	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	1.9	J	

% Solids: 0.0**Comments:**

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Date Collected: 08/19/10

Project Name: J.H.Baxter Arlington

Date Received: 08/19/10

Matrix: WATER

Units: ug/L

Basis: N/A

Sample Name: Equ Check

Lab Code: K1008920-006 DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	3.0	J	
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	1.5	J	
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	0.8	U	
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	0.20	U	
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	1.9	J	

% Solids: 0.0

Comments:

Columbia Analytical Services**Metals****- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1008920**Project No.:** Landfill - South**Date Collected:****Project Name:** J.H.Baxter Arlington**Date Received:****Matrix:** WATER**Units:** ug/L**Basis:** N/A**Sample Name:** Method Blank**Lab Code:** K1008920-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	08/26/10	08/27/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	08/30/10	08/30/10	0.6	U	
Cadmium	6010B	5.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Copper	6010B	10.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Iron	6010B	20.0	0.8	1.0	08/30/10	08/30/10	0.8	U	
Manganese	6010B	5.00	0.20	1.0	08/30/10	08/30/10	0.20	U	
Nickel	6010B	20.0	2.0	1.0	08/30/10	08/30/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	08/30/10	08/30/10	0.8	U	

% Solids: 0.0**Comments:**

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Units: UG/L

Project Name: J.H.Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC1S

Lab Code: K1008447-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	63 - 127	119		40.2		80.00	98.5		7060A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Units: UG/L

Project Name: J.H.Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC2S

Lab Code: K1008602-011S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	2060		20.6		2000.00	102.0		6010B
Cadmium	71 - 142	48		2.0	U	50.00	96.0		6010B
Copper	86 - 113	228		2.0	U	250.00	91.2		6010B
Iron		8210		7070		1000.00	114.0		6010B
Manganese	77 - 113	1640		1140		500.00	100.0		6010B
Nickel	86 - 120	487		2.0	U	500.00	97.4		6010B
Zinc	77 - 112	480		2.3	J	500.00	95.5		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

Columbia Analytical Services

Metals

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DUPLICATES

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Units: UG/L

Project Name: J.H.Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC1D

Lab Code: K1008447-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		40.2		40.2		0.0		7060A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Units: UG/L

Project Name: J.H.Baxter Arlington

Basis: N/A

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC2D

Lab Code: K1008602-011D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium		20.6		20.1		2.5		6010B
Cadmium		2.0	U	2.0	U			6010B
Copper		2.0	U	2.9	J	200.0		6010B
Iron	20	7070		7170		1.4		6010B
Manganese	20	1140		1130		0.9		6010B
Nickel		2.0	U	2.0	U			6010B
Zinc		2.3	J	1.7	J	30.0		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: JH Baxter & Company

Service Request: K1008920

Project No.: Landfill - South

Project Name: J.H.Baxter Arlington

Aqueous LCS Source: CAS MIXED

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg					
	True	Found	%R	True	Found	C	Limits	%R	
Arsenic	25	26.3	105.2						
Barium	5000	5100	102.0						
Cadmium	1250	1230	98.4						
Copper	625	609	97.4						
Iron	2500	2420	96.8						
Manganese	1250	1230	98.4						
Nickel	1250	1230	98.4						
Zinc	1250	1440	115.2						

**Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form**

PC CL

Client / Project: J.H. Baxter Service Request K10 8920

Received: 8-19-10 Opened: 8-19-10 By: PL

1. Samples were received via? Mail Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	Tracking Number	Filed
<u>8.3</u>	<u>7.2</u>	<u>299</u>	<u>NA</u>	<u>NA</u>	
<u>-0.3</u>	<u>5.6</u>	<u>286</u>			

7. Packing material used. Inserts Baggies Bubble Wrap Gel Packs Wet Ice Sleeves Other _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y (N)
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA (Y) N
14. Were VOA vials received without headspace? Indicate in the table below. NA Y N
15. Was C12/Res negative? NA (Y) N

Sample ID on Bottle	Sample ID on COC	Identified by:
<u>BX 5-2</u>	<u>BX 5-3</u>	<u>Time and Date</u>
<u>Equ. Check</u>	<u>Met on COC</u>	<u>Process of Elimination</u>

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
<u>BX 5-3</u>	<u>1x Yellow</u> <u>1x White</u>	<u>X</u>							<u>PL</u>	<u>1500</u>
<u>BX 5-2</u>	<u>1x Yellow</u> <u>1x White</u>	<u>X</u>							<u>PL</u>	<u>1500</u>
<u>BX 5-1</u>	<u>1x Yellow</u> <u>1x White</u>	<u>X</u>							<u>PL</u>	<u>1500</u>
<u>BX 5-4</u>	<u>1x Yellow</u> <u>1x White</u>	<u>X</u>							<u>PL</u>	<u>1500</u>
<u>BX 5-5</u>	<u>1x White</u>	<u>X</u>							<u>PL</u>	<u>1500</u>
<u>Equ. Check</u>	<u>1x Red</u>	<u>X</u>							<u>PL</u>	<u>1500</u>

Notes, Discrepancies, & Resolutions: Proceed w/ analysis. Add equipment check
samples on analysis list. NO₃/NO₂ analysis approved per
X. Gunderson 8/20/10 CL.

March 24, 2011

Analytical Report for Service Request No: K1013077

Kathy Gunderson
Premier Environmental Services
129 Monohon Landing Road
Raymond, WA 98577

RE: JH Baxter Arlington/BXS Wells

Dear Kathy:

Enclosed is the revised report for the samples submitted to our laboratory on November 19, 2010. For your reference, these analyses have been assigned our service request number K1013077.

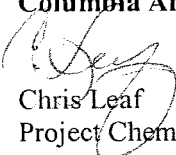
Lab Sample ID K1013077-003 DISS has been corrected to Client Sample Name BXS-3 for the Metals data.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please call if you have any questions. My extension is 3275. You may also contact me via Email at CLeaf@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.
Chris Leaf
Project Chemist

CL/lb

Page 1 of 64**REVISED**

1:20 pm, Mar 24, 2011

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value that was detected outside the quantitation range.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value that was detected outside the quantitation range.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.1 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc.
Kelso, WA
State Certifications, Accreditations, and Licenses

Program	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
Florida DOH	E87412
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
Louisiana DEQ	3016
Louisiana DHH	LA050010
Maine DHS	WA0035
Michigan DEQ	9949
Minnesota DOH	053-999-368
Montana DPHHS	CERT0047
Nevada DEP	WA35
New Jersey DEP	WA005
New Mexico ED	-
North Carolina DWQ	605
Oklahoma DEQ	9801
Oregon - DHS	WA200001
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: Arlington Landfill Wells/BXS Walls
Sample Matrix: Water

Service Request No.: K1013077
Date Received: 11/19/2010

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 11/19/2010. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

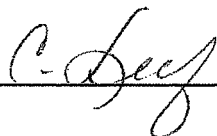
pH by Standard Method 4500-H+B

In accordance with the 2007 USEPA Methods Update Rule published in the Federal Register, the holding time for pH is 15 minutes from sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Approved by _____



Date _____

12/23/10



20709

CHAIN OF CUSTODY

COC Set _____ of _____
Page 1 OF 1 COC# _____

SR# K1013077

1317 South 13th Ave. Kelso, WA 98626 | 360.577.7222 | 800.695.7222 | 360.636.1068 (fax)

Project Name SH BAKER ABANDON		Project Number 20709	
Project Manager Kris Hansen		Company Name ENVIRON/SH BAKER	
Company Address 65 BAKER RD.		City/State/Zip EVERETT OR 97402	
E-Mail Address KHansen@envirocorp.com		Phone # 425.412.1810	
Fax # 425.412.1840		Sampler Signature Kris Hansen	

Sample ID	Date	Time	Lab ID	Matrix	Number of Containers	1H	7D	28D	180D
1	11/18	1015		H ₂ O	3	X	X	X	X
2	11/18	1135			3	X	X	X	X
3	11/18	1217			3	X	X	X	X
4	11/18	930			3	X	X	X	X
5	11/18	AM			3	X	X	X	X
6	11/18	1530			3	X	X	X	X
7									
8									
9									
10									
11									

Test	1	2	3	4	5	6	7	8	9	10	11
SM 4500-H+ B / pH	X	X	X	X	X	X	X	X	X	X	X
SM 2540 C / TDS	X	X	X	X	X	X	X	X	X	X	X
120.1 / Cond Spec	X	X	X	X	X	X	X	X	X	X	X
300.0 / Chloride	X	X	X	X	X	X	X	X	X	X	X
300.0 / SO ₄	X	X	X	X	X	X	X	X	X	X	X
350.1 / Ammonia T	X	X	X	X	X	X	X	X	X	X	X
353.2 / NO ₂ NO ₃ T	X	X	X	X	X	X	X	X	X	X	X
SM 5220 C / COD T	X	X	X	X	X	X	X	X	X	X	X
SM 5310 C / TOC T	X	X	X	X	X	X	X	X	X	X	X
SM 5550 B / Tan Lign	X	X	X	X	X	X	X	X	X	X	X
6010B / Metals D	X	X	X	X	X	X	X	X	X	X	X
7060A / As D	X	X	X	X	X	X	X	X	X	X	X

Remarks

Report Requirements ☐ I. Routine Report Method Blank, Surrogate, as required ☒ II. Report Dup., MS MSD as required ☐ III. Data Validation Report (includes all raw data) ☐ IV. CLP Deliverable Report ☐ V. EDD		Invoice Information P.O.# _____ Bill To: BAKER Turnaround Requirements 24 hr _____ 48 hr _____ ☒ Standard (10-15 working days) ☐ Provide Fax Results		Special Instructions/Comments: Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg Dissolved Metals: Al <u>As</u> Sb <u>Be</u> Be B Ca Cd Co Cr <u>Cd</u> <u>Fe</u> Pb Mg <u>Mn</u> <u>Mo</u> <u>Ni</u> K Ag Na Se Sr Ti Sn V <u>Zn</u> Hg Please contact Kathy Gunderson with questions 360.942.3409	
--	--	--	--	---	--

Relinquished By: Signature: <u>Kris Hansen</u> Date/Time: <u>11/18/10 1700</u> Firm: <u>ENVIRON</u>	Received By: Signature: <u>[Signature]</u> Date/Time: <u>11/18/10 1700</u> Firm: <u>BAKER</u>	Relinquished By: Signature: <u>[Signature]</u> Date/Time: <u>11/18/10 1700</u> Firm: <u>BAKER</u>	Received By: Signature: <u>[Signature]</u> Date/Time: <u>11-19-10</u> Firm: <u>CAS</u>
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Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CL

Client / Project: ENVIRON JH Baxter Service Request K10 13077

Received: 11-19-10 Opened: 11-19-10 By: SORDAN

1. Samples were received via? ☐ Mail ☐ Fed Ex ☐ UPS ☐ DHL ☐ PDX ☐ Courier ☒ Hand Delivered
2. Samples were received in: (circle) ☒ Cooler ☐ Box ☐ Envelope ☐ Other NA
3. Were custody seals on coolers? ☐ NA ☒ Y ☐ N If yes, how many and where? 1 front
- If present, were custody seals intact? ☒ Y ☐ N If present, were they signed and dated? ☒ Y ☐ N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	NA	Tracking Number	NA	Filed
-0.1	2.9	297					
1.0	1.4	296					
3.4	3.9	292					
-0.5	2.4	275					
0.4	1.4	282					

7. Packing material used. Inserts ☒ Baggies ☒ Bubble Wrap ☐ Gel Packs ☒ Wet Ice ☐ Sleeves ☐ Other _____
8. Were custody papers properly filled out (ink, signed, etc.)? ☐ NA ☒ Y ☐ N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* ☐ NA ☒ Y ☐ N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? ☐ NA ☒ Y ☐ N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* ☐ NA ☒ Y ☐ N
12. Were appropriate bottles/containers and volumes received for the tests indicated? ☐ NA ☒ Y ☐ N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* ☐ NA ☒ Y ☐ N
14. Were VOA vials received without headspace? *Indicate in the table below.* ☒ NA ☐ Y ☐ N
15. Was C12/Res negative? ☒ NA ☐ Y ☐ N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: 120.1

Units: μ MHOS/cm
Basis: NA

Conductivity at 25 Degrees Celsius

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	377		2.0	0.4	1	NA	11/22/10 11:00	
BXS-2	K1013077-002	901		2.0	0.4	1	NA	11/22/10 11:00	
BXS-3	K1013077-003	543		2.0	0.4	1	NA	11/22/10 11:00	
BXS-4	K1013077-004	172		2.0	0.4	1	NA	11/22/10 11:00	
BXS-5	K1013077-005	364		2.0	0.4	1	NA	11/22/10 11:00	
EQU Check	K1013077-006	2.9		2.0	0.4	1	NA	11/22/10 11:00	
Method Blank	K1013077-MB1	1.7	J	2.0	0.4	1	NA	11/22/10 11:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/22/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: EQU Check
Lab Code: K1013077-006

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	EQU CheckDUP Duplicate Sample K1013077-006DUP9		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	2.9	2.6	2.78	11	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 12/17/10 14:09

Form 3B

\\nflow2\slarlims\lms\Reps\DuplicateSummary.rpt

SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/22/10

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	821	839	98	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 12/10/10 15:31

Form 3C

\\Inflow2\Starline\LinksReps\LabControlSample.rpt

SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: 300.0

Units: mg/L
Basis: NA

Chloride

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	5.38		0.40	0.06	2	NA	11/23/10 20:55	
BXS-2	K1013077-002	3.21		0.40	0.06	2	NA	11/23/10 21:10	
BXS-3	K1013077-003	2.74		0.40	0.06	2	NA	11/23/10 21:25	
BXS-4	K1013077-004	1.57		0.40	0.06	2	NA	11/23/10 21:40	
BXS-5	K1013077-005	5.29		0.40	0.06	2	NA	11/23/10 21:55	
EQU Check	K1013077-006	ND	U	0.40	0.06	2	NA	11/23/10 22:10	
Method Blank	K1013077-MB1	ND	U	0.20	0.03	1	NA	11/23/10 08:41	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/23/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1012996-22

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample KQ1012996-22DUP17		RPD	RPD Limit
					Result	Average		
Chloride	300.0	1.0	0.2	25.1	26.5	25.8	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/23/10

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: KQ1012996-22

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	Batch QCMS Matrix Spike KQ1012996-22MS13			Batch QCDCMS Duplicate Matrix Spike KQ1012996-22DMS13			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloride	25.1	36.3	10.0	111	34.4	10.0	93	80 - 120	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/23/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.70	5.00	94	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 12/10/10 15:31

Form 3C

W:\Inflow2\Starlims\LimsReps\LabControlSample.rpt

SuperSci Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Units: mg/L
Basis: NA

Analysis Method: 300.0

Sulfate

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	12.3		0.40	0.02	2	NA	11/23/10 20:55	
BXS-2	K1013077-002	ND	U	0.40	0.02	2	NA	11/23/10 21:10	
BXS-3	K1013077-003	ND	U	0.40	0.02	2	NA	11/23/10 21:25	
BXS-4	K1013077-004	1.07		0.40	0.02	2	NA	11/23/10 21:40	
BXS-5	K1013077-005	11.7		0.40	0.02	2	NA	11/23/10 21:55	
EQU Check	K1013077-006	ND	U	0.40	0.02	2	NA	11/23/10 22:10	
Method Blank	K1013077-MB1	ND	U	0.20	0.01	1	NA	11/23/10 08:41	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/23/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: KQ1012996-22

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample KQ1012996-22DUP17		RPD	RPD Limit
					Result	Average		
Sulfate	300.0	1.0	0.05	15.3	16.1	15.7	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/23/10

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: KQ1012996-22

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	Batch QCMS Matrix Spike KQ1012996-22MS13			Batch QCDS Duplicate Matrix Spike KQ1012996-22DMS13			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Sulfate	15.3	25.8	10.0	105	25.7	10.0	104	80 - 120	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/23/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.70	5.00	94	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: 350.1

Units: mg/L
Basis: NA

Ammonia as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	ND	U	0.050	0.020	1	NA	12/3/10 08:57	
BXS-2	K1013077-002	ND	U	0.050	0.020	1	NA	12/3/10 08:57	
BXS-3	K1013077-003	1.02		0.050	0.020	1	NA	12/3/10 08:57	
BXS-4	K1013077-004	0.504		0.050	0.020	1	NA	12/3/10 08:57	
BXS-5	K1013077-005	ND	U	0.050	0.020	1	NA	12/3/10 08:57	
EQU Check	K1013077-006	ND	U	0.050	0.020	1	NA	12/3/10 08:57	
Method Blank	K1013077-MB1	ND	U	0.050	0.020	1	NA	12/3/10 08:57	
Method Blank	K1013077-MB2	ND	U	0.050	0.020	1	NA	12/3/10 08:57	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 12/ 3/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1013077-001DUP7		RPD	RPD Limit
					Result	Average		
Ammonia as Nitrogen	350.1	0.050	0.020	ND U	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 12/ 3/10

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	BXS-IMS Matrix Spike K1013077-001MS5			BXS-1DMS Duplicate Matrix Spike K1013077-001DMS5			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ammonia as Nitrogen	ND	1.97	2.00	98	1.98	2.00	99	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 12/ 3/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	14.1	14.3	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 12/ 3/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	14.0	14.3	98	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS Wells
 Sample Matrix: Water

Service Request: K1013077
 Date Collected: 11/18/10
 Date Received: 11/19/10

Analysis Method: 353.2

Units: mg/L
 Basis: NA

Nitrate+Nitrite as Nitrogen

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	0.086		0.050	0.009	1	NA	11/29/10 13:37	
BXS-2	K1013077-002	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
BXS-3	K1013077-003	0.118		0.050	0.009	1	NA	11/29/10 13:37	
BXS-4	K1013077-004	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
BXS-5	K1013077-005	0.086		0.050	0.009	1	NA	11/29/10 13:37	
EQU Check	K1013077-006	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013077-MB1	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013077-MB2	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013077-MB3	ND	U	0.050	0.009	1	NA	11/29/10 13:37	
Method Blank	K1013077-MB4	ND	U	0.050	0.009	1	NA	11/29/10 13:37	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/29/10

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1013077-001DUP7		RPD	RPD Limit
					Result	Average		
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.086	0.088	0.0873	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/29/10

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1013077-001MS5			BXS-1DMS Duplicate Matrix Spike K1013077-001DMS5			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Nitrate+Nitrite as Nitrogen	0.086	2.12	2.00	102	2.12	2.00	102	86 - 117	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.7	14.8	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/29/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L**Basis:** NA

Lab Control Sample K1013077-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/29/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS4					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	14.8	14.8	100	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: SM 2540 C

Units: mg/L
Basis: NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	153		10	10	1	NA	11/22/10 13:00	
BXS-2	K1013077-002	462		10	10	1	NA	11/22/10 13:00	
BXS-3	K1013077-003	330		10	10	1	NA	11/22/10 13:00	
BXS-4	K1013077-004	98		10	10	1	NA	11/22/10 13:00	
BXS-5	K1013077-005	161		10	10	1	NA	11/22/10 13:00	
EQU Check	K1013077-006	ND	U	5.0	5.0	1	NA	11/22/10 13:00	
Method Blank	K1013077-MB1	ND	U	5.0	5.0	1	NA	11/22/10 13:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/22/10

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1013023-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1013023-004DUP4		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	14	14	459	440	449	4	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/22/10

**Replicate Sample Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1013081-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC Duplicate Sample K1013081-003DUP12		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	14	14	488	512	500	5	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/22/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample
 K1013077-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	1040	1090	95	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: SM 5220 C

Units: mg/L
Basis: NA

Chemical Oxygen Demand (COD)

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	14.7		5.0	3.0	1	NA	11/24/10 13:00	
BXS-2	K1013077-002	42.1		5.0	3.0	1	NA	11/24/10 13:00	
BXS-3	K1013077-003	67.5		5.0	3.0	1	NA	11/24/10 13:00	
BXS-4	K1013077-004	5.6		5.0	3.0	1	NA	11/24/10 13:00	
BXS-5	K1013077-005	12.2		5.0	3.0	1	NA	11/24/10 13:00	
EQU Check	K1013077-006	7.6		5.0	3.0	1	NA	11/24/10 13:00	
Method Blank	K1013077-MB1	ND	U	5.0	3.0	1	NA	11/24/10 13:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/24/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1012959-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1012959-001DUP2		RPD	RPD Limit
					Result	Average		
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	9.6	10.7	10.2	10	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 11/24/10

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1012959-001

Units: mg/L
Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1012959-001MS1			Batch QCDMS Duplicate Matrix Spike K1012959-001DMS1			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chemical Oxygen Demand (COD)	9.6	102	100	92	104	100	94	79 - 126	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/24/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	121	131	93	85 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Units: mg/L
Basis: NA

Analysis Method: SM 5310 C

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	7.41		0.50	0.07	1	NA	11/20/10 14:36	
BXS-2	K1013077-002	18.2		0.50	0.07	1	NA	11/20/10 14:36	
BXS-3	K1013077-003	24.7		0.50	0.07	1	NA	11/20/10 14:36	
BXS-4	K1013077-004	2.61		0.50	0.07	1	NA	11/20/10 14:36	
BXS-5	K1013077-005	7.18		0.50	0.07	1	NA	11/20/10 14:36	
EQU Check	K1013077-006	0.08	J	0.50	0.07	1	NA	11/20/10 14:36	
Method Blank	K1013077-MB1	ND	U	0.50	0.07	1	NA	11/20/10 14:36	
Method Blank	K1013077-MB2	ND	U	0.50	0.07	1	NA	11/20/10 14:36	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/20/10

Replicate Sample Summary General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1013077-001DUP7		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	7.41	6.76	7.09	9	33

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3B

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SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/20/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1013077-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

BXS-IMS
Matrix Spike
K1013077-001MS6

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	7.41	31.3	25.0	95	85 - 108

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/20/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.3	24.7	102	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

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SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/20/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.7	24.7	104	83 - 117

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: SM 5550 B

Units: mg/L
Basis: NA

Tannin and Lignin

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	0.15	J	0.20	0.03	1	NA	12/2/10 17:00	
BXS-2	K1013077-002	1.43		0.20	0.03	1	NA	12/2/10 17:00	
BXS-3	K1013077-003	13.1		2.0	0.3	10	NA	12/2/10 17:00	
BXS-4	K1013077-004	0.36		0.20	0.03	1	NA	12/2/10 17:00	
BXS-5	K1013077-005	0.16	J	0.20	0.03	1	NA	12/2/10 17:00	
EQU Check	K1013077-006	0.04	J	0.20	0.03	1	NA	12/2/10 17:00	
Method Blank	K1013077-MB1	0.05	J	0.20	0.03	1	NA	12/2/10 17:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 2/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1013081-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1013081-002DUP11		RPD	RPD Limit
					Result	Average		
Tannin and Lignin	SM 5550 B	0.20	0.03	1.15	1.11	1.13	3	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3B

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SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: NA
Date Received: NA
Date Analyzed: 12/ 2/10

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1013081-002

Units: mg/L
Basis: NA

Analytical Method: SM 5550 B

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1013081-002MS8			Batch QCDMS Duplicate Matrix Spike K1013081-002DMS8			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Tannin and Lignin	1.15	2.29	1.00	114	3.41	2.00	113	61 - 127	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 12/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1013077-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.03	1.00	103	82 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10

Analysis Method: SM 4500-H+ B

Units: pH Units
Basis: NA

pH

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1013077-001	6.35	-	-	-	1	NA	11/19/10 16:59	*
BXS-2	K1013077-002	6.27	-	-	-	1	NA	11/19/10 17:01	*
BXS-3	K1013077-003	5.99	-	-	-	1	NA	11/19/10 17:04	*
BXS-4	K1013077-004	7.72	-	-	-	1	NA	11/19/10 17:05	*
BXS-5	K1013077-005	6.34	-	-	-	1	NA	11/19/10 17:06	*
EQU Check	K1013077-006	6.00	-	-	-	1	NA	11/19/10 17:07	*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Collected: 11/18/10
Date Received: 11/19/10
Date Analyzed: 11/19/10

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-2
Lab Code: K1013077-002

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-2DUP Duplicate Sample K1013077-002DUP8		RPD	RPD Limit
					Result	Average		
pH	SM 4500-H+ B			6.27	6.34	6.31	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/19/10

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: pH Units
Basis: NA

Lab Control Sample
 K1013077-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	7.23	7.24	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

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SuperSet Reference: 10-0000162243 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS Wells
Sample Matrix: Water

Service Request: K1013077
Date Analyzed: 11/19/10

**Lab Control Sample Summary
General Chemistry Parameters**

Units: pH Units
Basis: NA

Lab Control Sample K1013077-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	7.24	7.24	100	85 - 115

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

SuperSet Reference: 10-0000162243 rev 00

Columbia Analytical Services

- Cover Page -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: JH Baxter Arlington
Project No.: BXS Wells

Service Request: K1013077

Sample Name:

Batch QCD

Batch QCS

BXS-1D

BXS-1

BXS-1S

BXS-2

BXS-3

BXS-4

BXS-5

EQU Check

Method Blank

Lab Code:

K1013062-002D

K1013062-002S

K1013077-001DDISS

K1013077-001DISS

K1013077-001SDISS

K1013077-002DISS

K1013077-003DISS

K1013077-004DISS

K1013077-005DISS

K1013077-006DISS

K1013077-MB

Comments:

REVISED

1:21 pm, Mar 24, 2011

Approved By:

EmA

Date:

3/23/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Date Collected: 11/18/2010

Project Name: JH Baxter Arlington

Date Received: 11/19/2010

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1013077-001DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	15.7		
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	4.0	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	8.7	J	
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	92.8		
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	6.8	J	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1013077**Project No.:** BXS Wells**Date Collected:** 11/18/2010**Project Name:** JH Baxter Arlington**Date Received:** 11/19/2010**Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** BXS-2**Lab Code:** K1013077-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	44.9		
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	4.4	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	420		
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	1340		
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	29.9		
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	1.7	J	

% Solids: 0.0**Comments:**

METALS

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Date Collected: 11/18/10

Project Name: JH Baxter Arlington

Date Received: 11/19/10

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1013077-003DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	25.0	2.5	5.0	12/10/10	12/16/10	186		
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	132		
Cadmium	6010B	5.0	2.0	1.0	12/10/10	12/14/10	3.0	J	
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	6.9	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	116000		
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	7610		
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	12.5	J	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0

Comments:

REVISED

1:21 pm, Mar 24, 2011

Form I - IN

55

METALS

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Date Collected: 11/18/2010

Project Name: JH Baxter Arlington

Date Received: 11/19/2010

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-4

Lab Code: K1013077-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	5.6		
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	24.6		
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	4.2	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	0.8	U	
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	112		
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1013077**Project No.:** BXS Wells**Date Collected:** 11/18/2010**Project Name:** JH Baxter Arlington**Date Received:** 11/19/2010**Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** BXS-5**Lab Code:** K1013077-005DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	15.7		
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	6.8	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	6.0	J	
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	95.4		
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	5.5	J	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0**Comments:**

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Date Collected: 11/18/2010

Project Name: JH Baxter Arlington

Date Received: 11/19/2010

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: EQU Check

Lab Code: K1013077-006DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	0.6	U	
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	5.8	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	0.8	U	
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	0.2	U	
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1013077**Project No.:** BXS Wells**Date Collected:****Project Name:** JH Baxter Arlington**Date Received:****Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** Method Blank**Lab Code:** K1013077-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	0.5	1.0	12/10/10	12/16/10	0.5	U	
Barium	6010B	5.0	0.6	1.0	12/10/10	12/14/10	0.6	U	
Copper	6010B	10.0	2.0	1.0	12/10/10	12/14/10	6.9	J	
Iron	6010B	20.0	0.8	1.0	12/10/10	12/14/10	0.8	U	
Manganese	6010B	5.0	0.2	1.0	12/10/10	12/14/10	0.2	U	
Nickel	6010B	20.0	2.0	1.0	12/10/10	12/14/10	2.0	U	
Zinc	6010B	10.0	0.8	1.0	12/10/10	12/14/10	0.8	U	

% Solids: 0.0**Comments:**

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QCS

Lab Code: K1013062-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	1850		4.0	J	2000.00	92.3		6010B
Copper	86 - 113	249		15.0		250.00	93.6		6010B
Iron	72 - 131	1070		111		1000.00	95.9		6010B
Manganese	77 - 113	483		17.3		500.00	93.1		6010B
Nickel	86 - 120	509		10.9	J	500.00	99.6		6010B
Zinc	77 - 112	504		5.1	J	500.00	99.8		6010B

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-1S

Lab Code: K1013077-001SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	63 - 127	42.1		0.5	U	40.00	105.2		7060A

An empty field in the Control Limit column indicates the control limit is not applicable

METALS

-6-

DUPLICATES

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QCD

Lab Code: K1013062-002D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium		4.0	J	2.7	J	38.8		6010B
Copper		15.0		14.4		4.1		6010B
Iron	20	111		108		2.7		6010B
Manganese		17.3		16.7		3.5		6010B
Nickel		10.9	J	11.1	J	1.8		6010B
Zinc		5.1	J	4.2	J	19.4		6010B

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-1D

Lab Code: K1013077-001DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		0.5	U	0.5	U			7060A

An empty field in the Control Limit column indicates the control limit is not applicable.

METALS

-7-

LABORATORY CONTROL SAMPLE

Client: JH Baxter & Company

Service Request: K1013077

Project No.: BXS Wells

Project Name: JH Baxter Arlington

Aqueous LCS Source: CAS MIXED

Solid LCS Source:

Analyte	Aqueous: ug/L			Solid: mg/kg					
	True	Found	%R	True	Found	C	Limits	%R	
Arsenic	25	26.6	106.4						
Barium	5000	5160	103.2						
Copper	625	630	100.8						
Iron	2500	2450	98.0						
Manganese	1250	1300	104.0						
Nickel	1250	1300	104.0						
Zinc	1250	1310	104.8						



1Q10

Burlington WA	1620 S Walnut St - 98233
Corporate Office	800.755.9295 • 360.757.1400 • 360.757.1402fax
Bellingham WA	805 Orchard Dr Suite 4 - 98225
Manufacturing	360.671.0688 • 360.671.1577fax

Page 1 of 2

Data Report

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: **10-01935**
Project: Landfill Wells & Carbon
Report Date: 2/18/10
Date Received: 2/11/10
Reviewed by:

Sample Description: BXS-2 - JHB Arlington							Sample Date: 2/10/10				
Lab Number: 4334							Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	1.0	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211
E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211

Sample Description: BXS-5 - JHB Arlington							Sample Date: 2/10/10				
Lab Number: 4335							Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	1.0	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211
E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211

Sample Description: BXS-4 - JHB Arlington							Sample Date: 2/10/10				
Lab Number: 4336							Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211
E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211

Sample Description: BSX-3 - JHB Arlington							Sample Date: 2/10/10				
Lab Number: 4337							Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211
E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211

Sample Description: BXS-1 - JHB Arlington							Sample Date: 2/10/10				
Lab Number: 4338							Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211
E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. = Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Data Report

Sample Description: BXN-4 - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4339						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	17.3	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Sample Description: BXN-5 - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4340						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	5.2	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Sample Description: BXN-3 - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4341						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	9.6	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Sample Description: BXN-1 - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4342						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	4.1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Sample Description: BXN-2 - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4343						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	3.1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Sample Description: Equip Check - JHB Arlington						Sample Date: 2/10/10					
Lab Number: 4344						Collected By: A. Ragan					
CAS ID#	Parameter	Result	PQL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	1.0	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	
	E. Coli	<1	1	1	MPN/100mL	1	SM9223 B.2.b	2/12/10	MS	QT_100211	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. = Dilution Factor

Chain of Custody / Analysis Request (Please complete all applicable shaded sections)

9852

Report to: J H Baxter Company	Bill to: JH Baxter & Co.	For Lab Use Only Ref # 10-01935
Ship Address: P O Box 10797	Address: 85 Baxter Rd	
City: Eugene St. OR Zip: 97440	City: Eugene St. OR Zip: 97402	Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Attn: K Gunderson	Phone: 541.689.3801/FAX: 541.689.8303	
Phone: 360.942-3409 FAX:	P.O.#: Attn: Anita Ragan	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ M/C ☐ A/E Expires	
Project	Card#	

EDGE ANALYTICAL LABORATORIES

1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Analyses Requested

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. (NEW) List each metal individually (NEW)
4. Check off analyses to be performed for each sample Location.
5. Enter number of containers.

Turn Around Time Required

- ☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Field ID	Location	Grab/Comp	Sample Matrix*	Date	Time	Bacteria Total Coliform SM 9223GT											Number of Containers	Special Instructions Conditions on Receipt
1 BXS-2	JHB Burlington	G	H ₂ O	2/10/10	1040	X											1	
2 BXS-5				2/10/10	AM	X											1	
3 BXS-4				2/10/10	0940	X											1	
4 BXS-3				2/10/10	1115	X											1	
5 BXS-1				2/10/10	1005	X											1	
6 BxN-4				2/10/10	1452	X											1	
7 BxN-5				2/10/10	PM	X											1	
8 BxN-3				2/10/10	1421	X											1	
9 BxN-1				2/10/10	1350	X											1	
10 BxN-2				2/10/10	1320	X											1	

Sampled by: Anita Ragan Phone: 541.689.3801 FAX: 541.689.8303 Email: aragan@jhbxter.com Total Containers

Sample Receipt Request (Must include FAX or Email) ☐

* W - water
DW - drinking water

SW - surface water
GW - Ground water

WW - waste water
S - soil

OL - oil
Other

Relinquished by	Date	Time	Received by	Date	Time
[Signature]	2/11/10	0842	Megan Scherer	2/11/10	12:30

Custody seals intact

Sample temp 6.8 C satisfactory

Samples received intact

Chain of custody & labels agree

Yes No N/A

☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

9852

Report to: J H Baxter Company	Bill to: J.H. Baxter & Co	For Lab Use Only Ref #
Ship Address: P O Box 10797	Address: 85 Baxter Rd	
City: Eugene St OR Zip: 97440	City: Eugene St OR Zip: 97408	Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Attn: K Gunderson	Phone: 541 689 3801 FAX: 541 689 8303	
Phone: 360 942-3409 FAX:	P.O.# Attn:	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ MC ☐ A/E Expires /	
Project:	Card#	



1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. (NEW) List each metal individually (NEW)
4. Check off analyses to be performed for each sample Location.
5. Enter number of containers.

Turn Around Time Required

- ☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

Field ID	Location	Grab/Comp.	Sample Matrix*	Date	Time	Analyses Requested										Number of Containers	Special Instructions Conditions on Receipt	
1	Equip Checks JHB Burlington	G	H ₂ O	2/11/10	1536	X												
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Sampled by: Anita Regan Phone: 541 689 3801 FAX: 541 689 8303 Email: aregan@jhbarter.com Total Containers: 1

Sample Receipt Request (Must include FAX or Email) ☐

* W - water
DW - drinking water

SW - surface water
GW - Ground water

WW - waste water
S - soil

OL - oil
Other

Relinquished by	Date	Time	Received by	Date	Time
[Signature]	2/11/10	0943	[Signature]	2/11/10	1230

Custody seals intact ☐
Sample temp. 8 C satisfactory ☐
Samples received intact ☐
Chain of custody & labels agree ☐

Yes	No	N/A
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

2010



Burlington WA 1620 S Walnut St - 98233
 Corporate Office 800.755.9295 • 360.757.1400 • 360.757.1402fax
 Bellingham WA 805 Orchard Dr Suite 4 - 98225
 Microbiology 360.671.0688 • 360.671.1577fax

Page 1 of 2

Data Report

Client Name: J H Baxter Company
 P.O. Box 305
 Arlington, WA 98223

Reference Number: **10-07510**
 Project: Landfill Wells

Report Date: 6/4/10

Date Received: 5/27/10

Reviewed by:

Sample Description: Equ. Check - JHB Arlington
 Lab Number: 16470

Sample Date: 5/26/10
 Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	47.8	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	
	E. Coli	<1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXN-2 - JHB Arlington
 Lab Number: 16471

Sample Date: 5/26/10
 Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	83.1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	
	E. Coli	<1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXN-1 - JHB Arlington
 Lab Number: 16472

Sample Date: 5/26/10
 Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	16.4	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	
	E. Coli	<1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXN-4 - JHB Arlington
 Lab Number: 16473

Sample Date: 5/26/10
 Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	3.1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	
	E. Coli	<1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXN-5 - JHB Arlington
 Lab Number: 16474

Sample Date: 5/26/10
 Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	6.3	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	
	E. Coli	<1	1	1		MPN/100mL	00	SM9223 B.2.b	5/28/10	MS	QT_100527	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. = Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Form: cRslt_2.rpt



Page 2 of 2
Reference Number: 10-07510
Report Date: 6/4/10

Data Report

Sample Description: BXS-3 - JHB Arlington								Sample Date: 5/26/10				
Lab Number: 16475								Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXS-2 - JHB Arlington									Sample Date: 5/26/10			
Lab Number: 16476									Collected By: A. Ragan			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	2.0	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXS-1 - JHB Arlington								Sample Date: 5/26/10				
Lab Number: 16477								Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	165.2	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXS-6 - JHB Arlington								Sample Date: 5/26/10				
Lab Number: 16478								Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	165.2	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	

Sample Description: BXS-4 - JHB Arlington						Sample Date: 5/26/10						
Lab Number: 16479						Collected By: A. Ragan						
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	5/28/10	MS	QT_100527	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. = Dilution Factor

10728

Chain of Custody / Analysis Request (Please complete all applicable shaded sections)

Report to: J H Baxter Company	Bill to: J.H. Baxter & Company	For Lab Use Only Ref # 10-07510
Ship Address: P O Box 305	Address: PO BOX 10797	
City: Arlington St: WA Zip: 98223	City: Eugene St: OR Zip: 97440	Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Attn: Anita Ragan	Phone: 541 689 3801 FAX:	
Phone: 360.435-2146 FAX:	P.O.#: Attn:	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ M/C ☐ A/E Expires /	
Project: Landfill Wells	Card#:	


 1620 S. Walnut St.
 Burlington, WA 98233
 1.800.755.9295

 805 W. Orchard Dr. Suite 4
 Bellingham, WA 98225

Analyses Requested

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. (NEW) **List each metal individually** (NEW)
4. Check off analyses to be performed for each sample Location.
5. Enter number of containers.

Turn Around Time Required

- ☐
- Standard
-
- ☐
- Half-time (50% surcharge)
-
- ☐
- Quickest (100% surcharge) Phone Call Req.
-
- ☐
- Emergency (Phone Call Req.)

Field ID	Location	Grab/Comp.	Sample Matrix*	Date	Time	SM9223QT tot col/f.											Number of Containers	Special Instructions Conditions on Receipt
1	Egu. Check JHB Arlington	G	H ₂ O	5/26	1615	X												
2	BXN-2			5/26	1405	X												
3	BXN-1			5/26	1440	X												
4	BXN-4			5/26	1540	X												
5	BXN-5			5/26	PM	X												
6	BXS-3			5/26	1123	X												
7	BXS-2			5/26	1100	X												
8	BXS-1			5/26	0955	X												
9	BXS-6			5/26	AM	X												
10	BXS-4			5/26	0910	X												
Sampled by: Anita Ragan		Phone: 541 689 3801		FAX: 541 689 8303		Email: aragan@jhbaxter.com		Total Containers										

Sample Receipt Request (Must include FAX or Email) ☐

* W - water

DW - drinking water

SW - surface water

GW - Ground water

WW - waste water

S - soil

OL - oil

Other _____

Relinquished by	Date	Time	Received by	Date	Time
[Signature]	5/27/10	0800	[Signature]	5/27/10	1140

Custody seals intact

Sample temp _____ C satisfactory

Samples received intact

Chain of custody & labels agree

Yes No N/A

3Q10



Burlington WA
Corporate Office

1620 S Walnut St - 98233
800.755.9205 • 360.767.1400

Bellingham WA
Microbiology

805 Orchard Dr Ste 4 - 98225
360.671.0283

Portland OR
Microbiology/Chemistry

9150 SW Pioneer Ct Ste W 97070
503.682.1842

Page 1 of 2

Data Report

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: **10-12418**
Project: Landfill Wells & Carbon

Report Date: 9/30/10

Date Received: 8/19/10

Reviewed by:

Sample Description: Equ Check - JHB Arlington
Lab Number: 27646

Sample Date: 8/19/10
Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	18.9	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXN 4 - JHB Arlington
Lab Number: 27647

Sample Date: 8/19/10
Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXN 1 - JHB Arlington
Lab Number: 27648

Sample Date: 8/19/10
Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXN 5 - JHB Arlington
Lab Number: 27649

Sample Date: 8/19/10
Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	3.1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXN2 - JHB Arlington
Lab Number: 27650

Sample Date: 8/19/10
Collected By: A. Ragan

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	43.5	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.

PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. = Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Form: cRstl_2.rpt

Data Report

Sample Description: BXS 3 - JHB Arlington Lab Number: 27651								Sample Date: 8/19/10 Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXS 5 - JHB Arlington Lab Number: 27652								Sample Date: 8/19/10 Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	3.0	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXS 2 - JHB Arlington Lab Number: 27653								Sample Date: 8/19/10 Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	1.0	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXS 1 - JHB Arlington Lab Number: 27654								Sample Date: 8/19/10 Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	9.7	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Sample Description: BXS 4 - JHB Arlington Lab Number: 27655								Sample Date: 8/19/10 Collected By: A. Ragan				
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b	8/20/10	ms	QT_100819	

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. = Dilution Factor

Chain of Custody / Analysis Request (Please complete all applicable shaded sections)

Report to: J H Baxter Company	Bill to: J.H. Baxter & Company	For Lab Use Only Ref # <u>10-12418</u> Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Ship Address: P O Box 305	Address: PO BOX 10797	
City: Arlington St: WA Zip: 98223	City: Eugene St: OR Zip: 97440	
Attn:	Phone: <u>541 689 3801</u> FAX: <u>541 689 8303</u>	
Phone: 360.435-2146 FAX:	P.O.#: Attn:	
Email: kgunderson@premiercorp-usa.com	Visa ☐ M/C ☐ A/E ☐ Expires /	
Project: Landfill Wells	Card#:	



1620 S. Walnut St.
Burlington, WA 98233
1.800.755.9295

805 W. Orchard Dr. Suite 4
Bellingham, WA 98225

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. (NEW) List each metal individually (NEW)
4. Check off analyses to be performed for each sample Location.
5. Enter number of containers.

Turn Around Time Required

- ☒ Standard
☐ Half-time (50% surcharge)
☐ Quickest (100% surcharge) Phone Call Req.
☐ Emergency (Phone Call Req.)

Analyses Requested

CO011432

Number of Containers

Special Instructions
Conditions on Receipt

Field ID	Location	Grab/Comp.	Sample Matrix*	Date	Time	SM9223QT	total
1	Egu Check JHB Arlington Creek		H ₂ O	8/19	0930	X	
2	BX N 4			8/18	1736	X	
3	BX N 1			8/18	1645	X	
4	BX N 5			8/18	PM	X	
5	BX N 2			8/18	1610	X	
6	BX S 3			8/18	1214	X	
7	BX S 5			8/18	AM	X	
8	BX S 2			8/18	1133	X	
9	BX S 1			8/18	1038	X	
10	BX S 4			8/18	1501	X	

Sampled by: JAH Phone: 541 689 3801 FAX: Email: aragan@jhbxter.com Total Containers

Sample Receipt Request (Must include FAX or Email)

* W - water

SW - surface water

WW - waste water

OL - oil

DW - drinking water

GW - Ground water

S - soil

Other _____

Relinquished by

Date

Time

Received by

Date

Time

Custody seals intact

Yes No N/A

Sample temp _____ C satisfactory

Samples received intact

Chain of custody & labels agree

Blank

40210



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Page 1 of 1

Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762
Project: Landfill Wells & Carbon

System Name:
System ID
DOH Source Number:
Sample Type:
Sample Purpose: Investigative or Other
Sample Location: Baxter
County:
Sampled By: Kim Hansen
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39902
Field ID: BXS-1
Date Collected: 11/18/10 10:15
Date Received: 11/19/10
Date Analyzed: 11/20/10 15:45
Report Date: 11/24/10
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	1.0	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>
San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>
Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380
Snohomish Co: 425-339-5250
Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp
WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762

Project: Landfill Wells & Carbon

System Name:

System ID

DOH Source Number:

Sample Type:

Sample Purpose: Investigative or Other

Sample Location: Baxter

County:

Sampled By: Kim Hansen

Sampler Phone:

Repeat Sample Number:

Lab Number: 164-39903

Field ID: BXS-2

Date Collected: 11/18/10 11:35

Date Received: 11/19/10

Date Analyzed: 11/20/10 15:45

Report Date: 11/24/10

Comment:

Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	2.0	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company

85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762

Project: Landfill Wells & Carbon

System Name:

System ID

DOH Source Number:

Sample Type:

Sample Purpose: Investigative or Other

Sample Location: Baxter

County:

Sampled By: Kim Hansen

Sampler Phone:

Repeat Sample Number:

Lab Number: 164-39904

Field ID: BXS-3

Date Collected: 11/18/10 12:17

Date Received: 11/19/10

Date Analyzed: 11/21/10 12:20

Report Date: 11/24/10

Comment:

Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	5.2	MPN/100mL	ab	SM9223 B.2.k	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.k	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762

Project: Landfill Wells & Carbon

System Name:

System ID

DOH Source Number:

Sample Type:

Sample Purpose: Investigative or Other

Sample Location: Baxter

County:

Sampled By: Kim Hansen

Sampler Phone:

Repeat Sample Number:

Lab Number: 164-39905

Field ID: BXS-4

Date Collected: 11/18/10 09:30

Date Received: 11/19/10

Date Analyzed: 11/20/10 15:45

Report Date: 11/24/10

Comment:

Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	1.0	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company

85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762

Project: Landfill Wells & Carbon

System Name:

System ID

DOH Source Number:

Sample Type:

Sample Purpose: Investigative or Other

Sample Location: Baxter

County:

Sampled By: Kim Hansen

Sampler Phone:

Repeat Sample Number:

Lab Number: 164-39906

Field ID: BXS-5

Date Collected: 11/18/10 00:00

Date Received: 11/19/10

Date Analyzed: 11/20/10 15:45

Report Date: 11/24/10

Comment:

Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	<1	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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503.682.7502

Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762
Project: Landfill Wells & Carbon

System Name:
System ID
DOH Source Number:
Sample Type:
Sample Purpose: Investigative or Other
Sample Location: Baxter
County:
Sampled By: Kim Hansen
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39907
Field ID: EQU CHECK
Date Collected: 11/18/10 15:30
Date Received: 11/19/10
Date Analyzed: 11/20/10 15:45
Report Date: 11/24/10
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	1.0	MPN/100mL	ab	SM9223 B.2.t	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.t	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Page 1 of 1

Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762
Project: Landfill Wells & Carbon

System Name:
System ID
DOH Source Number:
Sample Type:
Sample Purpose: Investigative or Other
Sample Location: Baxter
County:
Sampled By: Kim Hansen
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39908
Field ID: BXN-1
Date Collected: 11/18/10 13:50
Date Received: 11/19/10
Date Analyzed: 11/20/10 15:45
Report Date: 11/24/10
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	21.3	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>
San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>
Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380
Snohomish Co: 425-339-5250
Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp
WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Page 1 of 1

Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762
Project: Landfill Wells & Carbon

System Name:
System ID
DOH Source Number:
Sample Type:
Sample Purpose: Investigative or Other
Sample Location: Baxter
County:
Sampled By: Kim Hansen
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39909
Field ID: BXN-2
Date Collected: 11/18/10 14:15
Date Received: 11/19/10
Date Analyzed: 11/20/10 15:45
Report Date: 11/24/10
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	16.1	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>

San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>

Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp

WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: 10-17762
Project: Landfill Wells & Carbon

System Name:
System ID
DOH Source Number:
Sample Type:
Sample Purpose: Investigative or Other
Sample Location: Baxter
County:
Sampled By: Kim Hansen
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39910
Field ID: BXN-4
Date Collected: 11/18/10 14:50
Date Received: 11/19/10
Date Analyzed: 11/20/10 15:45
Report Date: 11/24/10
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	116.0	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>
San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>
Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380
Snohomish Co: 425-339-5250
Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jsp
WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

NOTES:

If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company

85 Baxter Rd

Eugene, OR 97402

Reference Number: 10-17762

Project: Landfill Wells & Carbon

System Name:

System ID

DOH Source Number:

Sample Type:

Sample Purpose: Investigative or Other

Sample Location: Baxter

County:

Sampled By: Kim Hansen

Sampler Phone:

Repeat Sample Number:

Lab Number: 164-39911

Field ID: BXN-6

Date Collected: 11/18/10 00:00

Date Received: 11/19/10

Date Analyzed: 11/20/10 15:45

Report Date: 11/24/10

Comment:

Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	COMMENT
1	TOTAL COLIFORM	93.3	MPN/100mL	ab	SM9223 B.2.1	
3	E. Coli	<1	MPN/100mL		SM9223 B.2.1	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

Island Co: <http://www.islandcounty.net/health/Envh/DrinkingWater/index.htm>San Juan Co: <http://www.sanjuanco.com/health/ehswater.aspx>Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

Whatcom Co: http://www.co.whatcom.wa.us/health/environmental/drinking_water/index.jspWSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>**NOTES:**If the result is Unsatisfactory a repeat sample is required for Public Water Systems. Private individuals should investigate the cause of the unsatisfactory result and resample.
If E. Coli or Fecal Coliform are present in sample do not drink the water until it is properly treated.

Chain of Custody / Analysis Request

(Please complete all applicable shaded sections)

Client: J. P. Baxter Company Address: P.O. Box 6612 City: San Mateo, CA 94401 Phone: 650-340-0201 Fax: 650-340-0201 Email: jpbaxter@jpbaxter.com		Ref # Check Regulatory Program: ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other	
---	--	--	--

Instructions

1. Use one line per sample Location.
2. Be specific in analysis requests.
3. (NEW) List each metal individually (NEW)
4. Check off analyses to be performed for each sample Location.
5. Enter number of containers.

Analyses Requested

Field ID	Location	Grab/Comp.	Sample Matrix*	Date	Time	Analyses Requested
BUS-1						☒ Standard
BUS-2						☐ Standard
BUS-3						☐ Standard
BUS-4						☐ Standard
BUS-5						☐ Standard
BUS-6						☐ Standard
BUS-7						☐ Standard
BUS-8						☐ Standard
BUS-9						☐ Standard
BUS-10						☐ Standard
BUS-11						☐ Standard
BUS-12						☐ Standard
BUS-13						☐ Standard
BUS-14						☐ Standard
BUS-15						☐ Standard
BUS-16						☐ Standard
BUS-17						☐ Standard
BUS-18						☐ Standard
BUS-19						☐ Standard
BUS-20						☐ Standard



Special Instructions
Conditions on

Sample Receipt Request (Must include FAX or Email)

* W - water
 DW - drinking water
 SW - surface water
 GW - Ground water
 WW - waste water
 S - soil
 OL - oil
 Other

Relinquished by	Date	Time	Received by	Date	Time
			D. Love	1/16/14	

	Yes	No
Custody seals intact	☐	☐
Sample temp ____ C satisfactory	☐	☐
Samples received intact	☐	☐
Chain of custody & labels agree	☐	☐

Appendix C

Statistical Analysis of
Groundwater Quality Results
(BXS-1 through BXS-4)

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Field pH

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	8.25				Average Concentration	
Aug-09	7.89				m_o	s^1
Nov-09	7.96					
Feb-10	8.05	8.25	7.89	7.96	8.04	0.02
May-10	7.46	7.89	7.96	8.05	7.84	0.07
Aug-10	7.63	7.96	8.05	7.46	7.78	0.08
Nov-10	7.99	8.05	7.46	7.63	7.78	0.08

BXS-3

(Downgradient well)

May-09	6.44				X_{bar}	s^2	s	t_{stat}
Aug-09	6.52							
Nov-09	6.50							
Feb-10	6.59	6.44	6.52	6.5	6.51	0.00	0.06	-18.17
May-10	6.04	6.52	6.5	6.59	6.41	0.06	0.25	-9.65
Aug-10	5.98	6.5	6.59	6.04	6.28	0.10	0.31	-8.58
Nov-10	6.37	6.59	6.04	5.98	6.25	0.08	0.29	-9.42

BXS-2

(Downgradient well)

May-09	6.35				X_{bar}	s^2	s	t_{stat}
Aug-09	6.64							
Nov-09	6.46							
Feb-10	6.55	6.35	6.64	6.46	6.50	0.02	0.12	-15.42
May-10	5.96	6.64	6.46	6.55	6.40	0.09	0.30	-8.41
Aug-10	5.87	6.46	6.55	5.96	6.21	0.12	0.34	-8.27
Nov-10	6.52	6.55	5.96	5.87	6.23	0.13	0.36	-7.94

BXS-1

(Downgradient well)

May-09	6.33				X_{bar}	s^2	s	t_{stat}
Aug-09	6.41							
Nov-09	6.37							
Feb-10	6.58	6.33	6.41	6.37	6.42	0.01	0.11	-16.92
May-10	5.90	6.41	6.37	6.58	6.32	0.08	0.29	-9.23
Aug-10	5.94	6.37	6.58	5.9	6.20	0.11	0.33	-8.60
Nov-10	6.34	6.58	5.9	5.94	6.19	0.11	0.33	-8.79

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Field Conductivity

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	185				Average Concentration	
Aug-09	185				m_o	s^1
Nov-09	192					
Feb-10	180	185	185	192	185.50	24.33
May-10	189	185	192	180	186.50	27.00
Aug-10	230	192	180	189	197.75	488.25
Nov-10	184	180	189	230	195.75	534.92

BXS-3

(Downgradient well)

May-09	736				X_{bar}	s^2	s	t_{stat}
Aug-09	695							
Nov-09	755							
Feb-10	726	736	695	755	728	629	25	42.46
May-10	719	695	755	726	724	610	25	42.65
Aug-10	690	755	726	719	723	712	27	38.67
Nov-10	694	726	719	690	707	321	18	55.06

BXS-2

(Downgradient well)

May-09	812				X_{bar}	s^2	s	t_{stat}
Aug-09	797							
Nov-09	815							
Feb-10	799	812	797	815	806	82	9	120.16
May-10	853	797	815	799	816	673	26	47.67
Aug-10	833	815	799	853	825	541	23	52.75
Nov-10	813	799	853	833	825	556	24	52.21

BXS-1

(Downgradient well)

May-09	335				X_{bar}	s^2	s	t_{stat}
Aug-09	309							
Nov-09	315							
Feb-10	274	335	309	315	308	645	25	9.49
May-10	288	309	315	274	297	359	19	11.24
Aug-10	309	315	274	288	297	359	19	10.09
Nov-10	344	274	288	309	304	927	30	7.00

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).

Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Ammonia

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

	May-09	0.61				Average Concentration	
	Aug-09	0.49				m_o	s^1
	Nov-09	0.542					
	Feb-10	0.529	0.61	0.49	0.542	0.54	0.0025
	May-10	0.556	0.49	0.542	0.529	0.53	0.0008
	Aug-10	0.529	0.542	0.529	0.556	0.54	0.0002
	Nov-10	0.504	0.529	0.556	0.529	0.53	0.0005

BXS-3

(Downgradient well)

	May-09	1.08				X_{bar}	s^2	s	t_{stat}
	Aug-09	1.24							
	Nov-09	0.557							
	Feb-10	1.23	1.08	1.24	0.557	1.03	0.10	0.32	2.97
	May-10	0.969	1.24	0.557	1.23	1.00	0.10	0.32	2.90
	Aug-10	1.22	0.557	1.23	0.969	0.99	0.10	0.32	2.85
	Nov-10	1.02	1.23	0.969	1.22	1.11	0.02	0.13	8.07

BXS-2

(Downgradient well)

	May-09	0.025				X_{bar}	s^2	s	t_{stat}
	Aug-09	0.025							
	Nov-09	0.026							
	Feb-10	0.025	0.025	0.025	0.026	0.03	0.00	0.00	-20.71
	May-10	0.032	0.025	0.026	0.025	0.03	0.00	0.00	-20.05
	Aug-10	0.025	0.026	0.025	0.032	0.03	0.00	0.00	-20.44
	Nov-10	0.025	0.025	0.032	0.025	0.03	0.00	0.00	-20.07

BXS-1

(Downgradient well)

	May-09	0.025				X_{bar}	s^2	s	t_{stat}
	Aug-09	0.025							
	Nov-09	0.046							
	Feb-10	0.025	0.025	0.025	0.046	0.03	0.00	0.01	-20.07
	May-10	0.027	0.025	0.046	0.025	0.03	0.00	0.01	-19.54
	Aug-10	0.025	0.046	0.025	0.027	0.03	0.00	0.01	-19.93
	Nov-10	0.025	0.025	0.027	0.025	0.03	0.00	0.00	-20.16

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Chemical Oxygen Demand

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{s^1/n + s^2/n}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

May-09	22				Average Concentration	
Aug-09	3				m_o	s¹
Nov-09	2.5					
Feb-10	2.5	22	3	2.5	7.50	93.50
May-10	3.3	3	2.5	2.5	2.83	0.16
Aug-10	2.5	2.5	2.5	3.3	2.70	0.16
Nov-10	5.6	2.5	3.3	2.5	3.48	2.15

BXS-3

(Downgradient well)

May-09	70				X_{bar}	s²	s	t_{stat}
Aug-09	106							
Nov-09	65.9							
Feb-10	68.1	70	106	65.9	77.50	363.81	19.07	6.55
May-10	73.9	106	65.9	68.1	78.48	348.11	18.66	7.20
Aug-10	74.1	65.9	68.1	73.9	70.50	17.15	4.14	12.89
Nov-10	67.5	68.1	73.9	74.1	70.90	12.88	3.59	13.07

BXS-2

(Downgradient well)

May-09	38				X_{bar}	s²	s	t_{stat}
Aug-09	43							
Nov-09	42.1							
Feb-10	34.8	38	43	42.1	39.48	14.45	3.80	6.16
May-10	41	43	42.1	34.8	40.23	13.75	3.71	7.22
Aug-10	41.1	42.1	34.8	41	39.75	11.14	3.34	7.24
Nov-10	42.1	34.8	41	41.1	39.75	11.14	3.34	7.09

BXS-1

(Downgradient well)

May-09	13				X_{bar}	s²	s	t_{stat}
Aug-09	12							
Nov-09	13.7							
Feb-10	2.5	13	12	13.7	10.30	27.53	5.25	0.51
May-10	11	12	13.7	2.5	9.80	24.93	4.99	1.28
Aug-10	10.9	13.7	2.5	11	9.53	23.62	4.86	1.26
Nov-10	14.7	2.5	11	10.9	9.78	26.65	5.16	1.15

Notes:

- X_{bar} Average Concentration
- s² Sample variance
- s¹ Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Chloride

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	2.2				Average Concentration	
Aug-09	1.8				m_o	s^1
Nov-09	1.94					
Feb-10	1.81	2.2	1.8	1.94	1.94	0.035
May-10	1.88	1.8	1.94	1.81	1.86	0.004
Aug-10	1.91	1.94	1.81	1.88	1.89	0.003
Nov-10	1.57	1.81	1.88	1.91	1.79	0.024

BXS-3

(Downgradient well)

May-09	4.5				X_{bar}	s^2	s	t_{stat}
Aug-09	3.8							
Nov-09	3.28							
Feb-10	2.9	4.5	3.8	3.28	3.62	0.48	0.69	4.69
May-10	3.4	3.8	3.28	2.9	3.35	0.14	0.37	7.17
Aug-10	3.04	3.28	2.9	3.4	3.16	0.05	0.23	8.66
Nov-10	2.74	2.9	3.4	3.04	3.02	0.08	0.28	7.27

BXS-2

(Downgradient well)

May-09	6.1				X_{bar}	s^2	s	t_{stat}
Aug-09	4.3							
Nov-09	4.43							
Feb-10	4.2	6.1	4.3	4.43	4.76	0.81	0.90	6.14
May-10	4.1	4.3	4.43	4.2	4.26	0.02	0.14	20.55
Aug-10	3.32	4.43	4.2	4.1	4.01	0.23	0.48	8.24
Nov-10	3.21	4.2	4.1	3.32	3.71	0.26	0.51	7.00

BXS-1

(Downgradient well)

May-09	7.3				X_{bar}	s^2	s	t_{stat}
Aug-09	5.9							
Nov-09	6.52							
Feb-10	5.3	7.3	5.9	6.52	6.26	0.73	0.86	9.85
May-10	5.9	5.9	6.52	5.3	5.91	0.25	0.50	15.22
Aug-10	5.67	6.52	5.3	5.9	5.85	0.26	0.51	14.55
Nov-10	5.38	5.3	5.9	5.67	5.56	0.08	0.28	22.67

Notes:

X_{bar} Average Concentration

s^2 Sample variance

s^1 Sample variance

s Sample Standard Deviation

t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).

Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Nitrate + Nitrite as N

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

May-09	0.013				Average Concentration	
Aug-09	0.025				m_o	s¹
Nov-09	0.025					
Feb-10	0.025	0.013	0.025	0.025	0.022	0.000036
May-10	0.03	0.025	0.025	0.025	0.026	0.000006
Aug-10	0.039	0.025	0.025	0.03	0.030	0.000044
Nov-10	0.025	0.025	0.03	0.039	0.030	0.000044

BXS-3

(Downgradient well)

May-09	0.21				X_{bar} s² s t_{stat}			
Aug-09	0.17							
Nov-09	0.063							
Feb-10	0.126	0.21	0.17	0.063	0.14	0.00	0.06	3.80
May-10	0.218	0.17	0.063	0.126	0.14	0.00	0.07	3.57
Aug-10	0.176	0.063	0.126	0.218	0.15	0.00	0.07	3.46
Nov-10	0.118	0.126	0.218	0.176	0.16	0.00	0.05	5.51

BXS-2

(Downgradient well)

May-09	0.029				X_{bar} s² s t_{stat}			
Aug-09	0.017							
Nov-09	0.025							
Feb-10	0.025	0.029	0.017	0.025	0.02	0.00	0.01	0.51
May-10	0.037	0.017	0.025	0.025	0.03	0.00	0.01	-0.05
Aug-10	0.038	0.025	0.025	0.037	0.03	0.00	0.01	0.32
Nov-10	0.025	0.025	0.037	0.038	0.03	0.00	0.01	0.32

BXS-1

(Downgradient well)

May-09	0.12				X_{bar} s² s t_{stat}			
Aug-09	0.11							
Nov-09	0.025							
Feb-10	0.042	0.12	0.11	0.025	0.07	0.00	0.05	2.17
May-10	0.109	0.11	0.025	0.042	0.07	0.00	0.04	2.02
Aug-10	0.139	0.025	0.042	0.109	0.08	0.00	0.05	1.80
Nov-10	0.086	0.042	0.109	0.139	0.09	0.00	0.04	3.11

Notes:

X_{bar} Average Concentration
s² Sample variance
s¹ Sample variance
s Sample Standard Deviation
t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Total Dissolved Solids

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	130				Average Concentration	
Aug-09	119				m_o	s^1
Nov-09	121					
Feb-10	152	130	119	121	130.50	228.33
May-10	129	119	121	152	130.25	228.92
Aug-10	202	121	152	129	151.00	1,328.67
Nov-10	98	152	129	202	145.25	1,920.92

BXS-3

(Downgradient well)

May-09	460				X_{bar} s^2 s t_{stat}			
Aug-09	378							
Nov-09	452							
Feb-10	422	460	378	452	428	1379	37	14.84
May-10	340	378	452	422	398	2419	49	10.41
Aug-10	381	452	422	340	399	2381	49	9.70
Nov-10	330	422	340	381	368	1771	42	9.97

BXS-2

(Downgradient well)

May-09	513				X_{bar} s^2 s t_{stat}			
Aug-09	491							
Nov-09	496							
Feb-10	518	513	491	496	505	170	13	37.49
May-10	508	491	496	518	503	148	12	38.48
Aug-10	564	496	518	508	522	884	30	22.22
Nov-10	462	518	508	564	513	1751	42	16.53

BXS-1

(Downgradient well)

May-09	223				X_{bar} s^2 s t_{stat}			
Aug-09	178							
Nov-09	198							
Feb-10	186	223	178	198	196	386	20	5.31
May-10	166	178	198	186	182	181	13	5.11
Aug-10	250	198	186	166	200	1285	36	2.52
Nov-10	153	186	166	250	189	1852	43	1.91

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

**Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill**

Sulfate

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

	May-09					Average Concentration	
	Aug-09					m_o	s¹
	Nov-09						
	Feb-10						
	May-10						
	Aug-10						
	Nov-10						

BXS-3

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09								
	Nov-09								
	Feb-10								
	May-10								
	Aug-10								
	Nov-10								

BXS-2

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09								
	Nov-09								
	Feb-10								
	May-10								
	Aug-10								
	Nov-10								

BXS-1

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09								
	Nov-09								
	Feb-10								
	May-10								
	Aug-10								
	Nov-10								

Notes:

X_{bar} Average Concentration
s² Sample variance
s¹ Sample variance
s Sample Standard Deviation
t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Tannin and Lignin

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

	May-09	Aug-09	Nov-09	Feb-10	May-10	Aug-10	Nov-10	Average Concentration m_o	s^1
	0.3	0.3	0.39	0.28	0.32	0.34	0.36	0.32	0.0024
				0.3	0.3	0.39	0.28	0.32	0.0023
								0.33	0.0021
								0.33	0.0012

BXS-3

(Downgradient well)

	May-09	Aug-09	Nov-09	Feb-10	May-10	Aug-10	Nov-10	X_{bar}	s^2	s	t_{stat}
	3.5	10.7	20.1	10	31.3	5.22	13.1	11.08	46.71	6.83	3.15
				3.5	10.7	20.1	10	18.03	99.53	9.98	3.55
								16.66	133.80	11.57	2.82
								14.91	129.97	11.40	2.56

BXS-2

(Downgradient well)

	May-09	Aug-09	Nov-09	Feb-10	May-10	Aug-10	Nov-10	X_{bar}	s^2	s	t_{stat}
	0.9	0.9	1.32	1.3	1.1	1.68	1.43	1.11	0.056	0.237	6.51
				0.9	0.9	1.32	1.3	1.16	0.039	0.197	8.20
								1.35	0.058	0.241	8.26
								1.38	0.059	0.243	8.49

BXS-1

(Downgradient well)

	May-09	Aug-09	Nov-09	Feb-10	May-10	Aug-10	Nov-10	X_{bar}	s^2	s	t_{stat}
	0.3	0.09	0.19	0.07	0.11	0.18	0.15	0.16	0.01	0.11	-2.66
				0.3	0.09	0.19	0.07	0.12	0.00	0.05	-5.76
								0.14	0.00	0.06	-5.16
								0.13	0.00	0.05	-5.75

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).

Items with no difference at all (zero difference) will indicate #DIV/0!

**Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill**

Total Organic Carbon

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** **4**

Critical Statistic **t_c** **2.447**

BXS-4

(Upgradient well)

	May-09					Average Concentration m_o s¹	
	Aug-09	1.1					
	Nov-09	0.72					
	Feb-10	0.77	1	1.1	0.72	0.90	0.0331
	May-10	0.93	1.1	0.72	0.77	0.88	0.0295
	Aug-10	0.81	0.72	0.77	0.93	0.81	0.0080
	Nov-10	2.61	0.77	0.93	0.81	1.28	0.7908

BXS-3

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09	29							
	Nov-09	23.7							
	Feb-10	23.8	22	29	23.7	24.63	9.19	3.03	15.63
	May-10	25.2	29	23.7	23.8	25.43	6.15	2.48	19.74
	Aug-10	21.5	23.7	23.8	25.2	23.55	2.34	1.53	29.55
	Nov-10	24.7	23.8	25.2	21.5	23.80	2.69	1.64	27.31

BXS-2

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09	16.9							
	Nov-09	16.7							
	Feb-10	17.1	15.8	16.9	16.7	16.63	0.33	0.57	52.26
	May-10	17.3	16.9	16.7	17.1	17.00	0.07	0.26	102.08
	Aug-10	15.3	16.7	17.1	17.3	16.60	0.81	0.90	34.33
	Nov-10	18.2	17.1	17.3	15.3	16.98	1.48	1.21	25.55

BXS-1

(Downgradient well)

	May-09					X_{bar}	s²	s	t_{stat}
	Aug-09	5.1							
	Nov-09	5.27							
	Feb-10	3.91	4.7	5.1	5.27	4.75	0.37	0.61	12.17
	May-10	4.17	5.1	5.27	3.91	4.61	0.45	0.67	10.71
	Aug-10	3.7	5.27	3.91	4.17	4.26	0.49	0.70	9.57
	Nov-10	7.41	3.91	4.17	3.7	4.80	3.07	1.75	3.99

Notes:

X_{bar} Average Concentration
s² Sample variance
s¹ Sample variance
s Sample Standard Deviation
t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
 Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Total Coliform

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	0.5				Average Concentration	
Aug-09	0.5				m_o	s^1
Nov-09	0.5					
Feb-10	0.5	0.5	0.5	0.5	0.50	0.0000
May-10	0.5	0.5	0.5	0.5	0.50	0.0000
Aug-10	0.5	0.5	0.5	0.5	0.50	0.0000
Nov-10	1	0.5	0.5	0.5	0.63	0.0625

BXS-3

(Downgradient well)

May-09	1				X_{bar}	s^2	s	t_{stat}
Aug-09	0.5							
Nov-09	0.5							
Feb-10	0.5	1	0.5	0.5	0.6	0.1	0.3	1.00
May-10	0.5	0.5	0.5	0.5	0.5	0.0	0.0	#DIV/0!
Aug-10	0.5	0.5	0.5	0.5	0.5	0.0	0.0	#DIV/0!
Nov-10	5.2	0.5	0.5	0.5	1.7	5.5	2.4	0.89

BXS-2

(Downgradient well)

May-09	1				X_{bar}	s^2	s	t_{stat}
Aug-09	0.5							
Nov-09	0.5							
Feb-10	1	1	0.5	0.5	1	0	0	1.73
May-10	2	0.5	0.5	1	1	1	1	1.41
Aug-10	1	0.5	1	2	1	0	1	1.99
Nov-10	2	1	2	1	2	0	1	3.03

BXS-1

(Downgradient well)

May-09	0.5				X_{bar}	s^2	s	t_{stat}
Aug-09	0.5							
Nov-09	0.5							
Feb-10	0.5	0.5	0.5	0.5	0.5	0.0	0.0	#DIV/0!
May-10	165.2	0.5	0.5	0.5	41.7	6781.5	82.4	1.00
Aug-10	9.7	0.5	0.5	165.2	44.0	6550.1	80.9	1.07
Nov-10	1	0.5	165.2	9.7	44.1	6535.7	80.8	1.08

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Arsenic

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

May-09	6.2				Average Concentration m_o s¹	
Aug-09	0.8					
Nov-09	6					
Feb-10	7.1	6.2	0.8	6	5.03	8.16
May-10	5.5	0.8	6	7.1	4.85	7.74
Aug-10	5.3	6	7.1	5.5	5.98	0.65
Nov-10	5.6	7.1	5.5	5.3	5.88	0.68

BXS-3

(Downgradient well)

May-09	120				X_{bar} s² s t_{stat}			
Aug-09	2.5							
Nov-09	63.5							
Feb-10	133	120	2.5	63.5	79.75	3562.42	59.69	2.50
May-10	149	2.5	63.5	133	87.00	4550.83	67.46	2.43
Aug-10	139	63.5	133	149	121.13	1519.40	38.98	5.89
Nov-10	186	133	149	139	151.75	564.92	23.77	12.19

BXS-2

(Downgradient well)

May-09	1.6				X_{bar} s² s t_{stat}			
Aug-09	1.5							
Nov-09	2.5							
Feb-10	3	1.6	1.5	2.5	2.15	0.52	0.72	-1.95
May-10	0.9	1.5	2.5	3	1.98	0.90	0.95	-1.91
Aug-10	0.9	2.5	3	0.9	1.83	1.18	1.09	-2.72
Nov-09	2.5	3	0.9	0.9	1.83	1.18	1.09	-2.65

BXS-1

(Downgradient well)

May-09	0.6				X_{bar} s² s t_{stat}			
Aug-09	0.8							
Nov-09	2.5							
Feb-10	1.6	0.6	0.8	2.5	1.38	0.75	0.87	-2.45
May-10	2.5	0.8	2.5	1.6	1.85	0.67	0.82	-2.02
Aug-10	2.5	2.5	1.6	2.5	2.28	0.20	0.45	-2.56
Nov-09	2.5	1.6	2.5	2.5	2.28	0.20	0.45	-2.49

Notes:

X_{bar} Average Concentration
s² Sample variance
s¹ Sample variance
s Sample Standard Deviation
t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Barium

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	26.7				Average Concentration	
Aug-09	229				m_o	s^1
Nov-09	26.5					
Feb-10	28.4	26.7	229	26.5	77.65	10,181.54
May-10	27.7	229	26.5	28.4	77.90	10,147.82
Aug-10	25.8	26.5	28.4	27.7	27.10	1.37
Nov-10	24.6	28.4	27.7	25.8	26.63	3.03

BXS-3

(Downgradient well)

May-09	111				X_{bar} s^2 s t_{stat}			
Aug-09	15.6							
Nov-09	115							
Feb-10	132	111	15.6	115	93.40	2773.04	52.66	0.28
May-10	134	15.6	115	132	99.15	3175.16	56.35	0.37
Aug-10	119	115	132	134	125.00	88.67	9.42	1.93
Nov-10	132	132	134	119	129.25	47.58	6.90	2.03

BXS-2

(Downgradient well)

May-09	45.4				X_{bar} s^2 s t_{stat}			
Aug-09	39.6							
Nov-09	45.5							
Feb-10	49.6	45.4	39.6	45.5	45.03	16.91	4.11	-0.65
May-10	53.7	39.6	45.5	49.6	47.10	36.21	6.02	-0.61
Aug-10	47.7	45.5	49.6	53.7	49.13	12.11	3.48	0.44
Nov-10	44.9	49.6	53.7	47.7	48.98	13.65	3.69	0.44

BXS-1

(Downgradient well)

May-09	16.7				X_{bar} s^2 s t_{stat}			
Aug-09	230							
Nov-09	13.9							
Feb-10	14.3	16.7	230	13.9	68.73	11561.36	107.52	-0.12
May-10	14.5	230	13.9	14.3	68.18	11638.88	107.88	-0.13
Aug-10	14.9	13.9	14.3	14.5	14.40	0.17	0.42	-0.25
Nov-10	15.7	14.3	14.5	14.9	14.85	0.38	0.62	-0.23

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Copper

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

May-09	5				Average Concentration	
Aug-09	22.2				m_o	s¹
Nov-09	5					
Feb-10	1.3	5	22.2	5	8.38	87.99
May-10	5	22.2	5	1.3	8.38	87.99
Aug-10	5	5	1.3	5	4.08	3.42
Nov-10	4.2	1.3	5	5	3.88	3.09

BXS-3

(Downgradient well)

May-09	5				X_{bar}	s²	s	t_{stat}
Aug-09	5							
Nov-09	5							
Feb-10	2	5	5	5	4.25	2.25	1.50	-0.87
May-10	5	5	5	2	4.25	2.25	1.50	-0.87
Aug-10	5	5	2	5	4.25	2.25	1.50	0.04
Nov-10	6.9	2	5	5	4.73	4.10	2.03	0.18

BXS-2

(Downgradient well)

May-09	5				X_{bar}	s²	s	t_{stat}
Aug-09	5							
Nov-09	5							
Feb-10	3.8	5	5	5	4.70	0.36	0.60	-0.78
May-10	1.6	5	5	3.8	3.85	2.57	1.60	-0.95
Aug-10	5	5	3.8	1.6	3.85	2.57	1.60	-0.05
Nov-10	4.4	3.8	1.6	5	3.70	2.20	1.48	-0.04

BXS-1

(Downgradient well)

May-09	5				X_{bar}	s²	s	t_{stat}
Aug-09	21.2							
Nov-09	5							
Feb-10	3.9	5	21.2	5	8.78	68.88	8.30	0.06
May-10	2	21.2	5	3.9	8.03	78.68	8.87	-0.05
Aug-10	5	5	3.9	2	3.98	2.00	1.42	-0.02
Nov-10	4	3.9	2	5	3.73	1.57	1.25	-0.03

Notes:

X_{bar} Average Concentration
s² Sample variance
s¹ Sample variance
s Sample Standard Deviation
t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Cadmium

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	2.5				Average Concentration		
Aug-09	2.5				m_o	s^1	
Nov-09	2.5						
Feb-10	2.5	2.5	2.5	2.5	2.50	0.00	
May-10	2.5	2.5	2.5	2.5	2.50	0.00	
Aug-10	2.5	2.5	2.5	2.5	2.50	0.00	
Nov-10	2.5	2.5	2.5	2.5	2.50	0.00	

BXS-3

(Downgradient well)

May-09	2.1				X_{bar}	s^2	s	t_{stat}
Aug-09	2.5							
Nov-09	2.5							
Feb-10	2.5	2.1	2.5	2.5	2.40	0.04	0.20	-1.00
May-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
Aug-10	4.5	2.5	2.5	2.5	3.00	1.00	1.00	1.00
Nov-10	3	2.5	2.5	4.5	3.13	0.90	0.95	1.32

BXS-2

(Downgradient well)

May-09	2.5				X_{bar}	s^2	s	t_{stat}
Aug-09	2.5							
Nov-09	2.5							
Feb-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
May-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
Aug-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
Nov-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!

BXS-1

(Downgradient well)

May-09	2.5				X_{bar}	s^2	s	t_{stat}
Aug-09	2.5							
Nov-09	2.5							
Feb-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
May-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
Aug-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!
Nov-10	2.5	2.5	2.5	2.5	2.50	0.00	0.00	#DIV/0!

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for Downgradient Well, South Landfill

Iron

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{s^1/n + s^2/n}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	51.7				Average Concentration	
Aug-09	91.1				m_o	s^1
Nov-09	43.6					
Feb-10	33.7	51.7	91.1	43.6	55.03	632.58
May-10	43.5	91.1	43.6	33.7	52.98	667.57
Aug-10	38.6	43.6	33.7	43.5	39.85	22.26
Nov-10	10	33.7	43.5	38.6	31.45	220.50

BXS-3

(Downgradient well)

May-09	102,000				X_{bar}	s^2	s	t_{stat}
Aug-09	12							
Nov-09	59,700							
Feb-10	94,700	102,000	12	59,700	64,103	2,166,484,327	46545.51	2.75
May-10	104,000	12	59,700	94,700	64,603	2,218,013,794	47095.79	2.74
Aug-10	104,000	59,700	94,700	104,000	90,600	443,580,000	21061.34	8.60
Nov-10	116,000	94,700	104,000	104,000	104,675	76,222,500	8730.55	23.97

BXS-2

(Downgradient well)

May-09	473				X_{bar}	s^2	s	t_{stat}
Aug-09	1340							
Nov-09	480							
Feb-10	465	473	1340	480	690	188104	433.71	2.92
May-10	451	1340	480	465	684	191401	437.49	2.88
Aug-10	482	480	465	451	470	210	14.48	29.61
Nov-10	420	465	451	482	455	690	26.26	23.27

BXS-1

(Downgradient well)

May-09	6.1				X_{bar}	s^2	s	t_{stat}
Aug-09	91							
Nov-09	4.7							
Feb-10	10	6.1	91	4.7	27.95	1771.83	42.09	-1.10
May-10	3.5	91	4.7	10	27.30	1811.39	42.56	-1.04
Aug-10	3.7	4.7	10	3.5	5.48	9.38	3.06	-2.71
Nov-10	8.7	10	3.5	3.7	6.48	11.31	3.36	-1.97

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).

Items with no difference at all (zero difference) will indicate #DIV/0!

* t_{stat} value invalid, data not normally distributed

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Manganese

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	108				Average Concentration	
Aug-09	4220				m_o	s^1
Nov-09	110					
Feb-10	116	108	4220	110	1138.50	4,220,297
May-10	115	4220	110	116	1140.25	4,215,500
Aug-10	108	110	116	115	112.25	14.92
Nov-10	112	116	115	108	112.75	12.92

BXS-3

(Downgradient well)

May-09	11,300				X_{bar} s^2 s t_{stat}			
Aug-09	7,870							
Nov-09	13,400							
Feb-10	11,200	11,300	7,870	13,400	10,943	5,224,558	2,285.73	6.38
May-10	9,380	7,870	13,400	11,200	10,463	5,688,558	2,385.07	5.92
Aug-10	9,670	13,400	11,200	9,380	10,913	3,387,558	1,840.53	7.83
Nov-10	7,880	11,200	9,380	9,670	9,533	1,851,158	1,360.57	7.65

BXS-2

(Downgradient well)

May-09	1230				X_{bar} s^2 s t_{stat}			
Aug-09	2500							
Nov-09	1300							
Feb-10	1260	1230	2500	1300	1573	383158	619.00	0.40
May-10	1340	2500	1300	1260	1600	361067	600.89	0.43
Aug-10	1310	1300	1260	1340	1303	1092	33.04	1.16
Nov-10	1340	1260	1340	1310	1313	1425	37.75	1.17

BXS-1

(Downgradient well)

May-09	114				X_{bar} s^2 s t_{stat}			
Aug-09	4180							
Nov-09	204							
Feb-10	36.2	114	4180	204	1134	4129527	2032.12	-0.003
May-10	77.6	4180	204	36.2	1124	4154599	2038.28	-0.011
Aug-10	48	204	36.2	77.6	91	5933	77.03	-0.020
Nov-10	92.8	36.2	77.6	48	64	681	26.09	-0.048

Notes:

- X_{bar} Average Concentration
- s^2 Sample variance
- s^1 Sample variance
- s Sample Standard Deviation
- t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).

Items with no difference at all (zero difference) will indicate #DIV/0!

**Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill**

Nickel

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples **n** 4

Critical Statistic **t_c** 2.447

BXS-4

(Upgradient well)

					Average Concentration	
					m_o	s¹
May-09	10					
Aug-09	104					
Nov-09	10					
Feb-10	10	10	104	10	33.50	2209.00
May-10	10	104	10	10	33.50	2209.00
Aug-10	10	10	10	10	10.00	0.00
Nov-10	10	10	10	10	10.00	0.00

BXS-3

(Downgradient well)

					X_{bar}	s²	s	t_{stat}
May-09	17.7							
Aug-09	48.5							
Nov-09	13.2							
Feb-10	22.8	17.7	48.5	13.2	25.55	249.47	15.79	-0.32
May-10	19.5	48.5	13.2	22.8	26.00	240.86	15.52	-0.30
Aug-10	17.5	13.2	22.8	19.5	18.25	16.11	4.01	0.35
Nov-10	12.5	22.8	19.5	17.5	18.08	18.59	4.31	0.34

BXS-2

(Downgradient well)

					X_{bar}	s²	s	t_{stat}
May-09	31.2							
Aug-09	134							
Nov-09	31.1							
Feb-10	32.4	31.2	134	31.1	57.18	2623.50	51.22	0.68
May-10	32.6	134	31.1	32.4	57.53	2599.74	50.99	0.69
Aug-10	33.3	31.1	32.4	32.6	32.35	0.84	0.92	0.95
Nov-10	29.9	32.4	32.6	33.3	32.05	2.20	1.48	0.94

BXS-1

(Downgradient well)

					X_{bar}	s²	s	t_{stat}
May-09	7							
Aug-09	109							
Nov-09	11.1							
Feb-10	5.9	7	109	11.1	33.25	2555.26	50.55	-0.01
May-10	6.5	109	11.1	5.9	33.13	2564.07	50.64	-0.01
Aug-10	5.8	11.1	5.9	6.5	7.33	6.43	2.54	-0.11
Nov-10	6.8	5.9	6.5	5.8	6.25	0.23	0.48	-0.16

Notes:

- X_{bar}** Average Concentration
- s²** Sample variance
- s¹** Sample variance
- s** Sample Standard Deviation
- t_{stat}** Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
Items with no difference at all (zero difference) will indicate #DIV/0!

Appendix C. Statistical Analysis of Groundwater Quality Results for
Downgradient Well, South Landfill

Zinc

$$t_{\text{stat}} = (X_{\text{bar}} - m_o) / \sqrt{(s^1/n + s^2/n)}$$

Number of Samples n 4

Critical Statistic t_c 2.447

BXS-4

(Upgradient well)

May-09	5				Average Concentration	
Aug-09	3.8				m_o	s^1
Nov-09	5					
Feb-10	5	5	3.8	5	4.70	0.36
May-10	5	3.8	5	5	4.70	0.36
Aug-10	5	5	5	5	5.00	0.00
Nov-10	5	5	5	5	5.00	0.00

BXS-3

(Downgradient well)

May-09	3.9				X_{bar} s^2 s t_{stat}			
Aug-09	2.6							
Nov-09	1.5							
Feb-10	1.6	3.9	2.6	1.5	2.40	1.25	1.12	-3.63
May-10	5	2.6	1.5	1.6	2.68	2.65	1.63	-2.33
Aug-10	2.3	1.5	1.6	5	2.60	2.69	1.64	-2.75
Nov-10	5	1.6	5	2.3	3.48	3.18	1.78	-1.62

BXS-2

(Downgradient well)

May-09	3.7				X_{bar} s^2 s t_{stat}			
Aug-09	5							
Nov-09	2.8							
Feb-10	5.3	3.7	5	2.8	4.20	1.35	1.16	-0.76
May-10	3.5	5	2.8	5.3	4.15	1.43	1.20	-0.82
Aug-10	4.8	2.8	5.3	3.5	4.10	1.33	1.15	-1.39
Nov-10	1.7	5.3	3.5	4.8	3.83	2.58	1.61	-1.37

BXS-1

(Downgradient well)

May-09	1.5				X_{bar} s^2 s t_{stat}			
Aug-09	3.4							
Nov-09	1.5							
Feb-10	1.7	1.5	3.4	1.5	2.03	0.85	0.92	-4.87
May-10	2.1	3.4	1.5	1.7	2.18	0.73	0.85	-4.84
Aug-10	5	1.5	1.7	2.1	2.58	2.68	1.64	-2.78
Nov-10	5	1.7	2.1	5	3.45	3.23	1.80	-1.64

Notes:

X_{bar} Average Concentration
 s^2 Sample variance
 s^1 Sample variance
 s Sample Standard Deviation
 t_{stat} Student's T-Test Statistic

Item shown in **bold** or *gray italics* indicate a statistically valid detection (according to the student's T-Test statistic).
 Items with no difference at all (zero difference) will indicate #DIV/0!