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2011 GROUNDWATER MONITORING REPORT

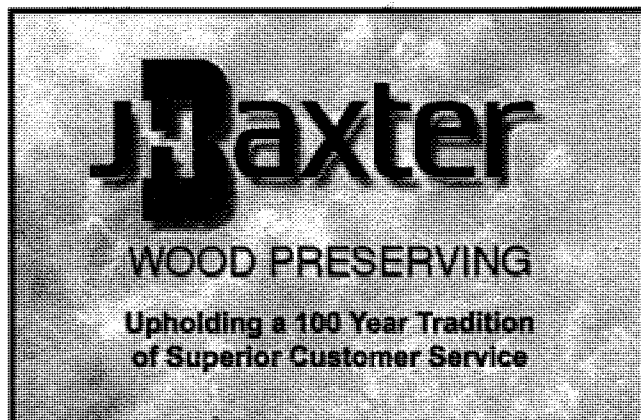
South Woodwaste Landfill

Arlington, Washington

Submitted to:

Snohomish Health District

3020 Rucker Avenue, Suite 104
Everett, Washington 98201



Prepared for:

J. H. Baxter & Company

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May 2012

Project No. 2-61M-125610.03.2



May 15, 2012

Project No. 2-61M-125610.03.2

Snohomish Health District
3020 Rucker Avenue, Suite 104
Everett, Washington 98201

Attention: Mr. Peter Jorgenson, R.S.
Environmental Health Specialist

Subject: **2011 Groundwater Monitoring Report
South Woodwaste Landfill
J.H. Baxter & Co.
Arlington, Washington**

Dear Mr. Jorgenson:

On behalf of J.H. Baxter & Co. (Baxter), please find enclosed a copy of the 2011 Groundwater Monitoring Report - South Woodwaste Landfill for Baxter's closed woodwaste landfill in Arlington, Washington. This report is being submitted to you in accordance with Washington Administrative Code (WAC) 173-304-490. A copy has also been sent directly to the Washington Department of Ecology.

If you have any questions or comments regarding this report, please do not hesitate to contact me at (503) 639 3400.

Sincerely,

AMEC Environment & Infrastructure, Inc.

J. Stephen Barnett, L.H.G.
Project Manager

Attachments: 2011 Groundwater Monitoring Report, South Woodwaste Landfill

DJ/cw

c: Krystyna Kowalik, Ecology
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The J. H. Baxter & Co. (Baxter) Project Team (Baxter and AMEC) 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.

AMEC Environment & Infrastructure, Inc.

Reviewed by:

Danille Jorgensen
Project Chemist



J. STEPHEN BARNETT

EXP: 2.16.2013
J. Stephen Barnett, L.H.G.
Senior Geologist



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ACRONYMS AND ABBREVIATIONS

%	percent
µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter
µS/cm	micro Siemens per centimeter
AMEC	AMEC Environment & Infrastructure, Inc.
AVD	absolute value difference
Baxter	J. H. Baxter & Company
CAS	Columbia Analytical Services, Inc.
cm/sec	centimeters per second
COC	chain of custody
COD	chemical oxygen demand
EAL	Edge Analytical Laboratory
Eh	redox potential
EPA	United States Environmental Protection Agency
ft/day	feet per day
MCL	maximum contaminant level
MDL	method detection limit
mg/L	milligrams per liter
MRL	method reporting limit
PCP	pentachlorophenol
ppf	percent point function
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



2011 GROUNDWATER MONITORING REPORT

**South Woodwaste Landfill
Arlington, Washington**

1.0 INTRODUCTION

This report presents quarterly groundwater data collected from February to November 2011 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 2011. Field measurements were taken for pH, conductivity, temperature, redox potential (Eh), and dissolved oxygen. In addition, methane measurements were collected in May and November 2011. 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.

2.0 HYDROGEOLOGY

As discussed, quarterly groundwater monitoring events were performed during February, May, August, and November 2011 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 2011 monitoring period are summarized in Table 1.

Groundwater elevations were highest during the May event, and lowest in November for all wells. The static groundwater level in wells BXS-1, BXS-2, BXS-3, and BXS-4 fluctuated throughout the year by 6.88 feet, 4.23 feet, 7.23 feet, and 5.29 feet, respectively. Groundwater surface elevations measured in February 2011 (Figure 2) and the November 2011 (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 0.0165 and 0.0204 during 2011 (Table 2).

2.2 GROUNDWATER VELOCITIES

Groundwater velocities (v_x) 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 0.0165 to 0.0204, resulting in velocity estimates of 4.677 to 11.565 feet per day. Table 2 shows the calculated hydraulic gradients and groundwater velocities during the monitoring events in 2011.

3.0 GROUNDWATER QUALITY

Groundwater samples were collected February 7 for the first quarter, May 7 for the second quarter, August 24 for the third quarter, and November 3 for the fourth quarter of 2011 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, was collected from well BXS-1 during each quarterly event.

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 2011 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 3b, and 3c. Laboratory analytical reports and chain-of-custody forms for the 2011 groundwater monitoring events are presented in Appendix B.

4.0 DATA REVIEW

This section describes the data review process that was performed to evaluate the adequacy and quality of the analytical data from the 2011 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] 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 were labeled BXS-5.

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. For analytes with concentrations greater than or equal to 5 times their reporting limit, when the RPD is greater than 35 percent (%), the reported values are considered estimated concentrations. For analytes with concentrations less than 5 times their reporting limit, the reported values are considered estimated if the absolute difference between them is greater than the value of the reporting limit. The precision of the field duplicate samples collected in 2011 is acceptable.

In addition to the field duplicate collected from the South Landfill, a field rinsate sample was collected from the North Landfill. Results from the field blank sample are shown in Table 3b and Table 3c.

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 in the Student's t-test is 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 (ppf). The ppf is the inverse of the cumulative distribution function.

Statistically significant detections above the background well (BXN-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.

5.0 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, TOC, COD, TDS, and manganese for wells BXS-1, BXS-2, and BXS-3
- Chloride for wells BXS-1 and BXS-2



- Tannins and lignin, barium, iron, for well BXS-2 and BXS-3:
- Sulfate for well BXS-1
- Nickel for well BXS-2
- Nitrate plus nitrite as nitrogen and dissolved arsenic for well BXS-3

5.2 CONCENTRATION TRENDS OVER TIME

Figures 5 through 18 show the concentration trends from 2006 through 2011 for each parameter discussed below.

Ammonia as Nitrogen (Figure 5) - The samples collected from well BXS-3 during the first three events in 2011 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.

Arsenic (Figure 6) - Dissolved arsenic concentrations in well BXS-3 were above background levels during all four quarters of 2011. The dissolved arsenic level detected in well BXS-3 in November 2010 was the highest observed concentration (186 micrograms per liter [$\mu\text{g/L}$]) since monitoring began in April 2000, but dropped in 2011. Concentrations of arsenic in wells BXS-1 and BXS-2 have been stable during the last 5 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 2011. 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 2011 and within their historical ranges.

COD (Figure 8) - The COD concentrations in the downgradient wells were higher than the corresponding COD concentrations in background well BXS-4 during 2011. COD concentrations in all wells were within historical levels during 2011 and are stable.

Chloride (Figure 9) - The concentrations of chloride in down gradient wells BXS-1, BXS-2, and BXS-3 for all 2011 sampling events were slightly greater than the corresponding concentrations in background well BXS-4. Concentrations of chloride have been stable over the last 5 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. Conductivity values observed in wells BXS-1, BXS-2, and BXS-3 were within historical levels in 2011, and are stable.



Iron (Figure 11) - The dissolved iron concentrations in wells BXS-2 and BXS-3 were above the corresponding background concentrations in 2011. Iron concentrations in well BXS-1 were below the background concentrations in well BXS-4 during all of 2011. The dissolved iron concentrations were within their historical ranges during 2011 and are stable.

Manganese (Figure 12) - The concentrations of dissolved manganese in downgradient wells BXS-1, BXS-2 and BXS-2 during all four quarters of 2011 were higher than the corresponding levels in the background well BXS-4. Manganese concentrations were within historical levels in wells BXS-2, BXS-3, and BXS-4 during 2011 and are stable.

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 2011. Dissolved nickel concentrations have been relatively stable for the last 5 years.

Sulfate (Figure 14) - During all four sampling events of 2011, 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 2011. 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 milligrams per liter [mg/L]) in May 2010, however, the concentration returned to the normal range in 2011.

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 5 years, with a slight downward trend.

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 within historical ranges for the last 5 years.



TDS (Figure 18) - TDS measured in the downgradient wells were higher than the TDS in the background well for all 2011 sampling events. TDS concentrations were within historical levels during 2011.

Methane - The headspace of each well was tested for methane during the May and November 2011 sampling events. Methane was detected in the upgradient well (BXS-4) for the first time in May 2011 (0.2%), and again in November (0.1%). Methane was also detected for the first time in BXS-3 in May (0.1%), but was not detected in November 2011.

5.3 COMPARISON TO STANDARDS

Maximum contaminant levels (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 secondary maximum contaminant levels (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 2011 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 119 to 156 µg/L in well BXS-3, which is slightly lower than the maximum concentrations observed in 2010.

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 2011 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 micro Siemens per centimeter (µS/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 833 to 929 $\mu\text{S}/\text{cm}$. Conductivity values were above the SMCL for the first, second, and third quarters of 2011 for well BXS-3, with values of 710, 732, and 741, 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 micromhos per centimeter ($\mu\text{mhos}/\text{cm}$), with values ranging from 729 to 941 $\mu\text{mhos}/\text{cm}$. Conductivity values for the background well BXS-4 and down gradient wells BXS-1 and BXS-3 were below the SMCL during 2011.

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 year, with concentrations ranging from 512 to 559 mg/L.

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 2011. Dissolved iron detected in well BXS-2 ranged from 388 to 466 $\mu\text{g}/\text{L}$. Dissolved iron concentrations in well BXS-3 ranged from 100,000 to 110,000 $\mu\text{g}/\text{L}$. The dissolved iron concentrations in the wells BXS-1 and BXS-4 were below the SMCL.

Dissolved manganese concentrations detected in all wells exceeded the 50 $\mu\text{g}/\text{L}$ SMCL during the 2011 monitoring period. Concentrations in well BXS-3 were the highest, ranging from 9,610 to 14,000 $\mu\text{g}/\text{L}$.

Field pH measurements were below the SMCL range of 6.5 to 8.5 standard pH units during 2011 for wells BXS-1, BXS-2, and BXS-3. Field pH values were below the SMCL for well BXS-1 ranging from 5.75 to 6.46 standard pH units. The field pH readings of well BXS-2 were below the SMCL and ranged from 5.73 to 6.37 standard pH units. Field pH readings were below the SMCL during for well BXS-3, with values ranging from 5.79 to 6.43 standard pH units, respectively. The field pH values were within the SMCL range for well BXS-4 during 2011.

Laboratory pH measurements were slightly below the SMCL range of 6.5 to 8.5 standard pH units for wells BXS-1, BXS-2, and BXS-3 during most of the 2011 monitoring events. Laboratory pH values for these three wells ranged from 6.23 to 6.75 standard units during the year.

6.0 SUMMARY

Quarterly groundwater monitoring samples were collected from one upgradient well and three downgradient wells during 2011 at the J.H. Baxter South Woodwaste Landfill. The samples were



analyzed for 11 groundwater quality parameters and 8 dissolved metals. Well headspace was tested for vapor phase methane during the second and fourth quarterly monitoring events.

Groundwater samples collected during the 2011 monitoring events did not exceed the MCLs for any of the monitored parameters, with the exception of arsenic. Dissolved arsenic concentrations in well BXS-3 exceeded the MCL during all four 2011 quarterly sampling events, with concentrations ranging from 119 to 156 µg/L.

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 2011 include field and laboratory conductivity, field and laboratory pH, TDS, dissolved iron, and dissolved manganese, as discussed in Section 5.3.2.

The headspace of each well was tested for methane during the May and November 2011 sampling events. Methane was detected in the upgradient well (BXS-4) for the first time in May 2011 (0.2%), and again in November (0.1%). Methane was also detected for the first time in BXS-3 in May (0.1%), but was not detected in November 2011.

We appreciate the opportunity to be of service to J.H. Baxter & Company on this project. If you have any questions or comments regarding this report, please contact the undersigned at (503) 639-3400.



REFERENCES

APHA 1998. Standard Methods for the Examination of Water and Wastewater, 20th Edition. American Public Health Association.

Baxter 2002. 2001 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. August.

Baxter 2003. 2002 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. June.

Baxter 2004. 2003 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. April.

Baxter 2006. 2005 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. June.

Baxter 2007. 2006 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. June.

Baxter 2008. 2007 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. May.

Baxter 2009. 2008 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. March.

Baxter 2010. 2009 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. May.

Baxter 2011. 2010 Groundwater Monitoring Report, South Woodwaste Landfill, J.H. Baxter & Company, Arlington, Washington. June.

EMCON 1989. Hydrogeologic Report, J. H. Baxter South Woodwaste Landfill, Arlington, Washington. Prepared for J. H. Baxter by EMCON, Bothell, Washington. January.

EPA 1994. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA 540/R 94 013.



LIMITATIONS

This report was prepared exclusively for J.H. Baxter & Company by AMEC Environment & Infrastructure, Inc. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This 2011 Groundwater Monitoring Report is intended to be used by J.H. Baxter & Company for the South Woodwaste Landfill, Arlington, Washington only, subject to the terms and conditions of its contract with AMEC. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

TABLES



TABLES

TABLE 1
Summary of Groundwater Elevations in 2011
South Woodwaste 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	2/07/11	31.49	111.41
								5/07/11	27.13	115.77
								8/24/11	30.88	112.02
								11/03/11	34.01	108.89
BXS-2	2	45.40	10	99.77	143.02	35.40	45.40	2/07/11	30.14	112.88
								5/07/11	25.41	117.61
								8/24/11	27.77	115.25
								11/03/11	32.00	111.02
BXS-3	2	44.15	10	98.99	142.07	34.15	44.15	2/07/11	25.88	116.19
								5/07/11	20.54	121.53
								8/24/11	24.49	117.58
								11/03/11	27.77	114.30
BXS-4	2	47.40	10	100.34	143.42	37.40	47.40	2/07/11	9.58	133.84
								5/07/11	9.24	134.18
								8/24/11	13.26	130.16
								11/03/11	14.53	128.89

Notes:

a) Wells were resurveyed in October 2002. Groundwater elevations are based on the 2002 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 Woodwaste Landfill

Average Gradient		Hydraulic Conductivity		Porosity	Velocity			Velocity			
<i>i</i>		K		n_e	v			v			
Date	(cm/cm)	(cm/sec)			(cm/sec)			(ft/day)			
2/07/11	0.0204	3.00E-02	to	6.00E-02	0.300	0.002	to	0.004	5.783	to	11.565
5/07/11	0.0167					0.002	to	0.003	4.734	to	9.468
8/24/11	0.0165					0.002	to	0.003	4.677	to	9.354
11/03/11	0.0182					0.002	to	0.004	5.159	to	10.318

TABLE 3a
Field Parameters from Groundwater Sampling
South Woodwaste Landfill

Primary MCL ^(a) Secondary MCL ^(a)	pH (standard units)				Conductivity (µS/cm)				Temperature (°C)			
	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
Feb-11	8.02	6.22	6.16	6.24	187	710	844	334	9.5	12.8	11.9	12.0
May-11	7.99	6.24	6.20	6.25	183	732	929	315	9.9	12.8	12.2	12.6
Aug-11	7.77	5.79	5.73	5.75	190	741	833	337	10.2	13.0	12.4	12.4
Nov-11	8.36	6.43	6.37	6.46	192	673	852	346	9.8	12.5	12.0	12.0

TABLE 3a
Field Parameters from Groundwater Sampling
South Woodwaste Landfill

	EH (mV)				Dissolved Oxygen (mg/L)				Methane (Percent)			
Primary MCL ^(a)												
Secondary MCL ^(a)												
	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
Feb-11	-164	-128	36	-167	0.10	0.11	0.26	0.28	nt	nt	nt	nt
May-11	-205	-120	32	158	0.36	0.38	0.43	0.45	0.2	0.1	0.0	0.0
Aug-11	-172	-115	45	164	0.09	0.09	0.19	0.18	nt	nt	nt	nt
Nov-11	-274	-140	39	150	1.12	1.04	1.19	1.29	0.1	0.0	0.0	0.0

Notes: (a) Primary and secondary MCLs (maximum contaminant levels) per WAC 246-290-310.
 nt Not tested
 µS/cm micro Siemens per centimeter
 °C degrees Celsius
 mV millivolts
 mg/L milligrams per liter

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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
Feb-11	7.88		6.23		6.38		6.49	6.51	NT	155		371		729		296	296	5.3
May-11	7.79		6.28		6.42		6.32	6.5	6.06	219		377		801		321	310	2.5
Aug-11	8.14		6.45		6.47		6.46	6.74	6.03	202		603		941		359	359	1.9 J
Nov-11	7.78		6.35		6.49		6.75	6.57	7.33	195		505		884		360	361	2.1

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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		80		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
Feb-11	0.513		1.21		0.05 U		0.05 U	0.05 U	0.05 U	5 U		74.9		44.4		9.1	5 U	5 U
May-11	0.544		0.703		0.05 U		0.05 U	0.05 U	0.05 U	3.4 J		70.5		45.4		8.2	9.7	5 U
Aug-11	0.551		0.663		0.05 U		0.05 U	0.05 U	0.05 U	5 U		84.4		41.5		9.8	8.8	5 U
Nov-11	0.569		0.05 U		0.036 J		0.05 U	0.05 U	0.05 U	5 U		68.9		37.8		4.7 J	7.6	5 U

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste Landfill

	Chloride (mg/L)									Nitrate + Nitrite as N (mg/L)								
Primary MCL Secondary MCL	250									10								
	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
Feb-11	2.1		2.37		3.43		6.99	7.09	0.4 U	0.05 U		190		0.05 U		0.05 U	0.05 U	0.05 U
May-11	1.65		2.07		3.05		6.17	5.94	0.4 U	0.013 J		0.143		0.018 J		0.149	0.139	0.012 J
Aug-11	1.69		1.85		2.88		5.71	5.71	0.4 U	0.011 J		0.104		0.012 J		0.059	0.057	0.012 J
Nov-11	1.93		2.49		3.38		6.01	5.74	0.4 U	0.05 U		0.137		0.011 J		0.095	0.089	0.05 U

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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																		
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Apr-08																		
Jul-08																		
Oct-08																		
Feb-09																		
May-09																		
Aug-09																		
Nov-09																		
Feb-10																		
May-10																		
Aug-10																		
Nov-10																		
Feb-11																		
May-11																		
Aug-11																		
Nov-11																		

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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
Feb-11	165		377		512		211	216	5 U	1.53		1.04		1.3		15.2	15.4	0.4 U
May-11	129		374		559		209	194	5 U	0.93		0.18 J		0.26 J		15.9	15.1	0.4 U
Aug-11	128		399		550		188	199	5 U	0.95		0.38 J		0.58		16.2	16.7	0.4 U
Nov-11	115		350		532		217	220	5 U	1.05		0.58		0.83		15.8	15	0.4 U

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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		15.6		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
Feb-11	0.42		15.7		1.58		0.21	0.25	0.09 J	1.15		21.6		17.2		4.37	4.16	0.5 U
May-11	0.3		15		0.46		0.1 J	0.14 J	0.2 U	0.94		18.8		16.4		2.94	3.01	0.07 J
Aug-11	0.26		21.4		1.15		0.09 J	0.12 J	0.2 U	0.67		25.5		14.2		2.98	3.06	0.5 U
Nov-11	0.36		7.7		1.51		0.24	0.24	0.07 J	1		4.41		14.6		3.13	3.35	0.5 U

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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
Feb-11	1 U		1 U		1 U		1 U	1 U	1 U
May-11	2		1 U		1 U		1 U	1	1 U
Aug-11	1 U		1 U		18.1		1 U	1 U	1 U
Nov-11	U		P		P		P		1 U

TABLE 3b
Conventional Parameters from Groundwater Sampling
South Woodwaste 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
P - total coliform is present; method is qualitative

TABLE 3c
Metals from Groundwater Sampling, April 2001 to November 2011
South Woodwaste 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		5.0 U		5.0 U	5.0 U	5 U	24.6		132.0		44.9		15.7	15.7	5 U
Feb-11	5.5		119		5.0 U		5.0 U	5.0 U	5 U	28.6		142.0		53.6		16.9	16.6	5 U
May-11	6.2		139		1.1 J		5.0 U	5.0 U	5 U	25.4		123.0		53		15.3	15.5	5 U
Aug-11	6.4		155		5.0 U		5.0 U	5.0 U	5 U	24.4		120.0		47.2		15.8	15.3	5 U
Nov-11	6.2		156		1 J		5 U	1 J	5 U	24.7		121.0		44.5		15.0	15.2	5 U

TABLE 3c
Metals from Groundwater Sampling, April 2001 to November 2011
South Woodwaste 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 bik	BXS-4	BXS-4 Dup	BXS-3	BXS-3 Dup	BXS-2	BXS-2 Dup	BXS-1	BXS-1 Dup	Field bik
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	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
Nov-10	5 U		3 J		5 U		5 U	5 U	5 U	4.2 J		7 J		4.4 J		4.0 J	7 J	6 J
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
Feb-11									5 U	10 U		3 J		10 U		2.0 J	2 J	10 U
May-11									5 U	10 U		10 U		2.8 J		10.0 U	10 U	2 J
Aug-11									5 U	10 U		10 U		10 U		10.0 U	10 U	10 U
Nov-11	5 U		2.9 J		2.6 J		5 U		5 U	10 U		10 U		10 U		10.0 U	2 J	10 U

TABLE 3c

	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		19,800		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	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	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
Feb-11	46.8		109,000		466		20 U	20 U	20 U	125		9,610		1,400		159	160	0.2 J
May-11	55.6		110,000		470		11.7 J	13 J	7 J	100		13,600		1,460		122	116	5.0 U
Aug-11	35.1 N*		107,000		412 N*		20 UN	1 JN	20 UN	97		14,000		1,340		144	136	5.0 U
Nov-11	42.1		100,000		388		7.7 J	8 J	20 U	105				1,300		149	150	0.5 J

TABLE 3c
Metals from Groundwater Sampling, April 2001 to November 2011
South Woodwaste 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	26.5	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
Nov-10	20 U		12.5 J		29.9		6.8 J	5.5 J	20 U	10 U		10 U		1.7 J		10.0 U	10 U	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
Feb-11	20 U		20.8		34.4		10 J	9.6 J	20 U	0 J		20.0 U		4.9 J		3 J	2.5 J	0.2 J
May-11	20 U		15.3 J		38.7		8.7 J	7.0 J	7 J									5.0 U
Aug-11	20 U		16.2 J		32.2		8.5 J	9.2 J	20 UN	10 U		4.2 J		4.7 J		2 J	3.1 J	5.0 U
Nov-11	20 U		11.2 J		30.5		10.6 J	10.1 J	20 U	10 U		3 J		4 J		1 J	1.3 J	1 J

Notes: J Estimated Value
R Rejected Value
U Not detected. Reporting limit shown.

MCL Maximum Contaminant Level

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
Conventionals	Ammonia as Nitrogen	2001			0.10	0.50
Conventionals	Ammonia as Nitrogen	2007			0.84	0.50
Conventionals	Ammonia as Nitrogen	2009			1.08	0.54
Conventionals	Ammonia as Nitrogen	2010			1.11	0.53
Conventionals	Carbon, Total Organic	1992	3.6	5.0	18.7	1.5
Conventionals	Carbon, Total Organic	1993		7.3	20.0	2.0
Conventionals	Carbon, Total Organic	1994		8.6	21.9	2.3
Conventionals	Carbon, Total Organic	1995		10.7	30.6	3.4
Conventionals	Carbon, Total Organic	1996	4.9	12.7	38.5	2.3
Conventionals	Carbon, Total Organic	1997		15.0		3.8
Conventionals	Carbon, Total Organic	1998			32.1	10.8
Conventionals	Carbon, Total Organic	1999		15.8	31.8	6.6
Conventionals	Carbon, Total Organic	2000	8.1	15.2		1.0
Conventionals	Carbon, Total Organic	2001	7.5	14.6	25.2	3.1
Conventionals	Carbon, Total Organic	2002	6.4	13.8	22.2	2.0
Conventionals	Carbon, Total Organic	2003		14.0	21.5	0.7
Conventionals	Carbon, Total Organic	2004	5.1	14.7	23.1	0.9
Conventionals	Carbon, Total Organic	2005	5.7	15.8	25.1	1.1
Conventionals	Carbon, Total Organic	2006	5.1	14.5	28.4	1.0
Conventionals	Carbon, Total Organic	2007	5.2	15.8	27.9	1.0
Conventionals	Carbon, Total Organic	2008	6.7	16.2	25.9	0.9
Conventionals	Carbon, Total Organic	2009	5.1	16.5	24.1	0.9
Conventionals	Carbon, Total Organic	2010	4.8	17.0	23.8	1.3
Conventionals	Carbon, Total Organic	2011	3.4	15.6	17.6	0.9
Conventionals	Chemical Oxygen Demand	1990	27.9	41.2	97.8	2.2
Conventionals	Chemical Oxygen Demand	1993			106.0	30.5
Conventionals	Chemical Oxygen Demand	1994		30.0	83.0	22.0
Conventionals	Chemical Oxygen Demand	1995			90.0	32.0
Conventionals	Chemical Oxygen Demand	1996		41.0	98.0	16.0
Conventionals	Chemical Oxygen Demand	1997		43.0	87.0	19.0
Conventionals	Chemical Oxygen Demand	1998		51.0	98.0	20.1
Conventionals	Chemical Oxygen Demand	1999			92.0	40.5
Conventionals	Chemical Oxygen Demand	2000		43.5	71.3	13.6
Conventionals	Chemical Oxygen Demand	2001	22.3	42.5	69.5	17.3
Conventionals	Chemical Oxygen Demand	2002	19.0	38.0	60.0	18.0
Conventionals	Chemical Oxygen Demand	2003		37.0	55.8	2.9
Conventionals	Chemical Oxygen Demand	2004		38.0	58.8	2.9
Conventionals	Chemical Oxygen Demand	2005		42.8	69.5	8.4

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
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
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	Chemical Oxygen Demand	2011	8.0	42.3	74.7	4.6
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	Chloride	2011	6.2	3.2		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

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
Conventionals	Conductivity (umhos/cm)	2000	417	762	651	166
Conventionals	Conductivity (umhos/cm)	2001	493	878	886	193
Conventionals	Conductivity (umhos/cm)	2002	470	849	825	187
Conventionals	Conductivity (umhos/cm)	2004		821	853	198
Conventionals	Conductivity (umhos/cm)	2005	393	788	750	192
Conventionals	Conductivity (umhos/cm)	2006	414	773	785	191
Conventionals	Conductivity (umhos/cm)	2007	397	799	804	191
Conventionals	Conductivity (umhos/cm)	2008	465	758	771	189
Conventionals	Conductivity (umhos/cm)	2009	340	793	730	185
Conventionals	Conductivity (umhos/cm)	2010	304	825	707	196
Conventionals	Conductivity (umhos/cm)	2011	334	839	464	193
Conventionals	Nitrate + Nitrite as Nitrogen	1990	0.72			0.10
Conventionals	Nitrate + Nitrite as Nitrogen	1993	0.79			0.18
Conventionals	Nitrate + Nitrite as Nitrogen	1994	0.50			ND
Conventionals	Nitrate + Nitrite as Nitrogen	1996	1.65			ND
Conventionals	Nitrate + Nitrite as Nitrogen	1997	0.75			ND
Conventionals	Nitrate + Nitrite as Nitrogen	1999	0.43			ND
Conventionals	Nitrate + Nitrite as Nitrogen	2000	0.33			0.10
Conventionals	Nitrate + Nitrite as Nitrogen	2002	0.50			0.20
Conventionals	Nitrate + Nitrite as Nitrogen	2004	0.85			0.06
Conventionals	Nitrate + Nitrite as Nitrogen	2005	0.75			0.06
Conventionals	Nitrate + Nitrite as Nitrogen	2006	0.71			0.04
Conventionals	Nitrate + Nitrite as Nitrogen	2007	0.69			0.14
Conventionals	Nitrate + Nitrite as Nitrogen	2008	0.83			0.04
Conventionals	Nitrate + Nitrite as Nitrogen	2009	0.31		0.15	0.02
Conventionals	Nitrate + Nitrite as Nitrogen	2010	0.09		0.16	0.03
Conventionals	Nitrate + Nitrite as Nitrogen	2011	47.60			0.02
Conventionals	pH	1992	6.1	6.3	6.4	7.9
Conventionals	pH	2000	6.1	6.4	6.5	7.9
Conventionals	pH	2001	6.1	6.4	6.7	7.9
Conventionals	Solids, Total Dissolved	1990		397	436	228
Conventionals	Solids, Total Dissolved	1992		352	351	147
Conventionals	Solids, Total Dissolved	1993		330		141
Conventionals	Solids, Total Dissolved	1994	161	330	418	134
Conventionals	Solids, Total Dissolved	1995	188	361	492	141
Conventionals	Solids, Total Dissolved	1996	224	423	604	153
Conventionals	Solids, Total Dissolved	1997	236	456	613	150
Conventionals	Solids, Total Dissolved	1998	273	473	562	137
Conventionals	Solids, Total Dissolved	1999	256	524	517	156

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
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
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	Solids, Total Dissolved	2011	206	538	375	134
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	Sulfate	2011	15.8			1.1
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

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
Conventionals	Tannin and Lignin	2002		1.6	11.1	0.4
Conventionals	Tannin and Lignin	2003			6.3	0.4
Conventionals	Tannin and Lignin	2004		1.4		0.5
Conventionals	Tannin and Lignin	2005			8.1	0.4
Conventionals	Tannin and Lignin	2006			11.5	0.4
Conventionals	Tannin and Lignin	2007		1.2	8.5	0.3
Conventionals	Tannin and Lignin	2008		1.2	11.1	0.3
Conventionals	Tannin and Lignin	2009		1.1	9.4	0.3
Conventionals	Tannin and Lignin	2010		1.4	14.9	0.3
Conventionals	Tannin and Lignin	2011		1.2	15.0	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	Arsenic	2011			142.3	6.1
Metals	Barium	1993			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	Barium	2011		49.6	126.5	25.8
Metals	Cadmium	2002		1.1	1.1	<1.1

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
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
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	Iron	2011		434	106,500	44.9
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

TABLE 4
Parameters Statistically Higher than Background, 1988 to 2011
South Woodwaste Landfill

Test Type	Parameter	Monitoring Period	Mean Value Downgradient			Mean Value Upgradient BXS-4
			BXS-1	BXS-2	BXS-3	
Metals	Manganese	2009		1,570	11,093	1,140
Metals	Manganese	2010			9,533	113
Metals	Manganese	2011	144	1,375	12,403	107
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
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	Nickel	2011		30.5		12.5
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

Notes:

Mean values are yearly averages

ND = not detected

< = not detected above listed reporting limit

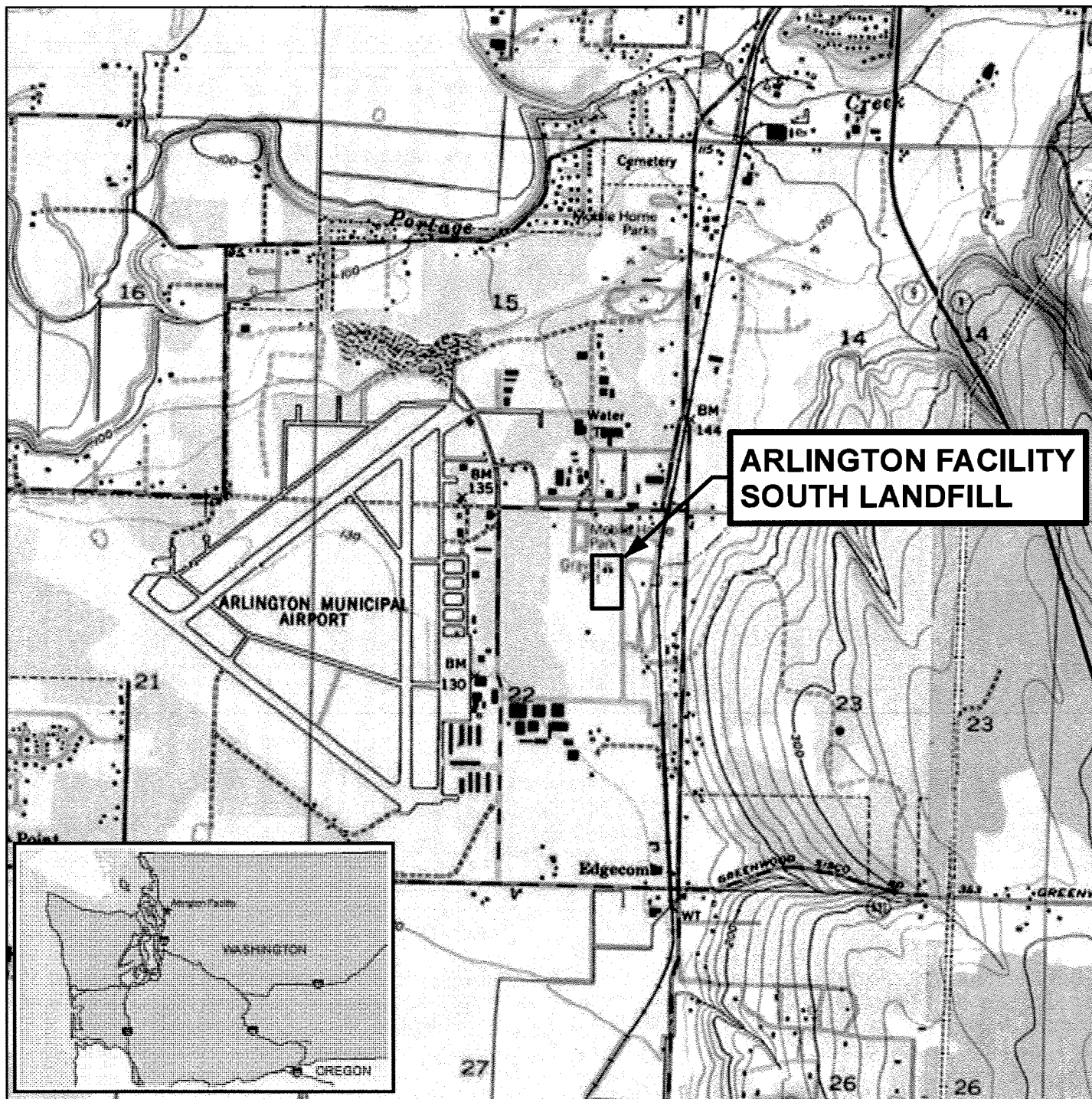
Metals units are ug/L

Conventional units are mg/L, unless otherwise noted

FIGURES



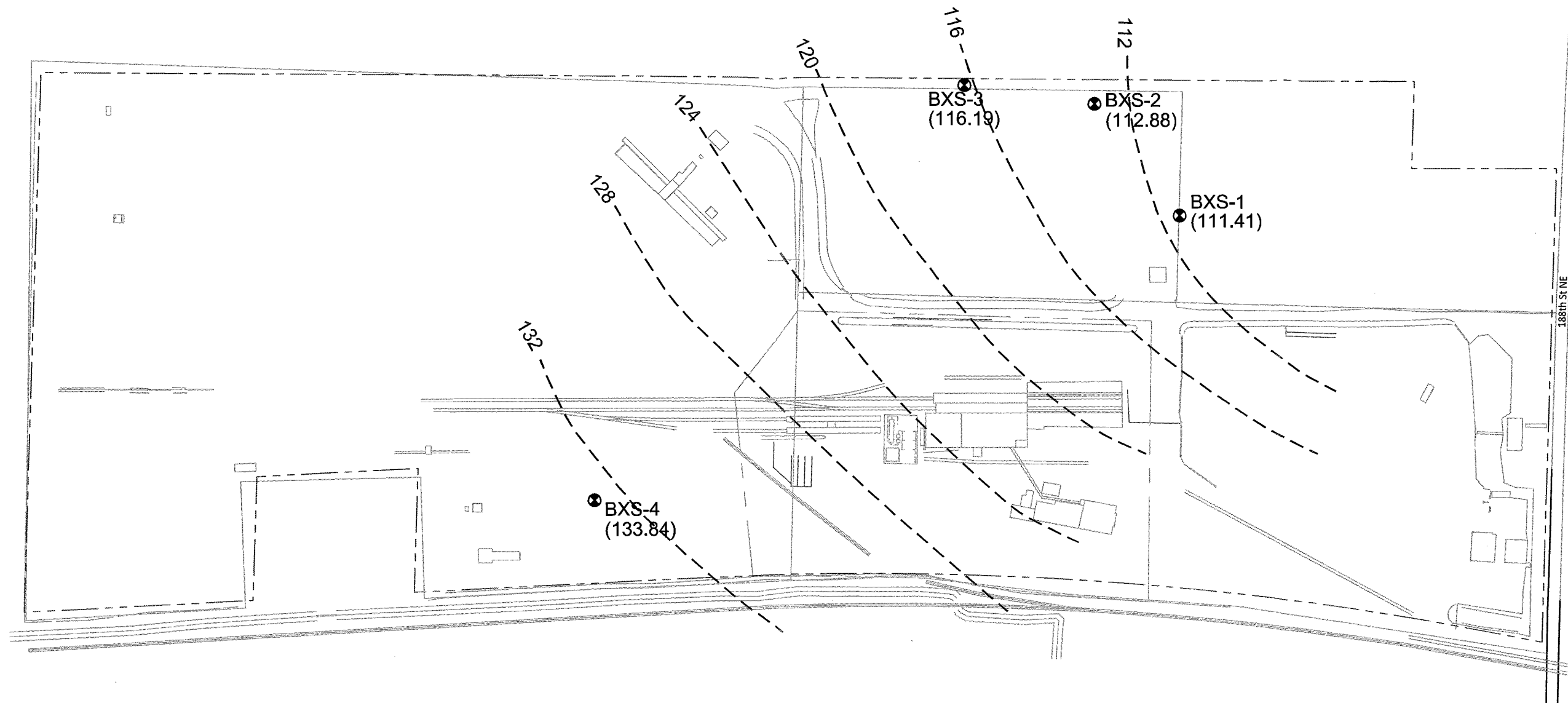
FIGURES



0 1,000 2,000 4,000 Feet

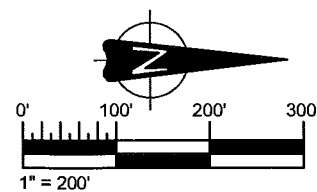


AMEC 7376 SW Durham Road Portland, OR, U.S.A. 97224				CLIENT: J.H. BAXTER	
TITLE: SITE VICINITY MAP - SOUTH LANDFILL			DWN BY: PM	DATUM: NAD83	DATE: APRIL 2012
PROJECT: FORMER J.H. BAXTER AND CO. WOOD TREATING FACILITY ARLINGTON, WA			CHKD BY: CR	REV. NO.: 1	PROJECT NO.: 161M125610
			PROJECTION: WA SP N. Ft.	SCALE: 1 inch = 2,000 feet	FIGURE No.: 1



LEGEND

- MONITORING WELL
- (133.84) GROUNDWATER ELEVATION (msl)
- - - INFERRED ELEVATION COUNTER
- - - SITE BOUNDARY



CLIENT:

J.H. BAXTER

AMEC
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224



DWN BY: PM
CHK'D BY: SB
DATUM: -
PROJECTION: -
SCALE: 1"=200'

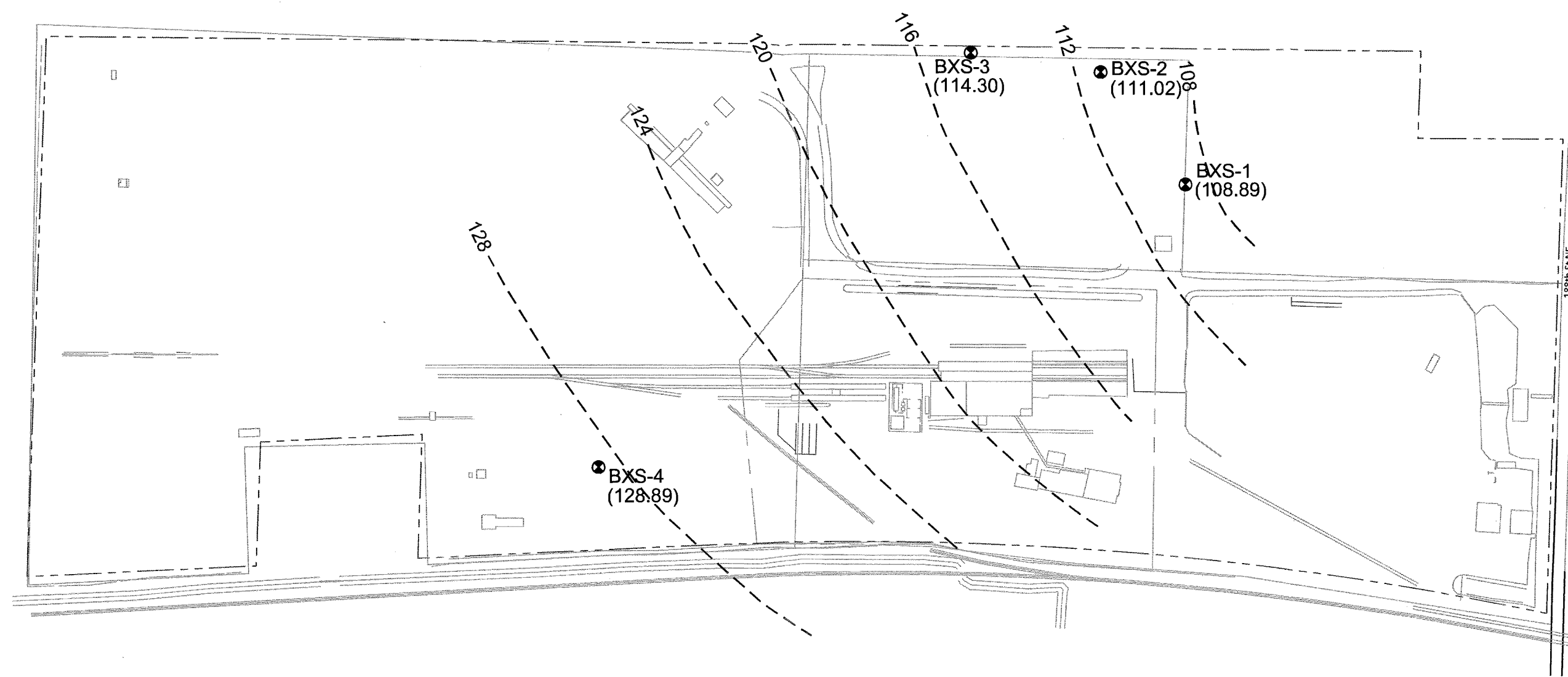
PROJECT

FORMER J.H. BAXTER AND CO.
WOOD TREATING FACILITY
ARLINGTON, WA

TITLE

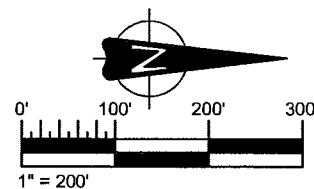
GROUNDWATER ELEVATION CONTOUR MAP
FEBRUARY 7TH, 2011 - SOUTH LANDFILL

DATE: MARCH 2012
PROJECT NO: 161M125610
REV. NO.: A
FIGURE No. 2



LEGEND

- MONITORING WELL
- (133.84) GROUNDWATER ELEVATION (msl)
- - - INFERRED ELEVATION COUNTER
- - - SITE BOUNDARY



CLIENT:

J.H. BAXTER

AMEC
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224



DWN BY: PM
CHK'D BY: SB
DATUM: -
PROJECTION: -
SCALE: 1"=200'

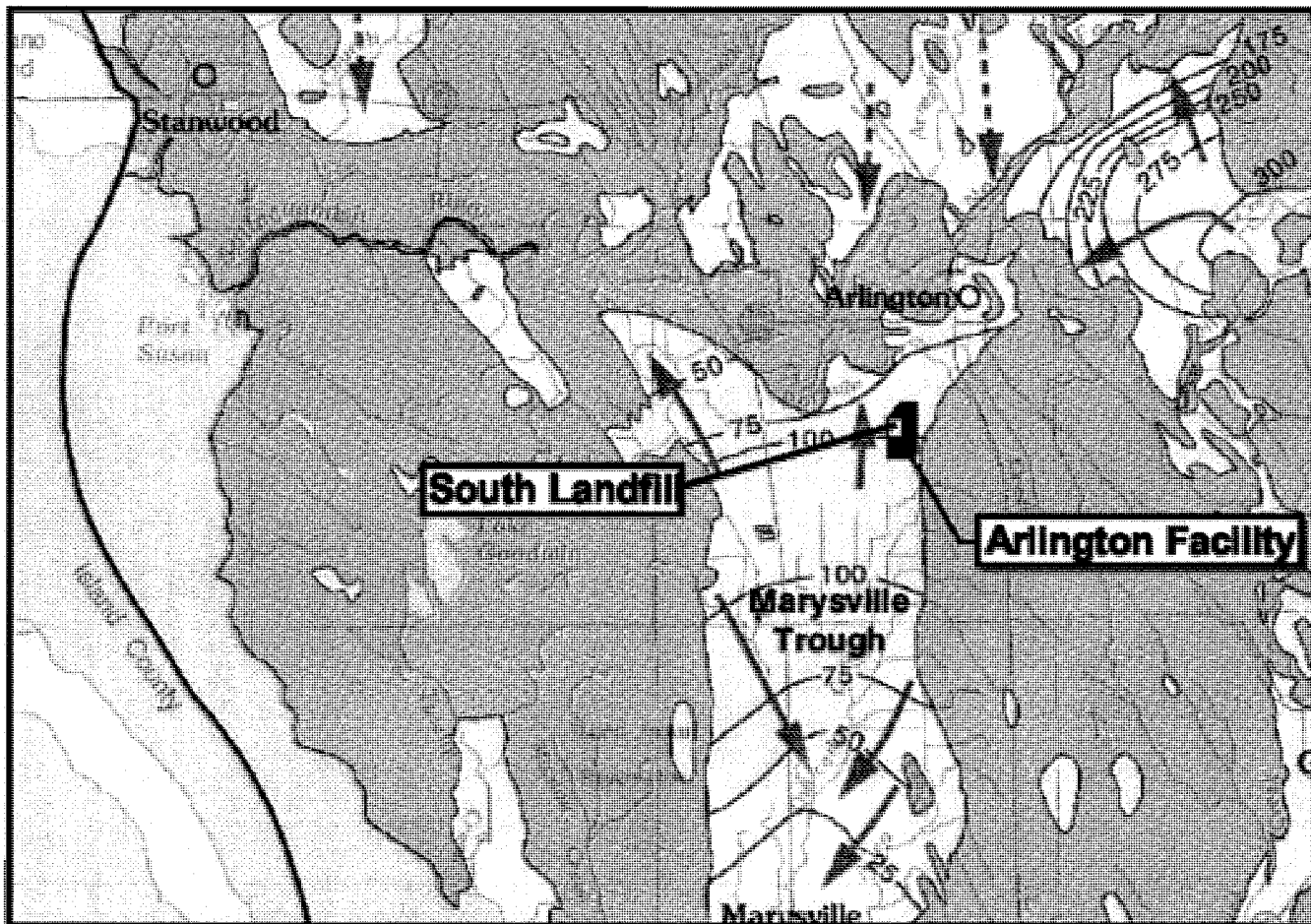
PROJECT

FORMER J.H. BAXTER AND CO.
WOOD TREATING FACILITY
ARLINGTON, WA

TITLE

GROUNDWATER ELEVATION CONTOUR MAP
NOVEMBER 3RD, 2011 - SOUTH LANDFILL

DATE: MARCH 2012
PROJECT NO: 161M125610
REV. NO.: A
FIGURE No. 3



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



AMEC

7376 SW Durham Road
Portland, OR, U.S.A. 97224

amec

J. Baxter

CLIENT:

J.H. BAXTER

TITLE:
REGIONAL GROUNDWATER FLOW - SOUTH LANDFILL

PROJECT:
**FORMER J.H. BAXTER AND CO.
WOOD TREATING FACILITY
ARLINGTON, WA**

DWN BY: PM	DATUM: -	DATE: APRIL 2012
CHKD BY: CR	REV. NO.: 1	PROJECT NO.: 161M125610
PROJECTION: -	SCALE: AS SHOWN	FIGURE No.: 4

FIGURE 5
Concentration Trends for Ammonia
South Woodwaste Landfill Monitoring Well Data

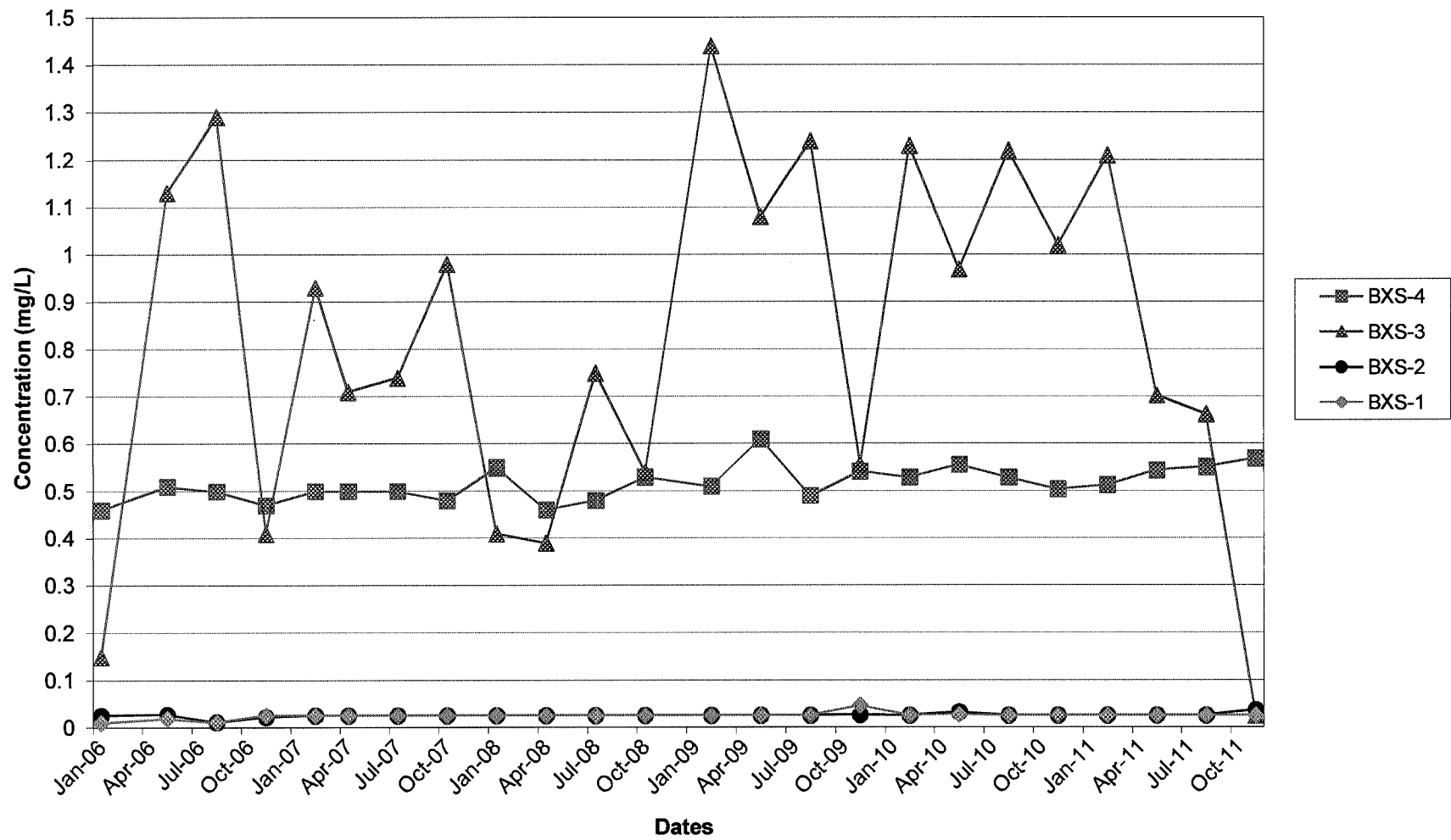


FIGURE 6
Concentration Trends for Arsenic
South Woodwaste Landfill Monitoring Well Data

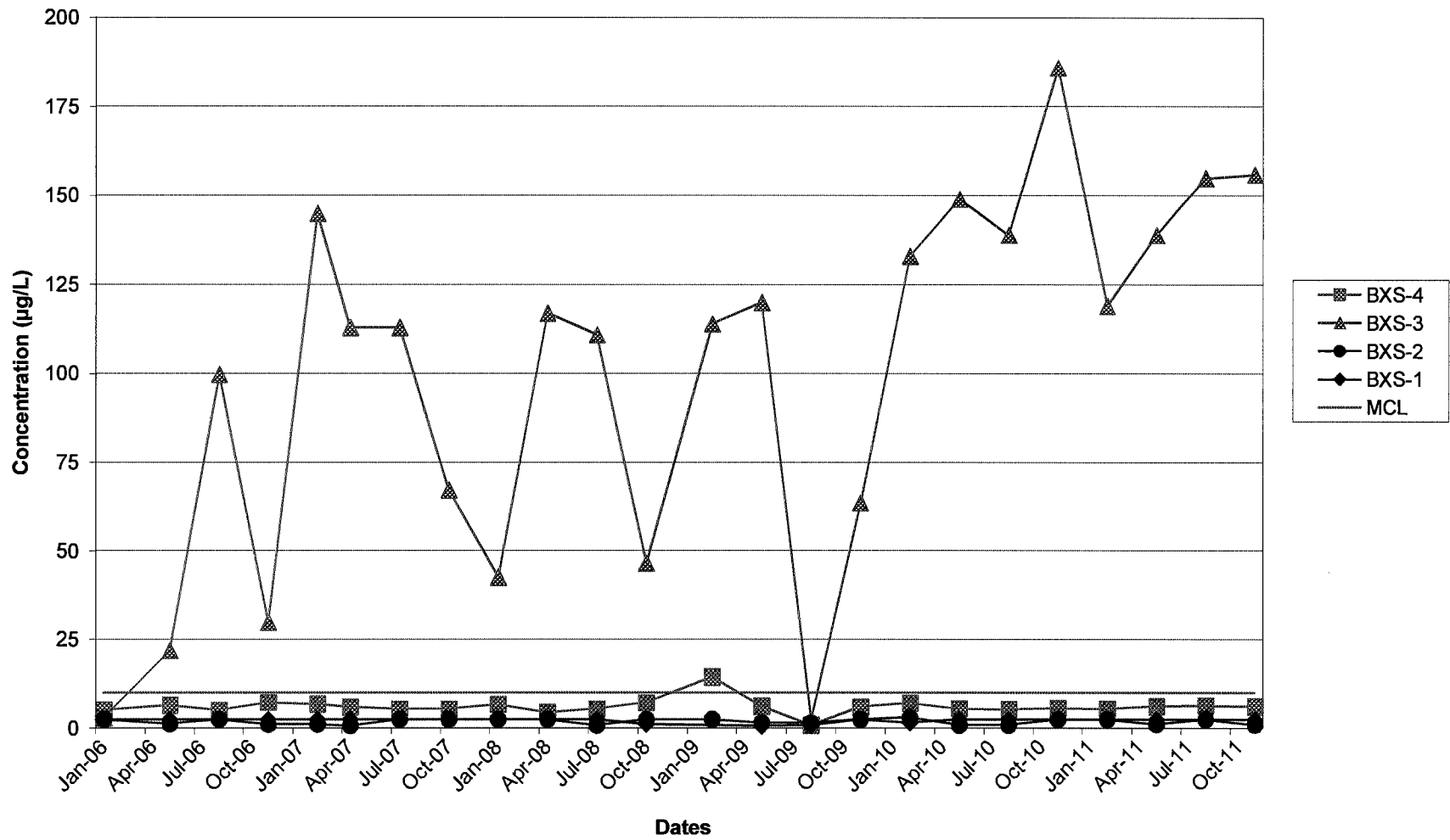


FIGURE 7
Concentration Trends for Barium
South Woodwaste Landfill Monitoring Well Data

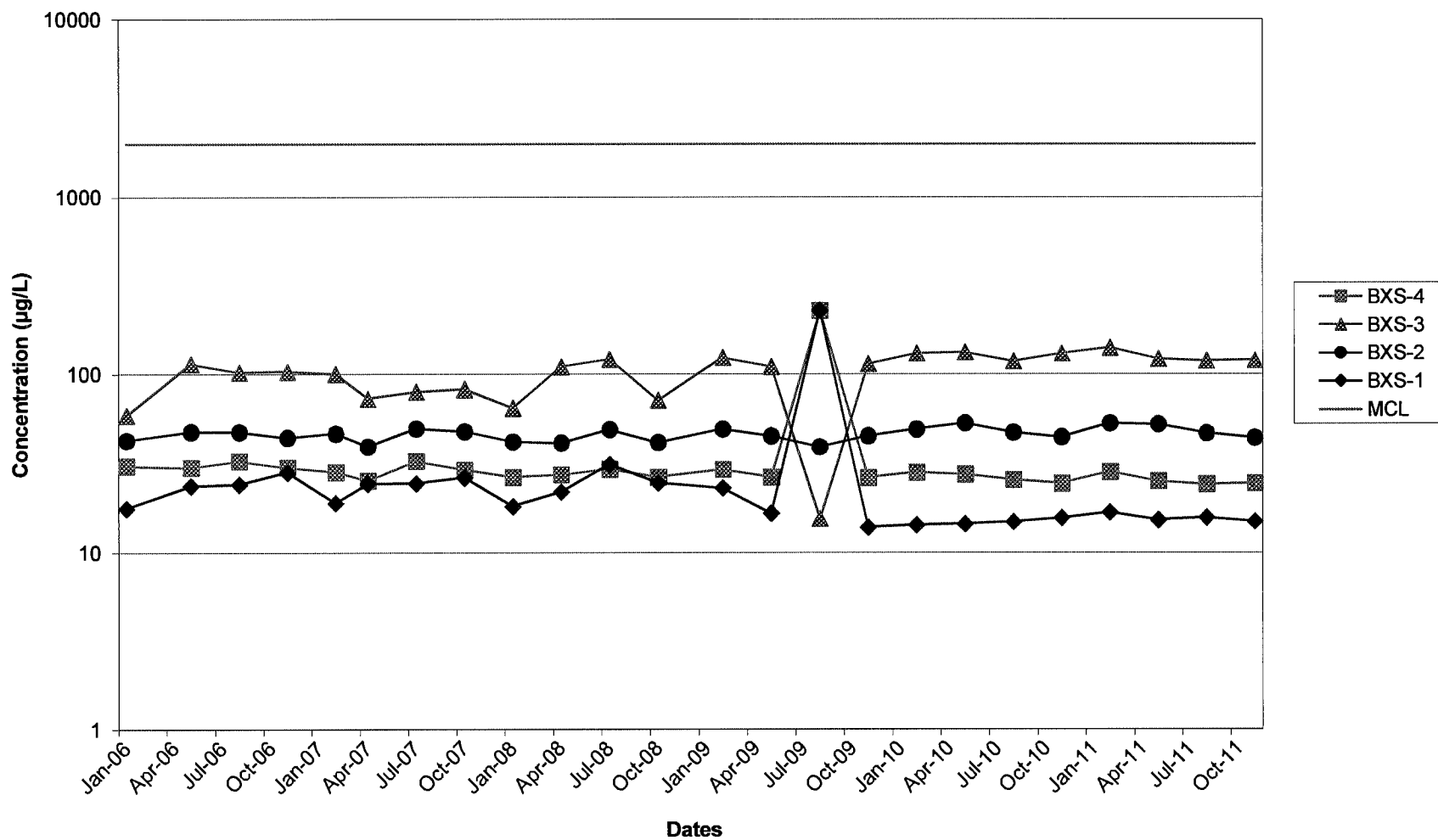


FIGURE 8
Concentration Trends for Chemical Oxygen Demand
South Woodwaste Landfill Monitoring Well Data

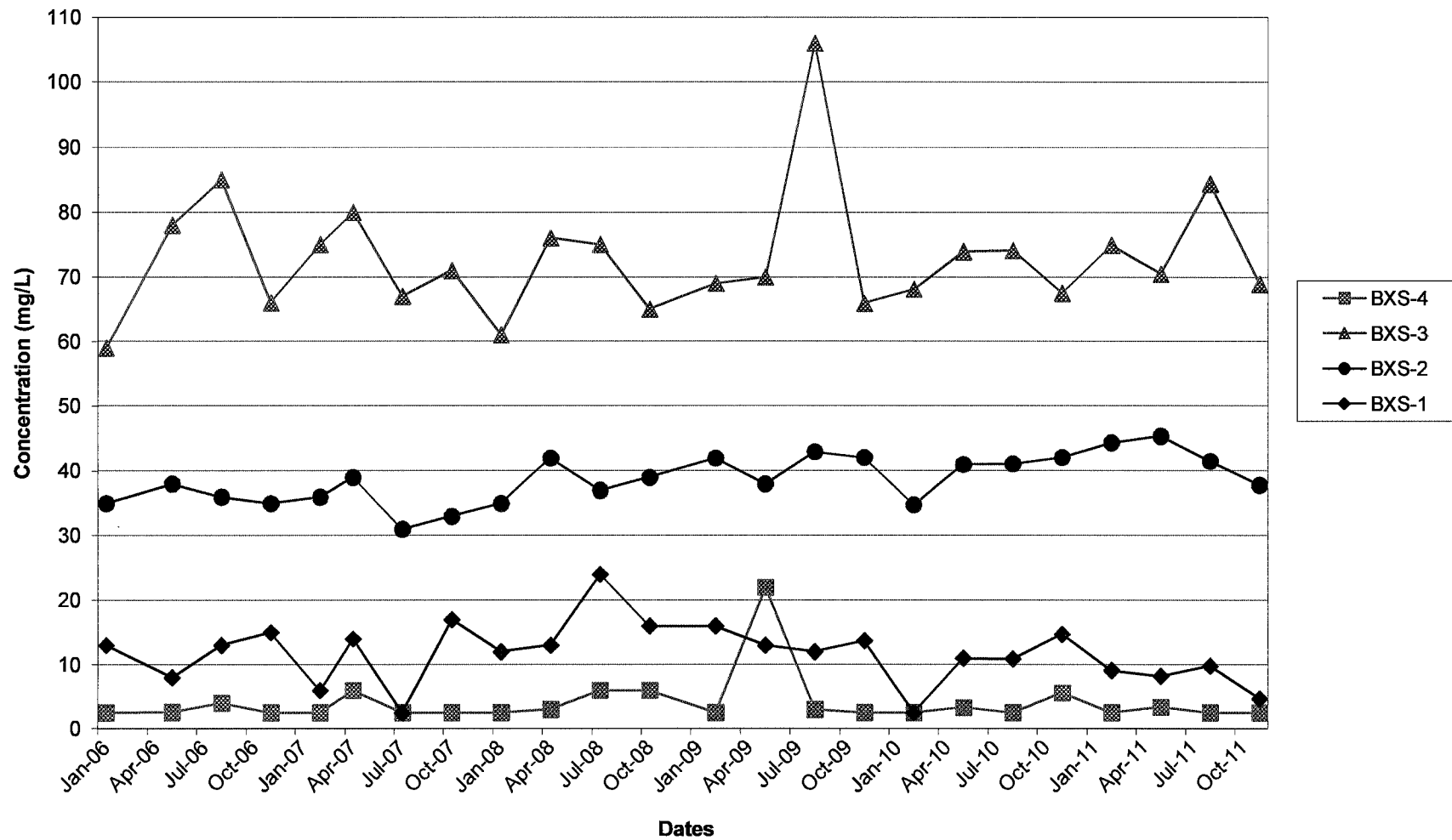


FIGURE 9
Concentration Trends for Chloride
South Woodwaste Landfill Monitoring Well Data

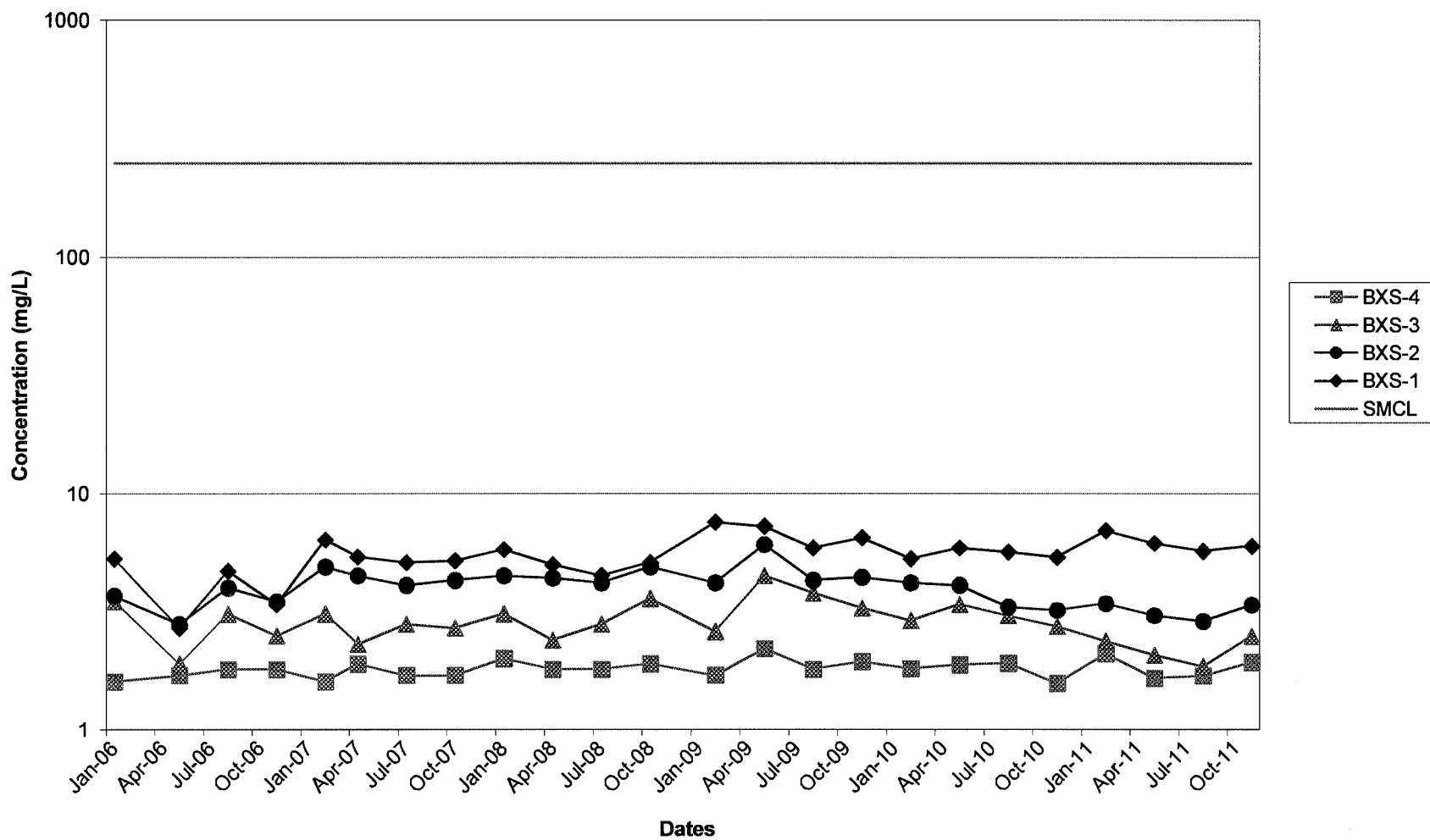


FIGURE 10
Concentration Trends for Field Conductivity
South Woodwaste Landfill Monitoring Well Data

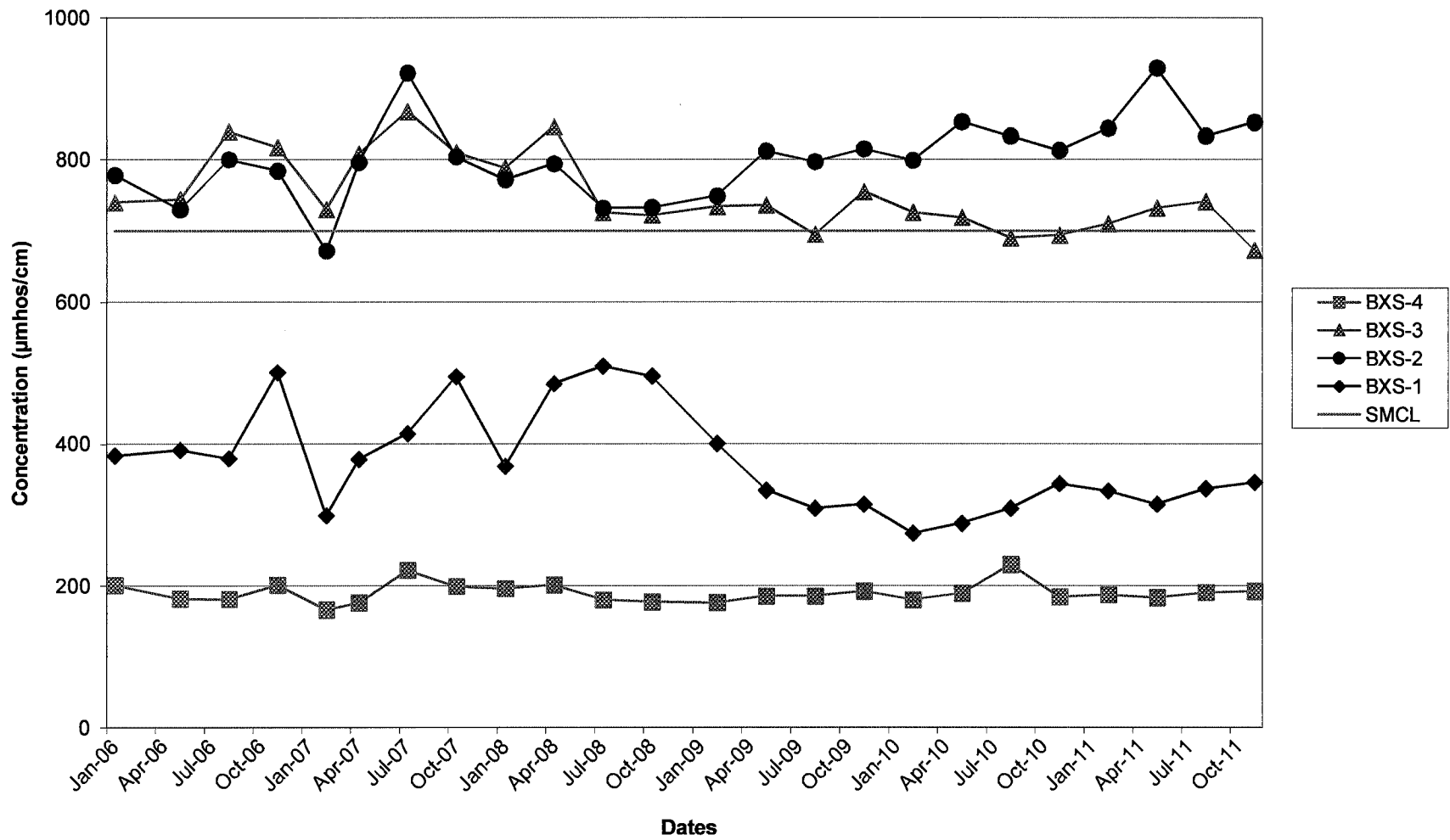


FIGURE 11
Concentration Trends for Iron
South Woodwaste Landfill Monitoring Well Data

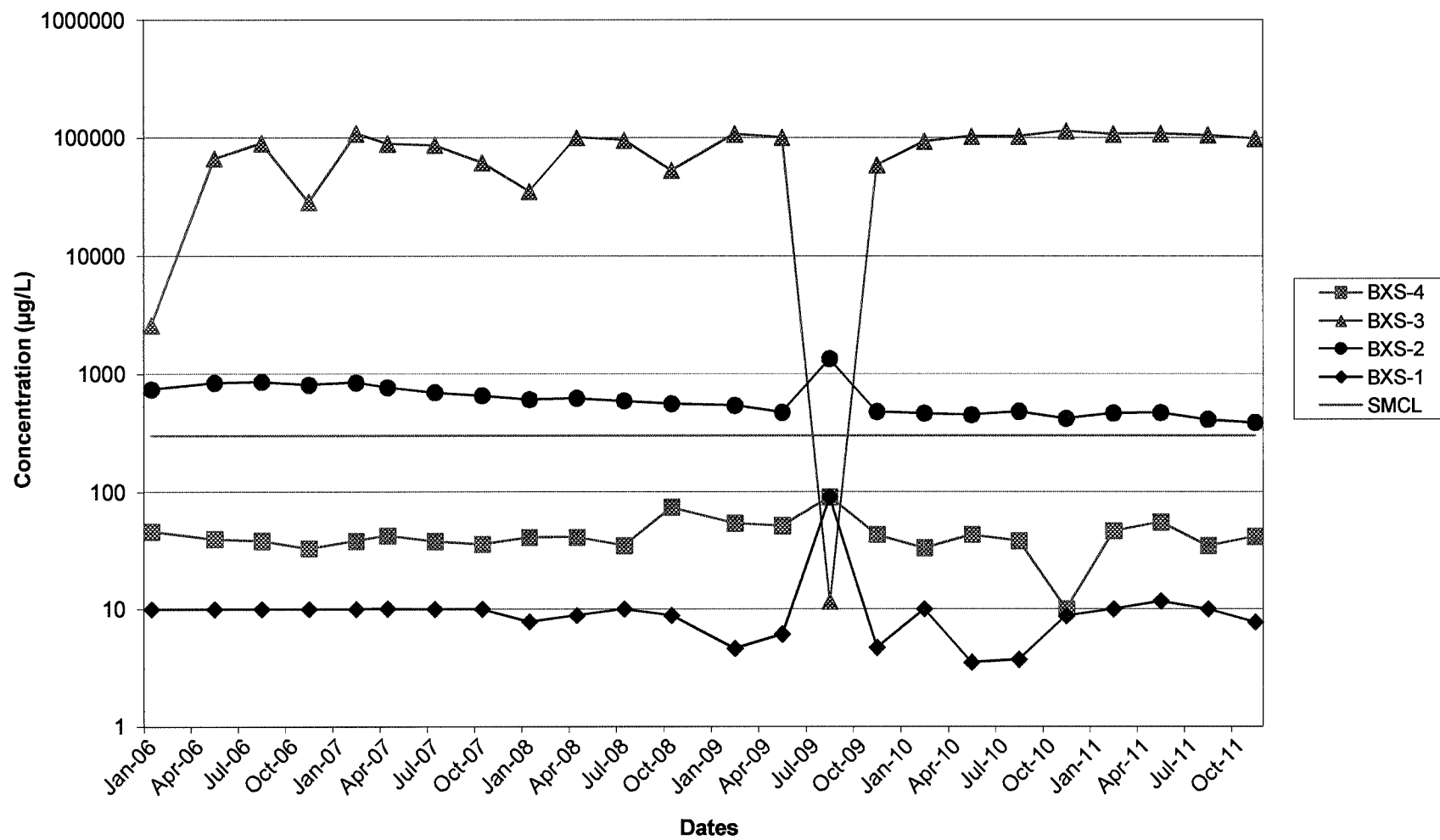


FIGURE 12
Concentration Trends for Manganese
South Woodwaste Landfill Monitoring Well Data

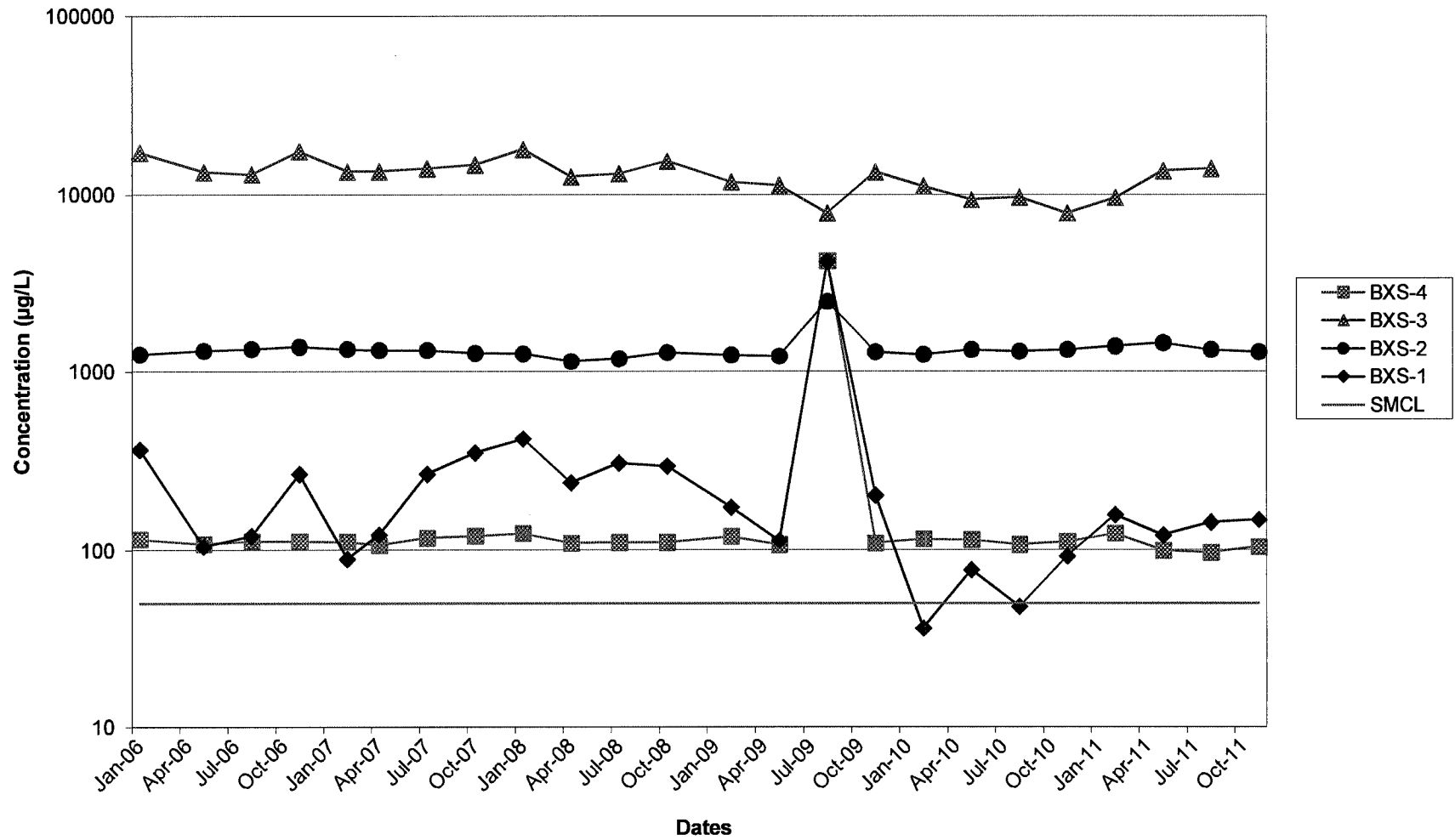


FIGURE 13
Concentration Trends for Nickel
South Woodwaste Landfill Monitoring Well Data

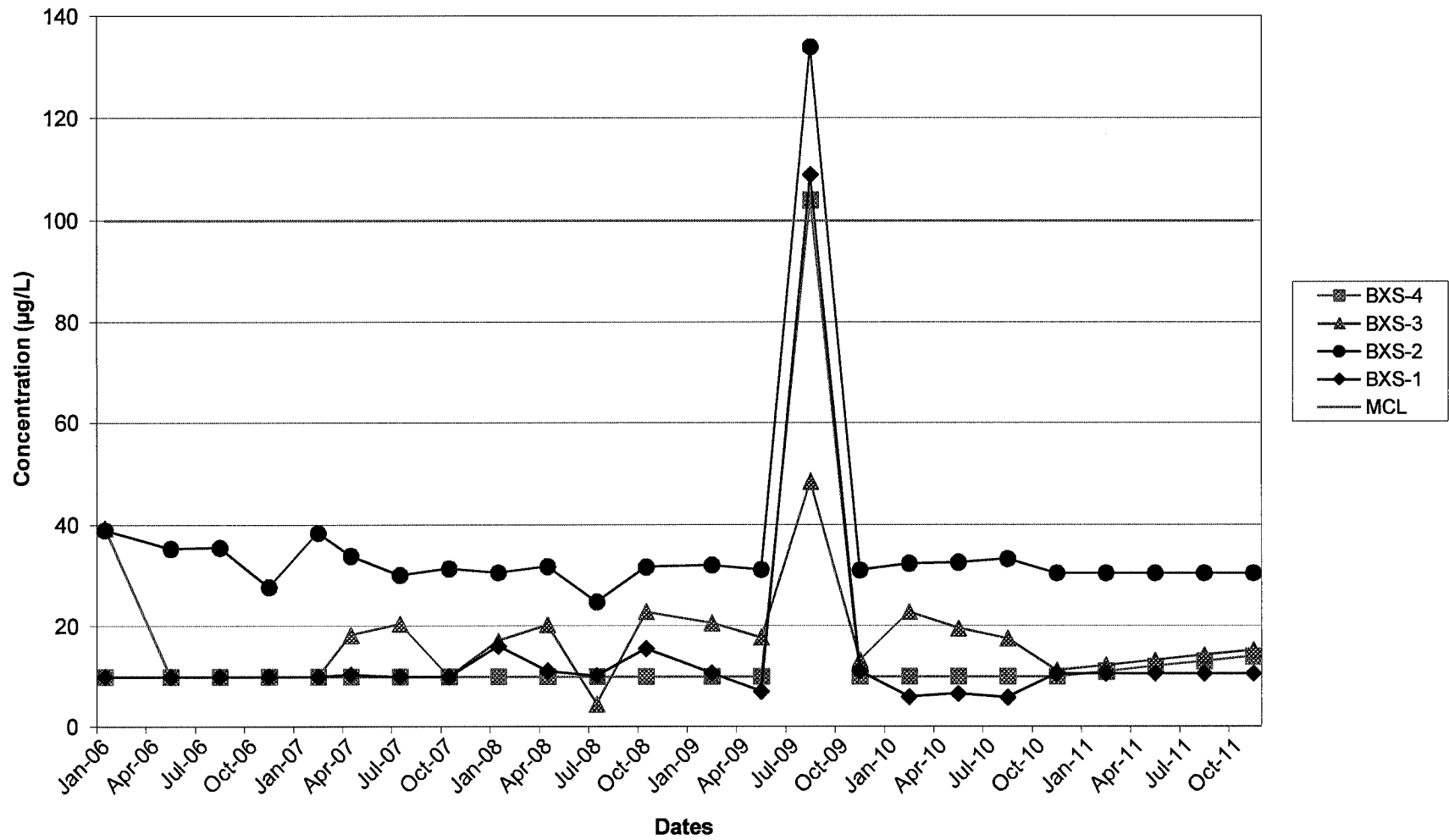


FIGURE 14
Concentration Trends for Sulfate
South Woodwaste Landfill Monitoring Well Data

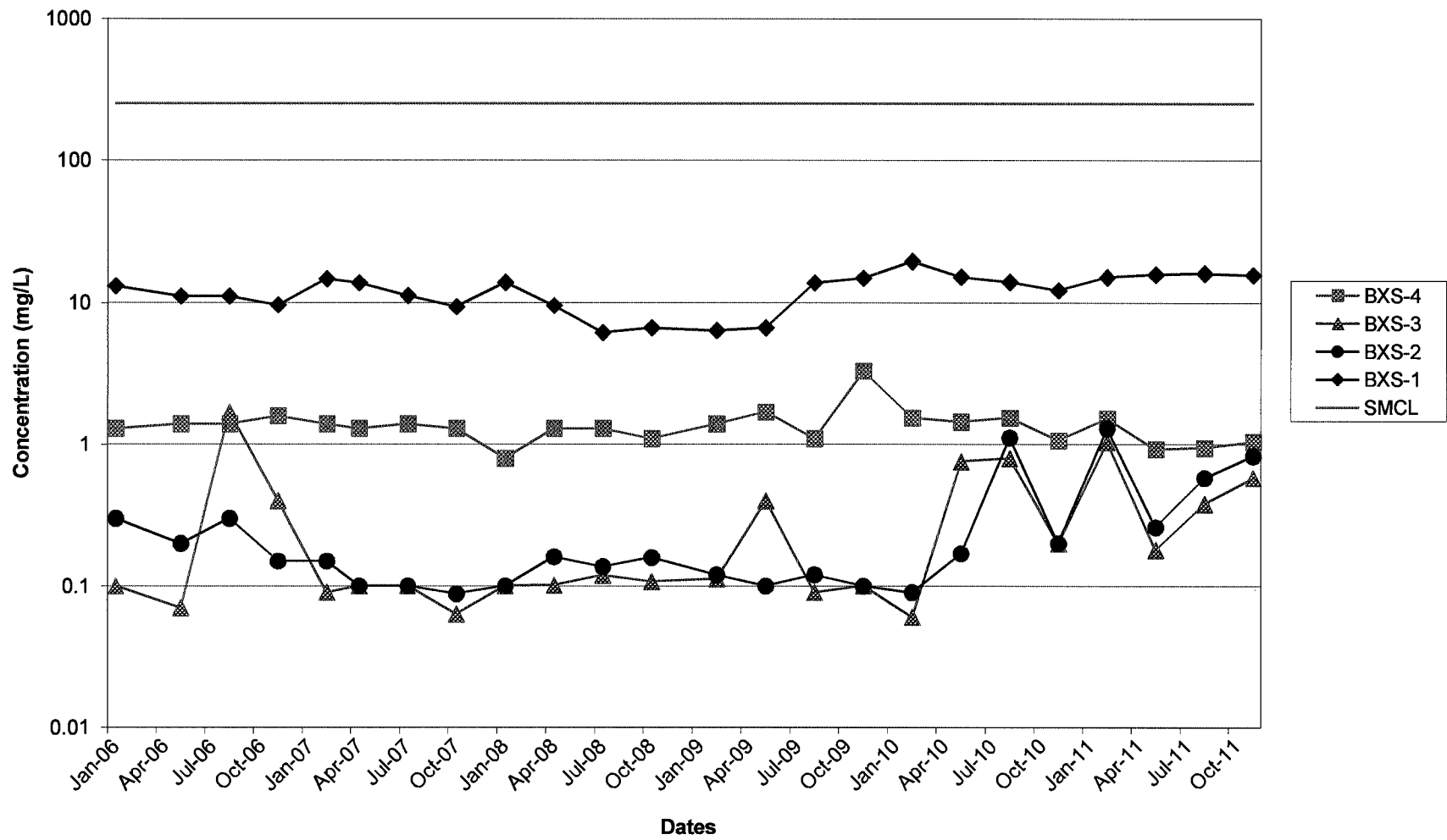


FIGURE 15
Concentration Trends for Tannin and Lignin
South Woodwaste Landfill Monitoring Well Data

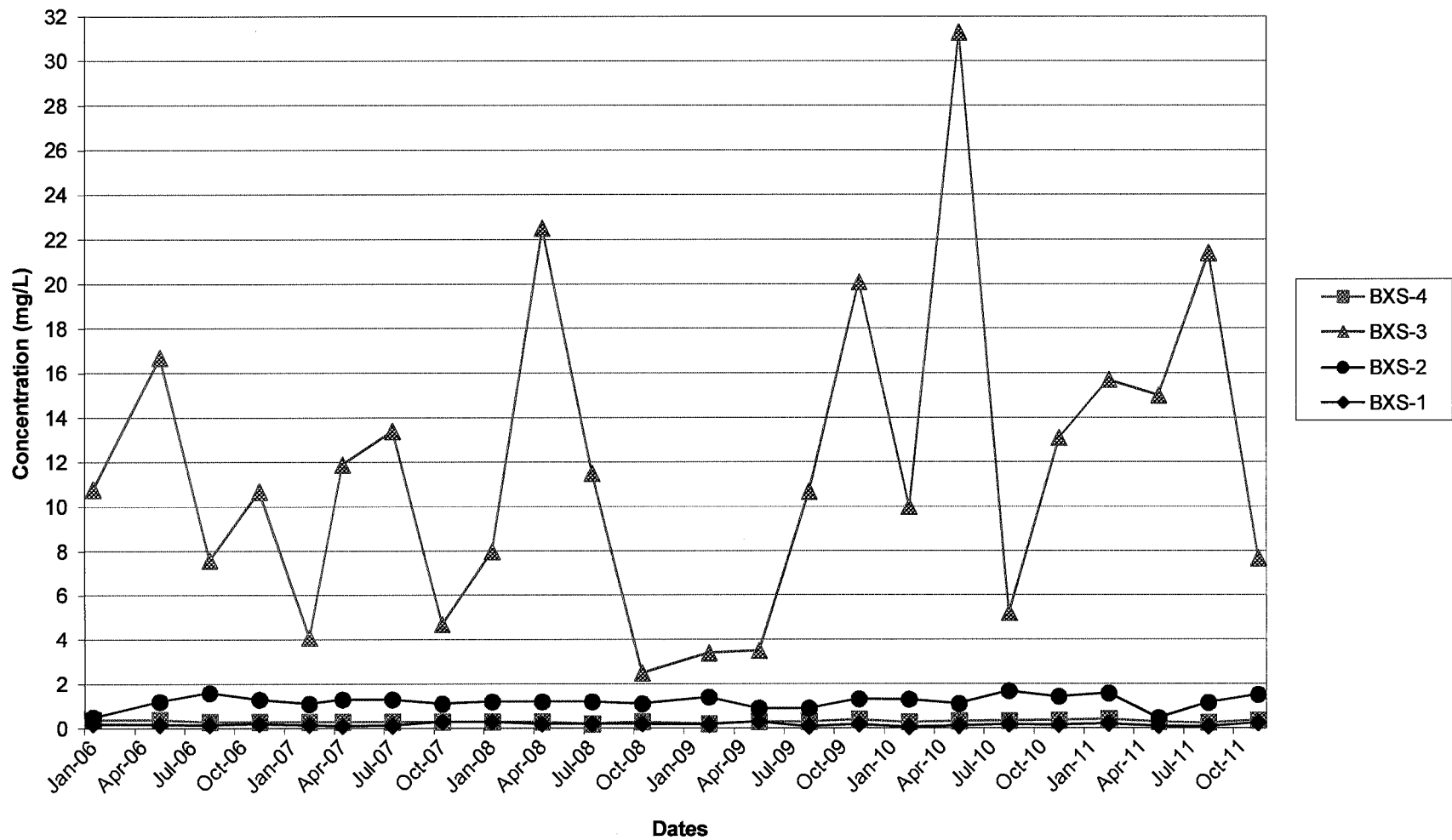


FIGURE 16
Concentration Trends for Total Organic Carbon
South Woodwaste Landfill Monitoring Well Data

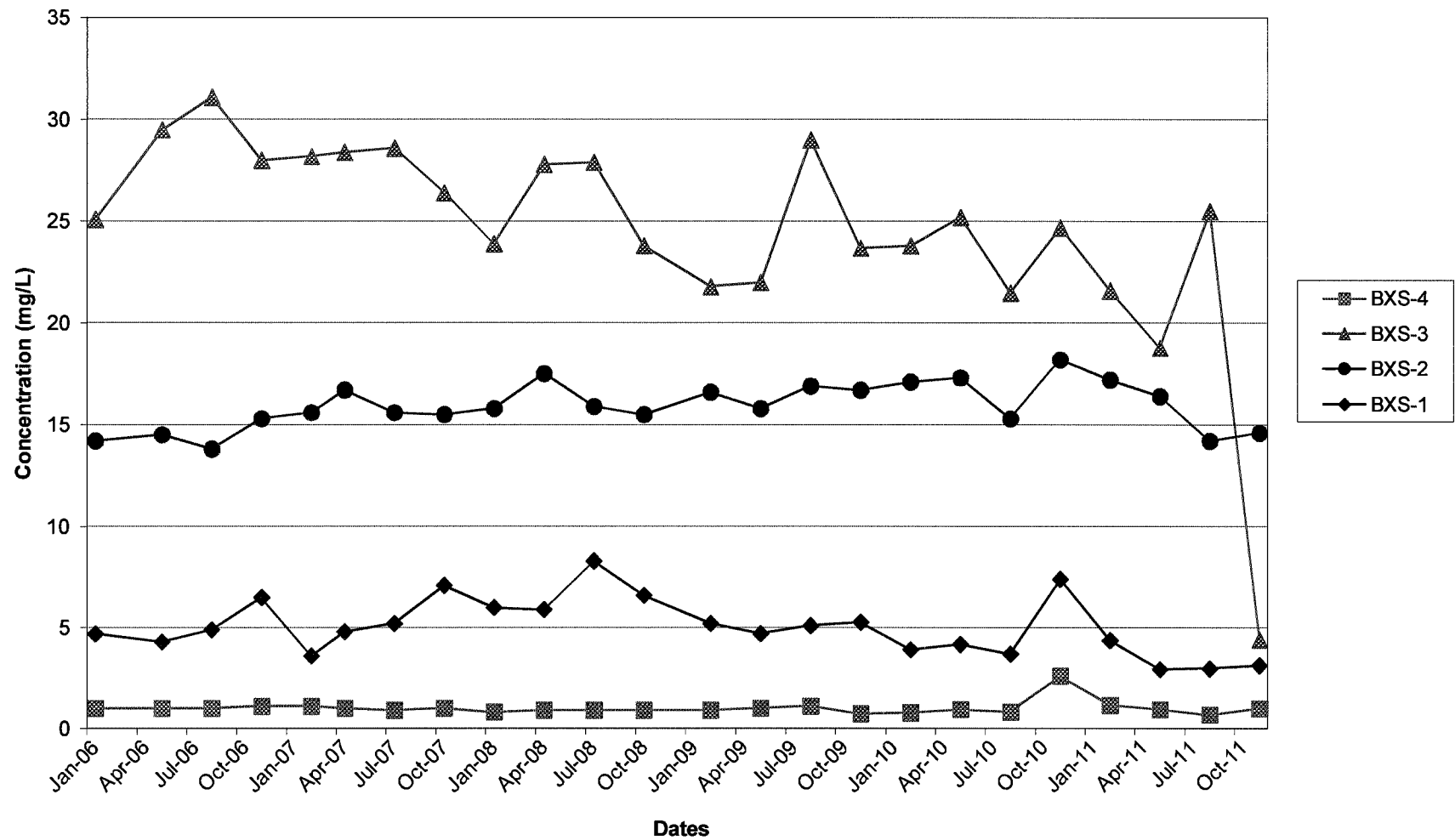


FIGURE 17
Concentration Trends for Field pH
South Woodwaste Landfill Monitoring Well Data

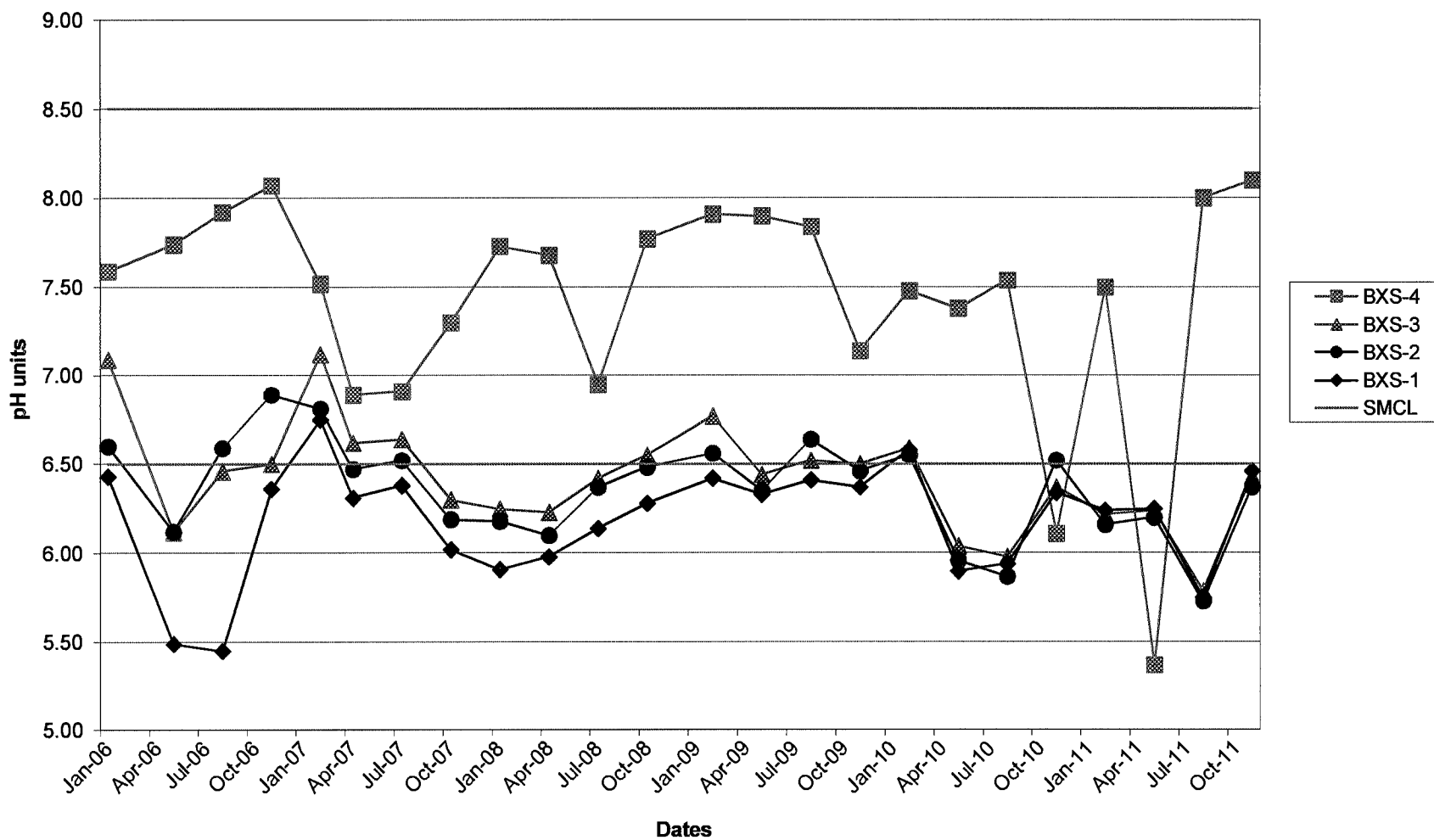
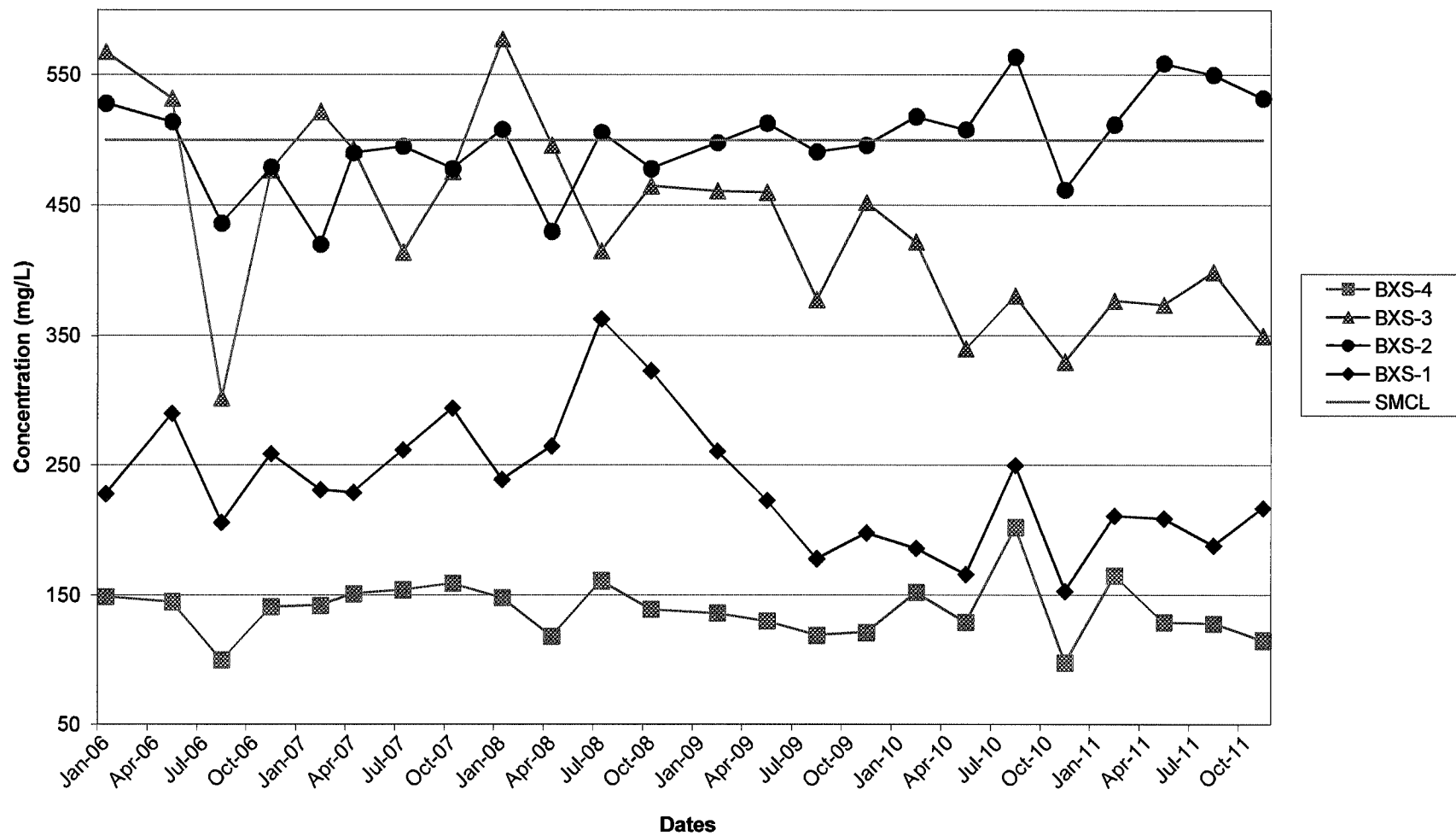


FIGURE 18
Concentration Trends for Total Dissolved Solids
South Woodwaste Landfill Monitoring Well Data





APPENDIX A

Groundwater Sampling Field Records

Groundwater Monitoring Wells

<u>Case</u>	<u>Well Number</u>	<u>Water Level</u>	<u>Bottom</u>	<u>Date</u>	<u>Time</u>	<u>Pump</u>
2"	BXN-1		58.18'			
2"	BXN-2		57.24'			
2"	BXN-3		58.66'			
2"	BXN-4		51.74'			
	BXN-5		Dup BXN-1			
	BXN-6		Blank			
2"	BXS-1	31.49	49.00'	2-7-11	16:35	X
2"	BXS-2	30.14	52.00'	2-7-11	16:39	X
2"	BXS-3	25.88	44.56'	2-7-11	16:43	X
2"	BXS-4	9.58	47.40'	2-7-11	15:44	
	BXS-5		Blank			
	BXS-6		Dup BXS-4			
4"	MW-1	20.96	41.02'	2-7-11	16:01	
4"	MW-2	36.64	47.50'	2-7-11	13:01	X
4"	MW-3	33.75	49.50'	2-7-11	12:47	X
2"	MW-4	7.94	41.92'	2-7-11	15:34	
2"	HCMW-5	18.59	35.43'	2-7-11	15:27	X
2"	HCMW-6	32.86	51.10'	2-7-11	13:05	X
2"	HCMW-7	37.02	55.08'	2-7-11	10:59	
2"	MW-10	22.21	45.58'	2-7-11	15:23	
2"	MW-11	18.46	38.00'	2-7-11	15:50	
4"	MW-12	NAPL	39.85'			
4"	MW-13	NAPL	37.19'			
2"	MW-14	16.25	38.00'	2-7-11	15:37	
2"	MW-15	32.45	50.30'	2-7-11	11:49	X
2"	MW-16	33.93	52.65'	2-7-11	11:05	
2"	MW-17	35.45	55.00'	2-7-11	11:25	X
2"	MW-18	35.69	53.83'	2-7-11	10:51	
2"	MW-22	26.81	46.50'	2-7-11	9:44	
2"	MW-23	29.27	46.50'	2-7-11	9:42	

Groundwater Sampling Field Form

[illegible]



JH Baxter & Co.

Groundwater Sampling Field Form

[illegible]

JH Baxter & Co.

Groundwater Sampling Field Form

[illegible]

JH Baxter & Co.

Groundwater Sampling Field Form

[illegible]

Groundwater Sampling Field Form

[illegible]

APPENDIX B



APPENDIX B

Chain of Custody Records and Laboratory Results



Burlington WA
Corporate Office

Bellingham WA
Microbiology

Portland OR
Microbiology/Chemistry

1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

805 Orchard Dr Ste 4 - 98225
360.671.0688

9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Page 1 of 2

Certificate Of Analysis

Client Name: J H Baxter Company
PO Box 5902
San Mateo, CA 94401

Reference Number: **11-02046**
Project: Landfill Wells
Report Date: 2/15/11
Date Received: 2/10/11
Peer Review:

Sample Description: BXS-1 - Arlington				Sample Date: 2/9/11				
Lab Number: 4538				Collected By: A. Ragan				
Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXS-2 - Arlington				Sample Date: 2/9/11				
Lab Number: 4539				Collected By: A. Ragan				
Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXS-3 - Arlington				Sample Date: 2/9/11				
Lab Number: 4540				Collected By: A. Ragan				
Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colisi	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colisi	2/11/11	DL	QT_110210	

Sample Description: BXS-4 - Arlington				Sample Date: 2/9/11				
Lab Number: 4541				Collected By: A. Ragan				
Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXS-5 - Arlington				Sample Date: 2/9/11				
Lab Number: 4542				Collected By: A. Ragan				
Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment

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.

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Form: cCOA_Mult.rpt



Certificate Of Analysis

TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210

Sample Description: BXN-1 - Arlington
Lab Number: 4543

Sample Date: 2/9/11
Collected By: A. Ragan

Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment
TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXN-2 - Arlington
Lab Number: 4544

Sample Date: 2/9/11
Collected By: A. Ragan

Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment
TOTAL COLIFORM	6.3	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXN-4 - Arlington
Lab Number: 4545

Sample Date: 2/9/11
Collected By: A. Ragan

Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment
TOTAL COLIFORM	30.9	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

Sample Description: BXN-6 - Arlington
Lab Number: 4546

Sample Date: 2/9/11
Collected By: A. Ragan

Parameter	RESULT	PQL	Units	Method	Analyzed	Analyst	Batch	Comment
TOTAL COLIFORM	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	
E. Coli	<1	1	MPN/100mL	SM9223 B.2.b/Colile	2/11/11	DL	QT_110210	

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.

12686

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 # Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Ship Address: P O Box 305	Address: P.O. Box 5902	
City: Arlington St: WA Zip: 98223	City: San Mateo St: CA Zip: 94401	
Attn:	Phone: FAX:	
Phone: 360.435-2146 FAX:	P.O.#: Attn:	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ M/C ☐ A/E Expires /	
Project: Landfill Wells	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	SM9223QT											Number of Containers	Special Instructions Conditions on Receipt	
1 BXS-1	ARLINGTON	Grab	water	2/4/11	1301	X										1			
2 BXS-2	"	"	"	2/4/11	1336	X										1			
3 BXS-3	"	"	"	2/4/11	1410	X										1			
4 BXS-4	"	"	"	2/4/11	1535	X										1			
5 BXS-5	"	"	"	2/4/11	1301	X										1			
6 BXS-1	"	"	"	2/4/11	1558	X										1			
7 BXS-2	"	"	"	2/4/11	1520	X										1			
8 BXS-4	"	"	"	2/4/11	1640	X										1			
9 BXS-6	"	"	"	2/4/11	1650	X										1			
10																			
Sampled by: Mike Duchi (SUBMITTER)		Phone: 530-938-3509		FAX:		Email: MDuchi@JHBaxter.com												9	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
Mike Duchi	2/4/11	1430	[Signature]	2-10-11	13:00

Custody seals intact

Sample temp _____ C satisfactory

Samples received intact

Chain of custody & labels agree

Yes No N/A

☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐

March 7, 2011

Analytical Report for Service Request No: K1101144

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

RE: JH Baxter/Arlington

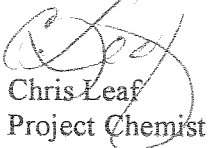
Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on February 10, 2011. For your reference, these analyses have been assigned our service request number K1101144.

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/dlm

Page 1 of 63

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.
- H In accordance with the 2007 EPA Methods Update Rule published in the Federal Register, the holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

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)	-

22591

CHAIN OF CUSTODY

SR# K1101144

COC Set of

Page 1 OF 1 COC#

1317 South 13th Ave, Kelso, WA 98626 | 360.577.7222 | 800.695.7222 | 360.636.1068 (fax)

[illegible]

~~NO pH or~~
~~Conductivity on~~
~~Eq. Check~~

Report Requirements		Invoice Information	
☐ I. Routine Report, Method Blank, Surrogate, as required		P.O.# _____	
☒ II. Report Dup., MS, MSD as required		Bill To: <u>BAXTER</u>	
☐ III. Data Validation Report (includes all raw data)		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	
☐ IV. CLP Deliverable Report		Dissolved Metals: Al <u>As</u> Sb <u>Ba</u> Be B Ca Cd Co Cr <u>Cu</u> <u>Fe</u> Pb Mg <u>Mn</u> Mo <u>Ni</u> K Ag Na Se Sr Ti Sn V <u>Zn</u> Hg	
☐ V. EDD		Special Instructions/Comments: <u>Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other</u> (Circle One)	
Turnaround Requirements		<u>Metals are field filtered</u>	
☐ 24 hr _____ 48 hr _____		<u>Please contact Leahy Gunderson w/ any questions 360-942-3409</u>	
☒ 5 Day _____		☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)	
☒ Standard (10-15 working days)			
☐ Provide Fax Results			
Requested Report Date _____			
Relinquished By:		Received By:	
<u>Scott Thiere</u> <u>2-10-11 0925</u>		<u>Les Kennedy</u> <u>2/10/11 1415</u>	
Signature _____		Signature _____	
Date/Time _____		Date/Time _____	
Printed Name _____		Printed Name _____	
Firm _____		Firm _____	

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Chris

Client / Project: J H Baxter Service Request K11 1144
 Received: 2-10-11 Opened: 2-10-11 By: De Unloaded: 2-10-11 By: De

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	NA	Tracking Number	NA	Filed
0.1	2.8	275					
24	3.6	276					
4.0	3.1	284					
4.3	4.6	281					

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:

SHORT HOLD TIME

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

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

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	K1101144-001	296	2.0	0.4	1	NA	2/22/11 10:00	
BXS-2	K1101144-002	729	2.0	0.4	1	NA	2/22/11 10:00	
BXS-3	K1101144-003	371	2.0	0.4	1	NA	2/22/11 10:00	
BXS-4	K1101144-004	155	2.0	0.4	1	NA	2/22/11 10:00	
BXS-5	K1101144-005	296	2.0	0.4	1	NA	2/22/11 10:00	
Method Blank	K1101144-MB1	1.8 J	2.0	0.4	1	NA	2/22/11 10:00	
Method Blank	K1101144-MB2	1.1 J	2.0	0.4	1	NA	2/22/11 10:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/22/11

Replicate Sample Summary General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4			RPD	RPD Limit
					Result	Average			
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	296	300	298	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
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/22/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample
K1101144-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	847	839	101	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/22/11

**Lab Control Sample Summary
General Chemistry Parameters**

Units: µMHOS/cm
Basis: NA

Lab Control Sample K1101144-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	846	839	101	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 2/28/11 14:28

Form 3C

\\Inflow2\Starlims\LimsReps\LabControlSample.rpt

SuperSet Reference: 11-0000169437 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

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	K1101144-001	6.99		0.40	0.06	2	NA	2/14/11 11:44	
BXS-2	K1101144-002	3.43		0.40	0.06	2	NA	2/14/11 11:55	
BXS-3	K1101144-003	2.37		0.40	0.06	2	NA	2/14/11 12:06	
BXS-4	K1101144-004	2.10		0.40	0.06	2	NA	2/14/11 12:17	
BXS-5	K1101144-005	7.09		0.40	0.06	2	NA	2/14/11 12:28	
Method Blank	K1101144-MB1	ND	U	2.0	0.3	10	NA	2/14/11 10:01	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1101144-004

Units: mg/L
Basis: NA

BXS-4DUP Duplicate Sample K1101144-004DUP5								
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Chloride	300.0	0.40	0.06	2.10	2.03	2.07	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.

Printed 2/28/11 14:28

Form 3B

\\nflow2\Starlims\LimsReps\DuplicateSummary.rpt

SuperSet Reference: 11-0000169437 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1101144-004

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-4MS Matrix Spike K1101144-004MS5			BXS-4DMS Duplicate Matrix Spike K1101144-004DMS5			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Chloride	2.10	6.15	4.00	101	6.10	4.00	100	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
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.92	5.00	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.

Printed 2/28/11 14:28

Form 3C

\\Inflow2\Starlims\LimsReps\LabControlSample.rpt

SuperSet Reference: 11-0000169437 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

Analysis Method: 300.0

Units: mg/L
Basis: NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1101144-001	15.2		0.40	0.02	2	NA	2/14/11 11:44	
BXS-2	K1101144-002	1.30		0.40	0.02	2	NA	2/14/11 11:55	
BXS-3	K1101144-003	1.04		0.40	0.02	2	NA	2/14/11 12:06	
BXS-4	K1101144-004	1.53		0.40	0.02	2	NA	2/14/11 12:17	
BXS-5	K1101144-005	15.4		0.40	0.02	2	NA	2/14/11 12:28	
Method Blank	K1101144-MB1	ND	U	0.20	0.01	1	NA	2/14/11 10:01	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1101144-004

Units: mg/L
Basis: NA

BXS-4DUP								
Duplicate Sample								
K1101144-004DUP5								
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Sulfate	300.0	0.40	0.02	1.53	1.51	1.52	<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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1101144-004

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-4MS Matrix Spike K1101144-004MS5			BXS-4DMS Duplicate Matrix Spike K1101144-004DMS5			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Sulfate	1.53	5.89	4.00	109	5.71	4.00	105	80 - 120	3	20

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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
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1101144-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.86	5.00	97	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

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	K1101144-001	ND U	0.050	0.020	1	NA	2/14/11 10:33	
BXS-2	K1101144-002	ND U	0.050	0.020	1	NA	2/14/11 10:33	
BXS-3	K1101144-003	1.21	0.050	0.020	1	NA	2/14/11 10:33	
BXS-4	K1101144-004	0.513	0.050	0.020	1	NA	2/14/11 10:33	
BXS-5	K1101144-005	ND U	0.050	0.020	1	NA	2/14/11 10:33	
Method Blank	K1101144-MB1	ND U	0.050	0.020	1	NA	2/14/11 10:33	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4		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.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/14/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1101144-001MS3			BXS-1DMS Duplicate Matrix Spike K1101144-001DMS3			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Ammonia as Nitrogen	ND	1.98	2.00	99	1.98	2.00	99	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	2.85	2.81	101	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

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	K1101144-001	ND U	0.050	0.009	1	NA	2/22/11 09:37	
BXS-2	K1101144-002	ND U	0.050	0.009	1	NA	2/22/11 09:37	
BXS-3	K1101144-003	0.190	0.050	0.009	1	NA	2/22/11 09:37	
BXS-4	K1101144-004	ND U	0.050	0.009	1	NA	2/22/11 09:37	
BXS-5	K1101144-005	ND U	0.050	0.009	1	NA	2/22/11 09:37	
Method Blank	K1101144-MB1	ND U	0.050	0.009	1	NA	2/22/11 09:37	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/22/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4			RPD	RPD Limit
					Result	Average			
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	ND U	ND U	NC		NC	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/22/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1101144-001MS3			BXS-1DMS Duplicate Matrix Spike K1101144-001DMS3			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	ND	2.07	2.00	103	2.04	2.00	102	86 - 117	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/22/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	16.0	15.2	105	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

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	K1101144-001	211	10	10	1	NA	2/14/11 08:30	
BXS-2	K1101144-002	512	10	10	1	NA	2/14/11 08:30	
BXS-3	K1101144-003	377	10	10	1	NA	2/14/11 08:30	
BXS-4	K1101144-004	165	10	10	1	NA	2/14/11 08:30	
BXS-5	K1101144-005	216	10	10	1	NA	2/14/11 08:30	
Method Blank	K1101144-MB1	ND U	5.0	5.0	1	NA	2/14/11 08:30	
Method Blank	K1101144-MB2	ND U	5.0	5.0	1	NA	2/14/11 08:30	
Method Blank	K1101144-MB3	ND U	5.0	5.0	1	NA	2/14/11 08:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: NA
Date Received: NA
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1101148-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1101148-004DUP7		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	20	20	ND U	22	NC	NC	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: NA
Date Received: NA
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1101163-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC Duplicate Sample K1101163-005DUP8 Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	20	20	2120	2170	2150	2	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: NA
Date Received: NA
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1101163-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1101163-008DUP9		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	14	14	1060	1060	1060	<1	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: NA
Date Received: NA
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1101163-011

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1101163-011DUP10		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	20	20	4740	4790	4770	1	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
Sample Matrix: Water

Service Request: K1101144
Date Collected: NA
Date Received: NA
Date Analyzed: 2/14/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1101183-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1101183-007DUP11		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	10	10	229	225	227	2	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
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1101144-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	1080	1090	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	1070	1090	98	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.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/14/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1101144-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	1070	1090	98	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/ 9/11
Date Received: 2/10/11

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	K1101144-001	6.49		-		1	NA	2/10/11 17:27	H
BXS-2	K1101144-002	6.38		-		1	NA	2/10/11 17:17	H
BXS-3	K1101144-003	6.23		-		1	NA	2/10/11 17:18	H
BXS-4	K1101144-004	7.88		-		1	NA	2/10/11 17:25	H
BXS-5	K1101144-005	6.51		-		1	NA	2/10/11 17:27	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/10/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4		RPD	RPD Limit
					Result	Average		
pH	SM 4500-H+ B			6.49	6.47	6.48	<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
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/10/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Lab Control Sample K1101144-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	6.41	6.46	99	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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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter/Arlington
 Sample Matrix: Water

Service Request: K1101144
 Date Collected: 2/9/11
 Date Received: 2/10/11

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	K1101144-001	9.1	5.0	3.0	1	NA	2/24/11 15:30	
BXS-2	K1101144-002	44.4	5.0	3.0	1	NA	2/24/11 15:30	
BXS-3	K1101144-003	74.9	5.0	3.0	1	NA	2/24/11 15:30	
BXS-4	K1101144-004	ND U	5.0	3.0	1	NA	2/24/11 15:30	
BXS-5	K1101144-005	ND U	5.0	3.0	1	NA	2/24/11 15:30	
Method Blank	K1101144-MB1	ND U	5.0	3.0	1	NA	2/24/11 15:30	
Method Blank	K1101144-MB2	ND U	5.0	3.0	1	NA	2/24/11 15:30	
Method Blank	K1101144-MB3	ND U	5.0	3.0	1	NA	2/24/11 15:30	
Method Blank	K1101144-MB4	ND U	5.0	3.0	1	NA	2/24/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4		RPD	RPD Limit
					Result	Average		
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	9.1	9.1	9.09	<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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	BXS-IMS Matrix Spike K1101144-001MS3			BXS-IDMS Duplicate Matrix Spike K1101144-001DMS3			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Chemical Oxygen Demand (COD)	9.1	112	100	103	110	100	101	79 - 126	2	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	129	131	99	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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Form 3C

SuperSet Reference: 11-0000169437 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	128	131	98	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1101144-001	4.37	0.50	0.07	1	NA	2/15/11 13:21	
BXS-2	K1101144-002	17.2	1.0	0.2	2	NA	2/15/11 13:21	
BXS-3	K1101144-003	21.6	0.50	0.07	1	NA	2/15/11 13:21	
BXS-4	K1101144-004	1.15	0.50	0.07	1	NA	2/15/11 13:21	
BXS-5	K1101144-005	4.16	0.50	0.07	1	NA	2/15/11 13:21	
Method Blank	K1101144-MB1	ND U	0.50	0.07	1	NA	2/15/11 13:21	
Method Blank	K1101144-MB2	ND U	0.50	0.07	1	NA	2/15/11 13:21	
Method Blank	K1101144-MB3	ND U	0.50	0.07	1	NA	2/15/11 13:21	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/15/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	4.37	4.20	4.29	4	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/15/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

BXS-1MS
Matrix Spike
 K1101144-001MS4

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	4.37	28.2	25.0	95	83 - 117

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 3A

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SuperSet Reference: 11-0000169437 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/15/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCSI					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.9	26.0	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/15/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.3	26.0	97	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/15/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1101144-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.7	26.0	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/ 9/11
Date Received: 2/10/11

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	K1101144-001	0.21		0.20	0.03	1	NA	2/18/11 14:00	
BXS-2	K1101144-002	1.58		0.20	0.03	1	NA	2/18/11 14:00	
BXS-3	K1101144-003	15.7		1.0	0.2	5	NA	2/18/11 14:00	
BXS-4	K1101144-004	0.42		0.20	0.03	1	NA	2/18/11 14:00	
BXS-5	K1101144-005	0.25		0.20	0.03	1	NA	2/18/11 14:00	
Method Blank	K1101144-MB1	0.08	J	0.20	0.03	1	NA	2/18/11 14:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/18/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1101144-001DUP4		RPD	RPD Limit
					Result	Average		
Tannin and Lignin	SM 5550 B	0.20	0.03	0.21	0.21	0.208	<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
Sample Matrix: Water

Service Request: K1101144
Date Collected: 2/9/11
Date Received: 2/10/11
Date Analyzed: 2/18/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1101144-001

Units: mg/L
Basis: NA

Analytical Method: SM 5550 B

Analyte Name	Sample Result	BXS-IMS Matrix Spike K1101144-001MS3			BXS-1DMS Duplicate Matrix Spike K1101144-001DMS3			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Tannin and Lignin	0.21	1.32	1.00	111	2.38	2.00	109	70 - 120	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1101144
Date Analyzed: 2/18/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1101144-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.04	1.00	104	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

- Cover Page - INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: JH Baxter/Arlington
Project No.:

Service Request: K1101144

Sample Name:

BXS-1D

BXS-1

BXS-1S

BXS-2

BXS-3

BXS-4

BXS-5

Method Blank

Lab Code:

K1101144-001DDISS

K1101144-001DISS

K1101144-001SDISS

K1101144-002DISS

K1101144-003DISS

K1101144-004DISS

K1101144-005DISS

K1101144-MB

Comments:

Approved By: EMA

Date: 3/3/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1101144

Project No.: NA

Date Collected: 02/09/11

Project Name: JH Baxter/Arlington

Date Received: 02/10/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1101144-001DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/24/11	02/24/11	1.0	U	
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	16.9		
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	2.0	J	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	3.0	U	
Manganese	6010C	5.00	0.20	1.0	02/24/11	02/25/11	159		
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	10.0	J	
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	3.1	J	

* Solids: 0.0

Comments:

Metals**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1101144**Project No.:** NA**Date Collected:** 02/09/11**Project Name:** JH Baxter/Arlington**Date Received:** 02/10/11**Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** BXS-2**Lab Code:** K1101144-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/24/11	02/24/11	1.0	U	
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	53.6		
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	0.8	U	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	466		
Manganese	6010C	5.00	0.20	1.0	02/24/11	02/25/11	1400		
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	34.4		
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	4.9	J	

% Solids: 0.0**Comments:**

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1101144

Project No.: NA

Date Collected: 02/09/11

Project Name: JH Baxter/Arlington

Date Received: 02/10/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1101144-003DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	21.2	4.3	4.3	02/24/11	02/24/11	119		
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	142		
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	3.3	J	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	109000		
Manganese	6010C	5.0	0.2	1.0	02/24/11	02/25/11	9610		
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	20.8		
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	0.2	U	

% Solids: 0.0

Comments:

Metals**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1101144**Project No.:** NA**Date Collected:** 02/09/11**Project Name:** JH Baxter/Arlington**Date Received:** 02/10/11**Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** BXS-4**Lab Code:** K1101144-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/24/11	02/24/11	5.5		
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	28.6		
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	0.8	U	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	46.8		
Manganese	6010C	5.00	0.20	1.0	02/24/11	02/25/11	125		
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	0.7	U	
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	0.4	J	

% Solids: 0.0**Comments:**

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1101144

Project No.: NA

Date Collected: 02/09/11

Project Name: JH Baxter/Arlington

Date Received: 02/10/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-5

Lab Code: K1101144-005DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/24/11	02/24/11	1.0	U	
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	16.6		
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	2.0	J	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	3.0	U	
Manganese	6010C	5.00	0.20	1.0	02/24/11	02/25/11	160		
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	9.6	J	
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	2.5	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1101144

Project No.: NA

Date Collected:

Project Name: JH Baxter/Arlington

Date Received:

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: Method Blank

Lab Code: K1101144-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7060A	5.0	1.0	1.0	02/24/11	02/24/11	1.0	U	
Barium	6010C	5.0	0.4	1.0	02/24/11	02/25/11	0.4	U	
Copper	6010C	10.0	0.8	1.0	02/24/11	02/25/11	0.8	U	
Iron	6010C	20.0	3.0	1.0	02/24/11	02/25/11	3.0	U	
Manganese	6010C	5.00	0.20	1.0	02/24/11	02/25/11	0.20	U	
Nickel	6010C	20.0	0.7	1.0	02/24/11	02/25/11	0.7	U	
Zinc	6010C	20.0	0.2	1.0	02/24/11	02/25/11	0.2	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1101144

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-1S

Lab Code: K1101144-001SDISS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	63 - 127	35.1		1.0	U	40.00	87.8		7060A
Barium	80 - 124	2000		16.9		2000.00	99.2		6010C
Copper	86 - 113	245		2.0	J	250.00	97.2		6010C
Iron	75 - 125	977		3.0	U	1000.00	97.7		6010C
Manganese	77 - 113	642		159		500.00	96.6		6010C
Nickel	86 - 120	475		10.0	J	500.00	93.0		6010C
Zinc	87 - 113	475		3.1	J	500.00	94.4		6010C

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

Metals**- 6 -****DUPLICATES****Client:** JH Baxter & Company**Service Request:** K1101144**Project No.:** NA**Units:** UG/L**Project Name:** JH Baxter/Arlington**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** BXS-1D**Lab Code:** K1101144-001DDISS

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		1.0	U	1.0	U			7060A
Barium		16.9		16.2		4.2		6010C
Copper		2.0	J	2.0	J	0.0		6010C
Iron		3.0	U	3.0	U			6010C
Manganese	20	159		159		0.0		6010C
Nickel		10.0	J	10.0	J	0.0		6010C
Zinc		3.1	J	3.1	J	0.0		6010C

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: K1101144

Project No.: NA

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	22.8	91.2						
Barium	5000	5070	101.4						
Copper	625	642	102.7						
Iron	2500	2500	100.0						
Manganese	1250	1280	102.4						
Nickel	1250	1220	97.6						
Zinc	1250	1200	96.0						



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Page 1 of 2

Data Report

Client Name: J H Baxter Company
85 Baxter Rd
Eugene, OR 97402

Reference Number: **11-07495**
Project: Landfill Wells & Carbon

Report Date: 5/25/11
Date Received: 5/18/11
Reviewed by:

Sample Description: BXS-1 - JHBAXTER Arlington Lab Number: 16298										Sample Date: 5/17/11 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/Coliler	5/19/11	SLM	QT_110518	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	

Sample Description: BXS-2 - JHBAXTER Arlington Lab Number: 16299										Sample Date: 5/17/11 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/Coliler	5/19/11	SLM	QT_110518	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	

Sample Description: BXS-3 - JHBAXTER Arlington Lab Number: 16300										Sample Date: 5/17/11 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/Coliler	5/19/11	SLM	QT_110518	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	

Sample Description: BXS-4 - JHBAXTER Arlington Lab Number: 16301										Sample Date: 5/17/11 Collected By: A. Ragan		
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

TOTAL COLIFORM	2	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	

Sample Description: BXS-5 - JHBAXTER Arlington Lab Number: 16302										Sample Date: 5/17/11 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/Coliler	5/19/11	SLM	QT_110518	
E. Coli	<1	1	1			MPN/100mL.00		SM9223 B.2.b/Coliler	5/19/11	SLM	QT_110518	

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

Data Report

Sample Description: BXN-1 - JHBAXTER Arlington								Sample Date: 5/17/11				
Lab Number: 16303								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/Collier	5/19/11	SLM	QT_110518	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Collier	5/19/11	SLM	QT_110518	

Sample Description: BXN-2 - JHBAXTER Arlington									Sample Date: 5/17/11			
Lab Number: 16304									Collected By: A. Ragan			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

	TOTAL COLIFORM	2	1	1		MPN/100mL.00		SM9223 B.2.b/Collier	5/19/11	SLM	QT_110518	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Collier	5/19/11	SLM	QT_110518	

Sample Description: BXN-4 - JHBAXTER Arlington									Sample Date: 5/17/11			
Lab Number: 16305									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/Collier	5/19/11	SLM	QT_110518	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Collier	5/19/11	SLM	QT_110518	

Sample Description: BXN-6 - JHBAXTER Arlington								Sample Date: 5/17/11				
Lab Number: 16306								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/Collier	5/19/11	SLM	QT_110518	
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Collier	5/19/11	SLM	QT_110518	

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)

13474

Report to: J H Baxter Company	Bill to: J.H. Baxter & Company	For Lab Use Only Ref #
Ship Address: P O Box 305	Address: P.O. Box 5902	
City: Arlington St: WA Zip: 98223	City: San Mateo St: CA Zip: 94401	Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Attn:	Phone: FAX:	
Phone: 360.435-2146 FAX:	P.O.#: Attn:	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ M/C ☐ A/E Expires /	
Project: Landfill Wells	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	SM9223QT											Number of Containers	Special Instructions Conditions on Receipt
1	BXS-1		H ₂ O	5/17	11:10	X										1		
2	BXS-2		GW	5/17	12:11	X										1		
3	BXS-3		GW	5/17	13:01	X										1		
4	BXS-4		GW	5/17	14:28	X										1		
5	BXS-5		GW	5/17	15:00	X										1		
6	BXN-1		GW	5/17	12:05	X										1		
7	BXN-2		GW	5/17	11:12	X										1		
8	BXN-4		GW	5/17	12:46	X										1		
9	BXN-6		GW	5/17	13:05	X										1		
10																		

Sampled by: Mike Duch Phone: 530-592-0730 FAX: Email: MDUCH@JHBAXTER.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
<u>MDL</u>	<u>5/17/11</u>	<u>1500</u>			

Custody seals intact

Sample temp _____ C satisfactory

Samples received intact

Chain of custody & labels agree

Yes No N/A

☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐☐ ☐ ☐

June 9, 2011

Analytical Report for Service Request No: K1104477

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

RE: JH Baxter Arlington/BXS & BXN Wells

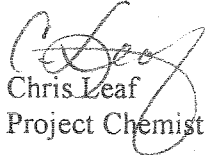
Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on May 19, 2011. For your reference, these analyses have been assigned our service request number K1104477.

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/jw

Page 1 of 91

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.
- 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.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- 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.
- 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

Agency	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 - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request No.: K1104477
Date Received: 5/19/2011

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

Nine water samples were received for analysis at Columbia Analytical Services on 5/19/2011. 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

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

Approved by

Date



24370

CHAIN OF CUSTODY

1317 South 13th Ave, Kelso, WA 98626 | 360.577.7222 | 800.695.7222 | 360.636.1068 (fax)

SR#

K1104477

COC Set _____ of _____

Page 1 OF 1 COC# _____

Project Name JH BAXTER ARLINGTON					OH		7D		28D		180D							
Project Number 14																		
Project Manager Mike Duch																		
Company Name JH BAXTER																		
Company Address 85 N. BAXTER RD																		
City/State/Zip Eugene OR 97402																		
E-Mail Address mduchi@JHBaxter.com																		
Phone # 530-938-2507 FAX #																		
Sampler Signature [Signature]																		
Sample ID	Date	Time	Lab ID	Matrix	Number of Containers	SM 4500-H+ B / pH	SM 2540 C / TDS	120.1 / Cond Spec	300.0 / Chloride	300.0 / SO4	350.1 / Ammonia T	353.2 / NO2 NO3 T	SM 5220 C / COD T	SM 5310 C / TOC T	SM 5550 B / Tan Lign	6010C / Metals D	7010 / As R	Remarks
1 BXS-1	5/17	11:10		H26	3	X	X	X	X	X	X	X	X	X	X	X	X	
2 BXS-2	5/17	1211			3													
3 BXS-3	5/17	1301			3													
4 BXS-4	5/17	1427			3													
5 BXS-5	5/17	11:10			3													
6																		
7																		
8																		
9																		
10																		
11																		

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: **BAXTER**

Turnaround Requirements

- ____ 24 hr. _____ 48 hr.
- ____ 5 Day
- ☒ Standard (10-15 working days)
- ____ Provide Fax Results

Requested Report Date _____

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 ☒ 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

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA VI Northwest Other _____ (Circle One)

Metals are field filtered

Please Contact Kathy Gundersen w/ any questions

360-942-3409

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

Relinquished By:

[Signature] 5/17/11 10:59
Signature Date/Time
JOE THAYER JHBaxter
Printed Name Firm

Received By:

[Signature] 5/17/11 10:59
Signature Date/Time
[Signature] JHBaxter
Printed Name Firm

Relinquished By:

Signature Date/Time

Printed Name Firm

Received By:

Signature Date/Time

Printed Name Firm

24370

CHAIN OF CUSTODY

SR# K1104477
COC Set _____ of _____
Page 1 OF 1 COC# _____
2 2

1317 South 13th Ave, Kelso, WA 98626 | 360.577.7222 | 800.695.7222 | 360.636.1068 (fax)

[illegible]

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: <u>BAXTER</u> _____ _____ Turnaround Requirements _____ 24 hr _____ 48 hr. _____ 5 Day ☒ Standard (10-15 working days) _____ Provide Fax Results _____ Requested Report Date _____	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>Be</u> B Ca Cd Co Cr <u>Cd</u> <u>Fe</u> Pb Mg <u>Mn</u> Mo <u>Ni</u> K Ag Na Se Sr Ti Sn V Zn Hg Special Instructions/Comments: <u>"Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other (Circle One)"</u> <u>METALS are Field Filtered</u> <u>Please Contact Kathy Gunderson w/ Any questions</u> (360) 942-3409 ☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)
--	--	---

Relinquished By: <u>Kathy Gunderson</u> 10:57 5-19-11 Signature _____ Date/Time _____ Printed Name <u>Kathy Gunderson</u> Firm <u>BAXTER</u>	Received By: <u>[Signature]</u> 5/19/11 1057 Signature _____ Date/Time _____ Printed Name _____ Firm _____	Relinquished By: Signature _____ Date/Time _____ Printed Name _____ Firm _____	Received By: Signature _____ Date/Time _____ Printed Name _____ Firm _____
---	---	--	--

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CL

Client / Project: JH Baxter Service Request K11 2477
 Received: 5/19/11 Opened: 5/19/11 By: SA Unloaded: 5/19/11 By: SA

1. Samples were received via? Mail Feed 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	NA	Filed
-0.4	4.0	275				
2.9		306				
0.0	8.8	299				

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 5/19/11 NA Y N
 14. Were VOA vials received without headspace? Indicate in the table below 5/19/11 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: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	321		2.0	0.4	1	NA	5/31/11 09:00	
BXS-2	K1104477-002	801		2.0	0.4	1	NA	5/31/11 09:00	
BXS-3	K1104477-003	377		2.0	0.4	1	NA	5/31/11 09:00	
BXS-4	K1104477-004	219		2.0	0.4	1	NA	5/31/11 09:00	
BXS-5	K1104477-005	310		2.0	0.4	1	NA	5/31/11 09:00	
BXN-1	K1104477-006	423		2.0	0.4	1	NA	5/31/11 09:00	
BXN-2	K1104477-007	371		2.0	0.4	1	NA	5/31/11 09:00	
BXN-4	K1104477-008	638		2.0	0.4	1	NA	5/31/11 09:00	
BXN-6	K1104477-009	2.5		2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB1	1.6	J	2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB2	0.9	J	2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB3	1.0	J	2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB4	1.8	J	2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB5	1.0	J	2.0	0.4	1	NA	5/31/11 09:00	
Method Blank	K1104477-MB6	1.5	J	2.0	0.4	1	NA	5/31/11 09:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1104422-001

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1104422-001DUP5		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	207	198	203	4	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 6/3/11 10:27

Form 3B

\\nflow2\Starlins\LimsReps\DuplicateSummary.rpt

SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104499-003

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1104499-003DUP17		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	80.0	75.6	77.8	6	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104499-017

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1104499-017DUP18		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	1820	1970	1900	8	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 6/3/11 10:27

Form 3B

\\nflow2\Starlims\LimsReps\DuplicateSummary.rpt

SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104562-001

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC Duplicate Sample K1104562-001DUP19		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	196	189	193	4	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104634-001

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1104634-001DUP21		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	1100	1010	1060	9	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 6/3/11 10:27

Form 3B

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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104634-016

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1104634-016DUP22		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	874	882	878	<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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1104634-017

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1104634-017DUP23		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	880	881	881	<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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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104634-034

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1104634-034DUP24		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	595	596	596	<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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/31/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1104634-035

Units: µMHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1104634-035DUP25		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	903	882	893	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	505	503	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

Lab Control Sample K1104477-LCS2					
		Spike		% Rec	
Analyte Name	Method	Result	Amount	% Rec	Limits
Conductivity at 25 Degrees Celsius	120.1	508	503	101	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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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample
K1104477-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	501	503	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

Lab Control Sample K1104477-LCS4					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	500	503	99	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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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample K1104477-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	499	503	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/31/11

Lab Control Sample Summary General Chemistry Parameters

Units: µMHOS/cm
Basis: NA

Lab Control Sample K1104477-LCS6					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	504	503	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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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	6.17		0.40	0.06	2	NA	5/19/11 22:12	
BXS-2	K1104477-002	3.05		0.40	0.06	2	NA	5/19/11 22:27	
BXS-3	K1104477-003	2.07		0.40	0.06	2	NA	5/19/11 22:42	
BXS-4	K1104477-004	1.65		0.40	0.06	2	NA	5/19/11 22:57	
BXS-5	K1104477-005	5.94		0.40	0.06	2	NA	5/19/11 23:12	
BXN-1	K1104477-006	9.88		0.40	0.06	2	NA	5/19/11 23:27	
BXN-2	K1104477-007	9.90		0.40	0.06	2	NA	5/20/11 00:27	
BXN-4	K1104477-008	15.6		1.0	0.2	5	NA	5/20/11 00:42	
BXN-6	K1104477-009	ND	U	0.40	0.06	2	NA	5/23/11 12:04	
Method Blank	K1104477-MB1	ND	U	0.20	0.03	1	NA	5/19/11 10:16	
Method Blank	K1104477-MB2	ND	U	0.20	0.03	1	NA	5/19/11 18:28	
Method Blank	K1104477-MB3	ND	U	0.20	0.03	1	NA	5/23/11 09:34	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

					BXN-6DUP			
					Duplicate Sample			
					K1104477-009DUP13			
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Chloride	300.0	0.40	0.06	ND U	ND U	NC	NC	20

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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: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXN-6MS Matrix Spike K1104477-009MS10			BXN-6DMS Duplicate Matrix Spike K1104477-009DMS10			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloride	ND	3.47	4.00	87	3.49	4.00	87	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/19/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L**Basis:** NA**Lab Control Sample**

K1104477-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.64	5.00	93	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: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/19/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample
 K1104477-LCS2

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.65	5.00	93	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L

Basis: NA

Lab Control Sample

K1104477-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.63	5.00	93	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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Form 3C

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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

Analysis Method: 300.0

Units: mg/L
 Basis: NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1104477-001	15.9		0.40	0.02	2	NA	5/19/11 22:12	
BXS-2	K1104477-002	0.26	J	0.40	0.02	2	NA	5/19/11 22:27	
BXS-3	K1104477-003	0.18	J	0.40	0.02	2	NA	5/19/11 22:42	
BXS-4	K1104477-004	0.93		0.40	0.02	2	NA	5/19/11 22:57	
BXS-5	K1104477-005	15.1		0.40	0.02	2	NA	5/19/11 23:12	
BXN-1	K1104477-006	7.21		0.40	0.02	2	NA	5/19/11 23:27	
BXN-2	K1104477-007	15.9		0.40	0.02	2	NA	5/20/11 00:27	
BXN-4	K1104477-008	39.4		1.0	0.05	5	NA	5/20/11 00:42	
BXN-6	K1104477-009	ND	U	0.40	0.02	2	NA	5/23/11 12:04	
Method Blank	K1104477-MB1	0.01	J	0.20	0.01	1	NA	5/19/11 10:16	
Method Blank	K1104477-MB2	0.01	J	0.20	0.01	1	NA	5/19/11 18:28	
Method Blank	K1104477-MB3	0.02	J	0.20	0.01	1	NA	5/23/11 09:34	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

					BXN-6DUP		RPD	RPD Limit
					Duplicate Sample			
					K1104477-009DUP13		Average	
Analyte Name	Method	MRL	MDL	Sample Result	Result			
Sulfate	300.0	0.40	0.02	ND U	ND U	NC	NC	20

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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXN-6MS Matrix Spike K1104477-009MS10			BXN-6DMS Duplicate Matrix Spike K1104477-009DMS10			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Sulfate	ND	3.55	4.00	89	3.53	4.00	88	80 - 120	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/19/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.52	5.00	90	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: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/19/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.54	5.00	91	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/23/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample
 K1104477-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.49	5.00	90	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 & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
BXS-2	K1104477-002	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
BXS-3	K1104477-003	0.703		0.050	0.020	1	NA	5/23/11 11:12	
BXS-4	K1104477-004	0.544		0.050	0.020	1	NA	5/23/11 11:12	
BXS-5	K1104477-005	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
BXN-1	K1104477-006	0.251		0.050	0.020	1	NA	5/23/11 11:12	
BXN-2	K1104477-007	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
BXN-4	K1104477-008	8.09		0.25	0.10	5	NA	5/23/11 11:12	
BXN-6	K1104477-009	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
Method Blank	K1104477-MB1	ND	U	0.050	0.020	1	NA	5/23/11 11:12	
Method Blank	K1104477-MB2	ND	U	0.050	0.020	1	NA	5/23/11 11:12	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Replicate Sample Summary General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1104477-001DUP10		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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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	BXS-IMS Matrix Spike K1104477-001MS8			BXS-IDMS Duplicate Matrix Spike K1104477-001DMS8			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Ammonia as Nitrogen	ND	2.00	2.00	100	2.00	2.00	100	90 - 110	<1	20

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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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/23/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1104477-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.5	13.9	97	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: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/23/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.3	13.9	96	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 & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	0.149	0.050	0.009	1	NA	5/20/11 14:54	
BXS-2	K1104477-002	0.018 J	0.050	0.009	1	NA	5/20/11 14:54	
BXS-3	K1104477-003	0.143	0.050	0.009	1	NA	5/20/11 14:54	
BXS-4	K1104477-004	0.013 J	0.050	0.009	1	NA	5/20/11 14:54	
BXS-5	K1104477-005	0.139	0.050	0.009	1	NA	5/20/11 14:54	
BXN-1	K1104477-006	0.047 J	0.050	0.009	1	NA	5/20/11 14:54	
BXN-2	K1104477-007	0.569	0.050	0.009	1	NA	5/20/11 14:54	
BXN-4	K1104477-008	1.94	0.050	0.009	1	NA	5/20/11 14:54	
BXN-6	K1104477-009	0.012 J	0.050	0.009	1	NA	5/20/11 14:54	
Method Blank	K1104477-MB1	0.017 J	0.050	0.009	1	NA	5/20/11 14:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/20/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104448-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1104448-001DUP9		RPD	RPD Limit
					Result	Average		
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.039 J	0.036 J	0.0373	7	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: NA
Date Received: NA
Date Analyzed: 5/20/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1104448-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1104448-001MS7			Batch QCDMS Duplicate Matrix Spike K1104448-001DMS7			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	0.039	2.02	2.00	99	2.02	2.00	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/20/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.2	17.7	97	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 & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	209	10	10	1	NA	5/23/11 13:00	
BXS-2	K1104477-002	559	10	10	1	NA	5/23/11 13:00	
BXS-3	K1104477-003	374	10	10	1	NA	5/23/11 13:00	
BXS-4	K1104477-004	129	10	10	1	NA	5/23/11 13:00	
BXS-5	K1104477-005	194	10	10	1	NA	5/23/11 13:00	
BXN-1	K1104477-006	328	10	10	1	NA	5/23/11 13:00	
BXN-2	K1104477-007	200	10	10	1	NA	5/23/11 13:00	
BXN-4	K1104477-008	371	10	10	1	NA	5/23/11 13:00	
BXN-6	K1104477-009	ND U	5.0	5.0	1	NA	5/23/11 13:00	
Method Blank	K1104477-MB1	ND U	5.0	5.0	1	NA	5/23/11 13:00	
Method Blank	K1104477-MB2	ND U	5.0	5.0	1	NA	5/23/11 13:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/23/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXN-4
Lab Code: K1104477-008

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXN-4DUP Duplicate Sample K1104477-008DUP12		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	10	10	371	383	377	3	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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/23/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample
 K1104477-LCS1

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	864	825	105	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: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11

Analysis Method: SM 4500-H+ B

Units: pH Units
Basis: NA

pH									
Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution	Date	Date	Note
						Factor	Extracted	Analyzed	
BXS-1	K1104477-001	6.32		-		1	NA	5/19/11 14:50	H
BXS-2	K1104477-002	6.42		-		1	NA	5/19/11 14:53	H
BXS-3	K1104477-003	6.28		-		1	NA	5/19/11 14:54	H
BXS-4	K1104477-004	7.79		-		1	NA	5/19/11 14:55	H
BXS-5	K1104477-005	6.50		-		1	NA	5/19/11 14:57	H
BXN-1	K1104477-006	6.40		-		1	NA	5/19/11 15:00	H
BXN-2	K1104477-007	6.47		-		1	NA	5/19/11 15:01	H
BXN-4	K1104477-008	6.59		-		1	NA	5/19/11 15:02	H
BXN-6	K1104477-009	6.06		-		1	NA	5/19/11 15:02	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/19/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-2
Lab Code: K1104477-002

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-2DUP Duplicate Sample K1104477-002DUP11		RPD	RPD Limit
					Result	Average		
pH	SM 4500-H+ B			6.42	6.37	6.40	<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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Form 3B

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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/19/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Lab Control Sample					
K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	8.92	9.06	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

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	K1104477-001	8.2		5.0	3.0	1	NA	5/26/11 15:30	
BXS-2	K1104477-002	45.4		5.0	3.0	1	NA	5/26/11 15:30	
BXS-3	K1104477-003	70.5		5.0	3.0	1	NA	5/26/11 15:30	
BXS-4	K1104477-004	3.4	J	5.0	3.0	1	NA	5/26/11 15:30	
BXS-5	K1104477-005	9.7		5.0	3.0	1	NA	5/26/11 15:30	
BXN-1	K1104477-006	24.1		5.0	3.0	1	NA	5/26/11 15:30	
BXN-2	K1104477-007	5.3		5.0	3.0	1	NA	5/26/11 15:30	
BXN-4	K1104477-008	19.3		5.0	3.0	1	NA	5/26/11 15:30	
BXN-6	K1104477-009	ND	U	5.0	3.0	1	NA	5/26/11 15:30	
Method Blank	K1104477-MB1	ND	U	5.0	3.0	1	NA	5/26/11 15:30	
Method Blank	K1104477-MB2	ND	U	5.0	3.0	1	NA	5/26/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXN-6DUP Duplicate Sample K1104477-009DUP13		RPD	RPD Limit
					Result	Average		
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/26/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXN-6
Lab Code: K1104477-009

Units: mg/L
Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	BXN-6MS Matrix Spike K1104477-009MS10			BXN-6DMS Duplicate Matrix Spike K1104477-009DMS10			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chemical Oxygen Demand (COD)	ND	103	100	103	103	100	103	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.

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Form 3A

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SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	130	131	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1104477-001	2.94		0.50	0.07	1	NA	5/20/11 19:19	
BXS-2	K1104477-002	16.4		1.0	0.2	2	NA	5/20/11 19:19	
BXS-3	K1104477-003	18.8		1.0	0.2	2	NA	5/20/11 19:19	
BXS-4	K1104477-004	0.94		0.50	0.07	1	NA	5/20/11 19:19	
BXS-5	K1104477-005	3.01		0.50	0.07	1	NA	5/20/11 19:19	
BXN-1	K1104477-006	6.65		0.50	0.07	1	NA	5/20/11 19:19	
BXN-2	K1104477-007	2.13		0.50	0.07	1	NA	5/20/11 19:19	
BXN-4	K1104477-008	6.60		0.50	0.07	1	NA	5/20/11 19:19	
BXN-6	K1104477-009	0.07	J	0.50	0.07	1	NA	5/20/11 19:19	
Method Blank	K1104477-MB1	ND	U	0.50	0.07	1	NA	5/20/11 19:19	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/20/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1104477-001DUP10		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	2.94	2.87	2.90	3	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/20/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

BXS-1MS
 Matrix Spike
 K1104477-001MS9

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	2.94	28.3	25.0	101	83 - 117

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 & BXN Wells
Sample Matrix: Water

Service Request: K1104477

Date Analyzed: 5/20/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L

Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	25.4	26.0	98	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter Arlington/BXS & BXN Wells
 Sample Matrix: Water

Service Request: K1104477
 Date Collected: 5/17/11
 Date Received: 5/19/11

Units: mg/L
 Basis: NA

Analysis Method: SM 5550 B

Tannin and Lignin

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1104477-001	0.10	J	0.20	0.03	1	NA	5/24/11 15:30	
BXS-2	K1104477-002	0.46		0.20	0.03	1	NA	5/24/11 15:30	
BXS-3	K1104477-003	15.0		2.0	0.3	10	NA	5/24/11 15:30	
BXS-4	K1104477-004	0.30		0.20	0.03	1	NA	5/24/11 15:30	
BXS-5	K1104477-005	0.14	J	0.20	0.03	1	NA	5/24/11 15:30	
BXN-1	K1104477-006	3.90		0.20	0.03	1	NA	5/24/11 15:30	
BXN-2	K1104477-007	1.32		0.20	0.03	1	NA	5/24/11 15:30	
BXN-4	K1104477-008	1.08		0.20	0.03	1	NA	5/24/11 15:30	
BXN-6	K1104477-009	ND	U	0.20	0.03	1	NA	5/24/11 15:30	
Method Blank	K1104477-MB1	ND	U	0.20	0.03	1	NA	5/24/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/24/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1104477-001DUP10		RPD	RPD Limit
					Result	Average		
Tannin and Lignin	SM 5550 B	0.20	0.03	0.10 J	0.11 J	0.102	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Collected: 5/17/11
Date Received: 5/19/11
Date Analyzed: 5/24/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1104477-001

Units: mg/L
Basis: NA

Analytical Method: SM 5550 B

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1104477-001MS8			BXS-1DMS Duplicate Matrix Spike K1104477-001DMS8			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Tannin and Lignin	0.10	1.10	1.00	100	2.06	2.00	98	70 - 120	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.88	2.00	94	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.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/24/11

Lab Control Sample Summary General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1104477-LCS2

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.88	2.00	94	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.

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Form 3C

SuperSet Reference: 11-0000178303 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1104477-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.86	2.00	93	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.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter Arlington/BXS & BXN Wells
Sample Matrix: Water

Service Request: K1104477
Date Analyzed: 5/24/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample

K1104477-LCS4

Spike

Analyte Name	Method	Result	Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.87	2.00	94	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.

Printed 6/3/11 10:29

Form 3C

Winflow2\Starlims\LimsReps\LabControlSample.rpt

SuperSet Reference: 11-0000178303 rev 00

Columbia Analytical Services

- Cover Page - INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: JH Baxter Arlington
Project No.: BXS & BXN Wells

Service Request: K1104477

<u>Sample Name:</u>	<u>Lab Code:</u>
BXS-1	K1104477-001
BXS-1D	K1104477-001D
BXS-1	K1104477-001DISS
BXS-1S	K1104477-001S
BXS-2	K1104477-002
BXS-2	K1104477-002DISS
BXS-3	K1104477-003
BXS-3	K1104477-003DISS
BXS-4	K1104477-004
BXS-4	K1104477-004DISS
BXS-5	K1104477-005
BXS-5	K1104477-005DISS
BXN-1	K1104477-006
BXN-1	K1104477-006DISS
BXN-2	K1104477-007
BXN-2	K1104477-007DISS
BXN-4	K1104477-008
BXN-4	K1104477-008DISS
BXN-6	K1104477-009
BXN-6	K1104477-009DISS
Method Blank	K1104477-MB
Batch QCD	K1104594-001D
Batch QCS	K1104594-001S

Comments:

Approved By:

36

Date:

6/8/11

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1104477-001

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1104477-001DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	15.3		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	11.7	J	
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	122		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	8.7	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-2

Lab Code: K1104477-002

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.1	J	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-2

Lab Code: K1104477-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	53.0		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.8	J	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	470		
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	1460		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	38.7		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1104477-003

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	25.0	5.0	5.0	05/27/11	06/01/11	139		

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1104477-003DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	123		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	110000		
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	13600		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	15.3	J	

% Solids: 0.0

Comments:

METALS

-1-

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-4

Lab Code: K1104477-004

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	6.2		

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-4

Lab Code: K1104477-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	25.4		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	55.6		
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	100		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	2.0	U	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-5

Lab Code: K1104477-005

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-5

Lab Code: K1104477-005DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	15.5		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	13.0	J	
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	116		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	7.0	J	

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-1

Lab Code: K1104477-006

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	16.1		

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-1

Lab Code: K1104477-006DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	52.2		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	4.8	J	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	20300		
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	5200		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	36.6		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-2

Lab Code: K1104477-007

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-2

Lab Code: K1104477-007DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	11.6		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	3.8	J	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	13.9	J	
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	4900		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	37.2		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-4

Lab Code: K1104477-008

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-4

Lab Code: K1104477-008DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	145		
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	19.1		
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	48.5		
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	1160		
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	69.5		

% Solids: 0.0

Comments:

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-6

Lab Code: K1104477-009

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	

% Solids: 0.0

Comments: TOTAL RECOVERABLE

METALS

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Date Collected: 05/17/11

Project Name: JH Baxter Arlington

Date Received: 05/19/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXN-6

Lab Code: K1104477-009DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	0.6	U	
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.2	J	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	6.8	J	
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	0.2	U	
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	2.0	U	

% Solids: 0.0

Comments:

METALS**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1104477**Project No.:** BXS & BXN Wells**Date Collected:****Project Name:** JH Baxter Arlington**Date Received:****Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** Method Blank**Lab Code:** K1104477-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	05/27/11	06/01/11	1.0	U	
Barium	6010C	5.0	0.6	1.0	05/31/11	06/01/11	0.6	U	
Copper	6010C	10.0	2.0	1.0	05/31/11	06/01/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	05/31/11	06/01/11	7.3	J	
Manganese	6010C	5.0	0.2	1.0	05/31/11	06/01/11	0.2	U	
Nickel	6010C	20.0	2.0	1.0	05/31/11	06/01/11	2.0	U	

% Solids: 0.0**Comments:**

METALS

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-1S

Lab Code: K1104477-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	39.0		1.0	U	40.00	97.5		7010

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: K1104477

Project No.: BXS & BXN Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QCS

Lab Code: K1104594-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	2020		33.4		2000.00	99.3		6010C
Copper	86 - 113	230		2.0	U	250.00	92.0		6010C
Iron	75 - 125	1390		475		1000.00	91.5		6010C
Manganese	84 - 121	457		13.7		500.00	88.7		6010C
Nickel	86 - 120	466		2.0	U	500.00	93.2		6010C

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

METALS

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1104477

Project No.: BXS & BXN Wells

Units: UG/L

Project Name: JH Baxter Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: BXS-1D

Lab Code: K1104477-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		1.0	U	1.0	U			7010

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

METALS**- 6 -****DUPLICATES****Client:** JH Baxter & Company**Service Request:** K1104477**Project No.:** BXS & BXN Wells**Units:** UG/L**Project Name:** JH Baxter Arlington**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** Batch QCD**Lab Code:** K1104594-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium	20	33.4		31.3		6.5		6010C
Copper		2.0	U	2.0	U			6010C
Iron	20	475		496		4.3		6010C
Manganese		13.7		13.6		0.7		6010C
Nickel		2.0	U	2.0	U			6010C

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: K1104477

Project No.: BXS & BXN 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	25.2	100.8						
Barium	5000	5070	101.4						
Copper	625	586	93.8						
Iron	2500	2310	92.4						
Manganese	1250	1200	96.0						
Nickel	1250	1230	98.4						



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Portland OR
Microbiology/Chemistry

9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Page 1 of 2

Data Report

Client Name: J.H. Baxter & Company
PO BOX 305
Arlington, WA 98223

Reference Number: **11-13500**
Project: Landfill Wells

Report Date: 8/29/11
Date Received: 8/25/11
Reviewed by:

Sample Description: BXN-1 - JHB Arlington Lab Number: 29798										Sample Date: 8/24/11 Collected By:		
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	TOTAL COLIFORM	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Colisu	8/26/11	SLM	QT_110825	
	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Colisu	8/26/11	SLM	QT_110825	

Sample Description: BXN-2 - JHB Arlington Lab Number: 29799										Sample Date: 8/24/11 Collected By:		
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	TOTAL COLIFORM	8.5	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	
	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

Sample Description: BXN-4 - JHB Arlington Lab Number: 29800										Sample Date: 8/24/11 Collected By:		
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	TOTAL COLIFORM	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	
	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

Sample Description: BXN-6 - JHB Arlington Lab Number: 29801										Sample Date: 8/24/11 Collected By:		
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment

E-14551	TOTAL COLIFORM	7.5	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	
	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	4.1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

Sample Description: BXS-1 Lab Number: 29802										Sample Date: 8/24/11 Collected By:		
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/Coliler	8/26/11	SLM	QT_110825	
--	----------------	----	---	---	--	--------------	--	----------------------	---------	-----	-----------	--

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

E-14551	Fecal Coliform	NA	1	1	MPN/100mL.00	SM9221 E	8/25/11		
	E. Coli	<1	1	1	MPN/100mL.00	SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825

Sample Description: BXS-2
Lab Number: 29803

Sample Date: 8/24/11
Collected By:

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
	TOTAL COLIFORM	18.1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	
E-14551	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

Sample Description: BXS-3
Lab Number: 29804

Sample Date: 8/24/11
Collected By:

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/Colisu	8/27/11	SLM	QT_110825	
E-14551	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Colisu	8/27/11	SLM	QT_110825	

Sample Description: BXS-4
Lab Number: 29805

Sample Date: 8/24/11
Collected By:

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/Coliler	8/26/11	SLM	QT_110825	
E-14551	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

Sample Description: BXS-5
Lab Number: 29806

Sample Date: 8/24/11
Collected By:

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/Coliler	8/26/11	SLM	QT_110825	
E-14551	Fecal Coliform	NA	1	1		MPN/100mL.00		SM9221 E	8/25/11			
	E. Coli	<1	1	1		MPN/100mL.00		SM9223 B.2.b/Coliler	8/26/11	SLM	QT_110825	

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)

14182

Report to: J H Baxter Company	Bill to: J.H. Baxter & Company	For Lab Use Only Ref #
Ship Address: P O Box 305	Address: P.O. Box 5902	
City: Arlington St. WA Zip: 98223	City: San Mateo St. CA Zip: 94401	Check Regulatory Program ☐ Safe Drinking Water Act ☐ Clean Water Act ☐ RCRA / CERCLA ☐ Other
Attn:	Phone: FAX:	
Phone: 360.435-2148 FAX:	P.O.#: Attn:	
Email: kgunderson@premiercorp-usa.com	☐ Visa ☐ M/C ☐ A/E Expires /	
Project: Landfill Wells	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) Please Call Req.
☐ Emergency (Phone Call Req.)

Field ID	Location	Grab/ Comp.	Sample Matrix*	Date	Time	SM9223CT											Number of Containers	Special Instructions Conditions on Receipt
1 BXN-1	JH ARRLINGTON		W	8/24	0913	X												
2 BXN-2	"		W	8/24	0821	X												
3 BXN-4	"		W	8/24	0956	X												
4 BXN-6	"		W	8/24	1000	X												
5 BXS-1			W	8/24	820	X												
6 BXS-2			W	8/24	908	X												
7 BXS-3			W	8/24	1605	X												
8 BXS-4			W	8/24	1107	X												
9 BXS-5			W	8/24	1000	X												
10					820													

Sampled by: Phone: FAX: Email: 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
WJL	8/24/00	11:30A			

Custody seals intact ☐ Yes ☐ No ☐ N/A
 Sample temp _____ C satisfactory ☐ Yes ☐ No ☐ N/A
 Samples received intact ☐ Yes ☐ No ☐ N/A
 Chain of custody & labels agree ☐ Yes ☐ No ☐ N/A

September 23, 2011

Analytical Report for Service Request No: K1107960

Kathy Gunderson
EarthCon Consultants
129 Monohon Landing Road
Raymond, WA 98577

RE: JH Baxter/Arlington

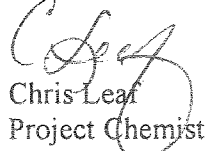
Dear Kathy:

Enclosed are the results of the samples submitted to our laboratory on August 26, 2011. For your reference, these analyses have been assigned our service request number K1107960.

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/jw

Page 1 of 666

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.
- 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.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- 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 estimated value.
- J The result is an estimated value.
- 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

Agency	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 - DEQ	WA100010
South Carolina DHEC	61002
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-

COLUMBIA ANALYTICAL SERVICES, INC.

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request No.: K1107960
Date Received: 8/26/2011

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 8/26/2011. The samples were received in good condition and consistent with the accompanying chain of custody form with exceptions noted on the cooler receipt and preservation form included in this data package. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

Chloride by EPA Method 300.0:

The matrix spike recovery of Chloride for sample BX-1MS was outside CAS control criteria with a recovery of 88% versus the lower criteria of 90%. A matrix spike duplicate was also analyzed, but produced similar results which suggest suspected matrix interference in this sample matrix. The Laboratory Control Sample was acceptable indicating the batch was in control. The results of the original analysis were reported. No further corrective action was appropriate.

Sulfate by EPA Method 300.0

The matrix spike recovery of Sulfate for sample BX-1MS was outside CAS control criteria with a recovery of 87% versus the lower criteria of 90%. A matrix spike duplicate was also analyzed, but produced similar results which suggest suspected matrix interference in this sample matrix. The Laboratory Control Sample was acceptable indicating the batch was in control. No further corrective action was appropriate.

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

Dissolved Metals

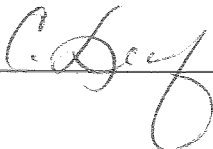
Matrix Spike Recovery Exceptions:

The matrix spike recovery of Iron for the Batch QC2 sample was outside the CAS control criteria as a result of the heterogeneous character of the sample. The Relative Percent Difference (RPD) for the replicate analysis supported this. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicated the analysis was in control. No further corrective action was appropriate.

Relative Percent Difference Exceptions:

The Relative Percent Difference (RPD) for the replicate analysis of Iron in the Batch QC2 sample was outside the normal CAS control limits. The variability in the results was attributed to the heterogeneous character of the sample. The sample contained particulates, which complicated the homogenization process. Standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

Approved by _____



Date _____

9/27/11

Project Name JH BAXTER/ARLINGTON					0H		7D		28D		180D		Remarks					
Project Number																		
Project Manager																		
Company Name JH. BAXTER																		
Company Address 8 N. BAXTER RD																		
City/State/Zip Eugene OR 97402																		
E-Mail Address																		
Phone #					FAX #													
Sampler Signature																		
Sample ID	Date	Time	Lab ID	Matrix	SM 4500-H+ B / pH	SM 2540 C / TDS	120.1 / Cond Spec	300.0 / Chloride	300.0 / SO4	350.1 / Ammonia T	353.2 / NO2 NO3 T	SM 5220 C / COD T	SM 5310 C / TOC T	SM 5550 B / Tan Lign	6010C / Metals D	7010 / As R		
1 BXS-1	8-24	0820		H ₂ O	3													
2 BXS-2	8-24	0908			3													
3 BXS-3	8-24	1005			3													
4 BXS-4	8-24	1107			3													
5 BXS-5	8-24	0820			3													
6																		
7																		
8																		
9																		
10																		
11																		

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: _____

Turnaround Requirements

- ☐ 24 hr. ☐ 48 hr.
- ☐ 5 Day
- ☒ Standard (10-15 working days)
- ☐ Provide Fax Results

Requested Report Date _____

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 Zr

Dissolved 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

Special Instructions/Comments: *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other (C)

METALS ARE Field Filtered

Please contact Kathy Anderson w/any ?'s

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

360-942-3409

Relinquished By:

Signature *[Signature]* Date/Time 8-26-11 10:03

Printed Name *JH Baxter* Firm

Received By:

Signature *[Signature]* Date/Time 8/26/11 10:03

Printed Name *[Signature]* Firm

Relinquished By:

Signature _____ Date/Time _____

Printed Name _____ Firm _____

Received By:

Signature _____ Date/Time _____

Printed Name _____ Firm _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CL

Client / Project: JH Baxter Service Request K11 07960

Received: 8/26/11 Opened: 8/26/11 By: U Unloaded: 8/26/11 By: U

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	NA	Tracking Number	NA	Filed
6.6	8.5	276					
7.7	✓	298					
5.0	✓	290					
1.6	✓	301					

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>MW-24 @ 1447</u>	<u>MW-29 @ 1447</u>	<u>Process of elimination / time</u>

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

Notes, Discrepancies, & Resolutions: OK to proceed regardless of Temp. per K. Gunderson
CL 8/26/11 (via phone)

Did not receive a 1L Amber for 8270 for sample MW-30

Received 2 trip blanks not listed on COCs. JA 8/26/11

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

Units: μ MHOS/cm
Basis: NA

Analysis Method: 120.1

Conductivity at 25 Degrees Celsius

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1107960-001	359		2.0	0.4	1	NA	8/30/11 12:30	
BXS-2	K1107960-002	941		2.0	0.4	1	NA	8/30/11 12:30	
BXS-3	K1107960-003	603		2.0	0.4	1	NA	8/30/11 12:30	
BXS-4	K1107960-004	202		2.0	0.4	1	NA	8/30/11 12:30	
BXS-5	K1107960-005	359		2.0	0.4	1	NA	8/30/11 12:30	
Method Blank	K1107960-MB1	1.5	J	2.0	0.4	1	NA	8/30/11 12:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/30/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1107960-004

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-4DUP Duplicate Sample K1107960-004DUP36		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	202	204	203	<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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/30/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-5
Lab Code: K1107960-005

Units: μ MHOS/cm
Basis: NA

BXS-5DUP								
Duplicate Sample								
K1107960-005DUP37								
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	359	359	359	<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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/30/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample K1107960-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	525	503	104	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	5.71		0.40	0.06	2	NA	8/26/11 13:39	
BXS-2	K1107960-002	2.88		0.40	0.06	2	NA	8/26/11 13:53	
BXS-3	K1107960-003	1.85		0.40	0.06	2	NA	8/26/11 14:07	
BXS-4	K1107960-004	1.69		0.40	0.06	2	NA	8/26/11 14:20	
BXS-5	K1107960-005	5.71		0.40	0.06	2	NA	8/26/11 14:34	
Method Blank	K1107960-MB1	ND	U	0.20	0.03	1	NA	8/26/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1107960-001DUP33		RPD	RPD Limit
					Result	Average		
Chloride	300.0	0.40	0.06	5.71	5.63	5.67	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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/26/11

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1107960-001MS8			BXS-1DMS Duplicate Matrix Spike K1107960-001DMS8			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloride	5.71	14.5	10.0	88 *	14.4	10.0	87 *	90 - 110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1107960-LCS5					
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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

Analysis Method: 300.0

Units: mg/L
Basis: NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1107960-001	16.2		0.40	0.02	2	NA	8/26/11 13:39	
BXS-2	K1107960-002	0.58		0.40	0.02	2	NA	8/26/11 13:53	
BXS-3	K1107960-003	0.38	J	0.40	0.02	2	NA	8/26/11 14:07	
BXS-4	K1107960-004	0.95		0.40	0.02	2	NA	8/26/11 14:20	
BXS-5	K1107960-005	16.7		0.40	0.02	2	NA	8/26/11 14:34	
Method Blank	K1107960-MB1	ND	U	0.20	0.01	1	NA	8/26/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/26/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1107960-001DUP33		RPD	RPD Limit
					Result	Average		
Sulfate	300.0	0.40	0.02	16.2	15.8	16.0	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 8/26/11

Matrix Spike Summary General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1107960-001MS8			BXS-1DMS Duplicate Matrix Spike K1107960-001DMS8			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Sulfate	16.2	24.8	10.0	87 *	24.7	10.0	86 *	90 - 110	<1	20

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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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1107960-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	4.63	5.00	93	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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	ND	U	0.050	0.020	1	NA	8/29/11 13:48	
BXS-2	K1107960-002	ND	U	0.050	0.020	1	NA	8/29/11 13:48	
BXS-3	K1107960-003	0.663		0.050	0.020	1	NA	8/29/11 13:48	
BXS-4	K1107960-004	0.551		0.050	0.020	1	NA	8/29/11 13:48	
BXS-5	K1107960-005	ND	U	0.050	0.020	1	NA	8/29/11 13:48	
Method Blank	K1107960-MB1	ND	U	0.050	0.020	1	NA	8/29/11 13:48	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
 Project: JH Baxter/Arlington
 Sample Matrix: Water

Service Request: K1107960
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 8/29/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
 Lab Code: K1107958-001

Units: mg/L
 Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1107958-001DUP29		RPD	RPD Limit
					Result	Average		
Ammonia as Nitrogen	350.1	0.050	0.020	0.443	0.443	0.443	<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
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/29/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107958-001

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1107958-001MS6			Batch QCDMS Duplicate Matrix Spike K1107958-001DMS6			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ammonia as Nitrogen	0.443	2.30	2.00	93	2.27	2.00	91	90 - 110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/29/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample K1107960-LCS1			Duplicate Lab Control Sample K1107960-DLCS1			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ammonia as Nitrogen	350.1	13.6	13.9	98	13.5	13.9	97	90 - 110	<1	20

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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	0.059		0.050	0.009	1	NA	8/30/11 12:51	
BXS-2	K1107960-002	0.012	J	0.050	0.009	1	NA	8/30/11 12:51	
BXS-3	K1107960-003	0.104		0.050	0.009	1	NA	8/30/11 12:51	
BXS-4	K1107960-004	0.011	J	0.050	0.009	1	NA	8/30/11 12:51	
BXS-5	K1107960-005	0.057		0.050	0.009	1	NA	8/30/11 12:51	
Method Blank	K1107960-MB1	0.015	J	0.050	0.009	1	NA	8/30/11 12:51	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107958-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1107958-001DUP29		RPD	RPD Limit
					Result	Average		
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.033 J	0.034 J	0.0335	5	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107958-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1107958-001MS6			Batch QCDMS Duplicate Matrix Spike K1107958-001DMS6			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	0.033	2.01	2.00	99	2.05	2.00	101	86 - 117	2	20

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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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/30/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1107960-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.5	17.7	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	188	10	10	1	NA	8/30/11 15:30	
BXS-2	K1107960-002	550	10	10	1	NA	8/30/11 15:30	
BXS-3	K1107960-003	399	10	10	1	NA	8/30/11 15:30	
BXS-4	K1107960-004	128	10	10	1	NA	8/30/11 15:30	
BXS-5	K1107960-005	199	10	10	1	NA	8/30/11 15:30	
Method Blank	K1107960-MB1	ND U	5.0	5.0	1	NA	8/30/11 15:30	
Method Blank	K1107960-MB2	ND U	5.0	5.0	1	NA	8/30/11 15:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107958-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC Duplicate Sample K1107958-003DUP31		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	10	10	560	536	548	4	10

Results flagged with an asterisk (*) indicate values outside control criteria.

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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
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1108029-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1108029-001DUP38		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	10	10	490	488	489	<1	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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Form 3B

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SuperSol Reference: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/30/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1107960-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	808	825	98	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	6.46		-		1	NA	8/26/11 17:59	H
BXS-2	K1107960-002	6.47		-		1	NA	8/26/11 18:01	H
BXS-3	K1107960-003	6.45		-		1	NA	8/26/11 18:02	H
BXS-4	K1107960-004	8.14		-		1	NA	8/26/11 18:04	H
BXS-5	K1107960-005	6.74		-		1	NA	8/26/11 18:05	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/26/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1107958-001

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1107958-001DUP29		RPD	RPD Limit
					Result	Average		
pH	SM 4500-H+ B	-		6.48	6.45	6.47	<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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/26/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Lab Control Sample K1107960-LCS5					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	7.49	7.54	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	9.8	5.0	3.0	1	NA	8/30/11 14:00	
BXS-2	K1107960-002	41.5	5.0	3.0	1	NA	8/30/11 14:00	
BXS-3	K1107960-003	84.4	5.0	3.0	1	NA	8/30/11 14:00	
BXS-4	K1107960-004	ND U	5.0	3.0	1	NA	8/30/11 14:00	
BXS-5	K1107960-005	8.8	5.0	3.0	1	NA	8/30/11 14:00	
Method Blank	K1107960-MB1	ND U	5.0	3.0	1	NA	8/30/11 14:00	
Method Blank	K1107960-MB2	ND U	5.0	3.0	1	NA	8/30/11 14:00	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1107889-001

Units: mg/L
Basis: NA

					Batch QCDUP Duplicate Sample K1107889-001DUP26				
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit	
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	31.2	30.2	30.7	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 8/30/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107889-001

Units: mg/L
Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1107889-001MS5			Batch QCDMS Duplicate Matrix Spike K1107889-001DMS5			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chemical Oxygen Demand (COD)	31.2	139	100	108	139	100	108	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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 8/30/11

**Lab Control Sample Summary
General Chemistry Parameters**

Units: mg/L
Basis: NA

**Lab Control Sample
K1107960-LCS5**

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	126	131	96	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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Form 3C

SuperSet Reference: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

Analysis Method: SM 5310 C

Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1107960-001	2.98	0.50	0.07	1	NA	9/12/11 13:55	
BXS-2	K1107960-002	14.2	1.0	0.2	2	NA	9/12/11 13:55	
BXS-3	K1107960-003	25.5	2.5	0.4	5	NA	9/12/11 13:55	
BXS-4	K1107960-004	0.67	0.50	0.07	1	NA	9/12/11 13:55	
BXS-5	K1107960-005	3.06	0.50	0.07	1	NA	9/12/11 13:55	
Method Blank	K1107960-MB1	0.15 J	0.50	0.07	1	NA	9/12/11 13:55	
Method Blank	K1107960-MB2	ND U	0.50	0.07	1	NA	9/12/11 13:55	
Method Blank	K1107960-MB3	ND U	0.50	0.07	1	NA	9/12/11 13:55	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1107960-001DUP33		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	2.98	3.06	3.02	2	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: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-2
Lab Code: K1107960-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-2DUP Duplicate Sample K1107960-002DUP34		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	1.0	0.2	14.2	13.9	14.1	2	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-3
Lab Code: K1107960-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-3DUP Duplicate Sample K1107960-003DUP35		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	2.5	0.4	25.5	24.9	25.2	2	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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SuperSet Reference: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/12/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: BXS-4
Lab Code: K1107960-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-4DUP Duplicate Sample K1107960-004DUP36		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	0.67 B	0.61	0.638	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-5
Lab Code: K1107960-005

Units: mg/L
Basis: NA

					BXS-5DUP			
					Duplicate Sample			
					K1107960-005DUP37			
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.07	3.06	3.00	3.03	2	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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SuperSet Reference: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 9/12/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107763-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1107763-002 DUP18		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	0.92	0.94	0.933	2	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: NA
Date Received: NA
Date Analyzed: 9/12/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1107763-002

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

Batch QCMS
Matrix Spike
K1107763-002MS2

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	0.92	27.4	25.0	106	83 - 117

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 3A

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SuperSet Reference: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 9/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107960-LCS1			Duplicate Lab Control Sample K1107960-DLCS1			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	25.3	26.0	97	25.4	26.0	98	83 - 117	<1	20

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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 9/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample K1107960-LCS2			Duplicate Lab Control Sample K1107960-DLCS2			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	25.2	26.0	97	25.3	26.0	97	83 - 117	<1	20

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: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 9/12/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1107960-LCS3			Duplicate Lab Control Sample K1107960-DLCS3			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	24.4	26.0	94	24.9	26.0	96	83 - 117	2	20

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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 9/12/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample K1107960-LCS4			Duplicate Lab Control Sample K1107960-DLCS4			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	24.7	26.0	95	24.4	26.0	94	83 - 117	1	20

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: 11-0000187249 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11

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	K1107960-001	0.09 J	0.20	0.03	1	NA	9/7/11 17:30	
BXS-2	K1107960-002	1.15	0.20	0.03	1	NA	9/7/11 17:30	
BXS-3	K1107960-003	21.4	5.0	0.8	1	NA	9/7/11 17:30	
BXS-4	K1107960-004	0.26	0.20	0.03	1	NA	9/7/11 17:30	
BXS-5	K1107960-005	0.12 J	0.20	0.03	1	NA	9/7/11 17:30	
Method Blank	K1107960-MB1	0.07 J	0.20	0.03	1	NA	9/7/11 17:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1107960-001DUP33		RPD	RPD Limit
					Result	Average		
Tannin and Lignin	SM 5550 B	0.20	0.03	0.09 J	0.09 J	0.0911	7	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
Sample Matrix: Water

Service Request: K1107960
Date Collected: 8/24/11
Date Received: 8/26/11
Date Analyzed: 9/7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1107960-001

Units: mg/L
Basis: NA

Analytical Method: SM 5550 B

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1107960-001MS8			BXS-1DMS Duplicate Matrix Spike K1107960-001DMS8			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Tannin and Lignin	0.09	1.03	1.00	93	1.98	2.00	94	70 - 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
Sample Matrix: Water

Service Request: K1107960
Date Analyzed: 9/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample

K1107960-LCS5

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.99	2.00	99	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.

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Form 3C

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SuperSet Reference: 11-0000187249 rev 00

Columbia Analytical Services

- Cover Page - INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: JH Baxter/Arlington
Project No.:

Service Request: K1107960

<u>Sample Name:</u>	<u>Lab Code:</u>
Batch QC1D	K1107958-001DISSD
Batch QC1S	K1107958-001DISSS
BXS-1	K1107960-001DISS
BXS-2	K1107960-002DISS
BXS-3	K1107960-003DISS
BXS-4	K1107960-004DISS
BXS-5	K1107960-005DISS
Method Blank	K1107960-MB
Batch QC2D	K1108083-002D
Batch QC2S	K1108083-002S

Comments:

Approved By:

3C

Date:

9/23/11

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Date Collected: 08/24/11

Project Name: JH Baxter/Arlington

Date Received: 08/26/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1107960-001DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	09/20/11	09/20/11	1.0	U	
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	15.8		
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	0.8	U	N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	144		
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	8.5	J	
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	1.7	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Date Collected: 08/24/11

Project Name: JH Baxter/Arlington

Date Received: 08/26/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-2

Lab Code: K1107960-002DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	09/20/11	09/20/11	1.0	U	
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	47.2		
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	412		N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	1340		
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	32.2		
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	4.7	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Date Collected: 08/24/11

Project Name: JH Baxter/Arlington

Date Received: 08/26/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1107960-003DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	21.2	4.3	4.3	09/20/11	09/20/11	155		
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	120		
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	107000		N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	14000		
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	16.2	J	
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	4.2	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Date Collected: 08/24/11

Project Name: JH Baxter/Arlington

Date Received: 08/26/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-4

Lab Code: K1107960-004DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	09/20/11	09/20/11	6.4		
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	24.4		
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	35.1		N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	97.2		
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	0.8	U	

% Solids: 0.0

Comments:

Metals**- 1 -****INORGANIC ANALYSIS DATA PACKAGE****Client:** JH Baxter & Company**Service Request:** K1107960**Project No.:** NA**Date Collected:** 08/24/11**Project Name:** JH Baxter/Arlington**Date Received:** 08/26/11**Matrix:** WATER**Units:** ug/L**Basis:** NA**Sample Name:** BXS-5**Lab Code:** K1107960-005DISS

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	09/20/11	09/20/11	1.0	U	
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	15.3		
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	1.0	J	N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	136		
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	9.2	J	
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	3.1	J	

% Solids: 0.0

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Date Collected:

Project Name: JH Baxter/Arlington

Date Received:

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: Method Blank

Lab Code: K1107960-MB

Analyte	Analysis Method	MRL	MDL	Dil. Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	1.0	1.0	09/20/11	09/20/11	1.0	U	
Barium	6010C	5.0	0.6	1.0	09/19/11	09/21/11	0.6	U	
Copper	6010C	10.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	09/19/11	09/21/11	0.8	U	N*
Manganese	6010C	5.0	0.2	1.0	09/19/11	09/21/11	0.2	U	
Nickel	6010C	20.0	2.0	1.0	09/19/11	09/21/11	2.0	U	
Zinc	6010C	10.0	0.8	1.0	09/19/11	09/21/11	0.8	U	

% Solids: 0.0

Comments:

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC1S

Lab Code: K1107958-001DISSS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	62.1		18.7		40.00	108.5		7010

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: K1107960

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC2S

Lab Code: K1108083-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	2210		162		2000.00	102.4		6010C
Copper	86 - 113	234		4.4	J	250.00	91.8		6010C
Iron	75 - 125	1860		549		1000.00	131.1	N	6010C
Manganese	84 - 121	545		105		500.00	88.0		6010C
Nickel	86 - 120	521		32.5		500.00	97.7		6010C
Zinc	87 - 113	496		29.3		500.00	93.3		6010C

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

Columbia Analytical Services

Metals

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC1D

Lab Code: K1107958-001DISSD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		18.7		18.9		1.1		7010

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

Columbia Analytical Services

Metals

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1107960

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

% Solids: 0.0

Sample Name: Batch QC2D

Lab Code: K1108083-002D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium	20	162		165		1.8		6010C
Copper		4.4	J	3.7	J	17.3		6010C
Iron	20	549		745		30.3	*	6010C
Manganese	20	105		106		0.9		6010C
Nickel		32.5		33.9		4.2		6010C
Zinc		29.3		28.5		2.8		6010C

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: K1107960

Project No.: NA

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	27.4	109.6					
Barium	5000	5030	100.6					
Copper	625	614	98.2					
Iron	2500	2420	96.8					
Manganese	1250	1200	96.0					
Nickel	1250	1240	99.2					
Zinc	1250	1210	96.8					



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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
P O Box 305
Arlington, WA 98223

Reference Number: 11-17758
Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXN-5
County:
Sampled By:
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39380
Field ID: 8583
Date Collected: 11/3/11 10:00
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	skk	SM9223 B	m_111104	
3	E. COLI	Absent	per 100mL		SM9223 B	m_111104	

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
P O Box 305
Arlington, WA 98223

Reference Number: 11-17758

Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXS-2
County:
Sampled By:
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39381
Field ID: 8587
Date Collected: 11/3/11 10:15
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Unsatisfactory, Coliform Present	per 100mL	skk	SM9223 B	M_111104	
3	E. COLI	Absent	per 100mL		SM9223 B	M_111104	

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J H Baxter Company
P O Box 305
Arlington, WA 98223

Reference Number: 11-17758
Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXS-4
County:
Sampled By:
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39382
Field ID: 8586
Date Collected: 11/3/11 12:42
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	skk	SM9223 B	m_111104	
3	E. COLI	Absent	per 100mL		SM9223 B	m_111104	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

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Skagit Co: <http://www.skagitcounty.net/drinkingwater> or 360-336-9380

Snohomish Co: 425-339-5250

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WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811

Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BX5-5
County:
Sampled By: W Krause
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39487
Field ID: 8585
Date Collected: 11/3/11 09:30
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	skk	SM9223 B	m_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	m_111104s	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

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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>

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811
Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXN-2
County:
Sampled By: M Ducli
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39488
Field ID: 8580
Date Collected: 11/3/11 09:15
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Unsatisfactory, Coliform Present	per 100mL	skk	SM9223 B	M_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	M_111104s	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

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Snohomish Co: 425-339-5250

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WSDOH: <http://www.doh.wa.gov/ehp/dw/Programs/coliform.htm>

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811

Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXS-1
County:
Sampled By: W Krause
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39489
Field ID: 8588
Date Collected: 11/3/11 09:05
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Unsatisfactory, Coliform Present	per 100mL	skk	SM9223 B	M_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	M_111104s	

If the sample is unsatisfactory you can get information at the following health department websites or phone numbers:

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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>

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811
Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: N Landfill BXN-1
County:
Sampled By: M Ducli
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39490
Field ID: 8581
Date Collected: 11/3/11 08:40
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Satisfactory, Coliforms Absent	per 100mL	skk	SM9223 B	m_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	m_111104s	

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811

Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXN-4
County:
Sampled By: M Ducli
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39491
Field ID: 8582
Date Collected: 11/3/11 09:46
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Unsatisfactory, Coliform Present	per 100mL	skk	SM9223 B	M_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	M_111104s	

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Washington State Department of Health WATER BACTERIOLOGICAL ANALYSIS

Client Name: J.H. Baxter & Company
PO BOX 10797
Eugene, OR 97440

Reference Number: 11-17811
Project: Baxter Arlington Bacteria

System Name:
System ID Number:
DOH Source Number:
Sample Type: D - Drinking Water
Sample Purpose: Investigative or Other
Sample Location: BXS-3
County:
Sampled By: W Krause
Sampler Phone:

Repeat Sample Number:
Lab Number: 164-39492
Field ID: 8584
Date Collected: 11/3/11 11:07
Date Received: 11/4/11
Date Analyzed: 11/05/11 14:05
Report Date: 11/7/11
Comment:
Peer Review:

DOH#	PARAMETER	RESULT	UNITS	Analyst	METHOD	Batch	COMMENT
1	TOTAL COLIFORM	Unsatisfactory, Coliform Present	per 100mL	skk	SM9223 B	M_111104s	
3	E. COLI	Absent	per 100mL		SM9223 B	M_111104s	

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November 23, 2011

Analytical Report for Service Request No: K1110803

Scott Thielke
JH Baxter & Company
85 N. Baxter Road
P.O. Box 10797
Eugene, OR 97440

RE: JH Baxter/Arlington

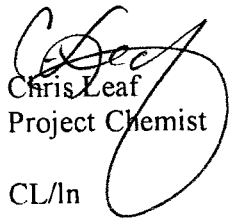
Dear Scott:

Enclosed are the results of the samples submitted to our laboratory on November 04, 2011. For your reference, these analyses have been assigned our service request number K1110803.

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

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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
LOD	Limit of Detection
LOQ	Limit of Quantitation
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.
- 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.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- 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 estimated value.
- J The result is an estimated value.
- 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

Agency	Number
Alaska DEC UST	UST-040
Arizona DHS	AZ0339
Arkansas - DEQ	88-0637
California DHS	2286
DOD ELAP	L11-119
Florida DOH	E87412
Georgia DNR	881
Hawaii DOH	-
Idaho DHW	-
Indiana DOH	C-WA-01
ISO 17025	L11-118
Louisiana DEQ	3016
Louisiana DHH	LA080001
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 - DEQ (NELAP)	WA100010
South Carolina DHEC	61002
Texas CEQ	04704427-08-TX
Washington DOE	C1203
Wisconsin DNR	998386840
Wyoming (EPA Region 8)	-



1317 South 13th Ave, Kelso, WA 98626 | 360.577.7222 | 800.695.7222 | 360.636.1068 (fax)

Project Name JH BAXTER/ARLINGTON					Number of Containers	OH	7D	28D										180D	Remarks
Project Number						SM 4500-H+ B / pH	SM 2540 C / TDS	120.1 / Cond Spec	300.0 / Chloride	300.0 / SO4	350.1 / Ammonia T	353.2 / NO2 NO3 T	SM 5220 C / COD T	SM 5310 C / TOC T	SM 5550 B / Tan Lign	6010C / Metals D	7010 / As R		
Project Manager																			
Company Name J.H. BAXTER																			
Company Address 85 N. BAXTER RD																			
City/State/Zip Eugene OR 97402																			
E-Mail Address																			
Phone #					FAX #														
Sampler Signature																			
Sample ID	Date	Time	Lab ID	Matrix															
1 BXS-1	11-3	905		H2O	3														
2 BXS-2	11-3	1015			3														
3 BXS-3	11-3	1107			3														
4 BXS-4	11-3	1242			3														
5 BXS-5	11-3	930			3														
6																			
7																			
8																			
9																			
10																			
11																			

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:

Turnaround Requirements

- ☐ 24 hr
- ☐ 5 Day
- ☒ Standard (10-15 working days)
- ☐ Provide Fax Results

Requested Report Date

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 Zr

Dissolved 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

Special Instructions/Comments: *Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other (C

METALS ARE Field Filtered

Please contact Kathy Anderson w/cmy ?'s

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

360-942-3409

Relinquished By:

Signature *[Signature]* 11-4-11 1228

Printed Name **JH Baxter** Firm

Received By:

Signature *[Signature]* 11/4/11 1228

Printed Name **[Signature]** Firm

Relinquished By:

Signature _____ Date/Time _____

Printed Name _____ Firm _____

Received By:

Signature _____ Date/Time _____

Printed Name _____ Firm _____

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC CL

Client / Project: JH Baxters Service Request K11 10803
Received: 11/34/11 Opened: 11/4/11 By: SW Unloaded: 11/4/11 By: SW

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	NA	Filed
5.4	5.6	316	NA			
5.8	5.9	311				
5.4		298				
4.0		310				

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: Add Cd 4 Zn per Kathy M. on 11/8/11

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	360		2.0	0.4	1	NA	11/9/11 12:50	
BXS-2	K1110803-002	884		2.0	0.4	1	NA	11/9/11 12:50	
BXS-3	K1110803-003	505		2.0	0.4	1	NA	11/9/11 12:50	
BXS-4	K1110803-004	195		2.0	0.4	1	NA	11/9/11 12:50	
BXS-5	K1110803-005	361		2.0	0.4	1	NA	11/9/11 12:50	
Method Blank	K1110803-MB1	1.3	J	2.0	0.4	1	NA	11/9/11 12:50	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1110803-004

Units: μ MHOS/cm
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-4DUP Duplicate Sample K1110803-004DUP42		RPD	RPD Limit
					Result	Average		
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	195	196	196	<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
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-5
Lab Code: K1110803-005

Units: µMHOS/cm
Basis: NA

BXS-5DUP								
Duplicate Sample								
K1110803-005DUP43								
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD Limit
Conductivity at 25 Degrees Celsius	120.1	2.0	0.4	361	362	361	<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.

Printed 11/21/11 12:03

Form 3B

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: μ MHOS/cm
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Conductivity at 25 Degrees Celsius	120.1	329	330	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	6.01	0.40	0.06	2	NA	11/7/11 20:40	
BXS-2	K1110803-002	3.38	0.40	0.06	2	NA	11/7/11 11:41	
BXS-3	K1110803-003	2.49	0.40	0.06	2	NA	11/7/11 12:14	
BXS-4	K1110803-004	1.93	0.40	0.06	2	NA	11/7/11 12:25	
BXS-5	K1110803-005	5.74	0.40	0.06	2	NA	11/7/11 12:36	
Method Blank	K1110803-MB1	ND U	0.20	0.03	1	NA	11/7/11 09:25	
Method Blank	K1110803-MB2	ND U	0.20	0.03	1	NA	11/7/11 09:47	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample		RPD	RPD Limit
					K1110803-001DUP39 Result	Average		
Chloride	300.0	0.40	0.06	6.01	6.00	6.01	<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
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1110803-001MS12			BXS-1DMS Duplicate Matrix Spike K1110803-001DMS12			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloride	6.01	15.7	10.0	97	16.0	10.0	99	90 - 110	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/7/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	5.06	5.00	101	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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1110803-LCS4

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	5.03	5.00	101	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: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11

Analysis Method: 300.0

Units: mg/L
Basis: NA

Sulfate

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1110803-001	15.8		0.40	0.02	2	NA	11/7/11 20:40	
BXS-2	K1110803-002	0.83		0.40	0.02	2	NA	11/7/11 11:41	
BXS-3	K1110803-003	0.58		0.40	0.02	2	NA	11/7/11 12:14	
BXS-4	K1110803-004	1.05		0.40	0.02	2	NA	11/7/11 12:25	
BXS-5	K1110803-005	15.0		0.40	0.02	2	NA	11/7/11 12:36	
Method Blank	K1110803-MB1	ND	U	0.20	0.01	1	NA	11/7/11 09:25	
Method Blank	K1110803-MB2	ND	U	0.20	0.01	1	NA	11/7/11 09:47	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/ 8/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

					BXS-1DUP Duplicate Sample K1110803-001DUP39				
Analyte Name	Method	MRL	MDL	Sample Result	Result	Average	RPD	RPD	Limit
Sulfate	300.0	0.40	0.02	15.8	15.8	15.8	<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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analytical Method: 300.0

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1110803-001MS12			BXS-1DMS Duplicate Matrix Spike K1110803-001DMS12			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Sulfate	15.8	25.9	10.0	101	25.8	10.0	101	90 - 110	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

**Lab Control Sample Summary
General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample

K1110803-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	5.02	5.00	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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS4					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sulfate	300.0	5.10	5.00	102	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
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	ND U	0.050	0.020	1	NA	11/7/11 13:34	
BXS-2	K1110803-002	0.036 J	0.050	0.020	1	NA	11/7/11 13:34	
BXS-3	K1110803-003	ND U	0.050	0.020	1	NA	11/7/11 13:34	
BXS-4	K1110803-004	0.569	0.050	0.020	1	NA	11/7/11 13:34	
BXS-5	K1110803-005	ND U	0.050	0.020	1	NA	11/7/11 13:34	
Method Blank	K1110803-MB1	ND U	0.050	0.020	1	NA	11/7/11 13:34	
Method Blank	K1110803-MB2	ND U	0.050	0.020	1	NA	11/7/11 13:34	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110769-003

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1110769-003 DUP13		RPD	RPD Limit
					Result	Average		
Ammonia as Nitrogen	350.1	0.050	0.020	1.61	1.61	1.61	<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
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 7/11

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1110769-003

Units: mg/L
Basis: NA

Analytical Method: 350.1

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1110769-003MS5			Batch QCDMS Duplicate Matrix Spike K1110769-003DMS5			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ammonia as Nitrogen	1.61	3.50	2.00	95	3.51	2.00	95	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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.8	13.9	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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Form 3C

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS4					
		Spike		% Rec	
Analyte Name	Method	Result	Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	13.8	13.9	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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Form 3C

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC. .

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	0.095		0.050	0.009	1	NA	11/9/11 08:20	
BXS-2	K1110803-002	0.011	J	0.050	0.009	1	NA	11/9/11 08:20	
BXS-3	K1110803-003	0.137		0.050	0.009	1	NA	11/9/11 08:20	
BXS-4	K1110803-004	ND	U	0.050	0.009	1	NA	11/9/11 08:20	
BXS-5	K1110803-005	0.089		0.050	0.009	1	NA	11/9/11 08:20	
Method Blank	K1110803-MB1	ND	U	0.050	0.009	1	NA	11/9/11 08:20	
Method Blank	K1110803-MB2	ND	U	0.050	0.009	1	NA	11/9/11 08:20	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1110803-001DUP39		RPD	RPD Limit
					Result	Average		
Nitrate+Nitrite as Nitrogen	353.2	0.050	0.009	0.095	0.098	0.0965	2	20

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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: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/9/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analytical Method: 353.2

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1110803-001MS12			BXS-1DMS Duplicate Matrix Spike K1110803-001DMS12			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Nitrate+Nitrite as Nitrogen	0.095	2.10	2.00	100	2.08	2.00	99	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
K1110803-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.5	17.7	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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Form 3C

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS4					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Nitrate+Nitrite as Nitrogen	353.2	17.3	17.7	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
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	217		10		1	NA	11/9/11 15:35	
BXS-2	K1110803-002	532		10		1	NA	11/9/11 15:35	
BXS-3	K1110803-003	350		10		1	NA	11/9/11 15:35	
BXS-4	K1110803-004	115		10		1	NA	11/9/11 15:35	
BXS-5	K1110803-005	220		10		1	NA	11/9/11 15:35	
Method Blank	K1110803-MB1	ND	U	5.0		1	NA	11/9/11 15:35	
Method Blank	K1110803-MB2	ND	U	5.0		1	NA	11/9/11 15:35	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 9/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1110301-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1110301-002DUP1		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	20		3690	3640	3660	1	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
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 9/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1110857-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1110857-002DUP53		RPD	RPD Limit
					Result	Average		
Solids, Total Dissolved	SM 2540 C	13		695	703	699	1	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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Solids, Total Dissolved	SM 2540 C	772	825	94	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	6.75		-		1	NA	11/4/11 16:25	H
BXS-2	K1110803-002	6.49		-		1	NA	11/4/11 16:45	H
BXS-3	K1110803-003	6.35		-		1	NA	11/4/11 16:47	H
BXS-4	K1110803-004	7.78		-		1	NA	11/4/11 16:48	H
BXS-5	K1110803-005	6.57		-		1	NA	11/4/11 16:49	H

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/4/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-5
Lab Code: K1110803-005

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-5DUP Duplicate Sample K1110803-005DUP43		RPD	RPD Limit
					Result	Average		
pH	SM 4500-H+ B	-		6.57	6.59	6.58	<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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 4/11

Lab Control Sample Summary
General Chemistry Parameters

Units: pH Units
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
pH	SM 4500-H+ B	7.58	7.54	101	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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
 Project: JH Baxter/Arlington
 Sample Matrix: Water

Service Request: K1110803
 Date Collected: 11/3/11
 Date Received: 11/4/11

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	K1110803-001	4.7	J	5.0	3.0	1	NA	11/9/11 14:45	
BXS-2	K1110803-002	37.8		5.0	3.0	1	NA	11/9/11 14:45	
BXS-3	K1110803-003	68.9		5.0	3.0	1	NA	11/9/11 14:45	
BXS-4	K1110803-004	ND	U	5.0	3.0	1	NA	11/9/11 14:45	
BXS-5	K1110803-005	7.6		5.0	3.0	1	NA	11/9/11 14:45	
Method Blank	K1110803-MB1	ND	U	5.0	3.0	1	NA	11/9/11 14:45	
Method Blank	K1110803-MB2	ND	U	5.0	3.0	1	NA	11/9/11 14:45	
Method Blank	K1110803-MB3	ND	U	5.0	3.0	1	NA	11/9/11 14:45	
Method Blank	K1110803-MB4	ND	U	5.0	3.0	1	NA	11/9/11 14:45	
Method Blank	K1110803-MB5	ND	U	5.0	3.0	1	NA	11/9/11 14:45	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/9/11

Replicate Sample Summary General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110709-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QCDUP Duplicate Sample K1110709-002DUP8		RPD	RPD Limit
					Result	Average		
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	22.7	21.2	22.0	6	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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/9/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: Batch QC
Lab Code: K1110799-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	Batch QC DUP Duplicate Sample K1110799-001DUP35		RPD	RPD Limit
					Result	Average		
Chemical Oxygen Demand (COD)	SM 5220 C	5.0	3.0	12.3	11.8	12.0	4	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
Sample Matrix: Water

Service Request: K1110803
Date Collected: NA
Date Received: NA
Date Analyzed: 11/ 9/11

**Matrix Spike Summary
General Chemistry Parameters**

Sample Name: Batch QC
Lab Code: K1110709-002

Units: mg/L
Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1110709-002MS3			Batch QCDMS Duplicate Matrix Spike K1110709-002DMS3			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chemical Oxygen Demand (COD)	22.7	124	100	101	127	100	105	79 - 126	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 3A

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
 Project: JH Baxter/Arlington
 Sample Matrix: Water

Service Request: K1110803
 Date Collected: NA
 Date Received: NA
 Date Analyzed: 11/9/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: Batch QC
 Lab Code: K1110799-001

Units: mg/L
 Basis: NA

Analytical Method: SM 5220 C

Analyte Name	Sample Result	Batch QCMS Matrix Spike K1110799-001MS9			Batch QCDMS Duplicate Matrix Spike K1110799-001DMS9			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chemical Oxygen Demand (COD)	12.3	101	100	89	104	100	92	79 - 126	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 9/11

**Lab Control Sample Summary
General Chemistry Parameters**

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS3					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	124	131	95	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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Form 3C

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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/9/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS4					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Chemical Oxygen Demand (COD)	SM 5220 C	123	131	94	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.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

Analysis Method: SM 5310 C

Units: mg/L

Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
BXS-1	K1110803-001	3.13		0.50	0.07	1	NA	11/7/11 14:14	
BXS-2	K1110803-002	14.6		0.50	0.07	1	NA	11/7/11 14:14	
BXS-3	K1110803-003	4.41		0.50	0.07	1	NA	11/7/11 14:14	
BXS-4	K1110803-004	1.00		0.50	0.07	1	NA	11/7/11 14:14	
BXS-5	K1110803-005	3.35		0.50	0.07	1	NA	11/7/11 14:14	
Method Blank	K1110803-MB1	0.10	J	0.50	0.07	1	NA	11/7/11 14:14	
Method Blank	K1110803-MB2	ND	U	0.50	0.07	1	NA	11/7/11 14:14	
Method Blank	K1110803-MB3	ND	U	0.50	0.07	1	NA	11/7/11 14:14	
Method Blank	K1110803-MB4	ND	U	0.50	0.07	1	NA	11/7/11 14:14	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1110803-001DUP39		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	3.13	3.17	3.15	1	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-2
Lab Code: K1110803-002

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-2DUP Duplicate Sample K1110803-002DUP40		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	14.6	14.6	14.6	<1	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: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803

Date Collected: 11/3/11

Date Received: 11/4/11

Date Analyzed: 11/7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-3
Lab Code: K1110803-003

Units: mg/L

Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-3DUP Duplicate Sample K1110803-003DUP41		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	4.41	4.30	4.35	3	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/ 7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-4
Lab Code: K1110803-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-4DUP Duplicate Sample K1110803-004DUP42		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	1.00	0.91	0.957	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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SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/7/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-5
Lab Code: K1110803-005

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-5DUP Duplicate Sample K1110803-005DUP43		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic	SM 5310 C	0.50	0.07	3.35	3.30	3.32	2	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/ 7/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analytical Method: SM 5310 C

BXS-IMS
Matrix Spike
K1110803-001MS13

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	3.13	28.1	25.0	100	83 - 117

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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample K1110803-LCS1					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	24.2	26.0	93	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L**Basis:** NA

Lab Control Sample K1110803-LCS2					
Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	SM 5310 C	23.9	26.0	92	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.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/7/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample K1110803-LCS3			Duplicate Lab Control Sample K1110803-DLCS3			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	23.4	26.0	90	22.9	26.0	88	83 - 117	2	20

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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/ 7/11

**Lab Control Sample Summary
General Chemistry Parameters**

Units: mg/L

Basis: NA

Analyte Name	Method	Lab Control Sample K1110803-LCS4			Duplicate Lab Control Sample K1110803-DLCS4			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Carbon, Total Organic	SM 5310 C	26.3	26.0	101	26.5	26.0	102	83 - 117	<1	20

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

\\Inflow2\Starlins\LimRep\LabControlSample.rpt

SuperSet Reference: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/ 3/11
Date Received: 11/ 4/11

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	K1110803-001	0.24		0.20	0.03	1	NA	11/18/11 13:30	
BXS-2	K1110803-002	1.51		0.20	0.03	1	NA	11/18/11 13:30	
BXS-3	K1110803-003	7.70		0.40	0.06	2	NA	11/18/11 13:30	
BXS-4	K1110803-004	0.36		0.20	0.03	1	NA	11/18/11 13:30	
BXS-5	K1110803-005	0.24		0.20	0.03	1	NA	11/18/11 13:30	
Method Blank	K1110803-MB1	0.04	J	0.20	0.03	1	NA	11/18/11 13:30	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
Project: JH Baxter/Arlington
Sample Matrix: Water

Service Request: K1110803
Date Collected: 11/3/11
Date Received: 11/4/11
Date Analyzed: 11/18/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: BXS-1
Lab Code: K1110803-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	BXS-1DUP Duplicate Sample K1110803-001DUP39		RPD	RPD Limit
					Result	Average		
Tannin and Lignin	SM 5550 B	0.20	0.03	0.24	0.25	0.246	7	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: 11-0000193738 rev 00

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: JH Baxter & Company
 Project: JH Baxter/Arlington
 Sample Matrix: Water

Service Request: K1110803
 Date Collected: 11/3/11
 Date Received: 11/4/11
 Date Analyzed: 11/18/11

Matrix Spike Summary
 General Chemistry Parameters

Sample Name: BXS-1
 Lab Code: K1110803-001

Units: mg/L
 Basis: NA

Analytical Method: SM 5550 B

Analyte Name	Sample Result	BXS-1MS Matrix Spike K1110803-001MS12			BXS-1DMS Duplicate Matrix Spike K1110803-001DMS12			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Tannin and Lignin	0.24	1.17	1.00	93	1.93	2.00	85	70 - 120	9	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
Sample Matrix: Water

Service Request: K1110803
Date Analyzed: 11/18/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L**Basis:** NA**Lab Control Sample**

K1110803-LCS3

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Tannin and Lignin	SM 5550 B	1.12	1.00	112	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.

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Form 3C

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SuperSet Reference: 11-0000193738 rev 00

Columbia Analytical Services

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company
Project Name: JH Baxter/Arlington
Project No.:

Service Request: K1110803

<u>Sample Name:</u>	<u>Lab Code:</u>
Batch QC1D	K1110491-027D
Batch QC1S	K1110491-027S
Batch QC2D	K1110799-001D
Batch QC2S	K1110799-001S
BXS-1	K1110803-001DISS
BXS-2	K1110803-002DISS
BXS-3	K1110803-003DISS
BXS-4	K1110803-004DISS
BXS-5	K1110803-005DISS
Method Blank	K1110803-MB

Comments:

Approved By:

SC

Date:

11/22/11

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected: 11/03/11

Project Name: JH Baxter/Arlington

Date Received: 11/04/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-1

Lab Code: K1110803-001DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	0.5	U	
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	15.0		
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	11/07/11	11/16/11	7.7	J	
Manganese	6010C	5.0	0.2	1.0	11/07/11	11/16/11	149		
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	10.6	J	
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	1.0	J	

Comments:

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected: 11/03/11

Project Name: JH Baxter/Arlington

Date Received: 11/04/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-2

Lab Code: K1110803-002DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	1.0	J	
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	44.5		
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.6	J	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	11/07/11	11/16/11	388		
Manganese	6010C	5.0	0.2	1.0	11/07/11	11/16/11	1300		
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	30.5		
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	4.0	J	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected: 11/03/11

Project Name: JH Baxter/Arlington

Date Received: 11/04/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-3

Lab Code: K1110803-003DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	156		
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	121		
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.9	J	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	11/07/11	11/16/11	100000		
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	11.2	J	
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	3.0	J	

Comments:

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected: 11/03/11

Project Name: JH Baxter/Arlington

Date Received: 11/04/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-4

Lab Code: K1110803-004DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	6.2		
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	24.7		
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Iron	6010C	20.0	3.0	1.0	11/07/11	11/17/11	42.1		
Manganese	6010C	5.0	0.2	1.0	11/07/11	11/16/11	105		
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	0.8	U	

Comments:

Columbia Analytical Services

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected: 11/03/11

Project Name: JH Baxter/Arlington

Date Received: 11/04/11

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: BXS-5

Lab Code: K1110803-005DISS

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	0.6	J	
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	15.2		
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.3	J	
Iron	6010C	20.0	0.8	1.0	11/07/11	11/16/11	7.6	J	
Manganese	6010C	5.0	0.2	1.0	11/07/11	11/16/11	150		
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	10.1	J	
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	1.3	J	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Date Collected:

Project Name: JH Baxter/Arlington

Date Received:

Matrix: WATER

Units: ug/L

Basis: NA

Sample Name: Method Blank

Lab Code: K1110803-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Arsenic	7010	5.0	0.5	1.0	11/07/11	11/08/11	0.5	U	
Barium	6010C	5.0	0.6	1.0	11/07/11	11/16/11	0.6	U	
Cadmium	6010C	5.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Copper	6010C	10.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Iron	6010C	20.0	0.8	1.0	11/07/11	11/16/11	7.0	J	
Manganese	6010C	5.0	0.2	1.0	11/07/11	11/16/11	0.2	U	
Nickel	6010C	20.0	2.0	1.0	11/07/11	11/16/11	2.0	U	
Zinc	6010C	10.0	0.8	1.0	11/07/11	11/16/11	0.8	U	

Comments:

Columbia Analytical Services

Metals

- 5A -

SPIKE SAMPLE RECOVERY

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

Sample Name: Batch QC1S

Lab Code: K1110491-027S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Barium	80 - 124	2010		0.6	U	2000.00	100.5		6010C
Cadmium	75 - 125	45		2.0	U	50.00	90.0		6010C
Copper	86 - 113	229		2.0	U	250.00	91.6		6010C
Iron	75 - 125	956		3.1	J	1000.00	95.3		6010C
Manganese	84 - 121	442		0.2	U	500.00	88.4		6010C
Nickel	86 - 120	482		2.0	U	500.00	96.4		6010C
Zinc	87 - 113	458		0.8	U	500.00	91.6		6010C

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: K1110803

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

Sample Name: Batch QC2S

Lab Code: K1110799-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Arsenic	75 - 125	52.0		13.1		40.00	97.2		7010

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: K1110803

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

Sample Name: Batch QC1D

Lab Code: K1110491-027D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Barium		0.6	U	0.6	U			6010C
Cadmium		2.0	U	2.0	U			6010C
Copper		2.0	U	2.0	U			6010C
Iron		3.1	J	3.1	J	0.0		6010C
Manganese		0.2	U	0.2	U			6010C
Nickel		2.0	U	2.0	U			6010C
Zinc		0.8	U	0.8	U			6010C

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

Columbia Analytical Services

Metals

- 6 -

DUPLICATES

Client: JH Baxter & Company

Service Request: K1110803

Project No.: NA

Units: UG/L

Project Name: JH Baxter/Arlington

Basis: NA

Matrix: WATER

Sample Name: Batch QC2D

Lab Code: K1110799-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Arsenic		13.1		13.0		0.8		7010

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: K1110803

Project No.: NA

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	24.6	98.4						
Barium	5000	5020	100.4						
Cadmium	1250	1180	94.4						
Copper	625	596	95.4						
Iron	2500	2360	94.4						
Manganese	1250	1180	94.4						
Nickel	1250	1220	97.6						
Zinc	1250	1180	94.4						



APPENDIX C

Statistical Analysis of Groundwater Quality Results (BXN 1 through BXN 4)

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-10	0.556				Average Concentration	
Aug-10	0.529				m_o	s¹
Nov-10	0.504					
Feb-11	0.513	0.556	0.529	0.504	0.53	0.0005
May-11	0.544	0.529	0.504	0.513	0.52	0.0003
Aug-11	0.551	0.504	0.513	0.544	0.53	0.0005
Nov-11	0.569	0.513	0.544	0.551	0.54	0.0005

BXS-3

(Downgradient well)

May-10	0.969				X_{bar}	s²	s	t_{stat}
Aug-10	1.22							
Nov-10	1.02							
Feb-11	1.21	0.969	1.22	1.02	1.10	0.02	0.13	8.84
May-11	0.703	1.22	1.02	1.21	1.04	0.06	0.24	4.25
Aug-11	0.663	1.02	1.21	0.703	0.90	0.07	0.26	2.82
Nov-11	0.025	1.21	0.703	0.663	0.65	0.24	0.49	0.44

BXS-2

(Downgradient well)

May-10	0.032				X_{bar}	s²	s	t_{stat}
Aug-10	0.025							
Nov-10	0.025							
Feb-11	0.025	0.032	0.025	0.025	0.03	0.00	0.00	-43.22
May-11	0.025	0.025	0.025	0.025	0.03	0.00	0.00	-43.62
Aug-11	0.025	0.025	0.025	0.025	0.03	0.00	0.00	-44.10
Nov-11	0.036	0.025	0.025	0.025	0.03	0.00	0.01	-44.02

BXS-1

(Downgradient well)

May-10	0.027				X_{bar}	s²	s	t_{stat}
Aug-10	0.025							
Nov-10	0.025							
Feb-11	0.025	0.027	0.025	0.025	0.03	0.00	0.00	-43.80
May-11	0.025	0.025	0.025	0.025	0.03	0.00	0.00	-43.62
Aug-11	0.025	0.025	0.025	0.025	0.03	0.00	0.00	-44.10
Nov-11	0.025	0.025	0.025	0.025	0.03	0.00	0.00	-45.53

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-10	1.88					Average Concentration	
Aug-10	1.91					m_o	s^1
Nov-10	1.57						
Feb-11	2.1	1.88	1.91	1.57	1.87	0.048	
May-11	1.65	1.91	1.57	2.1	1.81	0.059	
Aug-11	1.69	1.57	2.1	1.65	1.75	0.056	
Nov-11	1.93	2.1	1.65	1.69	1.84	0.045	

BXS-3

(Downgradient well)

May-10	3.4								
Aug-10	3.04					X_{bar}	s^2	s	t_{stat}
Nov-10	2.74								
Feb-11	2.37	3.4	3.04	2.74	2.89	0.19	0.44	4.17	
May-11	2.07	3.04	2.74	2.37	2.56	0.18	0.42	3.13	
Aug-11	1.85	2.74	2.37	2.07	2.26	0.15	0.39	2.28	
Nov-11	2.49	2.37	2.07	1.85	2.20	0.08	0.29	1.94	

BXS-2

(Downgradient well)

May-10	4.1								
Aug-10	3.32					X_{bar}	s^2	s	t_{stat}
Nov-10	3.21								
Feb-11	3.43	4.1	3.32	3.21	3.52	0.16	0.40	7.23	
May-11	3.05	3.32	3.21	3.43	3.25	0.03	0.16	10.59	
Aug-11	2.88	3.21	3.43	3.05	3.14	0.05	0.23	8.66	
Nov-11	3.38	3.43	3.05	2.88	3.19	0.07	0.26	7.82	

BXS-1

(Downgradient well)

May-10	5.9								
Aug-10	5.67					X_{bar}	s^2	s	t_{stat}
Nov-10	5.38								
Feb-11	6.99	5.9	5.67	5.38	5.99	0.49	0.70	11.19	
May-11	6.17	5.67	5.38	6.99	6.05	0.50	0.71	11.50	
Aug-11	5.71	5.38	6.99	6.17	6.06	0.49	0.70	11.78	
Nov-11	6.01	6.99	6.17	5.71	6.22	0.30	0.55	14.84	

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-10	0.93				Average Concentration	
Aug-10	0.81				m_o	s^1
Nov-10	2.61					
Feb-11	1.15	0.93	0.81	2.61	1.38	0.6977
May-11	0.94	0.81	2.61	1.15	1.38	0.6948
Aug-11	0.67	2.61	1.15	0.94	1.34	0.7526
Nov-11	1	1.15	0.94	0.67	0.94	0.0402

BXS-3

(Downgradient well)

May-10	25.2				X_{bar}	s^2	s	t_{stat}
Aug-10	21.5							
Nov-10	24.7							
Feb-11	21.6	25.2	21.5	24.7	23.25	3.90	1.97	20.41
May-11	18.8	21.5	24.7	21.6	21.65	5.82	2.41	15.89
Aug-11	25.5	24.7	21.6	18.8	22.65	9.42	3.07	13.40
Nov-11	4.41	21.6	18.8	25.5	17.58	84.61	9.20	3.60

BXS-2

(Downgradient well)

May-10	17.3				X_{bar}	s^2	s	t_{stat}
Aug-10	15.3							
Nov-10	18.2							
Feb-11	17.2	17.3	15.3	18.2	17.00	1.49	1.22	21.14
May-11	16.4	15.3	18.2	17.2	16.78	1.51	1.23	20.73
Aug-11	14.2	18.2	17.2	16.4	16.50	2.89	1.70	16.00
Nov-11	14.6	17.2	16.4	14.2	15.60	2.05	1.43	17.68

BXS-1

(Downgradient well)

May-10	4.17				X_{bar}	s^2	s	t_{stat}
Aug-10	3.7							
Nov-10	7.41							
Feb-11	4.37	4.17	3.7	7.41	4.91	2.85	1.69	3.76
May-11	2.94	3.7	7.41	4.37	4.61	3.84	1.96	3.03
Aug-11	2.98	7.41	4.37	2.94	4.43	4.40	2.10	2.73
Nov-11	3.13	4.37	2.94	2.98	3.36	0.46	0.68	4.48

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)

					Average Concentration	
					m_o	s^1
May-10	3.3					
Aug-10	5					
Nov-10	5.6					
Feb-11	5	3.3	5	5.6	4.73	0.98
May-11	3.4	5	5.6	5	4.75	0.89
Aug-11	5	5.6	5	3.4	4.75	0.89
Nov-11	5	5	3.4	5	4.60	0.64

BXS-3

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	73.9							
Aug-10	74.1							
Nov-10	67.5							
Feb-11	74.9	73.9	74.1	67.5	72.60	11.75	3.43	38.05
May-11	70.5	74.1	67.5	74.9	71.75	11.69	3.42	37.64
Aug-11	84.4	67.5	74.9	70.5	74.33	54.35	7.37	18.71
Nov-11	68.9	74.9	70.5	84.4	74.68	48.47	6.96	19.93

BXS-2

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	41							
Aug-10	41.1							
Nov-10	42.1							
Feb-11	44.4	41	41.1	42.1	42.15	2.50	1.58	40.13
May-11	45.4	41.1	42.1	44.4	43.25	3.96	1.99	34.62
Aug-11	41.5	42.1	44.4	45.4	43.35	3.43	1.85	36.75
Nov-11	37.8	44.4	45.4	41.5	42.28	11.64	3.41	21.21

BXS-1

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	11							
Aug-10	10.9							
Nov-10	14.7							
Feb-11	9.1	11	10.9	14.7	11.43	5.53	2.35	5.25
May-11	8.2	10.9	14.7	9.1	10.73	8.28	2.88	3.93
Aug-11	9.8	14.7	9.1	8.2	10.45	8.46	2.91	3.71
Nov-11	4.7	9.1	8.2	9.8	7.95	5.12	2.26	2.71

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 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-10	0.5				Average Concentration	
Aug-10	0.5				m_o	s¹
Nov-10	1					
Feb-11	0.5	0.5	0.5	1	0.63	0.0625
May-11	2	0.5	1	0.5	1.00	0.5000
Aug-11	0.5	1	0.5	2	1.00	0.5000
Nov-11	0	0.5	2	0.5	0.75	0.7500

BXS-3

(Downgradient well)

May-10	0.5				X_{bar}	s²	s	t_{stat}
Aug-10	0.5							
Nov-10	5.2							
Feb-11	0.5	0.5	0.5	5.2	1.7	5.5	2.4	0.89
May-11	0.5	0.5	5.2	0.5	1.7	5.5	2.4	0.57
Aug-11	0.5	5.2	0.5	0.5	1.7	5.5	2.4	0.57
Nov-11	P	0.5	0.5	0.5	0.5	0.0	0.0	-2.00

BXS-2

(Downgradient well)

May-10	2				X_{bar}	s²	s	t_{stat}
Aug-10	1							
Nov-10	2							
Feb-11	0.5	2	1	2	1	1	1	1.90
May-11	0.5	1	2	0.5	1	1	1	0.00
Aug-11	18.1	2	0.5	0.5	5	74	9	1.00
Nov-11	P	0.5	0.5	18.1	6	103	10	1.11

BXS-1

(Downgradient well)

May-10	165.2				X_{bar}	s²	s	t_{stat}
Aug-10	9.7							
Nov-10	1							
Feb-11	0.5	165.2	9.7	1	44.1	6535.7	80.8	1.08
May-11	0.5	9.7	1	0.5	2.9	20.5	4.5	0.85
Aug-11	0.5	1	0.5	0.5	0.6	0.1	0.3	-2.12
Nov-11	P	0.5	0.5	0.5	0.5	0.0	0.0	-2.00

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!

P - positive value for qualitative test

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-10	Aug-10	Nov-10	Feb-11	May-11	Aug-11	Nov-11	Average Concentration m_o	s^1
	192	209	172	155	219	202	195		
				192	209	172	155	182.00	552.67
								188.75	914.92
								187.00	832.67
								192.75	734.92

BXS-3

(Downgradient well)

	May-10	Aug-10	Nov-10	Feb-11	May-11	Aug-11	Nov-11	X_{bar}	s^2	s	t_{stat}
	461	423	543	371	377	603	505				
				461	423	543	371	450	5246	72	7.03
								429	6366	80	5.76
								474	13806	118	4.78
								464	12407	111	4.77

BXS-2

(Downgradient well)

	May-10	Aug-10	Nov-10	Feb-11	May-11	Aug-11	Nov-11	X_{bar}	s^2	s	t_{stat}
	881	805	901	729	801	941	884				
				881	805	901	729	829	6155	78	15.80
								809	4981	71	16.68
								843	9243	96	13.26
								839	8658	93	13.46

BXS-1

(Downgradient well)

	May-10	Aug-10	Nov-10	Feb-11	May-11	Aug-11	Nov-11	X_{bar}	s^2	s	t_{stat}
	297	311	377	296	321	359	360				
				297	311	377	296	320	1478	38	6.14
								326	1250	35	6.48
								338	1338	37	6.96
								334	971	31	7.24

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)

					Average Concentration	
					m_o	s^1
May-10	0.03					
Aug-10	0.039					
Nov-10	0.025					
Feb-11	0.025	0.03	0.039	0.025	0.030	0.000044
May-11	0.013	0.039	0.025	0.025	0.026	0.000113
Aug-11	0.011	0.025	0.025	0.013	0.019	0.000057
Nov-11	0.025	0.025	0.013	0.011	0.019	0.000057

BXS-3

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	0.218							
Aug-10	0.176							
Nov-10	0.118							
Feb-11	190	0.218	0.176	0.118	47.63	9008.80	94.91	1.00
May-11	0.143	0.176	0.118	190	47.61	9011.17	94.93	1.00
Aug-11	0.104	0.118	190	0.143	47.59	9013.45	94.94	1.00
Nov-11	0.137	190	0.143	0.104	47.60	9012.84	94.94	1.00

BXS-2

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-09	0.037							
Aug-09	0.038							
Nov-09	0.025							
Feb-10	0.025	0.037	0.038	0.025	0.03	0.00	0.01	0.31
May-10	0.018	0.038	0.025	0.025	0.03	0.00	0.01	0.19
Aug-10	0.012	0.025	0.025	0.018	0.02	0.00	0.01	0.33
Nov-10	0.011	0.025	0.018	0.012	0.02	0.00	0.01	-0.43

BXS-1

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-09	0.109							
Aug-09	0.139							
Nov-09	0.086							
Feb-10	0.025	0.109	0.139	0.086	0.09	0.00	0.05	2.46
May-10	0.149	0.139	0.086	0.025	0.10	0.00	0.06	2.59
Aug-10	0.059	0.086	0.025	0.149	0.08	0.00	0.05	2.32
Nov-10	0.095	0.025	0.149	0.059	0.08	0.00	0.05	2.38

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 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-10	7.46				Average Concentration	
Aug-10	7.63				m_o	s^1
Nov-10	7.99					
Feb-11	8.02	7.46	7.63	7.99	7.78	0.08
May-11	7.99	7.63	7.99	8.02	7.91	0.03
Aug-11	7.77	7.99	8.02	7.99	7.94	0.01
Nov-11	8.36	8.02	7.99	7.77	8.04	0.06

BXS-3

(Downgradient well)

May-10	6.04				X_{bar}	s^2	s	t_{stat}
Aug-10	5.98							
Nov-10	6.37							
Feb-11	6.22	6.04	5.98	6.37	6.15	0.03	0.18	-9.92
May-11	6.24	5.98	6.37	6.22	6.20	0.03	0.16	-10.68
Aug-11	5.79	6.37	6.22	6.24	6.16	0.06	0.25	-9.58
Nov-11	6.43	6.22	6.24	5.79	6.17	0.07	0.27	-9.67

BXS-2

(Downgradient well)

May-10	5.96				X_{bar}	s^2	s	t_{stat}
Aug-10	5.87							
Nov-10	6.52							
Feb-11	6.16	5.96	5.87	6.52	6.13	0.08	0.29	-8.27
May-11	6.20	5.87	6.52	6.16	6.19	0.07	0.27	-8.99
Aug-11	5.73	6.52	6.16	6.20	6.15	0.11	0.32	-8.42
Nov-11	6.37	6.16	6.20	5.73	6.12	0.07	0.27	-9.93

BXS-1

(Downgradient well)

May-10	5.90				X_{bar}	s^2	s	t_{stat}
Aug-10	5.94							
Nov-10	6.34							
Feb-11	6.24	5.9	5.94	6.34	6.11	0.05	0.22	-9.52
May-11	6.25	5.94	6.34	6.24	6.19	0.03	0.17	-10.54
Aug-11	5.75	6.34	6.24	6.25	6.15	0.07	0.27	-9.38
Nov-11	6.46	6.24	6.25	5.75	6.18	0.09	0.30	-9.13

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 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-10	129				Average Concentration	
Aug-10	202				m_o	s^1
Nov-10	98					
Feb-11	165	129	202	98	148.50	2021.67
May-11	129	202	98	165	148.50	2,021.67
Aug-11	128	98	165	129	130.00	751.33
Nov-11	115	165	129	128	134.25	460.92

BXS-3

(Downgradient well)

May-10	340				X_{bar}	s^2	s	t_{stat}
Aug-10	381							
Nov-10	330							
Feb-11	377	340	381	330	357	665	26	8.05
May-11	374	381	330	377	366	568	24	8.53
Aug-11	399	330	377	374	370	835	29	8.98
Nov-11	350	377	374	399	375	402	20	9.78

BXS-2

(Downgradient well)

May-10	508				X_{bar}	s^2	s	t_{stat}
Aug-10	564							
Nov-10	462							
Feb-11	512	508	564	462	512	1740	42	11.84
May-11	559	564	462	512	524	2271	48	11.47
Aug-11	550	462	512	559	521	1949	44	12.40
Nov-11	532	512	559	550	538	432	21	16.31

BXS-1

(Downgradient well)

May-10	166				X_{bar}	s^2	s	t_{stat}
Aug-10	250							
Nov-10	153							
Feb-11	211	166	250	153	195	1962	44	1.47
May-11	209	250	153	211	206	1593	40	1.90
Aug-11	188	153	211	209	190	725	27	2.30
Nov-11	217	211	209	188	206	160	13	3.08

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

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)

Sample Date	Concentration				Average Concentration		
					m_o	s^1	
May-10	1.45						
Aug-10	1.55						
Nov-10	1.07						
Feb-11	1.53	1.45	1.55	1.07	1.40	0.050	
May-11	0.93	1.55	1.07	1.53	1.27	0.101	
Aug-11	0.95	1.07	1.53	0.93	1.12	0.079	
Nov-11	1.05	1.53	0.93	0.95	1.12	0.079	

BXS-3

(Downgradient well)

Sample Date	Concentration				X_{bar}	s^2	s	t_{stat}
May-10	0.76							
Aug-10	0.8							
Nov-10	0.2							
Feb-11	1.04	0.76	0.8	0.2	0.700	0.126	0.356	-3.33
May-11	0.18	0.8	0.2	1.04	0.555	0.187	0.433	-2.93
Aug-11	0.38	0.2	1.04	0.18	0.450	0.163	0.403	-2.90
Nov-11	0.58	1.04	0.18	0.38	0.545	0.136	0.368	-2.64

BXS-2

(Downgradient well)

Sample Date	Concentration				X_{bar}	s^2	s	t_{stat}
May-10	0.17							
Aug-10	1.12							
Nov-10	0.2							
Feb-11	1.3	0.17	1.12	0.2	0.70	0.356	0.596	-2.20
May-11	0.26	1.12	0.2	1.3	0.72	0.326	0.571	-1.79
Aug-11	0.58	0.2	1.3	0.26	0.59	0.255	0.505	-1.94
Nov-11	0.83	1.3	0.26	0.58	0.74	0.193	0.439	-1.51

BXS-1

(Downgradient well)

Sample Date	Concentration				X_{bar}	s^2	s	t_{stat}
May-10	15.3							
Aug-10	14.1							
Nov-10	12.3							
Feb-11	15.2	15.3	14.1	12.3	14.23	1.94	1.39	18.17
May-11	15.9	14.1	12.3	15.2	14.38	2.46	1.57	16.53
Aug-11	16.2	12.3	15.2	15.9	14.90	3.18	1.78	15.33
Nov-11	15.8	15.2	15.9	16.2	15.78	0.18	0.42	61.66

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

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-10	0.32					Average Concentration	
Aug-10	0.34					m_o	s^1
Nov-10	0.36						
Feb-11	0.42	0.32	0.34	0.36	0.36	0.0019	
May-11	0.3	0.34	0.36	0.42	0.36	0.0025	
Aug-11	0.26	0.36	0.42	0.3	0.34	0.0049	
Nov-11	0.36	0.42	0.3	0.26	0.34	0.0049	

BXS-3

(Downgradient well)

May-10	31.3					X_{bar}	s^2	s	t_{stat}
Aug-10	5.22								
Nov-10	13.1								
Feb-11	15.7	31.3	5.22	13.1	16.33	119.45	10.93	2.92	
May-11	15	5.22	13.1	15.7	12.26	23.20	4.82	4.94	
Aug-11	21.4	13.1	15.7	15	16.30	12.77	3.57	8.94	
Nov-11	7.7	15.7	15	21.4	14.95	31.58	5.62	5.20	

BXS-2

(Downgradient well)

May-10	1.1					X_{bar}	s^2	s	t_{stat}
Aug-10	1.68								
Nov-10	1.43								
Feb-11	1.58	1.1	1.68	1.43	1.45	0.064	0.253	8.46	
May-11	0.46	1.68	1.43	1.58	1.29	0.315	0.561	3.31	
Aug-11	1.15	1.43	1.58	0.46	1.16	0.246	0.496	3.29	
Nov-11	1.51	1.58	0.46	1.15	1.18	0.263	0.513	3.27	

BXS-1

(Downgradient well)

May-10	0.11					X_{bar}	s^2	s	t_{stat}
Aug-10	0.18								
Nov-10	0.15								
Feb-11	0.21	0.11	0.18	0.15	0.16	0.00	0.04	-6.50	
May-11	0.1	0.18	0.15	0.21	0.16	0.00	0.05	-6.12	
Aug-11	0.09	0.15	0.21	0.1	0.14	0.00	0.06	-5.65	
Nov-11	0.24	0.21	0.1	0.09	0.16	0.01	0.08	-4.00	

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

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)

					Average Concentration	
					m_o	s^1
May-10	5.5					
Aug-10	5.3					
Nov-10	5.6					
Feb-11	5.5	5.5	5.3	5.6	5.48	0.02
May-11	6.2	5.3	5.6	5.5	5.65	0.15
Aug-11	6.4	5.6	5.5	6.2	5.93	0.20
Nov-11	6.2	5.5	6.2	6.4	6.08	0.16

BXS-3

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	149							
Aug-10	139							
Nov-10	186							
Feb-11	119	149	139	186	148.25	788.92	28.09	10.17
May-11	139	139	186	119	145.75	808.92	28.44	9.85
Aug-11	155	186	119	139	149.75	800.92	28.30	10.16
Nov-11	156	119	139	155	142.25	300.92	17.35	15.70

BXS-2

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	0.9							
Aug-10	0.9							
Nov-10	2.5							
Feb-11	2.5	0.9	0.9	2.5	1.70	0.85	0.92	-8.10
May-11	1.1	0.9	2.5	2.5	1.75	0.76	0.87	-8.87
Aug-11	2.5	2.5	2.5	1.1	2.15	0.49	0.70	-10.62
Nov-11	1	2.5	1.1	2.5	1.78	0.70	0.84	-10.15

BXS-1

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	2.5							
Aug-10	2.5							
Nov-10	2.5							
Feb-11	2.5	2.5	2.5	2.5	2.50	0.00	0.00	-47.29
May-11	2.5	2.5	2.5	2.5	2.50	0.00	0.00	-50.07
Aug-11	2.5	2.5	2.5	2.5	2.50	0.00	0.00	-54.44
Nov-11	2.5	2.5	2.5	2.5	2.50	0.00	0.00	-56.82

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

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-10	27.7				Average Concentration	
Aug-10	25.8				m_o	s^1
Nov-10	24.6					
Feb-11	28.6	27.7	25.8	24.6	26.68	3.28
May-11	25.4	25.8	24.6	28.6	26.10	3.03
Aug-11	24.4	24.6	28.6	25.4	25.75	3.80
Nov-11	24.7	28.6	25.4	24.4	25.78	3.72

BXS-3

(Downgradient well)

May-10	134				X_{bar}	s^2	s	t_{stat}
Aug-10	119							
Nov-10	132							
Feb-11	142	134	119	132	131.75	90.92	9.54	21.65
May-11	123	119	132	142	129.00	104.67	10.23	19.81
Aug-11	120	132	142	123	129.25	98.25	9.91	20.54
Nov-11	121	142	123	120	126.50	108.33	10.41	19.07

BXS-2

(Downgradient well)

May-10	53.7				X_{bar}	s^2	s	t_{stat}
Aug-10	47.7							
Nov-10	44.9							
Feb-11	53.6	53.7	47.7	44.9	49.98	19.32	4.39	9.80
May-11	53	47.7	44.9	53.6	49.80	17.70	4.21	10.35
Aug-11	47.2	44.9	53.6	53	49.68	18.46	4.30	10.26
Nov-11	44.5	53.6	53	47.2	49.58	19.78	4.45	9.91

BXS-1

(Downgradient well)

May-10	14.5				X_{bar}	s^2	s	t_{stat}
Aug-10	14.9							
Nov-10	15.7							
Feb-11	16.9	14.5	14.9	15.7	15.50	1.12	1.06	-10.66
May-11	15.3	14.9	15.7	16.9	15.70	0.75	0.86	-10.37
Aug-11	15.8	15.7	16.9	15.3	15.93	0.47	0.68	-10.15
Nov-11	15	16.9	15.3	15.8	15.75	0.70	0.83	-10.06

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

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-10	2.5				Average Concentration	
Aug-10	2.5				m_o	s^1
Nov-10	2.5					
Feb-11	3.5	2.5	2.5	2.5	2.75	0.25
May-11	4.5	2.5	2.5	3.5	3.25	0.92
Aug-11	5.5	2.5	3.5	4.5	4.00	1.67
Nov-11	6.5	3.5	4.5	5.5	5.00	1.67

BXS-3

(Downgradient well)

May-10	2.5				X_{bar}	s^2	s	t_{stat}
Aug-10	4.5							
Nov-10	2.9							
Feb-11	3.9	2.5	4.5	2.9	3.45	0.84	0.91	1.34
May-11	4.9	4.5	2.9	3.9	4.05	0.76	0.87	1.59
Aug-11	5.9	2.9	3.9	4.9	4.40	1.67	1.29	0.58
Nov-11	6.9	3.9	4.9	5.9	5.40	1.67	1.29	0.58

BXS-2

(Downgradient well)

May-10	2.5				X_{bar}	s^2	s	t_{stat}
Aug-10	2.5							
Nov-10	2.6							
Feb-11	3.6	2.5	2.5	2.6	2.80	0.29	0.54	0.14
May-11	4.6	2.5	2.6	3.6	3.33	0.97	0.98	0.14
Aug-11	5.6	2.6	3.6	4.6	4.10	1.67	1.29	0.14
Nov-11	6.6	3.6	4.6	5.6	5.10	1.67	1.29	0.14

BXS-1

(Downgradient well)

May-10	2.5				X_{bar}	s^2	s	t_{stat}
Aug-10	2.5							
Nov-10	2.5							
Feb-11	3.5	2.5	2.5	2.5	2.75	0.25	0.50	0.00
May-11	4.5	2.5	2.5	3.5	3.25	0.92	0.96	0.00
Aug-11	5.5	2.5	3.5	4.5	4.00	1.67	1.29	0.00
Nov-11	6.5	3.5	4.5	5.5	5.00	1.67	1.29	0.00

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

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-10	5				Average Concentration	
Aug-10	5				m_o	s¹
Nov-10	5					
Feb-11	6	5	5	5	5.25	0.25
May-11	7	5	5	6	5.75	0.92
Aug-11	8	5	6	7	6.50	1.67
Nov-11	9	6	7	8	7.50	1.67

BXS-3

(Downgradient well)

May-10	5				X_{bar}	s²	s	t_{stat}
Aug-10	5							
Nov-10	5							
Feb-11	6	5	5	5	5.25	0.25	0.50	0.00
May-11	7	5	5	6	5.75	0.92	0.96	0.00
Aug-11	8	5	6	7	6.50	1.67	1.29	0.00
Nov-11	9	6	7	8	7.50	1.67	1.29	0.00

BXS-2

(Downgradient well)

May-10	1.6				X_{bar}	s²	s	t_{stat}
Aug-10	5							
Nov-10	5							
Feb-11	6	1.6	5	5	4.40	3.71	1.93	-0.85
May-11	7	5	5	6	5.75	0.92	0.96	0.00
Aug-11	8	5	6	7	6.50	1.67	1.29	0.00
Nov-11	9	6	7	8	7.50	1.67	1.29	0.00

BXS-1

(Downgradient well)

May-10	2				X_{bar}	s²	s	t_{stat}
Aug-10	5							
Nov-10	5							
Feb-11	6	2	5	5	4.50	3.00	1.73	-0.83
May-11	7	5	5	6	5.75	0.92	0.96	0.00
Aug-11	8	5	6	7	6.50	1.67	1.29	0.00
Nov-11	9	6	7	8	7.50	1.67	1.29	0.00

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

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-10	43.5				Average Concentration	
Aug-10	38.6				m_o	s^1
Nov-10	10					
Feb-11	46.8	43.5	38.6	10	34.73	283.05
May-11	55.6	38.6	10	46.8	37.75	390.44
Aug-11	35.1	10	46.8	55.6	36.88	391.52
Nov-11	42.1	46.8	55.6	35.1	44.90	73.99

BXS-3

(Downgradient well)

May-10	104,000				X_{bar}	s^2	s	t_{stat}
Aug-10	104,000							
Nov-10	116,000							
Feb-11	109,000	104,000	104,000	116,000	108,250	32,250,000	5678.91	38.11
May-11	110,000	104,000	116,000	109,000	109,750	24,250,000	4924.43	44.56
Aug-11	107,000	116,000	109,000	110,000	110,500	15,000,000	3872.98	57.04
Nov-11	100,000	109,000	110,000	107,000	106,500	20,333,333	4509.25	47.22

BXS-2

(Downgradient well)

May-10	451				X_{bar}	s^2	s	t_{stat}
Aug-10	482							
Nov-10	420							
Feb-11	466	451	482	420	455	697	26.40	26.83
May-11	470	482	420	466	460	740	27.20	26.38
Aug-11	412	420	466	470	442	915	30.24	23.41
Nov-11	388	466	470	412	434	1640	40.50	17.75

BXS-1

(Downgradient well)

May-10	3.5				X_{bar}	s^2	s	t_{stat}
Aug-10	3.7							
Nov-10	8.7							
Feb-11		3.5	3.7	8.7	5.30	8.68	2.95	-3.45
May-11		3.7	8.7		6.20	12.50	3.54	-3.67
Aug-11		8.7			8.70	#DIV/0!	#DIV/0!	#DIV/0!
Nov-11					#DIV/0!	#DIV/0!	#DIV/0!	#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!

* 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-10	115				Average Concentration	
Aug-10	108				m_o	s¹
Nov-10	112					
Feb-11	125	115	108	112	115.00	53
May-11	100	108	112	125	111.25	109
Aug-11	97.2	112	125	100	108.55	161.48
Nov-11	105	125	100	97.2	106.80	157.63

BXS-3

(Downgradient well)

May-10	9,380				X_{bar} s² s t_{stat}			
Aug-10	9,670							
Nov-10	7,880							
Feb-11	9,610	9,380	9,670	7,880	9,135	715,633	845.95	21.32
May-11	13,600	9,670	7,880	9,610	10,190	5,857,000	2,420.12	8.33
Aug-11	14,000	7,880	9,610	13,600	11,273	9,043,158	3,007.18	7.42
Nov-11		9,610	13,600	14,000	12,403	5,892,033	2,427.35	10.13

BXS-2

(Downgradient well)

May-10	1340				X_{bar} s² s t_{stat}			
Aug-10	1310							
Nov-10	1340							
Feb-11	1400	1340	1310	1340	1348	1425	37.75	64.13
May-11	1460	1310	1340	1400	1378	4425	66.52	37.85
Aug-11	1340	1340	1400	1460	1385	3300	57.45	44.09
Nov-11	1300	1400	1460	1340	1375	4900	70.00	36.04

BXS-1

(Downgradient well)

May-10	77.6				X_{bar} s² s t_{stat}			
Aug-10	48							
Nov-10	92.8							
Feb-11	159	77.6	48	92.8	94	2204	46.94	-0.869
May-11	122	48	92.8	159	105	2201	46.91	-0.244
Aug-11	144	92.8	159	122	129	828	28.77	1.409
Nov-11	149	159	122	144	144	244	15.63	4.259

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

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	s^1
May-10	10					
Aug-10	10					
Nov-10	10					
Feb-11	11	10	10	10	10.25	0.25
May-11	12	10	10	11	10.75	0.92
Aug-11	13	10	11	12	11.50	1.67
Nov-11	14	11	12	13	12.50	1.67

BXS-3

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	19.5							
Aug-10	17.5							
Nov-10	11.2							
Feb-11	12.2	19.5	17.5	11.2	15.10	16.25	4.03	2.39
May-11	13.2	17.5	11.2	12.2	13.53	7.69	2.77	1.97
Aug-11	14.2	11.2	12.2	13.2	12.70	1.67	1.29	1.73
Nov-11	15.2	12.2	13.2	14.2	13.70	1.67	1.29	1.73

BXS-2

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	32.6							
Aug-10	33.3							
Nov-10	30.5							
Feb-11	30.5	32.6	33.3	30.5	31.73	2.08	1.44	28.12
May-11	30.5	33.3	30.5	30.5	31.20	1.96	1.40	27.51
Aug-11	30.5	30.5	30.5	30.5	30.50	0.00	0.00	76.00
Nov-11	30.5	30.5	30.5	30.5	30.50	0.00	0.00	72.00

BXS-1

(Downgradient well)

					X_{bar}	s^2	s	t_{stat}
May-10	6.5							
Aug-10	5.8							
Nov-10	10.6							
Feb-11	10.6	6.5	5.8	10.6	8.38	6.68	2.59	-1.42
May-11	10.6	5.8	10.6	10.6	9.40	5.76	2.40	-1.10
Aug-11	10.6	10.6	10.6	10.6	10.60	0.00	0.00	-3.60
Nov-11	10.6	10.6	10.6	10.6	10.60	0.00	0.00	-7.60

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

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-10	5				Average Concentration	
Aug-10	5				m_o	s¹
Nov-10	5					
Feb-11	6	5	5	5	5.25	0.25
May-11	7	5	5	6	5.75	0.92
Aug-11	8	5	6	7	6.50	1.67
Nov-11	9	6	7	8	7.50	1.67

BXS-3

(Downgradient well)

May-10	5				X_{bar} s² s t_{stat}			
Aug-10	2.3							
Nov-10	3							
Feb-11	4	5	2.3	3	3.58	1.39	1.18	-2.62
May-11	5	2.3	3	4	3.58	1.39	1.18	-3.40
Aug-11	6	3	4	5	4.50	1.67	1.29	-2.89
Nov-11	7	4	5	6	5.50	1.67	1.29	-2.89

BXS-2

(Downgradient well)

May-10	3.5				X_{bar} s² s t_{stat}			
Aug-10	4.8							
Nov-10	4							
Feb-11	5	3.5	4.8	4	4.33	0.49	0.70	-2.15
May-11	6	4.8	4	5	4.95	0.68	0.82	-1.66
Aug-11	7	4	5	6	5.50	1.67	1.29	-1.44
Nov-11	8	5	6	7	6.50	1.67	1.29	-1.44

BXS-1

(Downgradient well)

May-10	2.1				X_{bar} s² s t_{stat}			
Aug-10	5							
Nov-10	1							
Feb-11	2	2.1	5	1	2.53	2.97	1.72	-3.04
May-11	3	5	1	2	2.75	2.92	1.71	-3.37
Aug-11	4	1	2	3	2.50	1.67	1.29	-5.78
Nov-11	5	2	3	4	3.50	1.67	1.29	-5.78

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!