TETRA TECH, INC.

September 26, 2012

Mr. Dustin Johnson
The City of Bozeman
P.O. Box 1230
Bozeman, Montana 59771-1230

RE: Report of Groundwater Monitoring Activities – June 2012
City of Bozeman Sanitary Landfill
Bozeman, Montana

Dear Dustin:

Enclosed is a draft copy of the above referenced report. Please contact me with any questions or comments to this report or project.

We appreciate the opportunity to work with the City of Bozeman on this project.

Sincerely,

Mark F. Pearson
Project Manager

mfp

Copies sent to: Mr. Martin VanOort, Montana DEQ
Gianforte

Enclosure: Report of Groundwater Monitoring Activities - June 2012

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REPORT OF GROUNDWATER MONITORING ACTIVITIES
JUNE 2012

BOZEMAN SANITARY LANDFILL
BOZEMAN, MONTANA

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BOZEMAN SANITARY LANDFILL
BOZEMAN, MONTANA

Submitted to:

Mr. Dustin Johnson, P.E.
City of Bozeman
P.O. Box 1230
Bozeman, Montana 59771-1230

Submitted by:

Tetra Tech, Inc.
851 Bridger Drive, Ste 6
Bozeman, Montana 59715

September 26, 2012

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring activities for June 2012 at the City of Bozeman Sanitary Landfill (**Figure 1**, **Appendix A**). Tetra Tech personnel conducted the monitoring in accordance with a Task Order for conducting the December 2011 and June 2012 monitoring events and the *Groundwater Sampling and Analysis Plan* dated October 28, 2010. The task order was approved by the City of Bozeman on December 5, 2011.

Monitoring activities included the measurement of water levels, field parameters, and sampling of wells and a surface water spring (McIlhattan Seep). Monitoring sites are shown in **Figure 2** (**Appendix A**).

On April 25, 2011, the Department of Environmental Quality (DEQ) requested that an additional monitoring well be installed in the vicinity of MW-6 and MW-7A that would better define contaminant plumes around these wells. This includes well MW-16 north of the shop building at the site (**Figure 2**). On November 18, 2011, the Department of Environmental Quality (DEQ) requested additional existing monitoring wells were monitored/sampled that were not included in the November 8, 2011 Task Order. These include wells MW-7B, MW-8B, and MW-9B. The November 18, 2011 DEQ communication also requested that additional Relative Point of Compliance (RPOC) wells be installed and these include wells MW-6B and MW-8C (both to approximately 100 feet depth, **Figure 2**). A letter report describing well installation activities was submitted to City of Bozeman and DEQ on May 30, 2012. Samples collected from these wells were submitted for laboratory analysis of volatile organic compounds (VOCs) and inorganic parameters, including metals.

1.1 METHODS

This section describes methods used to monitor groundwater at the Bozeman Sanitary Landfill. Results of the monitoring activities are presented in Section 2.0. Figures presenting the site location, monitoring sites, and other site aspects are contained in **Appendix A**. Data tables are contained in **Appendix B**.

1.1.1 Water Level and Field Parameter Measurements

Depth to groundwater was measured in each monitoring well during the monitoring event. Water levels were measured from a designated measuring point on the north quadrant of the polyvinyl chloride (PVC) collar of each well. An electric well probe was used for water level measurements and routinely decontaminated before use at each well. Other field parameter measurements, including temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP) were measured with a YSI®-556 multimeter in samples collected from the monitoring wells during purging; in purge water during pumping of wells; or downhole, in most of the wells following purging with a bailer. In the case of McIlhattan Spring, the multiprobe was completely submersed in the spring flow at the sampling location. The measurements were recorded on groundwater sampling logs included in **Appendix C**.

1.1.2 Groundwater Monitoring

The June 2012 monitoring event was an assessment groundwater monitoring event and consisted of groundwater samples being collected from 13 monitoring wells (MW-4, MW-5, MW-6, MW-7A, MW-8A, MW-9A, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, and LF-3), the

McIlhattan Seep, and Valley View (formerly McIlhattan) Veterinary Clinic (Vet) well. In addition samples were collected from wells LF-2, MW- 6B, MW-7B, MW-8B, MW-8C, and MW-9B.

Samples collected from these locations were analyzed for VOCs and inorganic parameters listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7). The analytical lists are included with the laboratory analytical report in **Appendix D**. DEQ approved omissions and additions of constituents to the Appendix I list. These include the omission of antimony, beryllium, and mercury and the addition of iron, manganese, and dichlorofluoromethane.

Samples collected from wells MW-6B, MW-8C, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16 the McIlhattan Seep, and the Vet well were analyzed for the 'full list' including the VOCs and inorganic parameters listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7) plus dichlorodifluoromethane. Samples collected from wells MW-4, MW-5, MW-6, MW-7A, MW-8A, and MW-9A were analyzed for the 'partial list' of VOCs and inorganic parameters listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7) plus dichlorodifluoromethane. Well LF-2 was added to the list of wells to be monitored for the fourth event (since December 2010) in response to well MW-8A having concentrations of nitrate+nitrite as N greater than the groundwater protection standard (GPS) or EPA maximum contaminant level (MCL) in drinking water (DEQ 2010). The sample collected from well LF-2 was analyzed for nitrate+nitrite as N and VOCs plus dichlorodifluoromethane. DEQ also requested that the Bozeman Landfill Shop Well be added in the December 2011 event and this monitoring event and the sample be analyzed for VOCs plus dichlorodifluoromethane.

Pace Analytical Services, Inc. (Pace), in Billings, Montana was contracted to furnish the sample containers, trip blank, and conduct the analysis. The trip blank was prepared in Pace's Billings laboratory and consisted of de-ionized water. Upon Pace's receipt of the samples, the trip blank was analyzed for VOCs (8260 method) listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7) plus dichlorodifluoromethane. A duplicate sample was also collected at the McIlhattan Seep station and submitted for analysis of all parameters listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7) plus dichlorodifluoromethane.

Water samples were collected from each monitoring well in accordance with the *Groundwater Monitoring Sampling and Analysis Plan* for the site (Tetra Tech 2010). In general, the following sampling procedures were used:

- Monitoring wells were purged using either dedicated submersible pump(s), decontaminated submersible pumps with disposable tubing, or dedicated and/or disposable polyethylene bailers.

- A minimum of three well casing volumes were removed in wells that had suitable recovery, with the objective of sampling "formation" water. In wells with poor recovery, an effort was made to purge to a casing water column that was less than the length of a bailer and then allow the well to recover for sampling and subsequent monitoring (if DO and ORP was being measured downhole).

- Each sample obtained for dissolved metals analysis was filtered in the field through a disposable 0.45-micron filter. The samples were filtered directly from the dedicated (or disposable) bailer or pump discharge hose into appropriate labeled containers and preserved with nitric acid.

- All other samples were transferred into appropriate labeled containers and preserved, as necessary.

- Pertinent information (sample date, time, well location, personnel, etc.) was recorded on groundwater monitoring logs. These forms are included in **Appendix C**.

- Samples were packed in ice-filled coolers and shipped with chain-of-custody forms to Pace Analytical Services, Inc., in Billings, Montana. Chain-of-custody forms for the sampling events are included with the laboratory reports in **Appendix D**.

- Monitoring activities at the McIlhattan Seep (**Figure 2**) consisted of directly filling the sample bottles where the seep emanates at ground surface. Consistent with previous monitoring events, dissolved metals analysis had been selected at this location to provide for direct comparison with other monitoring locations' dissolved metals analysis. The sample for dissolved metals analysis was collected in a disposable bailer, filtered, and preserved with nitric acid. All other samples were collected in appropriate labeled containers and preserved, as necessary.

- Monitoring activities at the water supply well located at Valley View Veterinary Hospital on 2717 McIlhattan Road (formerly McIlhattan Veterinary Clinic) consisted of purging the well through a faucet in the kennel adjacent to the office. Approximately 180 gallons were purged prior to collecting a sample. The purging method and volume purged was consistent with previous monitoring events. As in previous monitoring events, the sample for metals was not filtered for reporting as total recoverable metals concentrations. All other samples were collected in appropriate labeled containers and preserved, as necessary.

The June 2012 monitoring event field parameter measurements and laboratory analytical results were entered into Tetra Tech's database management system. Data entries were then checked by Tetra Tech personnel to ensure correct data entry.

2.0 DATA PRESENTATION AND ANALYSIS

Data collected at the City of Bozeman Sanitary Landfill during the June 2012 monitoring event are presented in this section. Figures and tables cited in the report are contained in **Appendix A** and **B**, respectively**.** Groundwater sampling logs, chain-of-custody documents, and laboratory analytical reports for the monitoring events are contained in **Appendices C** and **D**, respectively.

2.1 GROUNDWATER OCCURRENCE AND MOVEMENT

Groundwater occurrence, movement, hydraulic gradient, and other groundwater aspects are discussed in this section. A groundwater flow and gradient map representing the June 2012 groundwater elevations is presented in **Figure 3**.

Site Groundwater Flow Direction and Hydraulic Gradient

The June 2012 water levels at the landfill were generally consistent with groundwater elevations measured in previous June monitoring events and indicate a southwest groundwater flow beneath the *Unlined Closed Cell* shifting to a west-southwest flow between the *Lined Closed Cell* and well MW-10, at the western margin of the site. The groundwater gradient beneath the *Unlined Closed Cell* is a consistent 5.6% between wells MW-15 and MW-12. The groundwater gradient

decreases between wells MW-12 and MW-4 to approximately 1.4 to 2.4% and then steepens again to approximately 4% between wells MW-4 and MW-10. In the vicinity of well MW-10, groundwater gradient is inferred to significantly decrease as indicated by topography in the vicinity of this well, near-surface groundwater level at this location, and its proximity with the East Gallatin River (**Figure 3**).

In addition to map hydraulic gradients mentioned above, the measurement of groundwater elevations in monitoring wells determined the following vertical groundwater gradients at the site:

MW-6 and 6B — The groundwater elevation in well MW-6B is 12.6 feet higher than in well MW-6 indicating a distinct upward hydraulic gradient between groundwater at screened depths (below ground surface) of approximately 41 to 56 feet (MW-6) and 90 to 100 feet (MW-6B).

MW-7A and 7B — As observed in previous monitoring events, groundwater elevations are the same in both wells indicating no upward or downward gradients in groundwater to approximately 74 feet depth (below ground surface).

MW-8A, 8B, and 8C — The groundwater elevation in well MW-8C is 4 feet higher than in well MW-8A indicating an upward hydraulic gradient groundwater at depths of approximately 41 to 70 feet (MW-8A and 8B) and 93 to 103 feet (MW-8C). As observed in previous monitoring events, groundwater elevations in wells MW-8A and 8B are the same indicating no upward or downward gradients in groundwater to approximately 70 feet depth.

MW-9A and 9B — As observed in previous monitoring events, groundwater elevations are the same in both wells indicating no upward or downward gradients in groundwater to approximately 57 feet depth.

Hydraulic Conductivity and Groundwater Movement

Hydraulic conductivities of the alluvial fan deposits underlying the site had been evaluated in 1994 using a short-term aquifer test and laboratory hydraulic conductivity tests (Huntingdon, 1994). Results of these tests indicate hydraulic conductivity ranging between 97 centimeters per second (cm/sec) and 5.2×10^{-6} cm/sec. The relatively wide range of hydraulic conductivity values is indicative of a heterogeneous nature of the alluvial fan deposits. The average calculated hydraulic conductivity of the alluvial fan sediments is approximately 2.0×10^{-2} cm/sec (56.7 feet per day). This is a typical hydraulic conductivity value for clean sand (Freeze and Cherry, 1979). Assuming an effective porosity of 0.35 (typical values for sand and gravel range from 0.28 to 0.39; Todd, 1980) and map hydraulic gradients ranging from 1.4% to 5.6%, the approximate rate of groundwater movement beneath the Bozeman Landfill ranges between two and nine feet per day.

2.2 GROUNDWATER QUALITY

A discussion of the June 2012 results for analyses of inorganic parameters and volatile organic compounds is presented in the following sections.

2.2.1 Inorganic Groundwater Quality

Montana landfill inorganic parameters include chloride, sulfate, electrical conductivity, pH, nitrate+nitrite, and up to 15 metals. Metal concentrations in samples collected from monitoring wells during the June 2012 were generally near or below the report limit (RL) and this is consistent with previous monitoring events. With exception to nitrate+nitrite as N and iron, inorganic constituent concentrations in wells did not meet or exceed the regulatory standards. Sites where metal concentrations were higher than the RL or of note are listed below:

- The nitrate+nitrite as N concentration in well MW-8A was 17 milligrams per liter (mg/L) and exceeded the GPS or MCL for nitrate+nitrite as N at 10 mg/L (DEQ 2010). Wells MW-8B and 8C had nitrate+nitrite as N concentrations of 6.8 and 5.2 mg/L, respectively.

- Iron concentrations in wells MW-10 and MW-12 were 2.7 and 4.2 mg/L, respectively. Samples collected from these wells typically have the highest iron concentrations and consistently exceed the human health guideline for iron at 0.3 mg/L (DEQ 2010).

- Arsenic concentrations in wells MW-10 and MW-12 were 0.003 and 0.0057 mg/L, respectively. These wells typically have the highest arsenic concentrations. The GPS or MCL for arsenic is 0.01 mg/L (DEQ 2010).

- Of all the wells monitored during June 2012, copper concentration was highest in the Valley View Veterinary Clinic Well at 0.0049 mg/L. The MCL for copper is 1.3 mg/L (DEQ 2010).

- As in previous monitoring events, cobalt was detected in well MW-12, above the analytical report limit, at a concentration of 0.0027 mg/L. Currently, there is no GPS or MCL standard for cobalt.

- Selenium concentrations in wells were at or below the analytical report limit except for well MW-11 and the McIlhattan Seep at concentrations of 0.003 and 0.0024 mg/L, respectively. The MCL for selenium is 0.05 mg/L (DEQ 2010).

2.2.2 Organic Groundwater Quality

Table 1 summarizes selected VOCs measured at concentrations above the PQL in samples collected from wells and the McIlhattan Seep during the June 2012 monitoring event.

Tetrachloroethene (in well MW-7A) and vinyl chloride (in wells MW-6, MW-7A MW-12, and MW-13) were the only VOCs detected above the GPS during the June 2012 monitoring event. Wells or sites with concentrations of tetrachloroethene included wells LF-2, LF-3, MW-4, MW-6, MW-7A, MW-8A, MW-8B, MW-9A, MW-9B, MW-11, MW-13, MW-16, Landfill Shop Well, and the McIlhattan Seep where concentrations ranged between 0.32 (estimated) and 12 micrograms per liter (µg/L). The GPS for tetrachloroethene is 5 µg/L (DEQ 2010).

Wells or sites with concentrations of vinyl chloride included wells MW-6, MW-7A, MW-12, and MW-13 where concentrations ranged between 1.1 and 20.7 µg/L. The United States Environmental Protection Agency (USEPA) GPS for vinyl chloride is 2 µg/L. Montana has a lower GPS for vinyl chloride, 0.2 µg/L as specified in Circular DEQ-7 Montana Numeric Water Quality Standards (DEQ 2010).

Wells or sites with concentrations of trichloroethene included wells MW-13, Landfill Shop Well, and the McIlhattan Seep where concentrations ranged between 0.32 (estimated) and 1.7 µg/L. The GPS for trichloroethene is 5 µg/L (DEQ 2010).

3.0 DATA VALIDATION

This section describes the data validation process used to determine the adequacy and quality of laboratory analytical data from the June 2012 monitoring event at the Bozeman Sanitary Landfill. The objective of data validation is to identify any unreliable or invalid laboratory measurements and qualify that data for interpretive use. These validations are performed according to guidelines prepared by U.S. EPA (1994a and 1994b).

3.1 FIELD QA/QC

A duplicate sample was collected from the McIlhattan Seep site during the June 2012 monitoring event. The sample was labeled "Dup" and shipped to Pace Analytical Services, Inc., in Billings, Montana for analysis of VOCs and inorganic parameters listed in ARM 17.50.1306 plus dichlorodifluoromethane. A trip blank also accompanied the groundwater samples collected in June 2012. The trip blank was labeled "Trip Blank", and consisted of deionized water containerized by the laboratory, shipped to Tetra Tech's Bozeman, Montana office with the sample containers, and shipped back to the laboratory with the samples upon conclusion of the field activities. The trip blank was analyzed for all VOCs listed in ARM 17.50.1306 plus dichlorodifluoromethane.

Field duplicate results aid in the assessment of sampling and analytical precision. Analytical results for the natural and duplicate samples collected from McIlhattan Seep were evaluated using the following criteria:

- The Relative Percent Difference (RPD) between the two samples was calculated when both values of the natural/duplicate pair were greater than five times the Minimum Detection Limit (MDL) for a given analyte.

- The Absolute Value Difference (AVD) between the natural and duplicate sample for a given analyte was calculated when one or both values were less than five times the MDL.

RPDs are calculated by dividing the difference between the two reported values for a given parameter by the average of the two parameters. Analytical results of parameters where the RPD was greater than 20 percent are considered estimated concentrations. Analytical results between the natural and duplicate samples of the McIlhattan Seep station had no RPDs greater than 20 percent.

AVDs are calculated by subtracting the results of the two reported values for a given parameter. If the difference exceeds the MDL, then results for this parameter are considered estimated.

Analytical results between the natural and duplicate samples of the McIlhattan Seep station had no AVDs exceeding the MDL.

All trip blank results were evaluated using the following criteria:

- Analytical results of blank sample was reviewed to determine if any parameter was measured in the sample at detectable concentrations.

- All results greater than the MDL but less than five times the concentration of the detected constituent are considered estimated and are likely biased towards the high end.

- The following constituents are common laboratory contaminants and are considered estimated when results are greater than the MDL but less than 10 times the concentration in the contaminated blank:

    - Methylene chloride
    - Acetone
    - 2-butanone

Concentrations of carbon disulfide and methylene chloride were detected in the trip blank during the June 2012 monitoring event. The concentration of these constituents was between the analytical RL and the MDL. Therefore, the laboratory flagged these as estimated. Acetone and 2-butanone were not detected.

3.2 LABORATORY QA/QC

Pace Analytical received groundwater samples collected from the City of Bozeman Sanitary Landfill on June 7, 2012. Chain-of-custody documents accompanied the samples from collection to receipt at the laboratory. The pH was measured in all bottles upon receipt or before analysis to assure proper field preservation techniques were used. All samples were properly preserved and all samples were analyzed within the respective holding time for each analyte. The quality assurance coordinator at Pace Analytical reviewed calibration standards, calibration verification, laboratory controls, laboratory duplicates, and laboratory spikes on a daily basis.

Review of all other laboratory quality assurance indicators showed all inorganic and organic analyses were in compliance with published QA/QC criteria and within the laboratory precision and accuracy guidelines with the exception of pH method SM 4500-H+B, where analysis was initiated more than 15 minutes after sample collection. System performance checks were also performed to evaluate proper system performance and calibration for VOC and semi-volatile analyses. All data indicate the GC/MS system was performing properly.

4.0 STATISTICAL ANALYSIS OF WATER QUALITY DATA

The City of Bozeman completed a corrective measures assessment for the Bozeman Sanitary Landfill in August 1995. A landfill gas extraction system was installed as a result, and has been operated at the site since December 1997 (Maxim, 2000). According to ARM 17.50.1310(5)(b), remedies selected as a result of the corrective measures assessment are considered complete when concentrations of all parameters listed in ARM 17.50.1307 have not exceeded Groundwater Protection Standard (GPS) for a period of three consecutive years based on statistical analysis of the data.

Of those parameters listed in ARM 17.50.1307, the following parameters have equaled or exceeded the Groundwater Protection Standard at the Bozeman Sanitary Landfill on at least a single occasion since 2005:

- Nitrate+Nitrite as N
- Tetrachloroethene
- Trichloroethene
- Vinyl Chloride

These parameters were statistically evaluated to determine which are present at statistically significant concentrations above enforcement standards. Selection and description of the statistical tests employed are described below, as are the results.

Two point-of-compliance (POC) wells downgradient of the closed *Unlined Cell* (**Figure 2**) have been established and these are wells MW-6 and MW-8A. In accordance with ARM 17.50.1307, the statistical analysis was conducted in three steps:

Step 1 - comparison of parameters in samples collected from the background wells (MW-5 and MW-15) and the POC wells (MW-6 and MW-8A) since June 2009.

Step 2 - statistical analysis of parameters in samples collected from the POC wells that are higher than in samples collected from the background wells. In addition, the statistical analysis was conducted on parameters that have exceeded the GPS in the last seven years (since 2005) to determine if there is a statistically significant increase over background values.

Step 3 - statistical examination of trends of those parameters that have exceeded the GPS in the last seven years (since 2005) and if they are significantly greater than the GPS.

Selection and description of the statistical tests employed are described below, as are the results.

4.1 STATISTICAL TEST SELECTION

Most data in this statistical analysis exhibit non-normal distributions for which non-parametric techniques are appropriate (U.S. EPA, 1992). The demonstration of normality is a three-step process:

- Selection of all data sets with 20 or more data points;
- From the above selection, select those data sets with less than 10 percent non-detected data points; and
- Comparison of the appropriate statistic to a table of critical values at the 95 percent confidence level for all qualified data sets.

In the third step of this process, any result that is below the practical quanititation limit (PQL) or RL is considered to be equal to half of the PQL or RL. In the June 2012 data results lower than the RL were used and those results lower than the MDL were considered to be equal to the MDL. The MDL is, at a minimum, half of the RL. This is in accordance with EPA guidelines (U.S. EPA

1992). Only those data sets which meet all three of the above criteria are considered normally distributed in this analysis.

Of the parameters in the June 2012 monitoring that had sufficient sample sizes to test for normality, none exhibited a normal distribution. Hence, where the proportion of non-detects permit, non-parametric techniques were employed. The 1-sample Wilcoxon test is used as the non-parametric equivalent to a parametric confidence interval test (Helsel and Hirsch, 1992).

4.2 STATISTICAL METHODS

A confidence interval approach is used to compare parameter concentrations in downgradient wells to GPS. This approach is recommended by U.S. EPA (1989 and 1992) and endorsed by Gibbons, the author of *Statistical Methods for Groundwater Monitoring* (1994). Historical data for the parameters that have equaled or exceeded their GPS on at least a single occasion since 2005 were tested for statistical significance with respect to the GPS using two methods:

- Non-parametric 1-sample Wilcoxon test.
- Parametric 1-sample t-test.

Hypothesis tests, interpretation of results, and data requirements for each of the statistical methods used are discussed below.

4.2.1 Non-Parametric 1-Sample Wilcoxon Test

This test is a special case of the signed-rank test used to compare the median difference between paired observations. In this case, the paired observations are constituent levels in the compliance well versus the GPS. The null hypothesis is that there is no difference. The alternative hypothesis is that the median of the comparison well is greater than the GPS. A resulting p-value is used to test the significance of the test. The large sample approximation to the test was utilized for sample sets of more than 15 data points. The exact test was used for data sets of seven to 15 observations when the large sample approximation resulted in a p-value less than 0.15. In these instances, p-values were determined from tabulated quantiles for the reported Wilcoxon statistic and sample size. A p-value less than or equal to 0.01 indicates a significant difference exists at the 99 percent confidence level (Helsel and Hirsch, 1992).

A minimum of seven data points are required to employ this non-parametric test at a 99 percent confidence level (U.S. EPA, 1989). In addition, 2 µg/L was considered the GPS for vinyl chloride in the June 2012 monitoring. Non-detect data with a reported PQL above the GPS are discarded in order to avoid misleading results. For non-detect data equal to the GPS, concentration levels are reduced to just below the standard in order to maintain relative ranking among data. Well MW-6 has exhibited vinyl chloride concentrations above the USEPA GPS of 2 µg/L, in monitoring events conducted between December 2009 and June 2011 (four events). Vinyl chloride concentrations have been below the USEPA GPS in the December 2011 and June 2012 monitoring events. Due to data censoring rules for the 1-sample Wilcoxon test, there are an insufficient number of samples for meaningful statistics at station MW-6.

4.2.2 Parametric 1-Sample t-Test

This test is used to compare the mean difference between paired observations when normality can be demonstrated in the data set. As with the non-parametric case, the paired observations

are constituent levels in the compliance well versus the GPS. The null hypothesis is that there is no difference. The alternative hypothesis is that the mean of the comparison well is greater than the GPS. A resulting p-value is used to test the significance of the test. A p-value less than or equal to 0.01 indicates a significant difference exists at the 99 percent confidence level (Helsel and Hirsch, 1992).

Often, water quality data are not normally distributed without mathematical transformation. For those data sets which do not demonstrate normality, a log transformation often applies adequately to water quality data (Helsel and Hirsch 1992) and is also applied to the data sets in this analysis. The test for normality is then performed on the log transformed data. In sample sets containing non-detect data, values one-half the reported PQL (in un-transformed units) are used to replace non-detect data.

4.3 RESULTS

The progression of the statistics calculations were described as Steps 1 through 3 in the beginning of Section 4.0. Results of statistical analyses are summarized in **Tables 3** and **4** and output from statistical analysis including descriptive statistics, data plots, and test results are contained in **Appendix E**.

Steps 1 and 2
A comparison of medians was conducted and results of the Mann-Whitney U test are presented in **Table 3**. Plots and calculations supporting **Table 3** are contained in **Appendix E**. The results indicated that the following parameters are statistically above background in POC wells MW-6 and MW-8A:

1,1 dichloroethane
cis 1,2 dichloroethene
Tetrachloroethene
Trichloroethene
Barium
Chloride
Sulfate

Step 3
Seven statistical tests were performed using the 1-sample Wilcoxon method at the 99 percent confidence level. As with previous statistical calculations using this method (in previous monitoring events at the site), there is a site-wide false positive rate of about 9 percent. The site-wide false positive rate indicates the probability that the statistical evaluation will yield a positive result when, in fact, it does not. Results are presented in **Table 4**.

Using the USEPA GPS of 2 µg/L for vinyl chloride, concentrations of vinyl chloride in wells MW-12 and MW-13 were statistically significantly greater than the GPS at the 99 percent confidence level. Concentrations of vinyl chloride in well MW-6 are not statistically significantly greater than the GPS at the 99 percent confidence level.

Although concentrations have increased since 2009, tetrachloroethene in well MW-7A does not exhibit concentrations statistically significantly greater than the GPS at the 99 percent confidence level. Due to the consideration of sampling results only for the last seven years, trichloroethene in well MW-12 does not exhibit concentrations statistically significantly greater than the GPS at the

99 percent confidence level. In addition, Trichloroethene in well MW-12 exhibits a negative trend over time indicating a decrease in trichloroethene concentrations in this well. The null hypothesis, that there was no significant difference, was accepted for all other parameters at the 99 percent confidence level.

5.0 SUMMARY

The following summarizes data, calculations, and interpretations resulting from the June 2012 groundwater monitoring event at the Bozeman Sanitary Landfill:

- June 2012 groundwater levels were generally consistent with previous monitoring events and indicate a southwest groundwater flow beneath the *Unlined Closed Cell* shifting to a west-southwest flow between the *Lined Closed Cell* and well MW-10. The groundwater gradient beneath the *Unlined Closed Cell* was 5.6% between wells MW-15 and MW-12, decreasing to approximately 1.4% to 2.4% between wells MW-12 and MW-4, and then steepening to approximately 4% in the vicinity of well MW-4 and McIlhattan Seep. Groundwater gradient is inferred to again flatten in the vicinity of well MW-10 as does the topography.

- Three additional monitoring wells were installed and monitored during June 2012. Upward groundwater gradients were measured in the locations of well groups MW-6 and MW-8A between approximately 41 to 70 feet and 90 to 103 feet depth. Consistent with the results of previous monitoring events, well groups MW-7 and MW-9 have no upward or downward groundwater gradients in groundwater to 74 and 57 feet depths, respectively.

- Tetrachloroethene (in well MW-7A) and vinyl chloride (in wells MW-12, and MW-13) were the only VOCs detected above the GPS during the June 2012 monitoring event. Vinyl chloride in wells MW-6 and MW-7A also exceed the Montana GPS of 2 µg/L. Tetrachloroethene concentrations ranged between 0.32 (estimated) and 12 µg/L in wells LF-2, LF-3, MW-4, MW-6, MW-7A, MW-8A, MW-8B, MW-9A, MW-9B, MW-11, MW-13, MW-16, Landfill Shop Well, and the McIlhattan Seep. Concentrations of vinyl chloride ranged between 1.1 and 20.7 µg/L in wells MW-6, MW-7A, MW-12, and MW-13.

- As of June 2012, the concentration of vinyl chloride in wells MW-12, and MW-13 meet statistics criteria to be significantly greater than the USEPA GPS of 2 µg/L.

- As of June 2012, the concentration of tetrachloroethene in monitoring wells did not exceed the GPS in accordance with statistics criteria.

- Wells or sites with concentrations of trichloroethene included well MW-13, Landfill Shop Well, and the McIlhattan Seep where concentrations were below the GPS and ranged between 0.32 and 1.7 µg/L.

- Nitrate+nitrite as N in well MW-8A exceeded the GPS during the June 2012 monitoring event. The concentration of nitrate+nitrite as N was 17.0 mg/L and is the fourth consecutive monitoring event where this constituent has exceeded the GPS. Well LF-2, downgradient of well MW-8A had a nitrate+nitrite as N concentration of 6.8 mg/L.

- As of June 2012, nitrate+nitrite as N in well MW-8A was not statistically above background concentrations or greater than the GPS.

According to ARM 17.50.1310(5)(b), the City of Bozeman is required to continue corrective actions at the landfill and associated groundwater monitoring until all of the approved constituents in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306 have not exceeded the GPS for a period of three consecutive years based on statistical analysis of the data. The next corrective measures assessment groundwater monitoring event is scheduled for December 2012.

Prepared by:

Mark F. Pearson
Project Manager

Preparation of Statistics and Review by:

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Senior Project Manager

Shann Easterling
Senior Engineering Technician

6.0 REFERENCES

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http://www.deq.mt.gov/SolidWaste/LawsRules.mcpx

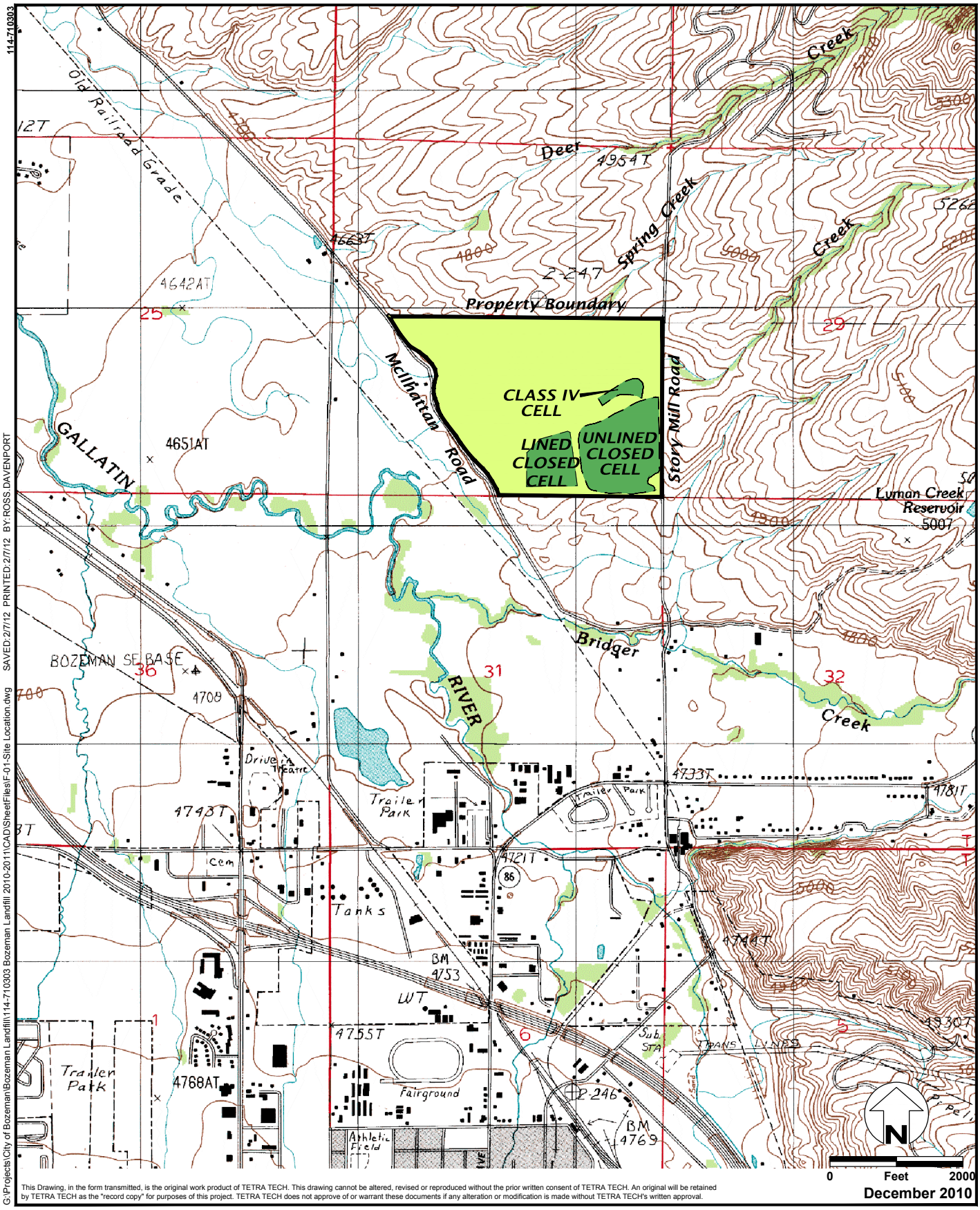
APPENDIX A

FIGURES

FIGURE 1 Site Location Map

FIGURE 2 Site Map

FIGURE 3 June 2012 – Water Table Map

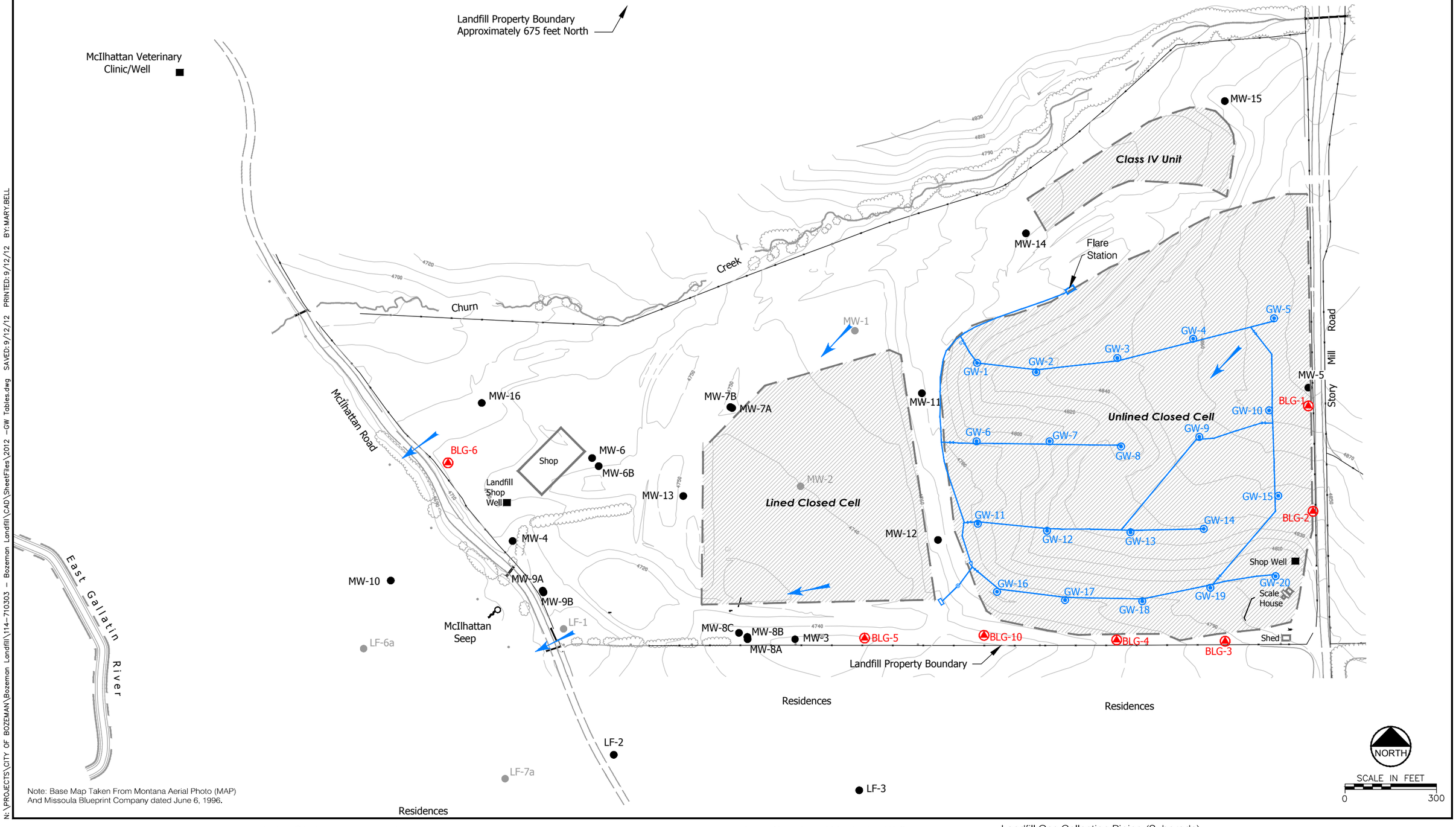


December 2010

From USGS 7.5' Bozeman Quad (1987)

114-710303.401

Site Location Map
Bozeman Sanitary Landfill
Bozeman, Montana
FIGURE 1



Note: Base Map Taken From Montana Aerial Photo (MAP)
And Missoula Blueprint Company dated June 6, 1996.

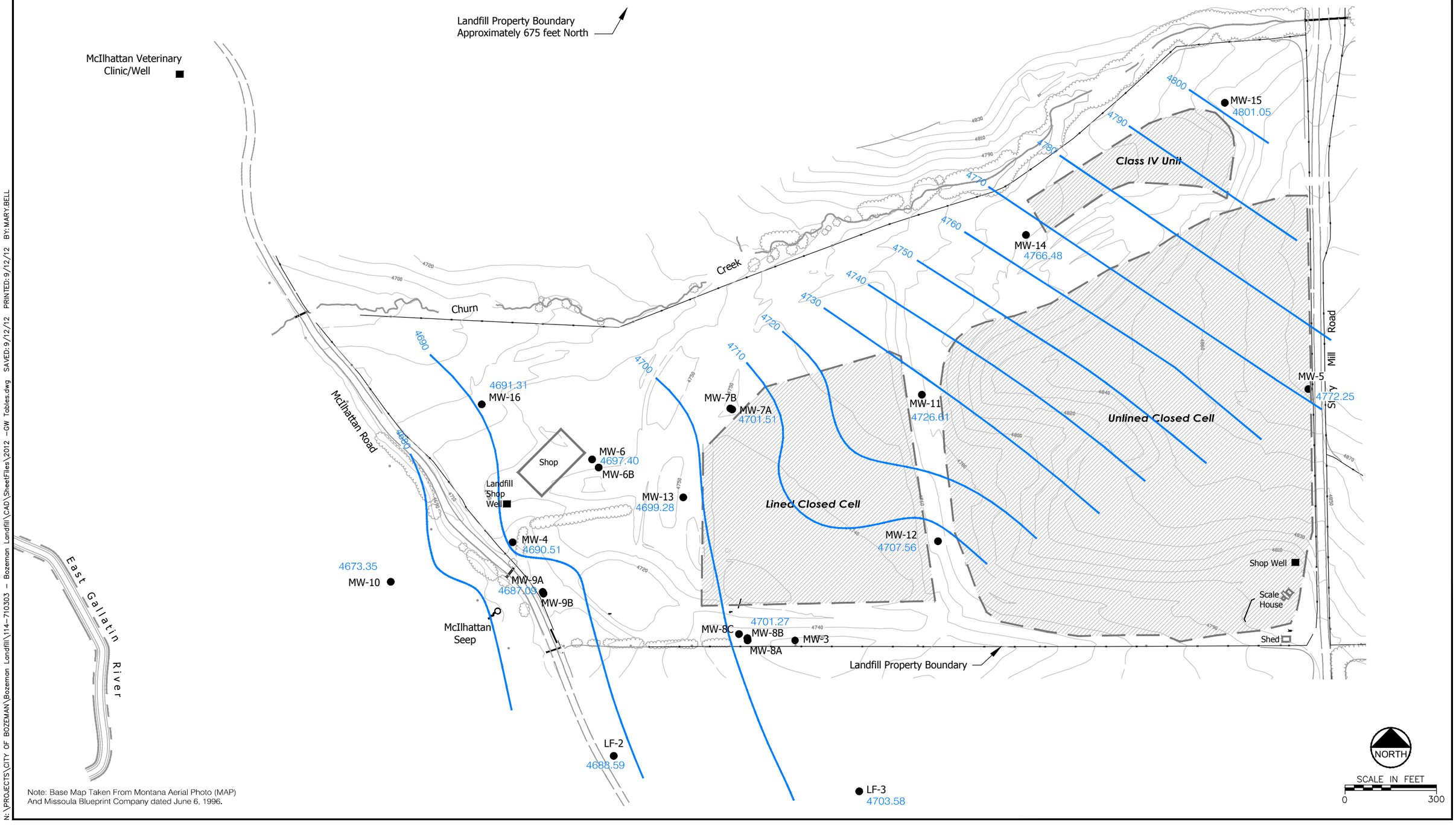
Note: Site topographic contours shown are not indicative of current site topography.

- Landfill Gas Extraction Well
- Surface Water Station
- Monitoring Well
- Supply Well
- Abandoned Monitoring Well
- Gas Monitoring Probe
- Abandoned Gas Monitoring Probe
- Landfill Gas Collection Piping (Subgrade)
- Typical Groundwater Flow Direction (Based on Historic Water Table Contours)

114-710303.401

Site Map
Bozeman Sanitary Landfill
Bozeman, Montana
FIGURE 2

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\CAD\SheetFiles\2012 -GW Tables.dwg SAVED: 9/12/12 PRINTED: 9/12/12 BY: MARY.BELL



Note: Base Map Taken From Montana Aerial Photo (MAP) And Missoula Blueprint Company dated June 6, 1996.

Note: Site topographic contours shown are not indicative of current site topography.

● Monitoring Well
■ Supply Well

4704.44 Groundwater Elevation (feet AMSL)

114-710303.400

June 2012 - Water Table Map
Bozeman Sanitary Landfill
Bozmena, Montana
FIGURE 3

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\CAD\SheetFiles\2012 -GW Tables.dwg SAVED:9/12/12 PRINTED:9/12/12 BY:MARY.BELL

APPENDIX B

TABLES

TABLE 1

Groundwater Levels

Bozeman Sanitary Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4702.71		4717.10		4,751.89		4,710.90		4,882.37		4738.68		4,727.23	
MP elev change											6/30/1998	4728.69		
Well No.	LF-2		LF-3		MW-3		MW-4		MW-5		MW-6[1]		MW-6B	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
05/86	14.20	4688.51	15.50	4701.60	48.76	4703.13	20.60	4690.30	N.M.	-----	N.M.	-----	-----	-----
10/22/1986	14.53	4688.18	15.20	4701.90	48.87	4703.02	20.64	4690.26	N.M.	-----	N.M.	-----	-----	-----
08/92	N.M.	-----	N.M.	-----	N.M.	-----	N.M.	-----	N.M.	-----	45.40	4693.28	-----	-----
2/24/1993	N.M.	-----	16.39	4700.71	N.M.	-----	22.35	4688.55	112.66	4769.71	43.57	4695.11	-----	-----
7/27/1993	14.52	4688.19	15.10	4702.00	49.91	4701.98	21.73	4689.17	111.60	4770.77	43.35	4695.33	-----	-----
1/17/1994	14.72	4687.99	14.85	4702.25	49.50	4702.39	20.70	4690.20	110.76	4771.61	43.02	4695.66	-----	-----
6/27/1994	15.42	4687.29	15.45	4701.65	50.34	4701.55	20.97	4689.93	110.26	4772.11	42.91	4695.77	-----	-----
2/1/1995	14.43	4688.28	14.72	4702.38	50.41	4701.48	20.67	4690.23	110.71	4771.66	42.88	4695.80	-----	-----
6/28/1995	14.7	4688.01	14.88	4702.22	50.27	4701.62	20.08	4690.82	110.06	4772.31	42.71	4695.97	-----	-----
11/28/1995	14.39	4688.32	15.33	4701.77	49.87	4702.02	20.51	4690.39	109.70	4772.67	42.80	4695.88	-----	-----
6/25/1996	13.68	4689.03	13.92	4703.18	49.30	4702.59	20.78	4690.12	109.50	4772.87	42.55	4696.13	-----	-----
12/11/1996	14.29	4688.42	14.34	4702.76	48.82	4703.07	20.3	4690.60	110.10	4772.27	44.77	4693.91	-----	-----
6/19/1997	12.31	4690.40	12.40	4704.70	47.07	4704.82	13.39	4697.51	108.64	4773.73	39.85	4698.83	-----	-----
12/15/1997	14.16	4688.55	14.00	4703.10	48.02	4703.87	20.37	4690.53	106.71	4775.66	42.73	4695.95	-----	-----
6/30/1998	13.21	4689.50	12.98	4704.12	N.M.	-----	19.27	4691.63	106.10	4776.27	30.95	4697.74	-----	-----
12/14/1998	14.32	4688.39	13.82	4703.28	47.97	4703.92	20.37	4690.53	105.75	4776.62	31.24	4697.45	-----	-----
6/22/1999	14.07	4688.64	13.53	4703.57	47.74	4704.15	20.25	4690.65	106.01	4776.36	31.13	4697.56	-----	-----
12/14/1999	14.42	4688.29	14.31	4702.79	48.22	4703.67	20.54	4690.36	106.86	4775.51	31.33	4697.36	-----	-----
6/8/2000	N.M.	-----	13.98	4703.12	48.28	4703.61	20.47	4690.43	108.22	4774.15	31.33	4697.36	-----	-----
11/28/2000	14.53	4688.18	14.23	4702.87	48.77	4703.12	20.69	4690.21	109.69	4772.68	31.53	4697.16	-----	-----
6/11/2001	14.27	4688.44	13.97	4703.13	48.91	4702.98	20.60	4690.30	110.61	4771.76	31.66	4697.03	-----	-----
12/17/2001	14.63	4688.08	14.01	4703.09	49.40	4702.49	20.83	4690.07	111.77	4770.60	31.79	4696.90	-----	-----
6/13/2002	13.31	4689.40	13.66	4703.44	48.59	4703.30	19.72	4691.18	112.47	4769.90	31.59	4697.10	-----	-----
12/12/2002	14.78	4687.93	14.22	4702.88	49.85	4702.04	20.92	4689.98	113.26	4769.11	31.87	4696.82	-----	-----
6/10/2003	14.20	4688.51	14.02	4703.08	49.35	4702.54	20.41	4690.49	113.52	4768.85	31.79	4696.90	-----	-----
12/3/2003	14.92	4687.79	14.35	4702.75	50.32	4701.57	21.02	4689.88	114.30	4768.07	31.96	4696.73	-----	-----
6/8/2004	14.36	4688.35	14.23	4702.87	50.13	4701.76	20.72	4690.18	114.94	4767.43	31.95	4696.74	-----	-----
12/6/2004	14.71	4688.00	14.71	4702.39	50.53	4701.36	20.99	4689.91	115.68	4766.69	32.43	4696.26	-----	-----
6/16/2005	14.13	4688.58	14.13	4702.97	50.05	4701.84	20.57	4690.33	116.01	4766.36	31.92	4696.77	-----	-----
12/14/2005	14.86	4687.85	14.29	4702.81	50.72	4701.17	20.98	4689.92	116.85	4765.52	32.07	4696.62	-----	-----
3/16/2006	N.M.	-----	14.02	4703.08	N.M.	-----	N.M.	-----	N.M.	-----	31.94	4696.75	-----	-----
6/12/2006	13.95	4688.76	14.85	4702.25	N.M.	-----	21.80	4689.10	114.39	4767.98	31.90	4696.79	-----	-----
12/2006 to 6/2010	No entry of DTW data													
12/1/2010	14.32	4688.39	13.81	4703.29	N.M.	-----	20.69	4690.21	111.97	4770.40	31.52	4697.17	-----	-----
6/13/2011	12.73	4689.98	12.66	4704.44	N.M.	-----	19.29	4691.61	110.63	4771.74	30.99	4697.70	-----	-----
12/5/2011	14.29	4688.42	13.71	4703.39	N.M.	-----	20.48	4690.42	110.05	4772.32	31.40	4697.29	-----	-----
6/5/2012	14.12	4688.59	13.52	4703.58	N.M.	-----	20.39	4690.51	110.12	4772.25	31.29	4697.40	18.69	4710.00

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

ELEV : Groundwater elevation above mean sea level (feet). Well locations shown on Figure 2.

1 : 9.99 feet of PVC was removed on 06/30/1998.

N.M. Not measured

----- Not calculated

TABLE 1 (Continued)

Groundwater Levels

Bozeman Sanitary Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4755.51		4755.52		4748.22		4747.98		4747.63		4715.27		4715.50	
MP elev change	7/6/2011	4757.87	7/6/2011	4757.95			7/3/2012	4748.47						
Well No.	MW-7A[2]		MW-7B[2]		MW-8A		MW-8B		MW-8C		MW-9A		MW-9B	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
08/92	55.50	4700.01	N.M.	-----	46.90	4701.32	48.50	4699.48	-----	-----	27.75	4687.52	N.M.	-----
2/24/1993	55.11	4700.40	55.25	4700.27	48.81	4699.41	48.96	4699.02	-----	-----	29.66	4685.61	29.97	4685.53
7/27/1993	54.35	4701.16	54.55	4700.97	47.69	4700.53	47.90	4700.08	-----	-----	28.59	4686.68	28.84	4686.66
1/17/1994	49.50	4706.01	49.48	4706.04	47.69	4700.53	47.99	4699.99	-----	-----	28.96	4686.31	29.31	4686.19
6/27/1994	54.43	4701.08	54.42	4701.10	47.51	4700.71	47.81	4700.17	-----	-----	28.77	4686.50	29.05	4686.45
2/1/1995	54.43	4701.08	54.45	4701.07	47.82	4700.40	47.53	4700.45	-----	-----	28.71	4686.56	28.99	4686.51
6/28/1995	53.98	4701.53	53.93	4701.59	46.54	4701.68	46.84	4701.14	-----	-----	28.17	4687.10	28.42	4687.08
11/28/1995	54.10	4701.41	N.M.	-----	47.07	4701.15	47.37	4700.61	-----	-----	28.52	4686.75	28.75	4686.75
6/25/1996	53.91	4701.60	53.93	4701.59	46.44	4701.78	46.72	4701.26	-----	-----	27.76	4687.51	27.92	4687.58
12/11/1996	54.78	4700.73	54.21	4701.31	46.97	4701.25	47.25	4700.73	-----	-----	28.08	4687.19	28.23	4687.27
6/19/1997	53.03	4702.48	53.05	4702.47	45.09	4703.13	45.41	4702.57	-----	-----	25.45	4689.82	25.33	4690.17
12/15/1997	53.79	4701.72	53.80	4701.72	46.38	4701.84	46.69	4701.29	-----	-----	28.39	4686.88	28.61	4686.89
6/30/1998	53.49	4702.02	53.50	4702.02	45.65	4702.57	45.94	4702.04	-----	-----	26.91	4688.36	26.96	4688.54
12/14/1998	53.73	4701.78	53.74	4701.78	46.32	4701.90	46.60	4701.38	-----	-----	28.40	4686.87	28.61	4686.89
6/22/1999	53.64	4701.87	53.66	4701.86	46.06	4702.16	46.36	4701.62	-----	-----	28.23	4687.04	28.43	4687.07
12/14/1999	53.87	4701.64	53.91	4701.61	46.59	4701.63	46.87	4701.11	-----	-----	28.56	4686.71	28.79	4686.71
6/8/2000	53.95	4701.56	53.96	4701.56	46.68	4701.54	46.96	4701.02	-----	-----	28.33	4686.94	28.54	4686.96
11/28/2000	54.23	4701.28	54.26	4701.26	47.09	4701.13	47.40	4700.58	-----	-----	28.65	4686.62	28.91	4686.59
6/12/2001	54.30	4701.21	54.37	4701.15	47.20	4701.02	47.51	4700.47	-----	-----	28.51	4686.76	28.71	4686.79
12/18/2001	54.78	4700.73	54.69	4700.83	47.66	4700.56	47.96	4700.02	-----	-----	28.82	4686.45	28.82	4686.68
6/13/2002	54.21	4701.30	54.25	4701.27	46.87	4701.35	47.13	4700.85	-----	-----	26.93	4688.34	26.98	4688.52
12/12/2002	54.81	4700.70	54.91	4700.61	48.08	4700.14	48.34	4699.64	-----	-----	29.03	4686.24	29.24	4686.26
6/10/2003	54.56	4700.95	N.M.	-----	47.63	4700.59	47.92	4700.06	-----	-----	28.50	4686.77	28.70	4686.80
12/3/2003	55.03	4700.48	55.06	4700.46	48.49	4699.73	48.73	4699.25	-----	-----	29.04	4686.23	29.27	4686.23
6/8/2004	55.01	4700.50	55.03	4700.49	48.34	4699.88	48.59	4699.39	-----	-----	28.59	4686.68	28.78	4686.72
12/6/2004	55.22	4700.29	55.23	4700.29	48.67	4699.55	48.89	4699.09	-----	-----	28.86	4686.41	29.11	4686.39
6/16/2005	54.92	4700.59	54.95	4700.57	48.34	4699.88	48.55	4699.43	-----	-----	28.19	4687.08	28.37	4687.13
12/14/2005	55.35	4700.16	55.39	4700.13	48.91	4699.31	49.13	4698.85	-----	-----	28.94	4686.33	29.20	4686.30
3/16/2006	55.14	4700.37	N.M.	-----	N.M.	-----	N.M.	-----	-----	-----	N.M.	-----	N.M.	-----
6/12/2006	55.00	4700.51	55.00	4700.52	48.28	4699.94	48.49	4699.49	-----	-----	28.10	4687.17	28.31	4687.19
12/2006 to 6/2010	No entry of DTW data													
12/1/2010	54.24	4701.27	54.31	4701.21	47.44	4700.78	47.72	4700.75	-----	-----	28.36	4686.91	28.58	4686.92
6/13/2011	53.15	4702.36	53.25	4702.27	45.51	4702.71	45.80	4702.67	-----	-----	26.83	4688.44	26.89	4688.61
12/5/2011	56.41	4701.46	56.49	4701.46	47.02	4701.20	47.31	4701.16	-----	-----	28.32	4686.95	28.56	4686.94
6/5/2012	56.36	4701.51	56.45	4701.50	46.95	4701.27	47.28	4701.19	42.62	4705.01	28.18	4687.09	28.38	4687.12

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

ELEV : Groundwater elevation above mean sea level (feet). Well locations shown on Figure 2.

2 : Approximately 2.4 feet of PVC was added on 7/6/2011

N.M. Not measured

----- Not calculated

TABLE 1 (Continued)

Groundwater Levels

Bozeman Sanitary Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4675.01		4778.15		4763.02		4748.73		4797.94		4845.00		4717.33	
MP elev change							6/30/1998 4742.54							
Well No.	MW-10		MW-11		MW-12		MW-13[3]		MW-14		MW-15		MW-16	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
6/28/1995	6.58	4668.43	N.M.	-----	N.M.	-----	N.M.	-----	-----	-----	-----	-----	-----	-----
9/12/1995	N.M.	-----	51.40	4726.75	55.03	4707.99	49.45	4699.28	-----	-----	-----	-----	-----	-----
11/28/1995	2.07	4672.94	51.55	4726.60	55.09	4707.93	49.56	4699.17	-----	-----	-----	-----	-----	-----
6/25/1996	1.63	4673.38	51.72	4726.43	54.77	4708.25	49.16	4699.57	-----	-----	-----	-----	-----	-----
12/11/1996	1.85	4673.16	51.83	4726.32	55.13	4707.89	49.53	4699.20	-----	-----	-----	-----	-----	-----
6/19/1997	0.90	4674.11	51.35	4726.80	53.82	4709.20	47.27	4701.46	-----	-----	-----	-----	-----	-----
12/15/1997	1.78	4673.23	51.42	4726.73	54.26	4708.76	59.16	4689.57	-----	-----	-----	-----	-----	-----
6/30/1998	1.38	4673.63	51.44	4726.71	53.83	4709.19	48.72	4700.01	-----	-----	-----	-----	-----	-----
12/14/1998	2.20	4672.81	51.52	4726.63	54.17	4708.85	49.14	4699.59	-----	-----	-----	-----	-----	-----
6/22/1999	1.61	4673.40	51.51	4726.64	54.64	4708.38	49.01	4699.72	-----	-----	-----	-----	-----	-----
12/14/1999	2.32	4672.69	51.69	4726.46	54.96	4708.06	43.13	4699.41	-----	-----	-----	-----	-----	-----
6/8/2000	1.95	4673.06	51.76	4726.39	55.11	4707.91	43.21	4699.33	-----	-----	-----	-----	-----	-----
11/28/2000	2.44	4672.57	51.99	4726.16	55.44	4707.58	43.49	4699.05	-----	-----	-----	-----	-----	-----
6/12/2001	1.38	4673.63	52.03	4726.12	55.75	4707.27	43.60	4698.94	32.96	4764.98	-----	-----	-----	-----
12/19/2001	2.55	4672.46	52.27	4725.88	56.06	4706.96	43.87	4698.67	33.71	4764.23	47.77	-----	-----	-----
6/13/2002	1.25	4673.76	52.12	4726.03	55.90	4707.12	43.45	4699.09	-----	-----	-----	-----	-----	-----
12/12/2002	2.70	4672.31	52.39	4725.76	56.49	4706.53	44.10	4698.44	34.28	4763.66	48.63	-----	-----	-----
6/10/2003	1.18	4673.83	52.22	4725.93	56.39	4706.63	43.87	4698.67	33.53	4764.41	48.10	-----	-----	-----
12/3/2003	2.59	4672.42	52.47	4725.68	56.91	4706.11	44.31	4698.23	34.65	4763.29	49.44	-----	-----	-----
6/8/2004	1.81	4673.20	52.44	4725.71	57.04	4705.98	44.26	4698.28	34.46	4763.48	49.89	-----	-----	-----
12/6/2004	2.45	4672.56	53.01	4725.14	57.17	4705.85	44.44	4698.10	35.34	4762.60	50.76	-----	-----	-----
6/16/2005	1.45	4673.56	52.47	4725.68	57.15	4705.87	44.26	4698.28	34.66	4763.28	50.35	-----	-----	-----
12/14/2005	2.57	4672.44	52.77	4725.38	57.39	4705.63	44.60	4697.94	35.82	4762.12	51.74	-----	-----	-----
3/16/2006	N.M.	-----	N.M.	-----	57.25	4705.77	44.32	4698.22	N.M.	-----	N.M.	-----	-----	-----
6/12/2006	1.90	4673.11	53.9	4724.25	57.20	4705.82	44.20	4698.34	34.41	4763.53	50.30	-----	-----	-----
12/2006 to 6/2010	No entry of DTW data													
12/1/2010	1.78	4673.23	51.79	4726.36	55.95	4707.07	43.54	4699.00	31.84	4766.10	44.35	4800.65	-----	-----
6/13/2011	0.80	4674.21	51.18	4726.97	54.59	4708.43	42.40	4700.14	29.01	4768.93	41.52	4803.48	-----	-----
12/5/2011	2.09	4672.92	51.57	4726.58	55.40	4707.62	43.28	4699.26	31.10	4766.84	42.60	4802.40	-----	-----
6/5/2012	1.66	4673.35	51.54	4726.61	55.46	4707.56	43.26	4699.28	31.46	4766.48	43.95	4801.05	26.02	4691.31

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

ELEV : Groundwater elevation above mean sea level (feet). Well locations shown on Figure 2.

3 : 6.19 feet of PVC was removed on 06/30/1998.

N.M. Not measured

----- Not calculated

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
LF-2	12/6/2010	< 1	< 1	< 1	< 1	< 1	1.3	< 1	< 1
	6/14/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.021	1.1	< 0.05	< 0.049
	12/5/2011	< 0.047	0.27	< 5	< 0.072	< 0.13	1.4	< 0.23	< 0.16
	6/4/2012	< 0.5	< 0.25	< 4	< 0.5	< 1	1.9	< 0.5	< 0.4
LF-3	1/18/1994	< 2	< 1	< 5	< 1	< 1	5	1	< 1
	6/27/1994	< 1	< 1	< 5	< 1	< 1	5	1	< 1
	2/1/1995	< 1	< 1	< 5	< 1	< 1	5	1	< 1
	6/28/1995	< 1	< 1	< 1	< 1	< 1	3	1	< 1
	11/28/1995	< 1	< 1	< 5	< 1	< 1	6	2	< 1
	6/25/1996	< 1	1	< 5	< 1	< 1	6	2	< 1
	12/11/1996	< 1	< 1	< 5	< 1	< 1	5	2	< 1
	6/19/1997	< 1	1	< 1	< 1	< 2	6	2	< 2
	12/15/1997	< 1	1	< 5	< 1	< 1	2	6	< 1
	3/24/1998	< 1	1	< 5	< 1	< 1	7	2	< 1
	6/29/1998	< 1	< 1	< 5	< 1	< 1	6	3	< 1
	9/29/1998	< 1	1	11	< 1	< 1	7	3	< 1
	12/14/1998	< 1	1	< 5	< 1	< 1	6	6	< 1
	3/15/1999	< 1	< 1	< 5	< 1	--	6	2	< 1
	6/22/1999	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	9/13/1999	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	12/13/1999	< 1	< 1	< 5	< 1	< 1	5	2	< 1
	3/22/2000	< 1	< 1	< 5	< 1	< 1	5	2	< 1
	6/7/2000	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	9/22/2000	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	11/28/2000	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	3/22/2001	< 1	1	< 5	< 1	< 1	5	1	< 1
	6/11/2001	< 1	1	< 5	< 1	< 1	5	2	< 1
	9/19/2001	< 1	1	< 5	< 1	1	5	3	< 1
	12/17/2001	< 1	1	< 5	< 1	< 1	6	2	< 1
	3/25/2002	< 1	1	< 5	< 1	2	6	1	< 1
	6/13/2002	< 1	1	< 5	< 1	< 1	5	1	< 1
	9/24/2002	< 1	1	< 5	< 1	< 1	5	1	< 1
	12/12/2002	< 1	1	< 5	< 1	< 1	6	1	< 1
	3/24/2003	< 1	1	< 5	< 1	< 1	5	1	< 1
	6/9/2003	< 1	1	< 5	< 1	< 1	5	1	< 1
	9/25/2003	< 1	1	< 5	< 1	< 1	5	1	< 1
	12/4/2003	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	3/25/2004	< 1	1	< 5	< 1	< 1	4	< 1	< 1
	6/9/2004	< 1	1	< 5	< 1	< 1	4	< 1	< 1
	9/9/2004	< 1	< 1	< 5	< 1	< 1	4	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	4	< 1	< 1

Notes:

µg/L - micrograms per liter

(1) - No GPS established

NA - Not Applicable

GPS - Groundwater Protection Standard

-- - Not collected/analyzed

- Value greater than or equal to the GPS

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
LF-3	3/29/2005	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	6/16/2005	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	9/20/2005	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	12/13/2005	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	3/16/2006	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	6/12/2006	< 0.5	0.8	< 5	< 1	< 1	2.7	0.5	< 0.5
	9/20/2006	< 0.5	0.6	< 5	< 1	< 1	2.3	< 0.5	< 0.5
	12/5/2006	< 0.5	0.7	< 5	< 1	< 1	2.7	< 0.5	< 0.5
	3/13/2007	< 0.5	0.8	< 5	< 1	< 1	2.7	0.6	< 0.5
	6/21/2007	< 0.5	0.9	< 5	< 1	< 1	2.6	0.6	< 0.5
	12/11/2007	< 0.5	0.8	< 5	< 1	< 1	2.5	0.6	< 0.5
	6/25/2008	< 0.5	1	< 5	< 1	< 1	2.9	0.7	< 0.5
	12/8/2008	< 1	1.6	< 4	< 1	< 1	3.9	1.1	< 0.4
	6/2/2009	< 0.5	1.5	< 2	< 0.5	< 2	4.5	1	< 0.2
	12/10/2009	< 0.5	1.8	< 2	< 0.5	< 2	4.4	1	< 0.2
	6/16/2010	< 0.5	2.1	30.4	< 0.5	< 0.5	4.4	1.1	< 0.5
	12/6/2010	< 1	1.2	< 1	< 1	< 1	3.9	< 1	< 1
	6/13/2011	< 0.038	1.9	< 2	< 0.11	< 0.11	3.9	0.96	< 0.049
	12/6/2011	< 0.047	1.8	< 5	< 0.072	< 0.13	3.8	0.9	< 0.16
	6/4/2012	< 0.5	1.9	< 4	< 0.5	< 1	4.1	< 0.5	< 0.4
MW-4	1/18/1994	< 2	< 1	< 5	2	< 1	4	2	< 1
	6/27/1994	< 1	< 1	< 5	2	< 1	4	2	< 1
	1/31/1995	< 1	< 1	< 5	1	< 1	3	2	< 1
	6/27/1995	< 1	< 1	< 1	1	< 1	2	1	< 1
	11/28/1995	< 1	< 1	< 5	1	< 1	3	1	< 1
	6/25/1996	< 1	< 1	< 5	1	< 1	3	2	< 1
	12/11/1996	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	6/19/1997	< 1	< 1	< 1	< 1	< 2	2	< 1	< 2
	12/15/1997	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/29/1998	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	12/14/1998	< 1	< 1	< 5	< 1	< 1	2	2	< 1
	6/22/1999	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	12/13/1999	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	6/7/2000	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	11/28/2000	< 1	< 1	< 5	< 1	< 1	1	1	< 1
	6/11/2001	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	12/17/2001	< 1	1	< 5	< 1	< 1	1	1	< 1
	6/13/2002	< 1	< 1	< 5	< 1	< 1	1	1	< 1
	12/11/2002	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	6/9/2003	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	12/4/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

Notes:

µg/L - micrograms per liter
(1) - No GPS established
NA - Not Applicable
GPS - Groundwater Protection Standard
-- - Not collected/analyzed
- Value greater than or equal to the GPS

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-4	6/9/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/16/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/14/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/12/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.5	< 0.5	< 0.5
	12/5/2006	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	6/19/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	12/11/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.5	< 0.5	< 0.5
	6/23/2008	< 0.5	< 0.5	< 5	< 1	< 1	0.5	< 0.5	< 0.5
	12/8/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4
	6/1/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.98	< 0.54	< 0.2
	12/10/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.83	< 0.56	< 0.2
	6/15/2010	< 0.5	0.51	27.6	< 0.5	< 0.5	0.85	0.66	< 0.5
	12/7/2010	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	6/13/2011	< 0.038	< 0.49	< 2	< 0.24	< 0.097	0.78	0.66	< 0.049
	12/7/2011	< 0.047	< 0.4	< 5	< 0.25	< 0.13	0.87	0.64	< 0.16
	6/4/2012	< 0.5	< 0.48	< 4	< 0.5	< 1	1.2	< 0.5	< 0.4
MW-6	8/3/1993	< 1	2.3	< 1	1.7	< 1	< 1	5.1	3.7
	1/18/1994	< 2	2	< 5	< 1	< 1	1	5	6
	6/28/1994	< 1	3	< 5	3	< 1	1	6	8
	2/1/1995	< 1	3	< 5	3	< 1	1	5	12
	6/27/1995	< 1	2	< 1	< 1	< 1	< 1	3	9
	11/28/1995	< 1	1	< 5	2	< 1	1	3	6
	6/25/1996	< 1	< 1	< 5	2	1	1	2	11
	12/11/1996	< 1	< 1	< 5	2	< 1	< 1	2	11
	6/19/1997	< 1	< 1	< 1	< 1	< 2	1	< 1	< 2
	12/16/1997	< 1	< 1	< 5	2	< 1	2	< 1	14
	3/23/1998	< 1	< 1	< 5	2	< 1	< 1	2	13
	6/29/1998	< 1	< 1	< 5	1	< 1	< 1	1	15
	9/29/1998	< 1	< 1	< 5	1	< 1	< 1	1	9
	3/15/1999	< 1	< 1	< 5	< 1	--	< 1	1	9
	6/22/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	9
	9/13/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	9
	12/13/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	10
	3/22/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	4
	6/7/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	3
	9/22/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	3
	11/28/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	3
	3/21/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/11/2001	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	9/19/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

Notes:

µg/L - micrograms per liter

(1) - No GPS established

NA - Not Applicable

GPS - Groundwater Protection Standard

-- - Not collected/analyzed

- Value greater than or equal to the GPS

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Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-6	12/18/2001	< 1	< 1	< 5	1	< 1	< 1	1	< 1
	3/25/2002	< 1	1	< 5	< 1	< 1	< 1	2	< 1
	6/13/2002	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	9/24/2002	< 1	1	< 5	< 1	< 1	< 1	1	< 1
	12/12/2002	< 1	2	< 5	1	< 1	< 1	2	1
	3/24/2003	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/9/2003	< 1	1	< 5	< 1	< 1	< 1	2	< 1
	9/25/2003	< 1	2	< 5	< 1	< 1	< 1	2	< 1
	12/4/2003	< 1	1	< 5	< 1	< 1	< 1	2	< 1
	3/24/2004	< 1	2	< 5	1	< 1	< 1	2	< 1
	6/8/2004	< 1	2	< 5	< 1	< 1	< 1	2	< 1
	9/9/2004	< 1	1	< 5	< 1	< 1	< 1	2	< 1
	12/7/2004	< 1	2	< 5	< 1	< 1	< 1	2	< 1
	3/29/2005	< 1	2	< 5	1	< 1	< 1	2	< 1
	6/16/2005	< 1	1	< 5	1	< 1	2	2	< 1
	9/20/2005	< 1	2	< 5	< 1	< 1	< 1	3	< 1
	12/14/2005	< 1	1	< 5	1	< 1	2	2	< 1
	3/16/2006	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	6/13/2006	< 0.5	0.8	< 5	1.1	< 1	2.5	1.1	< 0.5
	9/21/2006	< 0.5	1.8	< 5	< 1	< 1	0.9	2.2	< 0.5
	12/6/2006	< 0.5	1.5	< 5	1	< 1	1.8	1.6	< 0.5
	3/15/2007	< 0.5	1	< 5	1	< 1	1.4	1	< 0.5
	6/20/2007	< 0.5	0.8	< 5	< 1	< 1	1.1	1	< 0.5
	12/10/2007	< 0.5	1.8	< 5	1.1	< 1	1.3	1.9	< 0.5
	6/24/2008	< 0.5	0.8	< 5	< 1	< 1	0.9	0.8	< 0.5
	12/9/2008	< 1	1.8	< 4	1.4	< 1	1.7	2.2	< 0.4
	6/2/2009	< 0.5	1.4	< 2	1.1	< 2	< 0.88	1.3	< 0.2
	12/9/2009	< 0.5	1.8	< 2	1.3	< 2	1.7	1.8	2.1
	6/15/2010	< 0.5	1.5	19.1	1.1	< 0.5	1.3	1.4	2.4
	12/7/2010	< 1	2.2	< 1	1.1	< 1	1	1.5	5.3
	6/13/2011	< 0.31	1.3	< 2	0.94	< 0.021	0.78	0.96	5.2
	12/5/2011	< 0.047	1	< 5	0.89	< 0.13	1.5	0.88	1.2
	6/5/2012	< 0.21	2.5	< 4	1.1	< 1	0.93	< 0.5	1.8
MW-6B	6/5/2012	< 0.5	< 0.5	< 4	< 0.5	< 1	< 0.5	< 0.5	< 0.4
MW-7A	1/18/1994	< 2	< 1	12	6	< 1	27	4	< 1
	6/28/1994	< 1	< 1	18	7	< 1	32	5	< 1
	2/1/1995	< 1	< 1	14	6	< 1	24	4	1
	6/27/1995	2	< 1	< 17	6	< 1	13	5	< 1
	11/27/1995	< 1	< 1	10	4	< 1	17	4	1
	6/25/1996	2	< 1	15	5	< 1	16	6	4
	12/11/1996	< 1	< 1	10	3	< 1	10	4	2

Notes:

µg/L - micrograms per liter

(1) - No GPS established

NA - Not Applicable

GPS - Groundwater Protection Standard

-- - Not collected/analyzed

- Value greater than or equal to the GPS

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Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7A	6/20/1997	2	< 1	15	4	< 2	13	5	7
	12/16/1997	2	1	< 18	5	< 1	5	13	5
	3/23/1998	2	< 1	14	4	< 1	11	4	4
	6/30/1998	2	1	15	4	< 1	11	4	6
	9/29/1998	2	1	19	4	< 1	11	4	3
	12/14/1998	2	1	< 21	5	< 1	11	11	4
	3/15/1999	2	< 1	14	4	--	10	3	3
	6/22/1999	2	< 1	< 5	4	< 5	6	3	4
	9/13/1999	2	< 1	< 5	3	< 1	8	3	3
	12/14/1999	1	< 1	< 5	3	< 1	7	2	2
	3/22/2000	1	< 1	< 5	3	< 1	9	3	2
	6/7/2000	< 1	< 1	< 5	3	< 1	7	< 1	3
	9/22/2000	< 1	< 1	< 5	3	< 1	7	2	3
	11/28/2000	< 1	< 1	< 5	3	< 1	7	2	3
	3/21/2001	< 1	< 1	< 5	4	< 1	11	3	2
	6/11/2001	1	< 1	< 5	4	< 1	12	3	3
	9/19/2001	< 1	< 1	< 5	3	< 1	8	2	1
	12/17/2001	< 1	< 1	< 5	5	< 1	11	3	2
	3/25/2002	< 1	< 1	< 5	3	< 1	9	2	1
	6/13/2002	< 1	< 1	< 5	5	< 1	10	3	2
	9/24/2002	< 1	< 1	< 5	3	< 1	8	2	1
	12/12/2002	< 1	< 1	< 5	5	< 1	12	3	1
	3/24/2003	< 1	< 1	< 5	3	< 1	9	2	1
	6/10/2003	< 1	< 1	< 5	3	< 1	9	2	1
	9/25/2003	< 1	< 1	< 5	3	< 1	8	2	1
	12/4/2003	< 1	< 1	< 5	4	< 1	7	2	< 1
	3/24/2004	< 1	< 1	< 5	2	< 1	4	< 1	1
	6/8/2004	< 1	< 1	< 5	2	< 1	6	1	1
	9/9/2004	< 1	< 1	< 5	1	< 1	5	< 1	1
	12/7/2004	< 1	< 1	< 5	2	< 1	6	1	1
	3/29/2005	< 1	< 1	< 5	1	< 1	3	< 1	1
	6/17/2005	< 1	< 1	< 5	2	< 1	6	1	< 1
	9/20/2005	< 1	< 1	< 5	1	< 1	3	< 1	< 1
	12/14/2005	< 1	< 1	< 5	1	< 1	4	< 1	1
	3/16/2006	< 1	< 1	< 5	< 1	< 1	2	< 1	1
	6/13/2006	< 0.5	< 0.5	< 5	1.6	< 1	4.2	0.7	0.5
	9/21/2006	< 0.5	< 0.5	< 5	< 1	< 1	2.7	< 0.5	< 0.5
	12/7/2006	< 0.5	< 0.5	< 5	< 1	< 1	1.7	< 0.5	< 0.5
	3/15/2007	< 0.5	< 0.5	< 5	1	< 1	2.2	< 0.5	< 0.5
	6/20/2007	0.5	< 0.5	< 5	< 1	< 1	2.3	0.6	< 0.5
	12/10/2007	< 0.5	< 0.5	< 5	1.3	< 1	2.4	0.5	< 0.5

Notes:

µg/L - micrograms per liter

(1) - No GPS established

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GPS - Groundwater Protection Standard

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TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7A	6/24/2008	< 0.5	< 0.5	< 5	1.5	< 1	3.5	0.7	< 0.5
	12/10/2008	< 1	< 1	< 4	2.9	< 1	5.5	1.3	0.53
	6/2/2009	< 0.5	< 0.5	< 2	1.6	< 2	4	< 0.81	< 0.2
	12/9/2009	< 0.5	< 0.5	< 2	3.1	< 2	5.6	1.4	0.57
	6/16/2010	< 0.5	< 0.5	30.2	1.7	< 0.5	3.4	0.83	< 0.5
	12/7/2010	< 1	< 1	< 1	4.3	< 1	8.6	1.9	< 1
	6/14/2011	0.52	< 0.41	< 2	4.6	< 0.021	7.9	2	0.7
	12/6/2011	0.72	0.67	< 5	5.3	< 0.13	8.3	2.3	0.88
	6/5/2012	0.91	0.94	< 4	6.5	< 1	12	< 0.5	1.1
MW-7B	8/3/1993	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	1/18/1994	< 2	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/28/1994	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	2/1/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/27/1995	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	12/6/2011	< 0.047	< 0.08	< 5	< 0.072	< 0.13	< 0.16	< 0.11	< 0.16
	6/5/2012	< 0.5	< 0.5	< 4	< 0.5	< 1	< 0.5	< 0.5	< 0.4
MW-8A	1/19/1994	< 2	< 1	< 5	< 1	< 1	5	1	< 1
	6/28/1994	< 1	1	< 5	< 1	< 1	4	3	< 1
	2/1/1995	< 1	1	< 5	1	< 1	4	3	< 1
	6/27/1995	< 1	1	< 1	1	< 1	2	3	< 1
	11/28/1995	< 1	1	< 5	2	< 1	3	3	< 1
	6/25/1996	< 1	2	< 5	2	< 1	3	3	< 1
	12/12/1996	< 1	1	< 5	1	< 1	2	3	< 1
	6/19/1997	< 1	1	< 1	1	< 2	2	2	< 2
	12/16/1997	< 1	3	< 5	1	< 1	3	3	< 1
	6/30/1998	< 1	4	< 5	2	< 1	4	5	< 1
	12/15/1998	< 1	5	< 5	1	< 1	4	4	< 1
	6/22/1999	< 1	3	< 5	< 1	< 1	2	3	< 1
	12/14/1999	< 1	3	< 5	< 1	< 1	2	3	< 1
	6/8/2000	< 1	2	< 5	< 1	< 1	2	3	< 1
	11/29/2000	< 1	2	< 5	< 1	< 1	2	2	< 1
	6/12/2001	< 1	1	< 5	< 1	< 1	2	2	< 1
	12/18/2001	< 1	< 1	< 5	< 1	< 1	1	1	< 1
	6/14/2002	< 1	< 1	< 5	< 1	< 1	1	1	< 1
	12/13/2002	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	6/10/2003	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	12/3/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/7/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/16/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/14/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

Notes:

µg/L - micrograms per liter

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TABLE 2
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Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-8A	6/13/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.7	< 0.5	< 0.5
	12/6/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.7	< 0.5	< 0.5
	6/20/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.8	< 0.5	< 0.5
	12/10/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	6/24/2008	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4
	6/1/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.86	< 0.5	< 0.2
	12/9/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.85	< 0.5	< 0.2
	6/15/2010	< 0.5	< 0.5	20	< 0.5	< 0.5	0.81	< 0.5	< 0.5
	12/7/2010	< 1	< 1	< 1	< 1	< 1	1.3	< 1	< 1
	6/14/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.021	0.64	< 0.28	< 0.049
	12/5/2011	< 0.047	< 0.42	< 5	< 0.072	< 0.13	0.6	< 0.3	< 0.16
	6/5/2012	< 0.5	< 0.46	< 4	< 0.5	< 1	0.8	< 0.5	< 0.4
MW-8B	2/1/1995	< 1	2	< 5	1	< 1	4	3	< 1
	12/5/2011	< 0.047	< 0.29	< 5	< 0.072	< 0.13	0.81	< 0.43	< 0.16
	6/5/2012	< 0.5	< 0.23	< 4	< 0.5	< 1	0.83	< 0.5	< 0.4
MW-8C	6/5/2012	< 0.5	< 0.5	< 4	< 0.5	< 1	< 0.5	< 0.5	< 0.4
MW-9A	1/18/1994	< 2	< 1	< 5	2	< 1	4	2	< 1
	6/27/1994	< 1	< 1	< 5	2	< 1	5	2	< 1
	1/31/1995	< 1	< 1	< 5	1	< 1	4	2	< 1
	6/27/1995	< 1	< 1	< 1	1	< 1	2	< 1	< 1
	11/28/1995	< 1	< 1	< 5	1	< 1	3	1	< 1
	6/25/1996	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	12/11/1996	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	6/19/1997	< 1	< 1	< 1	< 1	< 2	1	< 1	< 2
	12/16/1997	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/29/1998	< 1	< 1	5	< 1	< 1	1	< 1	< 1
	12/14/1998	< 1	< 1	< 5	< 1	< 1	1	1	< 1
	6/22/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/13/1999	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	6/7/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	11/28/2000	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	6/11/2001	< 1	< 1	< 5	1	< 1	2	1	< 1
	12/17/2001	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	6/13/2002	< 1	1	< 5	< 1	< 1	2	1	< 1
	12/12/2002	< 1	1	< 5	< 1	< 1	2	1	< 1
	6/9/2003	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	12/4/2003	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	12/7/2004	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1

Notes:

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Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-9A	6/16/2005	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	12/14/2005	< 1	< 1	< 5	< 1	< 1	1	< 1	< 1
	6/13/2006	< 0.5	0.5	< 5	< 1	< 1	1	0.5	< 0.5
	12/6/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.9	0.5	< 0.5
	6/20/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.8	0.5	< 0.5
	12/10/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	6/24/2008	< 0.5	< 0.5	< 5	< 1	< 1	0.7	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4
	6/1/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	1.2	< 0.55	< 0.2
	12/4/2009	< 0.5	< 0.62	< 2	< 0.5	< 2	1.2	< 0.71	< 0.2
	6/15/2010	< 0.5	0.59	17.7	< 0.5	< 0.5	1.1	0.71	< 0.5
	12/7/2010	< 1	< 1	< 1	< 1	< 1	1.1	< 1	< 1
	6/14/2011	< 0.038	< 0.44	< 2	< 0.18	< 0.021	0.95	0.64	< 0.049
	12/5/2011	< 0.047	< 0.48	< 5	< 0.28	< 0.13	0.95	0.75	< 0.16
	6/4/2012	< 0.5	< 0.47	< 4	< 0.5	< 1	1.4	< 0.5	< 0.4
MW-9B	1/31/1995	< 1	< 1	< 5	< 1	< 1	4	2	< 1
	12/5/2011	< 0.047	0.67	< 5	< 0.28	< 0.13	1.2	1.1	< 0.16
	6/4/2012	< 0.5	0.53	< 4	< 0.5	< 1	1.4	< 0.5	< 0.4
MW-10	6/27/1994	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	2/2/1995	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/28/1995	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	11/28/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/26/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/12/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/20/1997	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 2
	12/17/1997	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/29/1998	< 1	< 1	< 5	< 1	3	< 1	1	< 1
	12/15/1998	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/23/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/13/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/8/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	11/29/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/12/2001	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	12/18/2001	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/14/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/12/2002	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/10/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/3/2003	< 1	< 1	< 5	< 1	< 1	< 1	1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/17/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

Notes:

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Bozeman Sanitary Landfill

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		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-10	12/13/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/13/2006	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	0.6	< 0.5
	12/6/2006	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	0.6	< 0.5
	6/19/2007	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	0.7	< 0.5
	12/10/2007	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	0.6	< 0.5
	6/26/2008	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4
	6/2/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.5	< 0.66	< 0.2
	12/4/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.5	< 0.82	< 0.2
	6/16/2010	< 0.5	< 0.5	42.4	< 0.5	< 0.5	< 0.5	0.78	< 0.5
	12/6/2010	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	6/14/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.021	< 0.041	0.7	< 0.049
	12/6/2011	< 0.047	< 0.26	< 5	< 0.072	< 0.13	< 0.16	0.57	< 0.16
	6/4/2012	< 0.5	< 0.2	< 4	< 0.5	< 1	< 0.5	< 0.5	< 0.4
MW-11	11/27/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/26/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/12/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/19/1997	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 2
	12/16/1997	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/30/1998	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/14/1998	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/22/1999	< 1	< 1	< 5	< 1	1	< 1	< 1	< 1
	12/14/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/8/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	11/29/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/12/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/18/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/14/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/13/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/10/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/3/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/16/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/13/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/13/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	12/6/2006	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	6/20/2007	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/10/2007	< 0.5	< 0.5	< 2	< 1	< 1	< 0.5	< 0.5	< 0.5
	6/24/2008	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4

Notes:

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		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-11	6/1/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.5	< 0.5	< 0.2
	12/4/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.54	< 0.5	< 0.2
	6/15/2010	< 0.5	< 0.5	27.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/7/2010	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	6/14/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.021	< 0.041	< 0.05	< 0.049
	12/5/2011	< 0.047	< 0.08	< 5	< 0.072	< 0.13	< 0.25	< 0.11	< 0.16
	6/4/2012	< 0.5	< 0.5	< 4	< 0.5	< 1	< 0.32	< 0.5	< 0.4
MW-12	11/27/1995	9	12	< 5	4	< 1	1	11	50
	6/26/1996	11	10	< 5	5	< 1	< 1	9	81
	12/12/1996	7	6	< 5	4	< 1	< 1	9	49
	6/20/1997	8	2	< 1	3	< 2	< 1	2	99
	12/16/1997	6	1	< 5	3	< 1	1	< 1	48
	3/24/1998	5	< 1	< 5	3	< 1	< 1	1	44
	6/30/1998	4	< 1	< 5	2	< 1	< 1	< 1	43
	9/29/1998	3	< 1	< 5	2	< 1	< 1	1	29
	12/15/1998	3	< 1	< 5	2	< 1	< 1	< 1	22
	3/17/1999	2	< 1	< 5	1	< 1	< 1	< 1	22
	6/23/1999	2	< 1	< 5	< 1	< 1	< 1	< 1	23
	9/13/1999	2	< 1	< 5	< 1	< 1	< 1	< 1	25
	12/14/1999	2	< 1	< 5	< 1	< 1	< 1	< 1	25
	3/22/2000	1	< 1	< 5	< 1	< 1	< 1	< 1	16
	6/8/2000	1	< 1	< 5	< 1	< 1	< 1	< 1	27
	9/22/2000	2	< 1	< 5	1	< 1	< 1	< 1	33
	11/29/2000	2	< 1	< 5	< 1	< 1	< 1	< 1	29
	3/21/2001	2	< 1	< 5	1	< 1	< 1	< 1	19
	6/12/2001	1	< 1	< 5	< 1	< 1	< 1	1	18
	9/19/2001	1	1	< 5	< 1	< 1	< 1	1	16
	12/18/2001	2	2	< 5	1	< 1	< 1	2	20
	3/25/2002	1	2	< 5	1	< 1	< 1	3	21
	6/14/2002	1	2	< 5	< 1	< 1	< 1	2	22
	9/24/2002	1	3	< 5	< 1	< 1	< 1	3	15
	12/13/2002	1	4	< 5	< 1	< 1	< 1	4	22
	3/24/2003	1	4	< 5	< 1	< 1	< 1	5	16
	6/10/2003	1	5	< 5	< 1	< 1	< 1	6	14
	9/25/2003	1	6	< 5	1	< 1	< 1	8	19
	12/4/2003	2	6	< 5	1	< 1	< 1	8	27
	3/24/2004	2	7	< 5	1	< 1	< 1	8	24
	6/8/2004	1	7	< 5	1	< 1	< 1	7	15
	9/9/2004	1	7	< 5	1	< 1	< 1	9	17
	12/7/2004	1	7	< 5	1	< 1	< 1	8	16
	3/29/2005	1	7	< 5	1	< 1	< 1	7	19

Notes:

µg/L - micrograms per liter
(1) - No GPS established
NA - Not Applicable
GPS - Groundwater Protection Standard
-- - Not collected/analyzed
- Value greater than or equal to the GPS

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-12	6/17/2005	< 1	7	< 5	1	< 1	1	8	16
	9/20/2005	1	7	< 5	1	< 1	1	7	12
	12/14/2005	< 1	6	< 5	1	< 1	1	6	15
	3/16/2006	< 1	6	< 5	< 1	< 1	1	6	19
	6/13/2006	1.2	8.3	< 5	1	< 1	1.2	6.8	13
	9/21/2006	0.8	5.9	< 5	< 1	< 1	1.5	6.3	12.5
	12/7/2006	0.5	3.6	< 5	< 1	< 1	< 0.5	2.8	4.4
	3/15/2007	0.9	7.4	< 5	1	< 1	3	7	11.5
	6/21/2007	1	8.2	< 5	< 1	< 1	1.8	6.5	21
	12/11/2007	0.9	10	< 5	1.2	< 1	1.2	7.5	19
	6/25/2008	0.9	7.1	< 5	< 1	< 1	0.6	5.1	16
	12/10/2008	1.5	7.7	< 4	< 1	< 1	< 1	5.7	13.3
	6/2/2009	1.9	8	< 2	< 0.91	< 2	< 0.5	5.1	19.7
	12/9/2009	2.5	11.6	< 2	1.2	< 2	< 0.5	6.7	26.4
	6/15/2010	2.2	9.6	22.3	1.1	< 0.5	< 0.5	4.4	27.4
	12/7/2010	1.8	11.3	< 1	1.5	< 1	< 1	4.5	30.4
	6/14/2011	2	4.4	< 2	1.4	< 0.021	< 0.041	1.9	24.9
	12/6/2011	2.1	9.6	< 5	1.7	< 0.13	< 0.16	4.3	17.4
	6/5/2012	2	10.8	< 4	2	< 1	< 0.5	< 0.5	20.7
MW-13	11/28/1995	1	< 1	< 5	2	< 1	< 1	2	21
	6/25/1996	1	< 1	< 5	3	< 1	< 1	1	41
	12/11/1996	1	< 1	< 5	2	< 1	< 1	< 1	28
	6/20/1997	< 1	1	< 1	1	< 2	1	2	26
	12/16/1997	1	< 1	< 5	2	< 1	2	< 1	29
	3/23/1998	1	< 1	< 5	2	< 1	< 1	1	29
	6/30/1998	1	< 1	< 5	1	< 1	< 1	1	34
	9/29/1998	1	< 1	< 5	1	< 1	< 1	1	24
	12/14/1998	1	< 1	< 5	1	< 1	< 1	< 1	24
	3/15/1999	< 1	< 1	6	< 1	< 1	< 1	< 1	19
	6/23/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	23
	9/13/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	26
	12/14/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	27
	3/22/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	18
	6/8/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	23
	9/22/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	24
	11/29/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	22
	3/21/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	15
	6/12/2001	1	< 1	< 5	< 1	< 1	< 1	< 1	19
	9/19/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	12
	12/18/2001	< 1	< 1	< 5	1	< 1	< 1	< 1	10
	3/25/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	11

Notes:

µg/L - micrograms per liter
(1) - No GPS established
NA - Not Applicable
GPS - Groundwater Protection Standard
-- - Not collected/analyzed
- Value greater than or equal to the GPS

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-13	6/13/2002	< 1	< 1	< 5	1	< 1	< 1	< 1	12
	9/24/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	10
	12/13/2002	< 1	< 1	< 5	1	< 1	< 1	< 1	12
	3/24/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	8
	6/10/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	7
	9/25/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	13
	12/4/2003	< 1	< 1	< 5	1	< 1	< 1	< 1	15
	3/24/2004	< 1	< 1	< 5	1	< 1	< 1	< 1	13
	6/8/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	8
	9/9/2004	< 1	< 1	< 5	1	< 1	< 1	< 1	11
	12/7/2004	< 1	< 1	< 5	1	< 1	< 1	< 1	9
	3/29/2005	< 1	< 1	< 5	1	< 1	< 1	< 1	11
	6/17/2005	< 1	< 1	< 5	1	< 1	< 1	< 1	9
	9/20/2005	< 1	< 1	< 5	1	< 1	< 1	< 1	8
	12/14/2005	< 1	< 1	< 5	1	< 1	< 1	< 1	9
	3/16/2006	< 1	< 1	< 5	< 1	< 1	< 1	< 1	11
	6/13/2006	0.6	0.7	< 5	< 1	< 1	< 0.5	< 0.5	7.1
	9/21/2006	0.6	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	7.6
	12/7/2006	0.5	0.7	< 5	< 1	< 1	< 0.5	< 0.5	9.7
	3/15/2007	< 0.5	0.8	< 5	1	< 1	< 0.5	< 0.5	9.6
	6/20/2007	0.6	1	< 5	1	< 1	< 0.5	0.6	20
	12/11/2007	0.6	0.9	< 5	1.2	< 1	< 0.5	< 0.5	18
	6/24/2008	< 0.5	0.8	< 5	< 1	< 1	< 0.5	0.5	15
	12/10/2008	< 1	1.3	< 4	1.3	< 1	< 1	< 1	20.2
	6/2/2009	< 0.53	1.1	< 2	< 0.96	< 2	< 0.5	< 0.61	14.6
	12/9/2009	< 0.69	1.1	< 2	1.2	< 2	< 0.5	< 0.61	22.5
	6/16/2010	0.68	1.1	36.3	1	< 0.5	< 0.5	0.55	19.9
	12/7/2010	< 1	< 1	< 1	1.1	< 1	< 1	< 1	23.8
	6/15/2011	0.61	0.99	< 2	0.96	< 0.021	< 0.25	0.55	17.9
	12/7/2011	0.79	1	< 5	1	< 0.13	< 0.29	0.5	17.7
	6/6/2012	0.69	1.1	< 4	0.98	< 1	< 0.33	< 0.46	19.3
MW-16	6/4/2012	< 0.5	3.4	< 4	1.3	< 1	2.2	< 0.5	< 0.4
McIlhattan Seep	1/19/1994	< 2	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	1/19/1994	< 2	1	< 5	< 1	< 1	4	3	< 1
	6/27/1994	< 1	< 1	< 5	< 1	< 1	5	1	< 1
	1/31/1995	< 1	< 1	< 5	< 1	< 1	4	1	< 1
	6/28/1995	< 1	< 1	< 1	< 1	< 1	3	2	< 1
	11/28/1995	< 1	< 1	< 5	< 1	< 1	5	1	< 1
	6/26/1996	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	12/12/1996	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	6/20/1997	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 2

Notes:

µg/L - micrograms per liter

(1) - No GPS established

NA - Not Applicable

GPS - Groundwater Protection Standard

-- - Not collected/analyzed

- Value greater than or equal to the GPS

TABLE 2
Summary of Detected Volatile Organic Compounds in Selected Groundwater Samples
Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
McIlhattan Seep	12/17/1997	< 1	< 1	< 5	< 1	< 1	1	4	< 1
	6/29/1998	< 1	< 1	8	< 1	< 1	3	1	< 1
	12/15/1998	< 1	< 1	< 5	< 1	< 1	4	4	< 1
	6/23/1999	< 1	< 1	< 5	< 1	< 1	2	1	< 1
	12/14/1999	< 1	< 1	< 5	< 1	< 1	3	2	< 1
	6/7/2000	< 1	< 1	< 5	< 1	< 1	3	1	< 1
	11/29/2000	< 1	< 1	< 5	< 1	< 1	3	1	< 1
	6/12/2001	< 1	< 1	< 5	< 1	< 1	3	1	< 1
	12/18/2001	< 1	< 1	< 5	< 1	< 1	3	1	< 1
	6/14/2002	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	12/12/2002	< 1	< 1	< 5	< 1	< 1	4	1	1
	6/10/2003	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	12/3/2003	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	3	< 1	< 1
	6/17/2005	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	12/14/2005	< 1	< 1	< 5	< 1	< 1	2	< 1	< 1
	6/12/2006	< 0.5	< 0.5	< 5	< 1	< 1	1.4	< 0.5	< 0.5
	12/7/2006	< 0.5	< 0.5	< 5	< 1	< 1	1.8	0.5	< 0.5
	6/19/2007	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	12/10/2007	< 0.5	< 0.5	< 5	< 1	< 1	1.3	< 0.5	< 0.5
	6/26/2008	< 0.5	< 0.5	< 5	< 1	< 1	0.6	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	1.4	< 1	< 0.4
	6/2/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	1.1	< 0.5	< 0.2
	12/4/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	1.6	< 0.5	< 0.2
	6/16/2010	< 0.5	< 0.5	40.4	< 0.5	< 0.5	1.2	< 0.5	< 0.5
	12/6/2010	< 1	< 1	< 1	< 1	< 1	1.2	< 1	< 1
	6/14/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.061	0.73	< 0.26	< 0.049
	12/6/2011	< 0.047	< 0.13	< 5	< 0.072	< 0.13	1.1	< 0.3	< 0.16
	6/5/2012	< 0.5	< 0.19	< 4	< 0.5	< 1	1.1	< 0.32	< 0.4
Shop Well	1/31/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	9/25/2003	< 1	< 1	< 5	1	< 1	3	2	< 1
	6/13/2011	< 0.038	1	< 2	1.6	< 0.021	3.8	2.3	0.13
	12/7/2011	< 0.047	0.95	< 5	1.7	< 0.13	3.9	2.2	< 0.16
	6/4/2012	< 0.5	0.64	< 4	1.2	< 1	3.7	1.7	< 0.4
Vet Clinic Well	1/19/1994	< 2	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/28/1994	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	1/31/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/28/1995	< 1	< 1	< 1	< 1	< 1	4	2	< 1
	11/28/1995	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/26/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1

Notes:

µg/L - micrograms per liter
(1) - No GPS established
NA - Not Applicable
GPS - Groundwater Protection Standard
-- - Not collected/analyzed
- Value greater than or equal to the GPS

TABLE 2
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Bozeman Sanitary Landfill

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Methyl chloride (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
GPS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
Vet Clinic Well	12/12/1996	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/20/1997	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 2
	12/17/1997	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/30/1998	< 1	< 1	< 5	< 1	< 1	< 1	< 1	1
	12/15/1998	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/23/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/14/1999	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/7/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	11/28/2000	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/12/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/18/2001	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/14/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/12/2002	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/10/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/4/2003	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/8/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/6/2004	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/17/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	12/14/2005	< 1	< 1	< 5	< 1	< 1	< 1	< 1	< 1
	6/12/2006	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/7/2006	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	6/21/2007	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/12/2007	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	6/25/2008	< 0.5	< 0.5	< 5	< 1	< 1	< 0.5	< 0.5	< 0.5
	12/9/2008	< 1	< 1	< 4	< 1	< 1	< 1	< 1	< 0.4
	6/2/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.5	< 0.5	< 0.2
	12/10/2009	< 0.5	< 0.5	< 2	< 0.5	< 2	< 0.5	< 0.5	< 0.2
	6/16/2010	< 0.5	< 0.5	38.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	12/8/2010	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
	6/15/2011	< 0.038	< 0.08	< 2	< 0.072	< 0.021	< 0.041	< 0.05	< 0.049
	12/7/2011	< 0.047	< 0.08	< 5	< 0.072	< 0.13	< 0.16	< 0.11	< 0.16
	6/5/2012	< 0.5	< 0.5	< 4	< 0.5	< 1	< 0.5	< 0.5	< 0.4

Notes:

µg/L - micrograms per liter

(1) - No GPS established

NA - Not Applicable

GPS - Groundwater Protection Standard

-- - Not collected/analyzed

- Value greater than or equal to the GPS

Table 3
Comparison of Medians of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
June 2012 Monitoring Event

Parameter	Units	Compliance Well MW-6 Median	Compliance Well MW-8A Median	Background Well MW-5 Median	Background Well MW-15 Median	N (1)	P-value(2) MW-5/MW-15	Statistically Above Background(3)
1,1, Dichloroethane	ug/L	1	-	0.5	0.5	15	.000/.000	YES
cis1,2, Dichlorothene	ug/L	1.45	-	0.25	0.25	15	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	1.3	-	0.25	0.25	20/15	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	-	0.8	0.25	0.25	20/15	.000/.000	YES
Trichloroethene (TCE)	ug/L	1.45	-	0.25	0.25	15	.000/.000	YES
Trichloroethene (TCE)	ug/L	-	0.64	0.25	0.25	15	.000/.000	YES
Vinyl Chloride	ug/L	0.5	-	0.25	0.25	15	.007/.007	NO
Vinyl Chloride	ug/L	-	0.25	0.25	0.25	15	1.00/1.00	NO
Barium	mg/L	0.07	-	0.03	0.04	15	.000/.000	YES
Barium	mg/L	-	0.08	0.03	0.04	15	.000/.000	YES
Chloride	mg/L	20	-	5.4	5	15	.000/.000	YES
Chloride	mg/L	-	43	5.4	5	15	.000/.000	YES
Nitrate+Nitrite as N	mg/L	-	7.3	4.48	5.61	15	.267/.775	NO
Sulfate	mg/L	14	-	9		15	.000	YES
Sulfate	mg/L	14			14.4	15	0.566	NO
Sulfate	mg/L	-	34.1	9	14.4	15	.000/.000	YES

Notes:

(1) Sample Size

(2) Mann-Whitney U test at the 99 percent confidence level.

(3) Results are significant if the p-value is less than or equal to 0.01 (and Z value is positive in worksheets)

Table 4
Summary of Statistical Analysis of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
June 2012 Monitoring Event

Parameter	Well	GPS [1]	Test[2]	n[3]	Test Result (P-value)	Statistically Greater than GPS[4]
Nitrate+Nitrite as N	MW-8A	10	1SW	15	0.118	No
Trichloroethene	MW-12	5	1SW	20	0.161	No
Tetrachlorethene	MW-7A	5	1SW	20	0.350	No
Vinyl Chloride	MW-6	2	1SW	20	0.020	No
	MW-7A	2	1SW	20	0.000	No [5]
	MW-12	2	1SW	20	0.000	Yes
	MW-13	2	1SW	20	0.000	Yes

Notes:

(1) Groundwater protection standards (GPS) are stated in micrograms per liter except Nitrate+Nitrite which is in milligrams per liter. The GPS for vinyl chloride is considered to be 2 ug/L as established by the U.S. EPA

(2) 1SW indicates a 1-Sample Wilcoxon Test at the 99 percent confidence level; 1ST indicates a 1-Sample t-Test at the 99 percent confidence level

(3) Sample size after data censoring (further reduction due to the values may occur in 1-Sample Wilcoxon test)

(4) Results are significant if the p-value is less than or equal to 0.01

(5) The Wilcoxin test indicated that there is a significant difference between well MW-7A vinyl chloride values and the GPS for vinyl chloride. The difference is due to the fact that well MW-7A vinyl chloride values are lower than the vinyl chloride GPS of 2 ug/L

APPENDIX C

GROUNDWATER SAMPLING LOGS

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/2012@1100 Station No. LF-2

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [✓] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 19.6 - Depth to Water 14.12 = 5.5 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other _____

5.5 ft. water in well x 0.653 gal./ft * = one casing volume 3.6 gals. x 3 = purge volume 10.7 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
3.6 gal		11.1	7.46	889	—	—
7.2		10.5	7.44	898	-	-
10.7		11.5	7.35	896	-	-
11					-159	0.36 downhole post-purg
6/5/12@1635	1 gal	8.76	7.26	898	56.2	8.72 downhole meas. w/ 2nd YSI

DO measured: In-well [✓] In water bailed [ ] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	YSI-556 Oakton	6/4/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: A YSI-536 multi-meter was rented from Geotech Environmental but found to be non-functional w/ re: ORP & DO measurements. Geotech provided a second YSI-556 that functioned adequately beginning 6/5/12. Tetra Tech's Oakton also used for pH & SC & T meas. until second YSI arrives.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/2012 @955 Station No. LF-3

Personnel: MFP Weather: Clear, calm 60°F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [✓] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 37.5 - Depth to Water 13.52 = 24 ft. water in well

WELL EVACUATION

Evacuation Method: dedicated ✓ Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

24 ft. water in well x 0.653 gal./ft * = one casing volume 15.7 gals. x 3 = purge volume 47 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

disregard ORP & DO meas.

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
924 Start pumping		@ 1gal/37sec = 1.6gpm				
934	16	10.8	7.36	672	-132.5	0.26
944	32	10.8	7.44	674	NM	NM DO sensor Not working
954	48	10.9	7.44	672	-129	NM properly
			Downhole post-purge		-118	0.06 mg/L DO
						- Correct (?) - No
DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other _____						
6/6/12	0.25	9.59	7.37	660	42	6.36 - Downhole meas. w/ 2nd YSI

Remeas. w/ 2nd YSI

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton ✓	6/4/2012
SC	✓	
ORP	✓	
DO	✓	

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/2012@730 Station No. MW-4

Personnel: MFP Weather: Cloudy, H. rain 55°F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [✓] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 38.0 - Depth to Water 20.39 = 17.61 ft. water in well

WELL EVACUATION

Evacuation Method: dedicated Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

17.61 ft. water in well x 0.653 gal./ft * = one casing volume 11.5 gals. x 3 = purge volume 34.5 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

disregard ORP & DO meas.

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC mS	ORP mV	DO mg/L	
655	Start pumping @ 1 gpm						
711		9.7	7.01	1023	-121.4	2.25	Flow-thru
720		9.7	7.07	1039	-128	1.97	
732	37	9.7	7.07	1045	-132	2.17	
735	Sampled						
Remeasure w/ 2nd YSI > 6/6/12	0	8.86	7.06	1016	37.2	1.98	downhole meas. w/ 2nd YSI

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	6/4/12
pH	YSI 556 Oakton ✓	6/4/12
SC		
ORP	X	
DO	X	

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1440 Station No. MW-5

Personnel: MFP & DJ Weather: Breeze, dry

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 160 - Depth to Water 110.12 = 50 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

50 ft. water in well x 0.163 gal./ft * = one casing volume 8.2 gals. x 3 = purge volume 24.5 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Disregard ORP & DO meas.

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1420	Start pumping 1 gal/40 sec = 1.5 gpm					
1426		10.8	7.50	468		
1432		10.8	7.51	470		
1438	27	11.0	7.53	471	-181.9	0.45
1440		Sampled				

Flow-through

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton	6/4/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log. Unable to meas. ORP & DO with second YSI-556 meter.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1200 Station No. MW-6

Personnel: MFP Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 66.0 - Depth to Water 31.29 = 34.71 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other_____

34.7 ft. water in well x .163 gal./ft * = one casing volume 5.6 gals. x 3 = purge volume 16.9 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	~~5.5~~	11.32	7.08	937	21.5	3.64
	11.0	11.18	7.21	939	36.6	3.75
	17.0	11.15	7.08	907	43.9	3.46
1200 Sampled	17.5	10.38	7.56	476	41.4	5.83 downhole

DO measured: In-well [✓] In water bailed [✓] In water pumped [ ] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC	↓	↓
ORP	↓	↓
DO	↓	↓

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1205 Station No. MW-6B

Personnel: MFP & DJ Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [ ] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 100.0 - Depth to Water 18.65 = 98.35 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

98.4 ft. water in well x 0.163 gal./ft * = one casing volume 16 gals. x 3 = purge volume 48 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1140	Start pumping	3 gpm					
1147	21	10.13	7.93	344	21.4	8.29	
1154	42	10.13	7.91	345	34.9	8.41	
1158	54	10.13	7.93	344	36.6	8.35	Flow-through

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ ~~1338~~ 1340 Station No. MW-7A

Personnel: MFP & DJ Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 65.9 - Depth to Water 56.36 = 9.54 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [ ] Spigot [ ] Other _____

~~9.54~~ 2.145 ft. water in well x 0.163 gal./ft * = one casing volume ~~1.55~~ 3.5 gals. x 3 = purge volume ~~4.65~~ 10.5 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	~~1.5~~ 2.5	11.03	6.95	604	54.0	4.47
	~~3.0~~ 3.5	10.94	6.79	693	56.3	3.65
	4.6	12.2	~~6.88~~	783	51.9	3.68
Sampled	5.0	10.36	6.64	753	48.3	1.79 Downhole

DO measured: In-well [ ] In water bailed [✓] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab]] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No]]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox: Yes [✓] No [ ] Scrub: Yes [✓] No [ ]

Potable H_2O: Yes [ ] No [ ] Steam: Yes [ ] No]]

DI water: Yes [✓] No [ ] Nitric Acid: Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1330 Station No. MW-7B

Personnel: MFP & DJ Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 77.9 - Depth to Water 56.45 = 21.45 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other_____

21.45 ft. water in well x 0.163 gal./ft * = one casing volume 3.5 gals. x 3 = purge volume 10.5 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	3.5	12.06	7.47	426	51.5	8.21
	7.0	11.05	7.33	423	49.1	8.16
	10.5	10.92	7.20	426	46.5	8.15
		1015	7.39	423	49.9	7.05 Downhole

DO measured: In-well [✓] In water bailed [✓] In water pumped [ ] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [ ] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	6/5/12
SC	↓	↓
ORP	↓	↓
DO	↓	↓

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 0 1015 Station No. MW-8A

Personnel: MFP Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 59.50 - Depth to Water 46.95 = 12.55 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other_____

12.55 ft. water in well x 0.163 gal./ft * = one casing volume 2.04 gals. x 3 = purge volume 6.1 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
	2	9.60	7.28	1282	-	-	
	4	9.83	7.31	1264	56.1	7.91	in cup
	6.1	10.00	7.35	1269	-	-	
	6.6	9.34	7.53	1252	62.1	7.03	Downhole

DO measured: In-well [✓] In water bailed [✓] In water pumped [ ] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/3/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1000 Station No. MW-8B

Personnel: _____ Weather: _____

Well Locked? Yes [ ] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [[Other_____ Measuring Point: Top of PVC, north side]] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 71.90 - Depth to Water 47.28 = 24.62 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot]] Other_____

24.62 ft. water in well x 4.0 gal./ft * = one casing volume 4.01 gals. x 3 = purge volume 12.03 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
950 - Start pumping - 1 gal/28 sec = 2 gpm							
954	8	10.04	7.04	1028	65.3	5.50	Flow-through
958	~16	9.91	7.04	1033	55.2	5.06	↓
1000	24	9.86	7.10	1036	50.8	4.97	
1000	Sampled						

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump] [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab]] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes]] No] [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No]]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Cire	
pH	Second YSI-556	6/5/12
SC	↓	↓
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes]] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes]] No]]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/2012@910 Station No. MW-8C

Personnel: MFP & DJ Weather: Clear & WM

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 103' - Depth to Water 42.62' = 60.4 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other_____

60.4 ft. water in well x 0.163 gal./ft * = one casing volume 9.8 gals. x 3 = purge volume 29.5 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO mg/L
854	start pumping	1 gal/23 sec = 2.6 gpm				
859	13	10.0	7.65	402	46.9	9.06 Flow-through
904	26	10.01	7.63	406	45.8	8.61
908	36	10.04	7.66	406	45.5	8.41
910	Sampled					

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1310 Station No. MW-9A

Personnel: MFP & DJ Weather: Clear

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 39.0 - Depth to Water 28.18 = 10.8 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other _____

10.8 ft. water in well x 0.163 gal./ft * = one casing volume 1.8 gals. x 3 = purge volume 5.3 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
12:55	1.8	11.7	7.24	1056		
13:00	3.6	11.0	7.24	1079		
1310	5.3	12.0	7.25	1068	-156	0.25 downhole
	6.0				-154	0.05 post-purge

DO measured: In-well [✓] In water bailed [ ] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [ ] or reduced list [✓]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Cire	
pH	YSI-556 Oakton	6/4/12
SC	↓	
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 Log. Unable to measure ORP & DO with second YSI meter.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1250 Station No. MW-9B

Personnel: MFP & DJ Weather: Clear

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 56.8 - Depth to Water 28.38 = 28.4 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other_____

28.4 ft. water in well x 0.163 gal./ft * = one casing volume 4.6 gals. x 3 = purge volume 13.9 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Disregard ORP & DO Measurements

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
~~1411~~	4.6	12.2	7.53	690	-	-
	9.2	11.2	7.43	677		
	13.9	11.3	7.43	669		
	15.0				-154	0.05 downhole post-pu

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [ ] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton	6/4/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 Log. Unable to measure ORP & DO with second YSI meter.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1440 Station No. MW-10

Personnel: MF Pearson & D Johnson Weather: Breeze, dry, 75°F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other_____ Measuring Point: Top of PVC, north side [✓] Other_____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 14.50 - Depth to Water 1.66 = 12.84 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other_____

12.8 ft. water in well x 0.163 gal./ft * = one casing volume 2.1 gals. x 3 = purge volume 6.3 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	2.1	8.37	7.01	1068	-40.7	2.96
	4.2	7.45	7.16	1056	-46.3	2.5 ↓
	6.3	7.15	7.27	1059	-44.9	1.72
		6.56	7.17	1055	-47.9	0.28 Downhole w/2nd YSI

DO measured: In-well [✓] In water bailed [✓] In water pumped [ ] Other_____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other:_____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1830 Station No. MW-11

Personnel: MFP Weather: Windy, dry, 75°F

Well Locked? Yes [ ] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

$1.60

Well Depth (ft. below measuring point): 70 - Depth to Water 51.54 = 18.5 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other _____

18.5 ft. water in well x 0.163 gal./ft * = one casing volume 3 gals. x 3 = purge volume 9 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

Disregard 6/4/12 ORP & DO measurements

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	3	12.5	7.48	684		
	6	11.4	7.47	692		
	9	11.2	7.44	692		
	9.5				-197	0.3 Downhole post-purge
Remeas. w/ 2nd YSI 6/6/12	0.25	9.61	7.35	694	36.2	4.88 Downhole meas. w/ 2nd YSI

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1800 Station No. MW-12

Personnel: MFP Weather: Clear, calm

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 65.80 - Depth to Water ~~65.80~~ 55.46 = 10.34 ft. water in well

55.8
5.1

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [ ] Spigot [ ] Other _____

10.34 ft. water in well x 0.163 gal./ft * = one casing volume 1.7 gals. x 3 = purge volume 5.1 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	1.7	12.65	6.71	881	-1	2.07
	3.4	12.44	6.66	885	-2.7	2.43
	5.1	12.42	6.63	884	0.1	2.64
	5.6	12.02	6.53	886	0.8	0.23 downhole

DO measured: In-well [✓] In water bailed [✓] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/6/12 @ 900 Station No. MW-13

Personnel: MFP Weather: Breeze, 45° F, Cloudy, dry

Well Locked? Yes [✓] No [[Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [[Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

43.3 / 8.7

Well Depth (ft. below measuring point): 61.30 - Depth to Water 43.26 = 18.04 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [[Disposable bailer [[Spigot [[Other _____

18.04 ft. water in well x 0.163 gal./ft * = one casing volume 2.94 / 8.5 gals. x 3 = purge volume 8.8 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	3	11.25	6.54	1098	42.9	1.81
	6	11.18	6.49	1099	49.9	2.28
	9	11.23	6.48	1100	49.8	1.81
900 →	9.5 Sampled	11.46	6.41	1097	19.8	0.35 Downhole

DO measured: In-well [[In water bailed [[In water pumped [[Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [[Disposable Polyethylene Bailer [✓] Spigot [[Grab [[Other: _____

Sample Type: Natural [✓] Duplicate [[Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [[	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [[	Metals: dissolved [✓] or total [[full list [✓] or reduced list [[	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [[No [✓]	Cyanide	500 ml poly	NaOH
Yes [[No [[			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x [No [[

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/6/12
SC	↓	↓
ORP	↓	↓
DO	↓	↓

Decontamination

Liquinox:	Yes [✓] No [[	Scrub:	Yes [✓] No [[
Potable H_2O:	Yes [[No [[	Steam:	Yes [ ] No [[
DI water:	Yes [✓] No [[	Nitric Acid:	Yes [[No [[

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1730 Station No. MW-14

Personnel: MFP Weather:

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well:

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other Measuring Point: Top of PVC, north side [✓] Other

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 47.70 - Depth to Water 31.46 = 16.24 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other

16.24 ft. water in well x 0.163 gal./ft * = one casing volume 2.7 gals. x 3 = purge volume 7.9 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm):

Disregard ORP & DO measurements

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	2.7	13.5	6.60	804		
	5.4	12.3	7.33	768		
	7.9	12.0	7.31	752		
					-165.9	0.43 Downhole

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other:

Sample Type: Natural [✓] Duplicate [ ] Other:

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton	6/4/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log. Unable to measure ORP & DO with second YSI meter.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 1545 Station No. MW-15

Personnel: MFP Weather: Clear

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 72.5 - Depth to Water 43.95 = 28.6 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other _____

28.6 ft. water in well x 0.163 gal./ft * = one casing volume 4.7 gals. x 3 = purge volume 14 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Disregard 6/4/12 ORP & DO meas.

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	4.7	10	7.10	455		
	9.4	9.8	7.13	453		
	14.0	9.7	7.18	453	-175.8	0.35 Downhole
Remeas. w/ 2nd YSI 6/6/12	0.4	8.24	7.36	443	39.7	7.70 downhole meas. w/ 2nd YSI

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton	6/4/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/2012 @ 1635 Station No. MW-16

Personnel: MFP Weather: 75°, Windy, Dry

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [✓] 4-inch PVC [ ] Other _____ Measuring Point: Top of PVC, north side [✓] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 40.0 - Depth to Water 26.02 = 14 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other _____

14 ft. water in well x 0.163 gal./ft * = one casing volume 2.3 gals. x 3 = purge volume 6.9 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

Disregard 6/4/12 ORP & DO meas.

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	2.3	14.0	6.62	875		
	4.6	13.1	6.68	889		
	6.9	12.7	6.76	897		
					-162	0.12 Downhole
6/6/12	0	10.23	6.76	915	51.1	4.75 Downhole meas. w/ 2nd YSI

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [✓] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [ ] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556 Oakton	6/4/2012
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 Log.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/4/12 @ 800 Station No. Shop Well

Personnel: MFP Weather: wind, clouds

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [ ] Other 6" Measuring Point: Top of PVC, north side [ ] Other _____

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): 90' - Depth to Water NM MB46 - 37' = 53 ft. water in well

WELL EVACUATION

Evacuation Method: dedicated Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

53 ft. water in well x 1.469 gal./ft * = one casing volume 78 gals. x 3 = purge volume 234 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Disregard ORP & DO Meas.

	Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
6/4/12	720	Start pumping @ 13gpm						
	800		10.9	7.54	609	-142	0.25	Flow-thru cell
6/6/12	Start pumping 920AM @ 13gpm							
6/6/12	938		10.20	7.56	605	37.9	3.75 mg/L	Flow-Thru cell

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other 6/6/12 Meas. w/ 2nd 45I-SSC

WELL SAMPLING

Sampling Method: Submersible Pump [✓] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [✓] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [✓]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [ ] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level		
pH	YSI 556 Oakton	6/4/12
SC		✓
ORP	✓	
DO	✓	

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: See comment in LF-2 log.

GROUNDWATER SAMPLING LOG McIlhattan Seep

Project: Bozeman Landfill Date: 6/5/12 @ 1500 Station No.

Personnel: MFP & DJ Weather: Clear, calm

Well Locked? Yes [ ] No [✓] Note Any Problems With Condition of Well:

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [ ] Other Spring Measuring Point: Top of PVC, north side [ ] Other

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): - Depth to Water Flowing = ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [ ] Spigot [ ] Other

ft. water in well x gal./ft * = one casing volume gals. x 3 = purge volume gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm):

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	Flowing	8.56	7.26	1,022	27	6.60 In stream dropping slowly
						6.54

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other:

Sample Type: Natural [✓] Duplicate [✓] Other:

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [✓] or total [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [ ] No [ ]	Scrub:	Yes [ ] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [ ] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: Dup collected at Seep - 1530 time

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 6/5/12 @ 1610 Station No. Vet Well

Personnel: MF Pearson Weather: T-storms, breeze, 77°F

Well Locked? Yes [ ] No [✓] Note Any Problems With Condition of Well: _____

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [ ] Other ✓ Measuring Point: Top of PVC, north side [ ] Other NM

Aquifer: Tertiary sediments (sand, gravel, and clayey silt)

Well Depth (ft. below measuring point): NM - Depth to Water NM = _____ ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other _____

_____ ft. water in well x _____ gal./ft * = one casing volume _____ gals. x 3 = purge volume _____ gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C^2

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1540	Start discharging at 6 gpm						
1610		9.60	7.59	508	44.7	7.89	Flow-thru
	Purged 180 gal.						

DO measured: In-well [ ] In water bailed [ ] In water pumped [✓] Other _____

WELL SAMPLING

Sampling Method: Submersible Pump [ ] Disposable Polyethylene Bailer [ ] Spigot [ ] Grab [ ] Other: _____

Sample Type: Natural [ ] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [ ] or total [✓] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

Laboratory: Pace Analytical Services, Inc., Billings, Montana Chain-of-Custody: Yes [x] No [ ]

Meter	Model No.	Calibration Date
Water level	—	
pH	Second YSI-556	6/5/12
SC		
ORP		
DO		

Decontamination for YSI

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [✓] No [ ]
Potable H_2O:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

APPENDIX D

LABORATORY ANALYTICAL REPORT

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

September 17, 2012

Mark Pearson
Tetra Tech, Inc. - MT
851 Bridger Dr. Suite 6
Bozeman, MT 59715

RE: Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Samantha Rupe

samantha.rupe@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

CERTIFICATIONS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
North Dakota Certification #: R-036A
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

Montana Certification IDs

602 South 25th Street, Billings, MT 59101
EPA Region 8 Certification #: 8TMS-Q
Idaho Certification #: MT00012
Montana Certification #: MT CERT0040
NVLAP Certification #: 101292-0
Minnesota Dept of Health Certification #: 030-999-442

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

SAMPLE SUMMARY

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10194577001	LF-2	Water	06/04/12 11:00	06/07/12 09:55
10194577002	LF-3	Water	06/04/12 09:55	06/07/12 09:55
10194577003	MW-4	Water	06/04/12 07:30	06/07/12 09:55
10194577004	MW-5	Water	06/04/12 14:40	06/07/12 09:55
10194577005	MW-6	Water	06/05/12 12:00	06/07/12 09:55
10194577006	MW-6B	Water	06/05/12 12:05	06/07/12 09:55
10194577007	MW-7A	Water	06/05/12 13:40	06/07/12 09:55
10194577008	MW-7B	Water	06/05/12 13:30	06/07/12 09:55
10194577009	MW-8A	Water	06/05/12 10:15	06/07/12 09:55
10194577010	MW-8B	Water	06/05/12 10:00	06/07/12 09:55
10194577011	MW-8C	Water	06/05/12 09:10	06/07/12 09:55
10194577012	MW-9A	Water	06/04/12 13:10	06/07/12 09:55
10194577013	MW-9B	Water	06/04/12 12:50	06/07/12 09:55
10194577014	MW-10	Water	06/04/12 14:40	06/07/12 09:55
10194577015	MW-11	Water	06/04/12 18:30	06/07/12 09:55
10194577016	MW-12	Water	06/05/12 18:00	06/07/12 09:55
10194577017	MW-13	Water	06/06/12 09:00	06/07/12 09:55
10194577018	MW-14	Water	06/04/12 17:30	06/07/12 09:55
10194577019	MW-15	Water	06/04/12 15:45	06/07/12 09:55
10194577020	MW-16	Water	06/04/12 16:35	06/07/12 09:55
10194577021	SHOP WELL	Water	06/04/12 08:00	06/07/12 09:55
10194577022	McILHATTEN SEEP	Water	06/05/12 15:00	06/07/12 09:55
10194577023	VET WELL	Water	06/05/12 16:10	06/07/12 09:55
10194577024	DUP	Water	06/05/12 15:30	06/07/12 09:55
10194577025	TRIP BLANK	Water		06/07/12 09:55

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10194577001	**LF-2**	EPA 8260B	CNC	52
		EPA 353.2	KG1	1
10194577002	**LF-3**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577003	**MW-4**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577004	**MW-5**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
		SM 4500-H+B	DH1	1
10194577005	**MW-6**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
		SM 4500-H+B	DH1	1
10194577006	**MW-6B**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577007	**MW-7A**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577008	**MW-7B**	EPA 8260B	CNC	52
10194577009	**MW-8A**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
		SM 4500-H+B	DH1	1

Pace Analytical Services, Inc.
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Billings, MT 591014549
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SAMPLE ANALYTE COUNT

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10194577010	**MW-8B**	EPA 8260B	CNC	52
		EPA 353.2	KG1	1
10194577011	**MW-8C**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577012	**MW-9A**	EPA 6020	RJS	3
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577013	**MW-9B**	EPA 8260B	CNC	52
		EPA 353.2	KG1	1
10194577014	**MW-10**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577015	**MW-11**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577016	**MW-12**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577017	**MW-13**	EPA 6020	RJS	15
		EPA 8260B	DJT	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577018	**MW-14**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577019	**MW-15**	EPA 6020	RJS	15
		EPA 8260B	CNC	52
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 4500-H+B	DH1	1
10194577020	**MW-16**	EPA 8260B	CNC	52
10194577021	**SHOP WELL**	EPA 8260B	SE	52
10194577022	**McILHATTEN SEEP**	EPA 6020	RJS	15
		EPA 8260B	DJT	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577023	**VET WELL**	EPA 6020	SMW	15
		EPA 8260B	DJT	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577024	**DUP**	EPA 6020	RJS	15
		EPA 8260B	DJT	52
		EPA 300.0	EJS	2
		EPA 353.2	KG1	1
10194577025	**TRIP BLANK**	EPA 8260B	DJT	52

Pace Analytical Services, Inc.
602 S 25th Street
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(406)254-7226

PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/32898

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 3070391001,92120715002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1214503)
  - Silver

Additional Comments:

Analyte Comments:

QC Batch: MPRP/32898

1M: The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.

- VET WELL (Lab ID: 10194577023)
  - Chromium
  - Iron
  - Manganese
  - Vanadium

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
17 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/32897

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10194577002,10194577015

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1214496)
  - Zinc, Dissolved
- MS (Lab ID: 1214498)
  - Silver, Dissolved
- MSD (Lab ID: 1214497)
  - Zinc, Dissolved

Additional Comments:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
25 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **SM 2510B**
Description: 2510B Specific Conductance
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
4 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
18 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: MT/9180

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1226115)
  - Chloride

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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
21 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MT/9049

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10194550009,10194577007

M2: Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1217353)
  - Nitrogen, NO2 plus NO3

QC Batch: MT/9089

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10194577018,10195443002

M2: Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1220128)
  - Nitrogen, NO2 plus NO3

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

Additional Comments:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Tetra Tech, Inc. - MT
Date: September 17, 2012

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- MW-15 (Lab ID: 10194577019)
- MW-5 (Lab ID: 10194577004)
- MW-6 (Lab ID: 10194577005)
- MW-8A (Lab ID: 10194577009)

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: LF-2 **Lab ID: 10194577001** Collected: 06/04/12 11:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 19:08	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 19:08	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 19:08	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 19:08	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 19:08	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 19:08	75-25-2	
Bromomethane	**1.3J**	ug/L	4.0	0.33	1		06/08/12 19:08	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:08	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 19:08	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 19:08	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 19:08	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 19:08	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 19:08	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 19:08	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 19:08	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 19:08	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 19:08	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 19:08	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 19:08	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 19:08	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 19:08	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 19:08	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 19:08	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 19:08	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 19:08	75-35-4	
cis-1,2-Dichloroethene	**0.25J**	ug/L	0.50	0.080	1		06/08/12 19:08	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 19:08	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 19:08	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 19:08	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 19:08	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 19:08	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:08	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 19:08	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:08	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 19:08	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 19:08	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 19:08	79-34-5	
Tetrachloroethene	**1.9**	ug/L	0.50	0.16	1		06/08/12 19:08	127-18-4	
Toluene	**0.16J**	ug/L	0.50	0.065	1		06/08/12 19:08	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 19:08	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 19:08	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 19:08	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 19:08	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 19:08	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 19:08	108-05-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: LF-2 **Lab ID: 10194577001** Collected: 06/04/12 11:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 19:08	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 19:08	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	75-125		1		06/08/12 19:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 19:08	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 19:08	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 19:08	460-00-4	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.8**	mg/L	0.20	0.070	20		06/14/12 17:03		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: LF-3 **Lab ID: 10194577002** Collected: 06/04/12 09:55 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.038**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 02:46	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 02:46	7439-89-6	
Manganese, Dissolved	**0.00099**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 02:46	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 19:32	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 19:32	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 19:32	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 19:32	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 19:32	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 19:32	75-25-2	
Bromomethane	**1.3J**	ug/L	4.0	0.33	1		06/08/12 19:32	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:32	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 19:32	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 19:32	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 19:32	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 19:32	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 19:32	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 19:32	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 19:32	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 19:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 19:32	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 19:32	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 19:32	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 19:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 19:32	110-57-6	
Dichlorodifluoromethane	**0.85**	ug/L	0.50	0.20	1		06/08/12 19:32	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 19:32	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 19:32	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 19:32	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	0.50	0.080	1		06/08/12 19:32	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 19:32	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 19:32	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 19:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 19:32	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 19:32	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:32	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 19:32	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 19:32	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 19:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 19:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 19:32	79-34-5	
Tetrachloroethene	**4.1**	ug/L	0.50	0.16	1		06/08/12 19:32	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 19:32	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 19:32	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: LF-3 **Lab ID: 10194577002** Collected: 06/04/12 09:55 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 19:32	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 19:32	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 19:32	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 19:32	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 19:32	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 19:32	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 19:32	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 19:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 19:32	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 19:32	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 19:32	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**21.1**	mg/L	2.0	0.37	2		06/22/12 21:45	16887-00-6	
Sulfate	**13.9**	mg/L	2.0	0.23	2		06/22/12 21:45	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.3**	mg/L	0.10	0.035	10		06/14/12 17:10		

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602 S 25th Street
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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-4 **Lab ID: 10194577003** Collected: 06/04/12 07:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.075**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 02:28	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 02:28	7439-89-6	
Manganese, Dissolved	**0.00026J**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 02:28	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 20:19	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 20:19	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 20:19	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 20:19	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 20:19	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 20:19	75-25-2	
Bromomethane	**1.3J**	ug/L	4.0	0.33	1		06/08/12 20:19	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:19	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 20:19	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 20:19	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 20:19	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 20:19	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 20:19	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 20:19	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 20:19	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 20:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 20:19	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 20:19	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 20:19	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 20:19	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 20:19	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 20:19	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 20:19	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 20:19	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 20:19	75-35-4	
cis-1,2-Dichloroethene	**0.48J**	ug/L	0.50	0.080	1		06/08/12 20:19	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 20:19	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 20:19	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 20:19	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 20:19	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 20:19	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:19	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 20:19	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:19	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 20:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 20:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 20:19	79-34-5	
Tetrachloroethene	**1.2**	ug/L	0.50	0.16	1		06/08/12 20:19	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 20:19	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 20:19	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-4 **Lab ID: 10194577003** Collected: 06/04/12 07:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 20:19	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 20:19	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 20:19	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 20:19	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 20:19	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 20:19	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 20:19	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	103	%	75-125		1		06/08/12 20:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	75-125		1		06/08/12 20:19	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 20:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/08/12 20:19	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**30.3**	mg/L	3.0	0.55	3		06/22/12 23:39	16887-00-6	
Sulfate	**20.9**	mg/L	3.0	0.35	3		06/22/12 23:39	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.10	0.035	10		06/14/12 17:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-5 **Lab ID: 10194577004** Collected: 06/04/12 14:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.029**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 02:33	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 02:33	7439-89-6	
Manganese, Dissolved	**0.00014J**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 02:33	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 20:43	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 20:43	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 20:43	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 20:43	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 20:43	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 20:43	75-25-2	
Bromomethane	**1.1J**	ug/L	4.0	0.33	1		06/08/12 20:43	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:43	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 20:43	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 20:43	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 20:43	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 20:43	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 20:43	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 20:43	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 20:43	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 20:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 20:43	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 20:43	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 20:43	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 20:43	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 20:43	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 20:43	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 20:43	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 20:43	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 20:43	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/08/12 20:43	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 20:43	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 20:43	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 20:43	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 20:43	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 20:43	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:43	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 20:43	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 20:43	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 20:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 20:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 20:43	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 20:43	127-18-4	
Toluene	**0.22J**	ug/L	0.50	0.065	1		06/08/12 20:43	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 20:43	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-5 **Lab ID: 10194577004** Collected: 06/04/12 14:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 20:43	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 20:43	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 20:43	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 20:43	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 20:43	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 20:43	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 20:43	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 20:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/08/12 20:43	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 20:43	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/08/12 20:43	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**468**	umhos/cm	10.0	5.0	1		06/11/12 15:21		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**5.1**	mg/L	1.0	0.18	1		06/23/12 00:08	16887-00-6	
Sulfate	**9.0**	mg/L	1.0	0.12	1		06/23/12 00:08	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.1**	mg/L	0.10	0.035	10		06/14/12 17:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.050	1		06/07/12 18:33		H6

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-6 **Lab ID: 10194577005** Collected: 06/05/12 12:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.077**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 02:37	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 02:37	7439-89-6	
Manganese, Dissolved	**0.0016**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 02:37	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 21:07	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 21:07	107-13-1	
Benzene	**0.21J**	ug/L	0.50	0.047	1		06/08/12 21:07	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 21:07	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 21:07	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 21:07	75-25-2	
Bromomethane	**1.2J**	ug/L	4.0	0.33	1		06/08/12 21:07	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:07	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:07	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 21:07	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 21:07	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 21:07	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 21:07	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:07	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 21:07	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 21:07	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 21:07	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 21:07	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:07	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:07	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 21:07	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 21:07	75-71-8	
1,1-Dichloroethane	**1.1**	ug/L	0.50	0.072	1		06/08/12 21:07	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 21:07	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 21:07	75-35-4	
cis-1,2-Dichloroethene	**2.5**	ug/L	0.50	0.080	1		06/08/12 21:07	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 21:07	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 21:07	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:07	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:07	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 21:07	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:07	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 21:07	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:07	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:07	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 21:07	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:07	79-34-5	
Tetrachloroethene	**0.93**	ug/L	0.50	0.16	1		06/08/12 21:07	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 21:07	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 21:07	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-6 **Lab ID: 10194577005** Collected: 06/05/12 12:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 21:07	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:07	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:07	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 21:07	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 21:07	108-05-4	
Vinyl chloride	**1.8**	ug/L	0.40	0.16	1		06/08/12 21:07	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 21:07	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 21:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 21:07	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 21:07	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 21:07	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**942**	umhos/cm	10.0	5.0	1		06/11/12 15:22		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**18.1**	mg/L	2.0	0.37	2		06/23/12 01:05	16887-00-6	
Sulfate	**13.3**	mg/L	2.0	0.23	2		06/23/12 01:05	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.85**	mg/L	0.050	0.018	5		06/14/12 17:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.7**	Std. Units	0.10	0.050	1		06/07/12 18:41		H6

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-6B **Lab ID: 10194577006** Collected: 06/05/12 12:05 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.0010**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 02:42	7440-38-2	
Barium, Dissolved	**0.016**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 02:42	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 02:42	7440-43-9	
Chromium, Dissolved	**0.0070**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 02:42	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 02:42	7440-48-4	
Copper, Dissolved	**0.00034J**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 02:42	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 02:42	7439-89-6	
Lead, Dissolved	**0.000040J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 02:42	7439-92-1	
Manganese, Dissolved	**0.0049**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 02:42	7439-96-5	
Nickel, Dissolved	**<0.000091**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 02:42	7440-02-0	
Selenium, Dissolved	**0.00012J**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 02:42	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 02:42	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 02:42	7440-28-0	
Vanadium, Dissolved	**0.0050**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 02:42	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 02:42	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 21:30	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 21:30	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 21:30	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 21:30	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 21:30	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 21:30	75-25-2	
Bromomethane	**1.2J**	ug/L	4.0	0.33	1		06/08/12 21:30	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:30	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:30	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 21:30	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 21:30	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 21:30	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 21:30	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:30	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 21:30	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 21:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 21:30	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 21:30	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:30	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:30	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 21:30	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 21:30	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 21:30	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 21:30	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 21:30	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/08/12 21:30	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 21:30	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 21:30	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:30	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-6B **Lab ID: 10194577006** Collected: 06/05/12 12:05 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:30	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 21:30	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:30	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 21:30	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:30	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 21:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:30	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 21:30	127-18-4	
Toluene	**0.089J**	ug/L	0.50	0.065	1		06/08/12 21:30	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 21:30	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 21:30	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:30	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:30	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 21:30	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 21:30	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 21:30	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 21:30	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/08/12 21:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/08/12 21:30	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/08/12 21:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		06/08/12 21:30	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**1.8**	mg/L	1.0	0.18	1		06/23/12 02:02	16887-00-6	
Sulfate	**4.3**	mg/L	1.0	0.12	1		06/23/12 02:02	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.75**	mg/L	0.050	0.018	5		06/14/12 17:34		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-7A **Lab ID: 10194577007** Collected: 06/05/12 13:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.063**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:14	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:14	7439-89-6	
Manganese, Dissolved	**0.044**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:14	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 21:54	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 21:54	107-13-1	
Benzene	**0.91**	ug/L	0.50	0.047	1		06/08/12 21:54	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 21:54	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 21:54	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 21:54	75-25-2	
Bromomethane	**0.94J**	ug/L	4.0	0.33	1		06/08/12 21:54	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:54	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:54	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 21:54	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 21:54	108-90-7	
Chloroethane	**1.1**	ug/L	0.50	0.20	1		06/08/12 21:54	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 21:54	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 21:54	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 21:54	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 21:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 21:54	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 21:54	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:54	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 21:54	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 21:54	110-57-6	
Dichlorodifluoromethane	**4.0**	ug/L	0.50	0.20	1		06/08/12 21:54	75-71-8	
1,1-Dichloroethane	**6.5**	ug/L	0.50	0.072	1		06/08/12 21:54	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 21:54	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 21:54	75-35-4	
cis-1,2-Dichloroethene	**0.94**	ug/L	0.50	0.080	1		06/08/12 21:54	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 21:54	156-60-5	
1,2-Dichloropropane	**0.17J**	ug/L	4.0	0.12	1		06/08/12 21:54	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:54	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 21:54	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 21:54	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:54	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 21:54	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 21:54	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:54	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 21:54	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 21:54	79-34-5	
Tetrachloroethene	**12.0**	ug/L	0.50	0.16	1		06/08/12 21:54	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 21:54	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 21:54	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-7A **Lab ID: 10194577007** Collected: 06/05/12 13:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 21:54	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:54	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 21:54	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 21:54	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 21:54	108-05-4	
Vinyl chloride	**1.1**	ug/L	0.40	0.16	1		06/08/12 21:54	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 21:54	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 21:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 21:54	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/08/12 21:54	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/08/12 21:54	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**26.2**	mg/L	2.0	0.37	2		06/23/12 02:59	16887-00-6	
Sulfate	**24.9**	mg/L	2.0	0.23	2		06/23/12 02:59	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.8**	mg/L	0.10	0.035	10		06/14/12 17:18		M2

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-7B **Lab ID: 10194577008** Collected: 06/05/12 13:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 22:18	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 22:18	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 22:18	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 22:18	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 22:18	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 22:18	75-25-2	
Bromomethane	**1.1J**	ug/L	4.0	0.33	1		06/08/12 22:18	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:18	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 22:18	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 22:18	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 22:18	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 22:18	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 22:18	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 22:18	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 22:18	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 22:18	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 22:18	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 22:18	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 22:18	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 22:18	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 22:18	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 22:18	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 22:18	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 22:18	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 22:18	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/08/12 22:18	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 22:18	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 22:18	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 22:18	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 22:18	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 22:18	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:18	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 22:18	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:18	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 22:18	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 22:18	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 22:18	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 22:18	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 22:18	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 22:18	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 22:18	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 22:18	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 22:18	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 22:18	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 22:18	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-7B **Lab ID: 10194577008** Collected: 06/05/12 13:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 22:18	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 22:18	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 22:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 22:18	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/08/12 22:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 22:18	460-00-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8A **Lab ID: 10194577009** Collected: 06/05/12 10:15 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.087**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:18	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:18	7439-89-6	
Manganese, Dissolved	**0.00020J**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:18	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 22:41	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 22:41	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 22:41	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 22:41	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 22:41	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 22:41	75-25-2	
Bromomethane	**1.0J**	ug/L	4.0	0.33	1		06/08/12 22:41	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:41	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 22:41	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 22:41	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 22:41	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 22:41	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 22:41	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 22:41	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 22:41	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 22:41	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 22:41	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 22:41	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 22:41	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 22:41	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 22:41	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 22:41	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 22:41	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 22:41	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 22:41	75-35-4	
cis-1,2-Dichloroethene	**0.46J**	ug/L	0.50	0.080	1		06/08/12 22:41	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 22:41	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 22:41	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 22:41	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 22:41	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 22:41	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:41	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 22:41	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 22:41	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 22:41	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 22:41	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 22:41	79-34-5	
Tetrachloroethene	**0.80**	ug/L	0.50	0.16	1		06/08/12 22:41	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 22:41	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 22:41	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8A **Lab ID: 10194577009** Collected: 06/05/12 10:15 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 22:41	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 22:41	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 22:41	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 22:41	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 22:41	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 22:41	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 22:41	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 22:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 22:41	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 22:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/08/12 22:41	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**1210**	umhos/cm	10.0	5.0	1		06/11/12 15:23		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**64.9**	mg/L	10.0	1.8	10		06/23/12 14:56	16887-00-6	
Sulfate	**75.8**	mg/L	10.0	1.2	10		06/23/12 14:56	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**17.0**	mg/L	0.50	0.18	50		06/14/12 17:21		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.9**	Std. Units	0.10	0.050	1		06/07/12 18:40		H6

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8B **Lab ID: 10194577010** Collected: 06/05/12 10:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 23:05	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 23:05	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 23:05	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 23:05	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 23:05	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 23:05	75-25-2	
Bromomethane	**1.2J**	ug/L	4.0	0.33	1		06/08/12 23:05	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:05	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:05	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 23:05	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 23:05	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 23:05	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 23:05	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:05	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 23:05	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 23:05	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 23:05	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 23:05	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:05	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:05	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 23:05	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 23:05	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 23:05	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 23:05	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 23:05	75-35-4	
cis-1,2-Dichloroethene	**0.23J**	ug/L	0.50	0.080	1		06/08/12 23:05	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 23:05	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 23:05	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:05	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:05	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 23:05	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:05	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 23:05	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:05	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:05	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 23:05	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:05	79-34-5	
Tetrachloroethene	**0.83**	ug/L	0.50	0.16	1		06/08/12 23:05	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 23:05	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 23:05	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 23:05	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:05	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:05	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 23:05	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 23:05	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8B **Lab ID: 10194577010** Collected: 06/05/12 10:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 23:05	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 23:05	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/08/12 23:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		06/08/12 23:05	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/08/12 23:05	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 23:05	460-00-4	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.8**	mg/L	0.20	0.070	20		06/14/12 17:22		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8C **Lab ID: 10194577011** Collected: 06/05/12 09:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00061**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 03:23	7440-38-2	
Barium, Dissolved	**0.020**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:23	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 03:23	7440-43-9	
Chromium, Dissolved	**0.0031**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:23	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 03:23	7440-48-4	
Copper, Dissolved	**0.00021J**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 03:23	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:23	7439-89-6	
Lead, Dissolved	**0.000028J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 03:23	7439-92-1	
Manganese, Dissolved	**0.0013**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:23	7439-96-5	
Nickel, Dissolved	**<0.000091**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 03:23	7440-02-0	
Selenium, Dissolved	**0.00027J**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:23	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 03:23	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 03:23	7440-28-0	
Vanadium, Dissolved	**0.0030**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 03:23	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 03:23	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 23:29	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 23:29	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 23:29	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 23:29	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 23:29	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 23:29	75-25-2	
Bromomethane	**1.0J**	ug/L	4.0	0.33	1		06/08/12 23:29	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:29	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:29	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 23:29	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 23:29	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 23:29	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 23:29	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:29	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 23:29	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 23:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 23:29	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 23:29	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:29	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:29	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 23:29	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 23:29	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 23:29	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 23:29	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 23:29	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/08/12 23:29	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 23:29	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 23:29	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:29	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-8C **Lab ID: 10194577011** Collected: 06/05/12 09:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:29	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 23:29	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:29	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 23:29	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:29	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:29	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 23:29	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:29	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 23:29	127-18-4	
Toluene	**0.14J**	ug/L	0.50	0.065	1		06/08/12 23:29	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 23:29	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 23:29	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:29	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:29	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 23:29	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 23:29	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 23:29	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 23:29	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/08/12 23:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/08/12 23:29	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/08/12 23:29	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/08/12 23:29	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**6.0**	mg/L	1.0	0.18	1		06/23/12 04:53	16887-00-6	
Sulfate	**7.4**	mg/L	1.0	0.12	1		06/23/12 04:53	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.2**	mg/L	0.20	0.070	20		06/14/12 18:04		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-9A **Lab ID: 10194577012** Collected: 06/04/12 13:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Barium, Dissolved	**0.075**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:28	7440-39-3	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:28	7439-89-6	
Manganese, Dissolved	**0.00026J**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:28	7439-96-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/08/12 23:53	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/08/12 23:53	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/08/12 23:53	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/08/12 23:53	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/08/12 23:53	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/08/12 23:53	75-25-2	
Bromomethane	**1.1J**	ug/L	4.0	0.33	1		06/08/12 23:53	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:53	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:53	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/08/12 23:53	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/08/12 23:53	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/08/12 23:53	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/08/12 23:53	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/08/12 23:53	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/08/12 23:53	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/08/12 23:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/08/12 23:53	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/08/12 23:53	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:53	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/08/12 23:53	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/08/12 23:53	110-57-6	
Dichlorodifluoromethane	**0.92**	ug/L	0.50	0.20	1		06/08/12 23:53	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/08/12 23:53	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/08/12 23:53	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/08/12 23:53	75-35-4	
cis-1,2-Dichloroethene	**0.47J**	ug/L	0.50	0.080	1		06/08/12 23:53	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/08/12 23:53	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/08/12 23:53	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/08/12 23:53	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/08/12 23:53	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:53	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/08/12 23:53	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/08/12 23:53	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/08/12 23:53	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/08/12 23:53	79-34-5	
Tetrachloroethene	**1.4**	ug/L	0.50	0.16	1		06/08/12 23:53	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/08/12 23:53	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/08/12 23:53	71-55-6	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-9A **Lab ID: 10194577012** Collected: 06/04/12 13:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/08/12 23:53	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:53	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/08/12 23:53	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/08/12 23:53	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/08/12 23:53	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/08/12 23:53	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/08/12 23:53	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/08/12 23:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/08/12 23:53	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/08/12 23:53	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/08/12 23:53	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**39.6**	mg/L	3.0	0.55	3		06/23/12 05:21	16887-00-6	
Sulfate	**22.0**	mg/L	3.0	0.35	3		06/23/12 05:21	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.4**	mg/L	0.10	0.035	10		06/14/12 17:32		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-9B **Lab ID: 10194577013** Collected: 06/04/12 12:50 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 00:16	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 00:16	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 00:16	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 00:16	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 00:16	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 00:16	75-25-2	
Bromomethane	**1.1J**	ug/L	4.0	0.33	1		06/09/12 00:16	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:16	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 00:16	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 00:16	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 00:16	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 00:16	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 00:16	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 00:16	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 00:16	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 00:16	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 00:16	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 00:16	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 00:16	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 00:16	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 00:16	110-57-6	
Dichlorodifluoromethane	**1.5**	ug/L	0.50	0.20	1		06/09/12 00:16	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/09/12 00:16	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 00:16	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 00:16	75-35-4	
cis-1,2-Dichloroethene	**0.53**	ug/L	0.50	0.080	1		06/09/12 00:16	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 00:16	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 00:16	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 00:16	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 00:16	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 00:16	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:16	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 00:16	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:16	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 00:16	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 00:16	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 00:16	79-34-5	
Tetrachloroethene	**1.4**	ug/L	0.50	0.16	1		06/09/12 00:16	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 00:16	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 00:16	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 00:16	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 00:16	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/09/12 00:16	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 00:16	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 00:16	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-9B **Lab ID: 10194577013** Collected: 06/04/12 12:50 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 00:16	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 00:16	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/09/12 00:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 00:16	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/09/12 00:16	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 00:16	460-00-4	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.8**	mg/L	0.20	0.070	20		06/18/12 17:37		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-10 **Lab ID: 10194577014** Collected: 06/04/12 14:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.0030**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 03:32	7440-38-2	
Barium, Dissolved	**0.10**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:32	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 03:32	7440-43-9	
Chromium, Dissolved	**0.00016J**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:32	7440-47-3	
Cobalt, Dissolved	**0.000078J**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 03:32	7440-48-4	
Copper, Dissolved	**0.00077**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 03:32	7440-50-8	
Iron, Dissolved	**2.7**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:32	7439-89-6	
Lead, Dissolved	**0.000066J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 03:32	7439-92-1	
Manganese, Dissolved	**0.092**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:32	7439-96-5	
Nickel, Dissolved	**0.00073**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 03:32	7440-02-0	
Selenium, Dissolved	**<0.000094**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:32	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 03:32	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 03:32	7440-28-0	
Vanadium, Dissolved	**0.00058**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 03:32	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 03:32	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 00:40	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 00:40	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 00:40	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 00:40	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 00:40	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 00:40	75-25-2	
Bromomethane	**1.2J**	ug/L	4.0	0.33	1		06/09/12 00:40	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:40	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 00:40	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 00:40	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 00:40	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 00:40	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 00:40	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 00:40	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 00:40	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 00:40	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 00:40	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 00:40	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 00:40	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 00:40	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 00:40	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 00:40	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/09/12 00:40	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 00:40	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 00:40	75-35-4	
cis-1,2-Dichloroethene	**0.20J**	ug/L	0.50	0.080	1		06/09/12 00:40	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 00:40	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 00:40	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 00:40	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-10 **Lab ID: 10194577014** Collected: 06/04/12 14:40 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 00:40	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 00:40	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:40	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 00:40	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 00:40	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 00:40	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 00:40	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 00:40	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 00:40	127-18-4	
Toluene	**0.11J**	ug/L	0.50	0.065	1		06/09/12 00:40	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 00:40	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 00:40	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 00:40	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/09/12 00:40	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 00:40	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 00:40	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 00:40	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 00:40	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/09/12 00:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 00:40	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/09/12 00:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 00:40	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**44.7**	mg/L	3.0	0.55	3		06/23/12 05:50	16887-00-6	
Sulfate	**57.4**	mg/L	3.0	0.35	3		06/23/12 05:50	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.010**	mg/L	0.010	0.0035	1		06/18/12 16:47		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-11 **Lab ID: 10194577015** Collected: 06/04/12 18:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00048J**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 03:46	7440-38-2	
Barium, Dissolved	**0.057**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:46	7440-39-3	
Cadmium, Dissolved	**0.000039J**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 03:46	7440-43-9	
Chromium, Dissolved	**0.00086**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:46	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 03:46	7440-48-4	
Copper, Dissolved	**0.00060**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 03:46	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:46	7439-89-6	
Lead, Dissolved	**0.000062J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 03:46	7439-92-1	
Manganese, Dissolved	**0.00052**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 03:46	7439-96-5	
Nickel, Dissolved	**<0.000091**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 03:46	7440-02-0	
Selenium, Dissolved	**0.0030**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:46	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 03:46	7440-22-4	M1
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 03:46	7440-28-0	
Vanadium, Dissolved	**0.0023**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 03:46	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 03:46	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 01:04	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 01:04	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 01:04	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 01:04	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 01:04	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 01:04	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/09/12 01:04	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:04	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 01:04	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 01:04	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 01:04	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 01:04	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 01:04	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 01:04	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 01:04	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 01:04	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 01:04	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 01:04	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 01:04	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 01:04	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 01:04	110-57-6	
Dichlorodifluoromethane	**4.1**	ug/L	0.50	0.20	1		06/09/12 01:04	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/09/12 01:04	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 01:04	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 01:04	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/09/12 01:04	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 01:04	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 01:04	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 01:04	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-11 **Lab ID: 10194577015** Collected: 06/04/12 18:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 01:04	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 01:04	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:04	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 01:04	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:04	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 01:04	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 01:04	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 01:04	79-34-5	
Tetrachloroethene	**0.32J**	ug/L	0.50	0.16	1		06/09/12 01:04	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 01:04	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 01:04	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 01:04	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 01:04	79-01-6	
Trichlorofluoromethane	**3.3**	ug/L	0.50	0.11	1		06/09/12 01:04	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 01:04	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 01:04	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 01:04	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 01:04	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/09/12 01:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 01:04	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/09/12 01:04	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 01:04	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**33.6**	mg/L	2.0	0.37	2		06/23/12 06:18	16887-00-6	
Sulfate	**35.2**	mg/L	2.0	0.23	2		06/23/12 06:18	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**8.2**	mg/L	0.20	0.070	20		06/18/12 16:54		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-12 **Lab ID: 10194577016** Collected: 06/05/12 18:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.0057**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 03:37	7440-38-2	
Barium, Dissolved	**0.12**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:37	7440-39-3	
Cadmium, Dissolved	**0.000051J**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 03:37	7440-43-9	
Chromium, Dissolved	**<0.000094**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:37	7440-47-3	
Cobalt, Dissolved	**0.0027**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 03:37	7440-48-4	
Copper, Dissolved	**0.00059**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 03:37	7440-50-8	
Iron, Dissolved	**4.2**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:37	7439-89-6	
Lead, Dissolved	**0.00012**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 03:37	7439-92-1	
Manganese, Dissolved	**3.5**	mg/L	0.025	0.0038	50	06/12/12 12:06	06/20/12 23:51	7439-96-5	
Nickel, Dissolved	**0.0024**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 03:37	7440-02-0	
Selenium, Dissolved	**<0.000094**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:37	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 03:37	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 03:37	7440-28-0	
Vanadium, Dissolved	**0.00015**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 03:37	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 03:37	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 01:27	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 01:27	107-13-1	
Benzene	**2.0**	ug/L	0.50	0.047	1		06/09/12 01:27	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 01:27	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 01:27	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 01:27	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/09/12 01:27	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:27	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 01:27	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 01:27	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 01:27	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 01:27	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 01:27	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 01:27	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 01:27	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 01:27	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 01:27	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 01:27	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 01:27	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 01:27	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 01:27	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 01:27	75-71-8	
1,1-Dichloroethane	**2.0**	ug/L	0.50	0.072	1		06/09/12 01:27	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 01:27	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 01:27	75-35-4	
cis-1,2-Dichloroethene	**10.8**	ug/L	0.50	0.080	1		06/09/12 01:27	156-59-2	
trans-1,2-Dichloroethene	**0.44J**	ug/L	0.50	0.14	1		06/09/12 01:27	156-60-5	
1,2-Dichloropropane	**0.37J**	ug/L	4.0	0.12	1		06/09/12 01:27	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 01:27	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-12 **Lab ID: 10194577016** Collected: 06/05/12 18:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 01:27	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 01:27	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:27	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 01:27	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 01:27	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 01:27	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 01:27	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 01:27	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 01:27	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 01:27	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 01:27	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 01:27	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 01:27	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/09/12 01:27	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 01:27	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 01:27	108-05-4	
Vinyl chloride	**20.7**	ug/L	0.40	0.16	1		06/09/12 01:27	75-01-4	
Xylene (Total)	**0.15J**	ug/L	1.5	0.15	1		06/09/12 01:27	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/09/12 01:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 01:27	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/09/12 01:27	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 01:27	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**16.8**	mg/L	2.0	0.37	2		06/24/12 10:44	16887-00-6	
Sulfate	**10.4**	mg/L	2.0	0.23	2		06/24/12 10:44	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.020**	mg/L	0.010	0.0035	1		06/18/12 16:56		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-13 **Lab ID: 10194577017** Collected: 06/06/12 09:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00042J**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 03:41	7440-38-2	
Barium, Dissolved	**0.099**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 03:41	7440-39-3	
Cadmium, Dissolved	**0.000095**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 03:41	7440-43-9	
Chromium, Dissolved	**<0.000094**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:41	7440-47-3	
Cobalt, Dissolved	**0.00040J**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 03:41	7440-48-4	
Copper, Dissolved	**0.00042J**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 03:41	7440-50-8	
Iron, Dissolved	**0.030J**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 03:41	7439-89-6	
Lead, Dissolved	**0.000048J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 03:41	7439-92-1	
Manganese, Dissolved	**1.1**	mg/L	0.0050	0.00076	10	06/12/12 12:06	06/20/12 23:55	7439-96-5	
Nickel, Dissolved	**0.0037**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 03:41	7440-02-0	
Selenium, Dissolved	**<0.000094**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 03:41	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 03:41	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 03:41	7440-28-0	
Vanadium, Dissolved	**0.0021**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 03:41	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 03:41	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/12/12 21:19	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/12/12 21:19	107-13-1	
Benzene	**0.69**	ug/L	0.50	0.047	1		06/12/12 21:19	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/12/12 21:19	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/12/12 21:19	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/12/12 21:19	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/12/12 21:19	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:19	78-93-3	
Carbon disulfide	**0.24J**	ug/L	1.0	0.13	1		06/12/12 21:19	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/12/12 21:19	56-23-5	
Chlorobenzene	**0.14J**	ug/L	1.0	0.071	1		06/12/12 21:19	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 21:19	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/12/12 21:19	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/12/12 21:19	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/12/12 21:19	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/12/12 21:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/12/12 21:19	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/12/12 21:19	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 21:19	95-50-1	
1,4-Dichlorobenzene	**0.59**	ug/L	0.50	0.25	1		06/12/12 21:19	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/12/12 21:19	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 21:19	75-71-8	
1,1-Dichloroethane	**0.98**	ug/L	0.50	0.072	1		06/12/12 21:19	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/12/12 21:19	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 21:19	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	0.50	0.080	1		06/12/12 21:19	156-59-2	
trans-1,2-Dichloroethene	**0.22J**	ug/L	0.50	0.14	1		06/12/12 21:19	156-60-5	
1,2-Dichloropropane	**0.29J**	ug/L	4.0	0.12	1		06/12/12 21:19	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 21:19	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-13 **Lab ID: 10194577017** Collected: 06/06/12 09:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 21:19	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/12/12 21:19	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:19	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/12/12 21:19	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:19	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/12/12 21:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/12/12 21:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/12/12 21:19	79-34-5	
Tetrachloroethene	**0.33J**	ug/L	0.50	0.16	1		06/12/12 21:19	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/12/12 21:19	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/12/12 21:19	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/12/12 21:19	79-00-5	
Trichloroethene	**0.46J**	ug/L	0.50	0.11	1		06/12/12 21:19	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/12/12 21:19	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/12/12 21:19	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/12/12 21:19	108-05-4	
Vinyl chloride	**19.3**	ug/L	0.40	0.16	1		06/12/12 21:19	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/12/12 21:19	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100	%	75-125		1		06/12/12 21:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		06/12/12 21:19	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/12/12 21:19	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/12/12 21:19	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**26.2**	mg/L	2.0	0.37	2		06/24/12 11:13	16887-00-6	
Sulfate	**13.7**	mg/L	2.0	0.23	2		06/24/12 11:13	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.010**	mg/L	0.010	0.0035	1		06/18/12 16:59		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-14 **Lab ID: 10194577018** Collected: 06/04/12 17:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00043J**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 01:38	7440-38-2	
Barium, Dissolved	**0.096**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 01:38	7440-39-3	
Cadmium, Dissolved	**0.000082**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 01:38	7440-43-9	
Chromium, Dissolved	**0.00039J**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:38	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 01:38	7440-48-4	
Copper, Dissolved	**0.00054**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 01:38	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 01:38	7439-89-6	
Lead, Dissolved	**0.000041J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 01:38	7439-92-1	
Manganese, Dissolved	**0.0013**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 01:38	7439-96-5	
Nickel, Dissolved	**<0.000091**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 01:38	7440-02-0	
Selenium, Dissolved	**0.00085**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:38	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 01:38	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 01:38	7440-28-0	
Vanadium, Dissolved	**0.0023**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 01:38	7440-62-2	
Zinc, Dissolved	**0.0048J**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 01:38	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 02:15	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 02:15	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 02:15	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 02:15	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 02:15	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 02:15	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/09/12 02:15	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:15	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 02:15	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 02:15	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 02:15	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 02:15	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 02:15	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 02:15	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 02:15	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 02:15	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 02:15	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 02:15	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 02:15	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 02:15	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 02:15	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 02:15	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/09/12 02:15	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 02:15	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 02:15	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/09/12 02:15	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 02:15	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 02:15	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 02:15	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-14 **Lab ID: 10194577018** Collected: 06/04/12 17:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 02:15	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 02:15	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:15	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 02:15	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:15	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 02:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 02:15	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 02:15	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 02:15	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 02:15	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 02:15	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 02:15	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 02:15	79-01-6	
Trichlorofluoromethane	**4.0**	ug/L	0.50	0.11	1		06/09/12 02:15	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 02:15	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 02:15	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 02:15	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 02:15	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/09/12 02:15	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 02:15	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/09/12 02:15	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 02:15	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**13.9**	mg/L	2.0	0.37	2		06/24/12 11:41	16887-00-6	
Sulfate	**34.8**	mg/L	2.0	0.23	2		06/24/12 11:41	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.6**	mg/L	0.20	0.070	20		06/18/12 17:38		M2

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-15 **Lab ID: 10194577019** Collected: 06/04/12 15:45 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00031J**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 01:43	7440-38-2	
Barium, Dissolved	**0.040**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 01:43	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 01:43	7440-43-9	
Chromium, Dissolved	**0.0024**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:43	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 01:43	7440-48-4	
Copper, Dissolved	**0.00029J**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 01:43	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 01:43	7439-89-6	
Lead, Dissolved	**0.000031J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 01:43	7439-92-1	
Manganese, Dissolved	**0.00014J**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 01:43	7439-96-5	
Nickel, Dissolved	**<0.000091**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 01:43	7440-02-0	
Selenium, Dissolved	**0.00031J**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:43	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 01:43	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 01:43	7440-28-0	
Vanadium, Dissolved	**0.0018**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 01:43	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 01:43	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 02:38	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 02:38	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 02:38	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 02:38	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 02:38	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 02:38	75-25-2	
Bromomethane	**1.0J**	ug/L	4.0	0.33	1		06/09/12 02:38	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:38	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 02:38	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 02:38	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 02:38	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 02:38	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 02:38	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 02:38	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 02:38	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 02:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 02:38	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 02:38	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 02:38	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 02:38	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 02:38	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 02:38	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/09/12 02:38	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 02:38	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 02:38	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/09/12 02:38	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 02:38	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 02:38	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 02:38	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-15 **Lab ID: 10194577019** Collected: 06/04/12 15:45 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 02:38	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 02:38	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:38	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 02:38	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 02:38	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 02:38	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 02:38	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 02:38	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 02:38	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 02:38	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 02:38	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 02:38	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 02:38	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/09/12 02:38	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 02:38	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 02:38	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 02:38	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 02:38	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	101	%	75-125		1		06/09/12 02:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 02:38	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/09/12 02:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/09/12 02:38	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**455**	umhos/cm	10.0	5.0	1		06/11/12 15:24		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**3.9**	mg/L	1.0	0.18	1		06/24/12 12:10	16887-00-6	
Sulfate	**13.9**	mg/L	1.0	0.12	1		06/24/12 12:10	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.0**	mg/L	0.20	0.070	20		06/18/12 17:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.050	1		06/07/12 18:38		H6

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-16 **Lab ID: 10194577020** Collected: 06/04/12 16:35 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/09/12 03:02	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/09/12 03:02	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/09/12 03:02	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/09/12 03:02	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/09/12 03:02	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/09/12 03:02	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/09/12 03:02	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 03:02	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/09/12 03:02	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/09/12 03:02	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/09/12 03:02	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 03:02	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/09/12 03:02	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/09/12 03:02	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/09/12 03:02	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/09/12 03:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/09/12 03:02	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/09/12 03:02	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 03:02	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/09/12 03:02	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/09/12 03:02	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/09/12 03:02	75-71-8	
1,1-Dichloroethane	**1.3**	ug/L	0.50	0.072	1		06/09/12 03:02	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/09/12 03:02	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/09/12 03:02	75-35-4	
cis-1,2-Dichloroethene	**3.4**	ug/L	0.50	0.080	1		06/09/12 03:02	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/09/12 03:02	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/09/12 03:02	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 03:02	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/09/12 03:02	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/09/12 03:02	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/09/12 03:02	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/09/12 03:02	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/09/12 03:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/09/12 03:02	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/09/12 03:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/09/12 03:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/09/12 03:02	79-34-5	
Tetrachloroethene	**2.2**	ug/L	0.50	0.16	1		06/09/12 03:02	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/09/12 03:02	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/09/12 03:02	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/09/12 03:02	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/09/12 03:02	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/09/12 03:02	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/09/12 03:02	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/09/12 03:02	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: MW-16 **Lab ID: 10194577020** Collected: 06/04/12 16:35 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/09/12 03:02	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/09/12 03:02	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	102	%	75-125		1		06/09/12 03:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		06/09/12 03:02	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/09/12 03:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/09/12 03:02	460-00-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: SHOP WELL **Lab ID: 10194577021** Collected: 06/04/12 08:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/18/12 16:14	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/18/12 16:14	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/18/12 16:14	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/18/12 16:14	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/18/12 16:14	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/18/12 16:14	75-25-2	
Bromomethane	**0.59J**	ug/L	4.0	0.33	1		06/18/12 16:14	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/18/12 16:14	78-93-3	
Carbon disulfide	**<0.13**	ug/L	1.0	0.13	1		06/18/12 16:14	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/18/12 16:14	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/18/12 16:14	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/18/12 16:14	75-00-3	
Chloroform	**0.12J**	ug/L	0.50	0.086	1		06/18/12 16:14	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/18/12 16:14	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/18/12 16:14	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/18/12 16:14	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/18/12 16:14	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/18/12 16:14	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/18/12 16:14	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/18/12 16:14	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/18/12 16:14	110-57-6	
Dichlorodifluoromethane	**3.8**	ug/L	0.50	0.20	1		06/18/12 16:14	75-71-8	
1,1-Dichloroethane	**1.2**	ug/L	0.50	0.072	1		06/18/12 16:14	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/18/12 16:14	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/18/12 16:14	75-35-4	
cis-1,2-Dichloroethene	**0.64**	ug/L	0.50	0.080	1		06/18/12 16:14	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/18/12 16:14	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/18/12 16:14	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/18/12 16:14	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/18/12 16:14	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/18/12 16:14	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/18/12 16:14	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/18/12 16:14	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/18/12 16:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/18/12 16:14	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/18/12 16:14	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/18/12 16:14	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/18/12 16:14	79-34-5	
Tetrachloroethene	**3.7**	ug/L	0.50	0.16	1		06/18/12 16:14	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/18/12 16:14	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/18/12 16:14	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/18/12 16:14	79-00-5	
Trichloroethene	**1.7**	ug/L	0.50	0.11	1		06/18/12 16:14	79-01-6	
Trichlorofluoromethane	**0.48J**	ug/L	0.50	0.11	1		06/18/12 16:14	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/18/12 16:14	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/18/12 16:14	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: SHOP WELL **Lab ID: 10194577021** Collected: 06/04/12 08:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/18/12 16:14	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/18/12 16:14	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	94	%	75-125		1		06/18/12 16:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		06/18/12 16:14	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/18/12 16:14	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/18/12 16:14	460-00-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: McILHATTEN SEEP **Lab ID: 10194577022** Collected: 06/05/12 15:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00071**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 01:47	7440-38-2	
Barium, Dissolved	**0.058**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 01:47	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 01:47	7440-43-9	
Chromium, Dissolved	**0.0026**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:47	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 01:47	7440-48-4	
Copper, Dissolved	**0.00087**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 01:47	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 01:47	7439-89-6	
Lead, Dissolved	**0.000041J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 01:47	7439-92-1	
Manganese, Dissolved	**0.00066**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 01:47	7439-96-5	
Nickel, Dissolved	**0.00057**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 01:47	7440-02-0	
Selenium, Dissolved	**0.0024**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:47	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 01:47	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 01:47	7440-28-0	
Vanadium, Dissolved	**0.0032**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 01:47	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 01:47	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/12/12 21:43	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/12/12 21:43	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/12/12 21:43	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/12/12 21:43	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/12/12 21:43	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/12/12 21:43	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/12/12 21:43	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:43	78-93-3	
Carbon disulfide	**0.16J**	ug/L	1.0	0.13	1		06/12/12 21:43	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/12/12 21:43	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/12/12 21:43	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 21:43	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/12/12 21:43	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/12/12 21:43	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/12/12 21:43	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/12/12 21:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/12/12 21:43	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/12/12 21:43	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 21:43	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 21:43	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/12/12 21:43	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 21:43	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/12/12 21:43	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/12/12 21:43	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 21:43	75-35-4	
cis-1,2-Dichloroethene	**0.19J**	ug/L	0.50	0.080	1		06/12/12 21:43	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/12/12 21:43	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/12/12 21:43	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 21:43	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: McILHATTEN SEEP **Lab ID: 10194577022** Collected: 06/05/12 15:00 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 21:43	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/12/12 21:43	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:43	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/12/12 21:43	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 21:43	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/12/12 21:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/12/12 21:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/12/12 21:43	79-34-5	
Tetrachloroethene	**1.1**	ug/L	0.50	0.16	1		06/12/12 21:43	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/12/12 21:43	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/12/12 21:43	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/12/12 21:43	79-00-5	
Trichloroethene	**0.32J**	ug/L	0.50	0.11	1		06/12/12 21:43	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/12/12 21:43	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/12/12 21:43	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/12/12 21:43	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/12/12 21:43	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/12/12 21:43	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	99	%	75-125		1		06/12/12 21:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		06/12/12 21:43	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/12/12 21:43	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/12/12 21:43	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**49.2**	mg/L	3.0	0.55	3		06/24/12 13:07	16887-00-6	
Sulfate	**60.7**	mg/L	3.0	0.35	3		06/24/12 13:07	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.4**	mg/L	0.20	0.070	20		06/18/12 17:41		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: VET WELL **Lab ID: 10194577023** Collected: 06/05/12 16:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic	**0.00063**	mg/L	0.00050	0.00014	1	06/12/12 16:54	06/13/12 21:50	7440-38-2	
Barium	**<0.00015**	mg/L	0.00030	0.00015	1	06/12/12 16:54	06/13/12 21:50	7440-39-3	
Cadmium	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 16:54	06/13/12 21:50	7440-43-9	
Chromium	**0.00098**	mg/L	0.00050	0.000094	1	06/12/12 16:54	06/13/12 21:50	7440-47-3	1M
Cobalt	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 16:54	06/13/12 21:50	7440-48-4	
Copper	**0.0049**	mg/L	0.00050	0.00018	1	06/12/12 16:54	06/13/12 21:50	7440-50-8	
Iron	**<0.025**	mg/L	0.050	0.025	1	06/12/12 16:54	06/13/12 21:50	7439-89-6	1M
Lead	**0.00012**	mg/L	0.00010	0.000018	1	06/12/12 16:54	06/13/12 21:50	7439-92-1	
Manganese	**0.00014J**	mg/L	0.00050	0.000076	1	06/12/12 16:54	06/13/12 21:50	7439-96-5	1M
Nickel	**0.00010J**	mg/L	0.00050	0.000091	1	06/12/12 16:54	06/13/12 21:50	7440-02-0	
Selenium	**0.0025**	mg/L	0.00050	0.00022	1	06/12/12 16:54	06/13/12 21:50	7782-49-2	
Silver	**<0.00025**	mg/L	0.00050	0.00025	1	06/12/12 16:54	06/13/12 21:50	7440-22-4	
Thallium	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 16:54	06/13/12 21:50	7440-28-0	
Vanadium	**0.0041**	mg/L	0.00010	0.000027	1	06/12/12 16:54	06/13/12 21:50	7440-62-2	1M
Zinc	**0.0026J**	mg/L	0.0050	0.0025	1	06/12/12 16:54	06/13/12 21:50	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/12/12 22:30	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/12/12 22:30	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/12/12 22:30	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/12/12 22:30	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/12/12 22:30	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/12/12 22:30	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/12/12 22:30	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:30	78-93-3	
Carbon disulfide	**0.18J**	ug/L	1.0	0.13	1		06/12/12 22:30	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/12/12 22:30	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/12/12 22:30	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 22:30	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/12/12 22:30	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/12/12 22:30	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/12/12 22:30	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/12/12 22:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/12/12 22:30	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/12/12 22:30	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 22:30	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 22:30	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/12/12 22:30	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 22:30	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/12/12 22:30	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/12/12 22:30	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 22:30	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/12/12 22:30	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/12/12 22:30	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/12/12 22:30	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 22:30	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: VET WELL **Lab ID: 10194577023** Collected: 06/05/12 16:10 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 22:30	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/12/12 22:30	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:30	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/12/12 22:30	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:30	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/12/12 22:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/12/12 22:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/12/12 22:30	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 22:30	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/12/12 22:30	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/12/12 22:30	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/12/12 22:30	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/12/12 22:30	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/12/12 22:30	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/12/12 22:30	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/12/12 22:30	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/12/12 22:30	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/12/12 22:30	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98	%	75-125		1		06/12/12 22:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		06/12/12 22:30	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/12/12 22:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		06/12/12 22:30	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**11.2**	mg/L	2.0	0.37	2		06/24/12 13:35	16887-00-6	
Sulfate	**16.9**	mg/L	2.0	0.23	2		06/24/12 13:35	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.6**	mg/L	0.10	0.035	10		06/18/12 17:06		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: DUP **Lab ID: 10194577024** Collected: 06/05/12 15:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Arsenic, Dissolved	**0.00075**	mg/L	0.00050	0.00014	1	06/12/12 12:06	06/20/12 01:52	7440-38-2	
Barium, Dissolved	**0.058**	mg/L	0.00030	0.00015	1	06/12/12 12:06	06/20/12 01:52	7440-39-3	
Cadmium, Dissolved	**<0.000028**	mg/L	0.000080	0.000028	1	06/12/12 12:06	06/20/12 01:52	7440-43-9	
Chromium, Dissolved	**0.0026**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:52	7440-47-3	
Cobalt, Dissolved	**<0.000070**	mg/L	0.00050	0.000070	1	06/12/12 12:06	06/20/12 01:52	7440-48-4	
Copper, Dissolved	**0.00082**	mg/L	0.00050	0.00018	1	06/12/12 12:06	06/20/12 01:52	7440-50-8	
Iron, Dissolved	**<0.025**	mg/L	0.050	0.025	1	06/12/12 12:06	06/20/12 01:52	7439-89-6	
Lead, Dissolved	**0.000046J**	mg/L	0.00010	0.000018	1	06/12/12 12:06	06/20/12 01:52	7439-92-1	
Manganese, Dissolved	**0.00072**	mg/L	0.00050	0.000076	1	06/12/12 12:06	06/20/12 01:52	7439-96-5	
Nickel, Dissolved	**0.00048J**	mg/L	0.00050	0.000091	1	06/12/12 12:06	06/20/12 01:52	7440-02-0	
Selenium, Dissolved	**0.0024**	mg/L	0.00050	0.000094	1	06/12/12 12:06	06/20/12 01:52	7782-49-2	
Silver, Dissolved	**<0.000040**	mg/L	0.00050	0.000040	1	06/12/12 12:06	06/20/12 01:52	7440-22-4	
Thallium, Dissolved	**<0.000050**	mg/L	0.00010	0.000050	1	06/12/12 12:06	06/20/12 01:52	7440-28-0	
Vanadium, Dissolved	**0.0033**	mg/L	0.00010	0.000027	1	06/12/12 12:06	06/20/12 01:52	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	06/12/12 12:06	06/20/12 01:52	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/12/12 22:54	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/12/12 22:54	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/12/12 22:54	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/12/12 22:54	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/12/12 22:54	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/12/12 22:54	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/12/12 22:54	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:54	78-93-3	
Carbon disulfide	**0.17J**	ug/L	1.0	0.13	1		06/12/12 22:54	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/12/12 22:54	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/12/12 22:54	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 22:54	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/12/12 22:54	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/12/12 22:54	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/12/12 22:54	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/12/12 22:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/12/12 22:54	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/12/12 22:54	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 22:54	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 22:54	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/12/12 22:54	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 22:54	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/12/12 22:54	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/12/12 22:54	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 22:54	75-35-4	
cis-1,2-Dichloroethene	**0.18J**	ug/L	0.50	0.080	1		06/12/12 22:54	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/12/12 22:54	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/12/12 22:54	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 22:54	10061-01-5	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: DUP **Lab ID: 10194577024** Collected: 06/05/12 15:30 Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 22:54	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/12/12 22:54	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:54	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/12/12 22:54	74-88-4	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 22:54	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/12/12 22:54	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/12/12 22:54	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/12/12 22:54	79-34-5	
Tetrachloroethene	**1.0**	ug/L	0.50	0.16	1		06/12/12 22:54	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/12/12 22:54	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/12/12 22:54	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/12/12 22:54	79-00-5	
Trichloroethene	**0.32J**	ug/L	0.50	0.11	1		06/12/12 22:54	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/12/12 22:54	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/12/12 22:54	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/12/12 22:54	108-05-4	
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/12/12 22:54	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/12/12 22:54	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	98	%	75-125		1		06/12/12 22:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		06/12/12 22:54	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/12/12 22:54	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/12/12 22:54	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**51.0**	mg/L	2.0	0.37	2		06/24/12 14:04	16887-00-6	
Sulfate	**59.1**	mg/L	5.0	0.58	5		06/25/12 11:34	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.2**	mg/L	0.20	0.070	20		06/18/12 17:42		

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: TRIP BLANK **Lab ID: 10194577025** Collected: Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<12.5**	ug/L	25.0	12.5	1		06/12/12 20:55	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		06/12/12 20:55	107-13-1	
Benzene	**<0.047**	ug/L	0.50	0.047	1		06/12/12 20:55	71-43-2	
Bromochloromethane	**<0.10**	ug/L	1.0	0.10	1		06/12/12 20:55	74-97-5	
Bromodichloromethane	**<0.066**	ug/L	0.50	0.066	1		06/12/12 20:55	75-27-4	
Bromoform	**<0.14**	ug/L	4.0	0.14	1		06/12/12 20:55	75-25-2	
Bromomethane	**<0.33**	ug/L	4.0	0.33	1		06/12/12 20:55	74-83-9	
2-Butanone (MEK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 20:55	78-93-3	
Carbon disulfide	**0.15J**	ug/L	1.0	0.13	1		06/12/12 20:55	75-15-0	
Carbon tetrachloride	**<0.094**	ug/L	1.0	0.094	1		06/12/12 20:55	56-23-5	
Chlorobenzene	**<0.071**	ug/L	1.0	0.071	1		06/12/12 20:55	108-90-7	
Chloroethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 20:55	75-00-3	
Chloroform	**<0.086**	ug/L	0.50	0.086	1		06/12/12 20:55	67-66-3	
Chloromethane	**<0.13**	ug/L	1.0	0.13	1		06/12/12 20:55	74-87-3	
1,2-Dibromo-3-chloropropane	**<0.80**	ug/L	4.0	0.80	1		06/12/12 20:55	96-12-8	
Dibromochloromethane	**<0.084**	ug/L	0.50	0.084	1		06/12/12 20:55	124-48-1	
1,2-Dibromoethane (EDB)	**<0.10**	ug/L	0.50	0.10	1		06/12/12 20:55	106-93-4	
Dibromomethane	**<0.089**	ug/L	0.50	0.089	1		06/12/12 20:55	74-95-3	
1,2-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 20:55	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		06/12/12 20:55	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.27**	ug/L	10.0	0.27	1		06/12/12 20:55	110-57-6	
Dichlorodifluoromethane	**<0.20**	ug/L	0.50	0.20	1		06/12/12 20:55	75-71-8	
1,1-Dichloroethane	**<0.072**	ug/L	0.50	0.072	1		06/12/12 20:55	75-34-3	
1,2-Dichloroethane	**<0.053**	ug/L	0.50	0.053	1		06/12/12 20:55	107-06-2	
1,1-Dichloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 20:55	75-35-4	
cis-1,2-Dichloroethene	**<0.080**	ug/L	0.50	0.080	1		06/12/12 20:55	156-59-2	
trans-1,2-Dichloroethene	**<0.14**	ug/L	0.50	0.14	1		06/12/12 20:55	156-60-5	
1,2-Dichloropropane	**<0.12**	ug/L	4.0	0.12	1		06/12/12 20:55	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 20:55	10061-01-5	
trans-1,3-Dichloropropene	**<0.18**	ug/L	0.50	0.18	1		06/12/12 20:55	10061-02-6	
Ethylbenzene	**<0.078**	ug/L	0.50	0.078	1		06/12/12 20:55	100-41-4	
2-Hexanone	**<2.0**	ug/L	4.0	2.0	1		06/12/12 20:55	591-78-6	
Iodomethane	**<0.50**	ug/L	4.0	0.50	1		06/12/12 20:55	74-88-4	
Methylene Chloride	**3.0J**	ug/L	4.0	2.0	1		06/12/12 20:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.0**	ug/L	4.0	2.0	1		06/12/12 20:55	108-10-1	
Styrene	**<0.075**	ug/L	0.50	0.075	1		06/12/12 20:55	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.082**	ug/L	0.50	0.082	1		06/12/12 20:55	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		06/12/12 20:55	79-34-5	
Tetrachloroethene	**<0.16**	ug/L	0.50	0.16	1		06/12/12 20:55	127-18-4	
Toluene	**<0.065**	ug/L	0.50	0.065	1		06/12/12 20:55	108-88-3	
1,1,1-Trichloroethane	**<0.15**	ug/L	0.50	0.15	1		06/12/12 20:55	71-55-6	
1,1,2-Trichloroethane	**<0.12**	ug/L	0.50	0.12	1		06/12/12 20:55	79-00-5	
Trichloroethene	**<0.11**	ug/L	0.50	0.11	1		06/12/12 20:55	79-01-6	
Trichlorofluoromethane	**<0.11**	ug/L	0.50	0.11	1		06/12/12 20:55	75-69-4	
1,2,3-Trichloropropane	**<0.22**	ug/L	4.0	0.22	1		06/12/12 20:55	96-18-4	
Vinyl acetate	**<1.9**	ug/L	10.0	1.9	1		06/12/12 20:55	108-05-4	

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ANALYTICAL RESULTS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Sample: TRIP BLANK **Lab ID: 10194577025** Collected: Received: 06/07/12 09:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Vinyl chloride	**<0.16**	ug/L	0.40	0.16	1		06/12/12 20:55	75-01-4	
Xylene (Total)	**<0.15**	ug/L	1.5	0.15	1		06/12/12 20:55	1330-20-7	
Surrogates									
Dibromofluoromethane (S)	100	%	75-125		1		06/12/12 20:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		06/12/12 20:55	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/12/12 20:55	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/12/12 20:55	460-00-4	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MPRP/32898
QC Batch Method: EPA 3020
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Associated Lab Samples: 10194577023

METHOD BLANK: 1214499 Matrix: Water
Associated Lab Samples: 10194577023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.00014	0.00050	06/13/12 19:40	
Barium	mg/L	<0.00015	0.00030	06/13/12 19:40	
Cadmium	mg/L	<0.000028	0.000080	06/13/12 19:40	
Chromium	mg/L	<0.000094	0.00050	06/13/12 19:40	
Cobalt	mg/L	<0.000070	0.00050	06/13/12 19:40	
Copper	mg/L	<0.00018	0.00050	06/13/12 19:40	
Iron	mg/L	<0.025	0.050	06/13/12 19:40	
Lead	mg/L	0.000037J	0.00010	06/13/12 19:40	
Manganese	mg/L	<0.000076	0.00050	06/13/12 19:40	
Nickel	mg/L	<0.000091	0.00050	06/13/12 19:40	
Selenium	mg/L	<0.00022	0.00050	06/13/12 19:40	
Silver	mg/L	<0.00025	0.00050	06/13/12 19:40	
Thallium	mg/L	<0.000050	0.00010	06/13/12 19:40	
Vanadium	mg/L	<0.000027	0.00010	06/13/12 19:40	
Zinc	mg/L	<0.0025	0.0050	06/13/12 19:40	

LABORATORY CONTROL SAMPLE: 1214500

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.079	98	80-120	
Barium	mg/L	.08	0.079	98	80-120	
Cadmium	mg/L	.08	0.078	97	80-120	
Chromium	mg/L	.08	0.079	99	80-120	
Cobalt	mg/L	.08	0.079	99	80-120	
Copper	mg/L	.08	0.081	102	80-120	
Iron	mg/L	1	0.99	99	80-120	
Lead	mg/L	.08	0.079	98	80-120	
Manganese	mg/L	.08	0.080	100	80-120	
Nickel	mg/L	.08	0.080	100	80-120	
Selenium	mg/L	.08	0.077	96	80-120	
Silver	mg/L	.08	0.080	100	80-120	
Thallium	mg/L	.08	0.080	100	80-120	
Vanadium	mg/L	.08	0.079	99	80-120	
Zinc	mg/L	.08	0.078	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1214501 1214502

Parameter	Units	3070391001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	.08	.08	0.083	0.081	103	101	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1214501 1214502

Parameter	Units	3070391001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	202 ug/L	.08	.08	0.28	0.28	100	93	75-125	2	20	
Cadmium	mg/L	ND	.08	.08	0.080	0.079	100	99	75-125	1	20	
Chromium	mg/L	0.55 ug/L	.08	.08	0.081	0.081	101	101	75-125	0	20	
Cobalt	mg/L	0.57 ug/L	.08	.08	0.082	0.080	102	100	75-125	2	20	
Copper	mg/L	1.0 ug/L	.08	.08	0.084	0.083	104	103	75-125	1	20	
Iron	mg/L	118 ug/L	1	1	1.1	1.1	97	98	75-125	1	20	
Lead	mg/L	ND	.08	.08	0.080	0.079	100	99	75-125	1	20	
Manganese	mg/L	66.1 ug/L	.08	.08	0.15	0.15	102	103	75-125	.7	20	
Nickel	mg/L	ND	.08	.08	0.080	0.079	100	99	75-125	.9	20	
Selenium	mg/L	1.7 ug/L	.08	.08	0.082	0.082	101	100	75-125	.9	20	
Silver	mg/L	ND	.08	.08	0.067	0.063	84	78	75-125	7	20	
Thallium	mg/L	ND	.08	.08	0.080	0.079	100	99	75-125	1	20	
Vanadium	mg/L	ND	.08	.08	0.081	0.081	101	101	75-125	0	20	
Zinc	mg/L	5.9 ug/L	.08	.08	0.086	0.087	101	101	75-125	.7	20	

MATRIX SPIKE SAMPLE: 1214503

Parameter	Units	92120715002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	ND	.08	0.079	99	75-125	
Barium	mg/L	202 ug/L	.08	0.28	93	75-125	
Cadmium	mg/L	0.097 ug/L	.08	0.076	95	75-125	
Chromium	mg/L	2.6 ug/L	.08	0.082	99	75-125	
Cobalt	mg/L	9.6 ug/L	.08	0.087	96	75-125	
Copper	mg/L	0.29J ug/L	.08	0.079	98	75-125	
Iron	mg/L	43.5J ug/L	1	1.0	98	75-125	
Lead	mg/L	0.13 ug/L	.08	0.077	96	75-125	
Manganese	mg/L	855 ug/L	.08	0.99	174	75-125	
Nickel	mg/L	ND	.08	0.070	88	75-125	
Selenium	mg/L	3.6 ug/L	.08	0.084	100	75-125	
Silver	mg/L	ND	.08	0.038	48	75-125	M1
Thallium	mg/L	ND	.08	0.077	97	75-125	
Vanadium	mg/L	0.59 ug/L	.08	0.080	99	75-125	
Zinc	mg/L	ND	.08	0.081	99	75-125	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MPRP/32897 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577011, 10194577012, 10194577014, 10194577015, 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577024

METHOD BLANK: 1214494 Matrix: Water
Associated Lab Samples: 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577011, 10194577012, 10194577014, 10194577015, 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.00014	0.00050	06/20/12 02:19	
Barium, Dissolved	mg/L	0.00021J	0.00030	06/20/12 02:19	
Cadmium, Dissolved	mg/L	<0.000028	0.000080	06/20/12 02:19	
Chromium, Dissolved	mg/L	<0.000094	0.00050	06/20/12 02:19	
Cobalt, Dissolved	mg/L	<0.000070	0.00050	06/20/12 02:19	
Copper, Dissolved	mg/L	0.00023J	0.00050	06/20/12 02:19	
Iron, Dissolved	mg/L	<0.025	0.050	06/20/12 02:19	
Lead, Dissolved	mg/L	0.000025J	0.00010	06/20/12 02:19	
Manganese, Dissolved	mg/L	0.00012J	0.00050	06/20/12 02:19	
Nickel, Dissolved	mg/L	<0.000091	0.00050	06/20/12 02:19	
Selenium, Dissolved	mg/L	<0.000094	0.00050	06/20/12 02:19	
Silver, Dissolved	mg/L	0.000064J	0.00050	06/20/12 02:19	
Thallium, Dissolved	mg/L	<0.000050	0.00010	06/20/12 02:19	
Vanadium, Dissolved	mg/L	<0.000027	0.00010	06/20/12 02:19	
Zinc, Dissolved	mg/L	<0.0025	0.0050	06/20/12 02:19	

LABORATORY CONTROL SAMPLE: 1214495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	.08	0.080	100	80-120	
Barium, Dissolved	mg/L	.08	0.078	97	80-120	
Cadmium, Dissolved	mg/L	.08	0.083	104	80-120	
Chromium, Dissolved	mg/L	.08	0.080	100	80-120	
Cobalt, Dissolved	mg/L	.08	0.080	100	80-120	
Copper, Dissolved	mg/L	.08	0.083	104	80-120	
Iron, Dissolved	mg/L	1	0.99	99	80-120	
Lead, Dissolved	mg/L	.08	0.082	103	80-120	
Manganese, Dissolved	mg/L	.08	0.078	98	80-120	
Nickel, Dissolved	mg/L	.08	0.081	102	80-120	
Selenium, Dissolved	mg/L	.08	0.080	99	80-120	
Silver, Dissolved	mg/L	.08	0.083	104	80-120	
Thallium, Dissolved	mg/L	.08	0.080	100	80-120	
Vanadium, Dissolved	mg/L	.08	0.078	98	80-120	
Zinc, Dissolved	mg/L	.08	0.080	101	80-120	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1214496 1214497

Parameter	Units	10194577002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.00045 J	.08	.08	0.079	0.080	99	100	75-125	1	20	
Barium, Dissolved	mg/L	0.038	.08	.08	0.11	0.12	96	97	75-125	1	20	
Cadmium, Dissolved	mg/L	<0.000028	.08	.08	0.079	0.081	99	101	75-125	2	20	
Chromium, Dissolved	mg/L	0.0051	.08	.08	0.085	0.084	100	98	75-125	2	20	
Cobalt, Dissolved	mg/L	0.00035 J	.08	.08	0.078	0.079	97	98	75-125	1	20	
Copper, Dissolved	mg/L	0.00052	.08	.08	0.080	0.080	99	99	75-125	.5	20	
Iron, Dissolved	mg/L	<0.025	1	1	0.99	0.98	97	95	75-125	1	20	
Lead, Dissolved	mg/L	0.00013	.08	.08	0.078	0.078	97	98	75-125	.8	20	
Manganese, Dissolved	mg/L	0.00099	.08	.08	0.078	0.077	97	94	75-125	2	20	
Nickel, Dissolved	mg/L	<0.000091	.08	.08	0.077	0.080	96	99	75-125	3	20	
Selenium, Dissolved	mg/L	0.00074	.08	.08	0.079	0.079	98	98	75-125	.4	20	
Silver, Dissolved	mg/L	<0.000040	.08	.08	0.070	0.071	87	88	75-125	2	20	
Thallium, Dissolved	mg/L	0.000061J	.08	.08	0.077	0.078	96	97	75-125	.7	20	
Vanadium, Dissolved	mg/L	0.0027	.08	.08	0.082	0.082	99	99	75-125	.2	20	
Zinc, Dissolved	mg/L	1.9	.08	.08	0.079	0.081	-2280	-2280	75-125	3	20	M1

MATRIX SPIKE SAMPLE: 1214498

Parameter	Units	10194577015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.00048J	.08	0.080	99	75-125	
Barium, Dissolved	mg/L	0.057	.08	0.13	96	75-125	
Cadmium, Dissolved	mg/L	0.000039J	.08	0.080	100	75-125	
Chromium, Dissolved	mg/L	0.00086	.08	0.080	99	75-125	
Cobalt, Dissolved	mg/L	<0.000070	.08	0.078	98	75-125	
Copper, Dissolved	mg/L	0.00060	.08	0.079	98	75-125	
Iron, Dissolved	mg/L	<0.025	1	0.98	98	75-125	
Lead, Dissolved	mg/L	0.000062J	.08	0.079	98	75-125	
Manganese, Dissolved	mg/L	0.00052	.08	0.078	97	75-125	
Nickel, Dissolved	mg/L	<0.000091	.08	0.078	97	75-125	
Selenium, Dissolved	mg/L	0.0030	.08	0.081	97	75-125	
Silver, Dissolved	mg/L	<0.000040	.08	0.052	65	75-125	M1
Thallium, Dissolved	mg/L	<0.000050	.08	0.078	98	75-125	
Vanadium, Dissolved	mg/L	0.0023	.08	0.081	98	75-125	
Zinc, Dissolved	mg/L	<0.0025	.08	0.081	99	75-125	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MSV/20437 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577008, 10194577009, 10194577010, 10194577011, 10194577012, 10194577013, 10194577014, 10194577015, 10194577016, 10194577018, 10194577019, 10194577020

METHOD BLANK: 1213438 Matrix: Water
Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577008, 10194577009, 10194577010, 10194577011, 10194577012, 10194577013, 10194577014, 10194577015, 10194577016, 10194577018, 10194577019, 10194577020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	06/08/12 18:45	
1,1,1-Trichloroethane	ug/L	<0.15	0.50	06/08/12 18:45	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	0.50	06/08/12 18:45	
1,1,2-Trichloroethane	ug/L	<0.12	0.50	06/08/12 18:45	
1,1-Dichloroethane	ug/L	<0.072	0.50	06/08/12 18:45	
1,1-Dichloroethene	ug/L	<0.16	0.50	06/08/12 18:45	
1,2,3-Trichloropropane	ug/L	<0.22	4.0	06/08/12 18:45	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	4.0	06/08/12 18:45	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	06/08/12 18:45	
1,2-Dichlorobenzene	ug/L	<0.25	0.50	06/08/12 18:45	
1,2-Dichloroethane	ug/L	<0.053	0.50	06/08/12 18:45	
1,2-Dichloropropane	ug/L	<0.12	4.0	06/08/12 18:45	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	06/08/12 18:45	
2-Butanone (MEK)	ug/L	<2.0	4.0	06/08/12 18:45	
2-Hexanone	ug/L	<2.0	4.0	06/08/12 18:45	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	4.0	06/08/12 18:45	
Acetone	ug/L	<12.5	25.0	06/08/12 18:45	
Acrylonitrile	ug/L	<5.0	10.0	06/08/12 18:45	
Benzene	ug/L	<0.047	0.50	06/08/12 18:45	
Bromochloromethane	ug/L	<0.10	1.0	06/08/12 18:45	
Bromodichloromethane	ug/L	<0.066	0.50	06/08/12 18:45	
Bromoform	ug/L	<0.14	4.0	06/08/12 18:45	
Bromomethane	ug/L	1.4J	4.0	06/08/12 18:45	
Carbon disulfide	ug/L	<0.13	1.0	06/08/12 18:45	
Carbon tetrachloride	ug/L	<0.094	1.0	06/08/12 18:45	
Chlorobenzene	ug/L	<0.071	1.0	06/08/12 18:45	
Chloroethane	ug/L	<0.20	0.50	06/08/12 18:45	
Chloroform	ug/L	<0.086	0.50	06/08/12 18:45	
Chloromethane	ug/L	<0.13	1.0	06/08/12 18:45	
cis-1,2-Dichloroethene	ug/L	<0.080	0.50	06/08/12 18:45	
cis-1,3-Dichloropropene	ug/L	<0.18	0.50	06/08/12 18:45	
Dibromochloromethane	ug/L	<0.084	0.50	06/08/12 18:45	
Dibromomethane	ug/L	<0.089	0.50	06/08/12 18:45	
Dichlorodifluoromethane	ug/L	<0.20	0.50	06/08/12 18:45	
Ethylbenzene	ug/L	<0.078	0.50	06/08/12 18:45	
Iodomethane	ug/L	<0.50	4.0	06/08/12 18:45	
Methylene Chloride	ug/L	<2.0	4.0	06/08/12 18:45	
Styrene	ug/L	<0.075	0.50	06/08/12 18:45	
Tetrachloroethene	ug/L	<0.16	0.50	06/08/12 18:45	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

METHOD BLANK: 1213438 Matrix: Water

Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577008, 10194577009, 10194577010, 10194577011, 10194577012, 10194577013, 10194577014, 10194577015, 10194577016, 10194577018, 10194577019, 10194577020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	<0.065	0.50	06/08/12 18:45	
trans-1,2-Dichloroethene	ug/L	<0.14	0.50	06/08/12 18:45	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	06/08/12 18:45	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	10.0	06/08/12 18:45	
Trichloroethene	ug/L	<0.11	0.50	06/08/12 18:45	
Trichlorofluoromethane	ug/L	<0.11	0.50	06/08/12 18:45	
Vinyl acetate	ug/L	<1.9	10.0	06/08/12 18:45	
Vinyl chloride	ug/L	<0.16	0.40	06/08/12 18:45	
Xylene (Total)	ug/L	<0.15	1.5	06/08/12 18:45	
1,2-Dichloroethane-d4 (S)	%	104	75-125	06/08/12 18:45	
4-Bromofluorobenzene (S)	%	100	75-125	06/08/12 18:45	
Dibromofluoromethane (S)	%	102	75-125	06/08/12 18:45	
Toluene-d8 (S)	%	100	75-125	06/08/12 18:45	

LABORATORY CONTROL SAMPLE: 1213439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.3	112	75-125	
1,1,1-Trichloroethane	ug/L	20	22.2	111	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	70-125	
1,1,2-Trichloroethane	ug/L	20	21.9	109	75-125	
1,1-Dichloroethane	ug/L	20	23.1	115	73-125	
1,1-Dichloroethene	ug/L	20	22.5	113	68-125	
1,2,3-Trichloropropane	ug/L	20	23.1	116	74-125	
1,2-Dibromo-3-chloropropane	ug/L	20	22.6	113	68-128	
1,2-Dibromoethane (EDB)	ug/L	20	22.3	112	71-125	
1,2-Dichlorobenzene	ug/L	20	22.7	114	75-125	
1,2-Dichloroethane	ug/L	20	22.9	114	75-125	
1,2-Dichloropropane	ug/L	20	22.6	113	75-125	
1,4-Dichlorobenzene	ug/L	20	23.0	115	73-125	
2-Butanone (MEK)	ug/L	20	22.4	112	45-128	
2-Hexanone	ug/L	20	22.8	114	64-126	
4-Methyl-2-pentanone (MIBK)	ug/L	20	22.5	112	66-130	
Acetone	ug/L	50	52.1	104	52-128	
Acrylonitrile	ug/L	200	222	111	73-125	
Benzene	ug/L	20	21.7	108	74-125	
Bromochloromethane	ug/L	20	22.7	113	75-125	
Bromodichloromethane	ug/L	20	22.6	113	75-125	
Bromoform	ug/L	20	22.9	114	70-128	
Bromomethane	ug/L	20	19.7	98	59-150	
Carbon disulfide	ug/L	20	20.3	101	67-125	
Carbon tetrachloride	ug/L	20	22.9	115	76-125	
Chlorobenzene	ug/L	20	22.4	112	75-125	
Chloroethane	ug/L	20	23.1	115	74-125	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

LABORATORY CONTROL SAMPLE: 1213439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	20	22.5	113	75-125	
Chloromethane	ug/L	20	20.5	103	74-125	
cis-1,2-Dichloroethene	ug/L	20	23.5	117	75-125	
cis-1,3-Dichloropropene	ug/L	20	22.7	114	75-125	
Dibromochloromethane	ug/L	20	22.4	112	75-125	
Dibromomethane	ug/L	20	23.0	115	74-125	
Dichlorodifluoromethane	ug/L	20	19.6	98	64-135	
Ethylbenzene	ug/L	20	22.1	111	75-125	
Iodomethane	ug/L	20	21.9	109	61-140	
Methylene Chloride	ug/L	20	21.5	107	69-125	
Styrene	ug/L	20	22.7	114	74-125	
Tetrachloroethene	ug/L	20	22.6	113	69-129	
Toluene	ug/L	20	21.4	107	75-125	
trans-1,2-Dichloroethene	ug/L	20	23.4	117	73-125	
trans-1,3-Dichloropropene	ug/L	20	22.2	111	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	62.2	124	75-125	
Trichloroethene	ug/L	20	22.4	112	69-125	
Trichlorofluoromethane	ug/L	20	20.3	102	75-131	
Vinyl acetate	ug/L	20	22.5	112	75-125	
Vinyl chloride	ug/L	20	22.9	114	71-125	
Xylene (Total)	ug/L	60	68.8	115	75-125	
1,2-Dichloroethane-d4 (S)	%			106	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Dibromofluoromethane (S)	%			104	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE SAMPLE: 1213440

Parameter	Units	10194577001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	20	21.1	106	75-125	
1,1,1-Trichloroethane	ug/L	<0.15	20	21.8	109	75-138	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	20	20.4	102	59-136	
1,1,2-Trichloroethane	ug/L	<0.12	20	20.5	103	75-125	
1,1-Dichloroethane	ug/L	<0.072	20	21.9	110	75-134	
1,1-Dichloroethene	ug/L	<0.16	20	22.3	112	75-140	
1,2,3-Trichloropropane	ug/L	<0.22	20	20.7	103	68-130	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	20	20.3	101	64-133	
1,2-Dibromoethane (EDB)	ug/L	<0.10	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	<0.25	20	20.9	104	75-125	
1,2-Dichloroethane	ug/L	<0.053	20	21.4	107	72-133	
1,2-Dichloropropane	ug/L	<0.12	20	21.3	106	75-125	
1,4-Dichlorobenzene	ug/L	<0.25	20	21.3	107	75-125	
2-Butanone (MEK)	ug/L	<2.0	20	20.1	100	56-128	
2-Hexanone	ug/L	<2.0	20	20.4	102	64-126	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	20	20.6	103	66-125	
Acetone	ug/L	<12.5	50	49.4	99	52-128	
Acrylonitrile	ug/L	<5.0	200	201	101	58-150	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

MATRIX SPIKE SAMPLE: 1213440

Parameter	Units	10194577001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	<0.047	20	20.6	103	75-136	
Bromochloromethane	ug/L	<0.10	20	20.8	104	75-128	
Bromodichloromethane	ug/L	<0.066	20	21.0	105	75-127	
Bromoform	ug/L	<0.14	20	20.9	105	63-132	
Bromomethane	ug/L	1.3J	20	24.3	115	59-150	
Carbon disulfide	ug/L	<0.13	20	19.7	98	53-128	
Carbon tetrachloride	ug/L	<0.094	20	22.6	113	75-144	
Chlorobenzene	ug/L	<0.071	20	21.2	106	75-125	
Chloroethane	ug/L	<0.20	20	24.0	120	69-150	
Chloroform	ug/L	<0.086	20	21.3	106	75-128	
Chloromethane	ug/L	<0.13	20	21.7	108	73-144	
cis-1,2-Dichloroethene	ug/L	0.25J	20	22.5	111	75-133	
cis-1,3-Dichloropropene	ug/L	<0.18	20	21.3	107	75-125	
Dibromochloromethane	ug/L	<0.084	20	20.7	104	75-125	
Dibromomethane	ug/L	<0.089	20	21.1	106	75-127	
Dichlorodifluoromethane	ug/L	<0.20	20	23.3	117	75-150	
Ethylbenzene	ug/L	<0.078	20	21.1	105	75-125	
Iodomethane	ug/L	<0.50	20	20.7	104	75-150	
Methylene Chloride	ug/L	<2.0	20	19.7	98	56-130	
Styrene	ug/L	<0.075	20	21.1	106	30-147	
Tetrachloroethene	ug/L	1.9	20	23.7	109	75-135	
Toluene	ug/L	0.16J	20	20.5	102	75-125	
trans-1,2-Dichloroethene	ug/L	<0.14	20	22.5	113	74-140	
trans-1,3-Dichloropropene	ug/L	<0.18	20	20.5	102	70-125	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	50	56.5	113	49-135	
Trichloroethene	ug/L	<0.11	20	21.7	108	75-133	
Trichlorofluoromethane	ug/L	<0.11	20	22.8	114	75-150	
Vinyl acetate	ug/L	<1.9	20	20.6	103	50-150	
Vinyl chloride	ug/L	<0.16	20	24.3	121	75-150	
Xylene (Total)	ug/L	<0.15	60	64.9	108	75-125	
1,2-Dichloroethane-d4 (S)	%				106	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Dibromofluoromethane (S)	%				105	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 1213441

Parameter	Units	10194577002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	<0.082		30	
1,1,1-Trichloroethane	ug/L	<0.15	<0.15		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	<0.075		30	
1,1,2-Trichloroethane	ug/L	<0.12	<0.12		30	
1,1-Dichloroethane	ug/L	<0.072	<0.072		30	
1,1-Dichloroethene	ug/L	<0.16	<0.16		30	
1,2,3-Trichloropropane	ug/L	<0.22	<0.22		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	<0.80		30	
1,2-Dibromoethane (EDB)	ug/L	<0.10	<0.10		30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

SAMPLE DUPLICATE: 1213441

Parameter	Units	10194577002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,2-Dichloroethane	ug/L	<0.053	<0.053		30	
1,2-Dichloropropane	ug/L	<0.12	<0.12		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
2-Butanone (MEK)	ug/L	<2.0	<2.0		30	
2-Hexanone	ug/L	<2.0	<2.0		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	<2.0		30	
Acetone	ug/L	<12.5	<12.5		30	
Acrylonitrile	ug/L	<5.0	<5.0		30	
Benzene	ug/L	<0.047	<0.047		30	
Bromochloromethane	ug/L	<0.10	<0.10		30	
Bromodichloromethane	ug/L	<0.066	<0.066		30	
Bromoform	ug/L	<0.14	<0.14		30	
Bromomethane	ug/L	1.3J	1.2J		30	
Carbon disulfide	ug/L	<0.13	<0.13		30	
Carbon tetrachloride	ug/L	<0.094	<0.094		30	
Chlorobenzene	ug/L	<0.071	<0.071		30	
Chloroethane	ug/L	<0.20	<0.20		30	
Chloroform	ug/L	<0.086	<0.086		30	
Chloromethane	ug/L	<0.13	<0.13		30	
cis-1,2-Dichloroethene	ug/L	1.9	1.9	.6	30	
cis-1,3-Dichloropropene	ug/L	<0.18	<0.18		30	
Dibromochloromethane	ug/L	<0.084	<0.084		30	
Dibromomethane	ug/L	<0.089	<0.089		30	
Dichlorodifluoromethane	ug/L	0.85	0.86	.7	30	
Ethylbenzene	ug/L	<0.078	<0.078		30	
Iodomethane	ug/L	<0.50	<0.50		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
Styrene	ug/L	<0.075	<0.075		30	
Tetrachloroethene	ug/L	4.1	4.0	2	30	
Toluene	ug/L	<0.065	<0.065		30	
trans-1,2-Dichloroethene	ug/L	<0.14	<0.14		30	
trans-1,3-Dichloropropene	ug/L	<0.18	<0.18		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	<0.27		30	
Trichloroethene	ug/L	<0.11	<0.11		30	
Trichlorofluoromethane	ug/L	<0.11	<0.11		30	
Vinyl acetate	ug/L	<1.9	<1.9		30	
Vinyl chloride	ug/L	<0.16	<0.16		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	.2		
4-Bromofluorobenzene (S)	%	100	100	.002		
Dibromofluoromethane (S)	%	102	103	.4		
Toluene-d8 (S)	%	100	101	.4		

Pace Analytical Services, Inc.
602 S 25th Street
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MSV/20465 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10194577017, 10194577022, 10194577023, 10194577024, 10194577025

METHOD BLANK: 1215387 Matrix: Water
Associated Lab Samples: 10194577017, 10194577022, 10194577023, 10194577024, 10194577025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	06/12/12 20:32	
1,1,1-Trichloroethane	ug/L	<0.15	0.50	06/12/12 20:32	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	0.50	06/12/12 20:32	
1,1,2-Trichloroethane	ug/L	<0.12	0.50	06/12/12 20:32	
1,1-Dichloroethane	ug/L	<0.072	0.50	06/12/12 20:32	
1,1-Dichloroethene	ug/L	<0.16	0.50	06/12/12 20:32	
1,2,3-Trichloropropane	ug/L	<0.22	4.0	06/12/12 20:32	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	4.0	06/12/12 20:32	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	06/12/12 20:32	
1,2-Dichlorobenzene	ug/L	<0.25	0.50	06/12/12 20:32	
1,2-Dichloroethane	ug/L	<0.053	0.50	06/12/12 20:32	
1,2-Dichloropropane	ug/L	<0.12	4.0	06/12/12 20:32	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	06/12/12 20:32	
2-Butanone (MEK)	ug/L	<2.0	4.0	06/12/12 20:32	
2-Hexanone	ug/L	<2.0	4.0	06/12/12 20:32	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	4.0	06/12/12 20:32	
Acetone	ug/L	<12.5	25.0	06/12/12 20:32	
Acrylonitrile	ug/L	<5.0	10.0	06/12/12 20:32	
Benzene	ug/L	<0.047	0.50	06/12/12 20:32	
Bromochloromethane	ug/L	<0.10	1.0	06/12/12 20:32	
Bromodichloromethane	ug/L	<0.066	0.50	06/12/12 20:32	
Bromoform	ug/L	<0.14	4.0	06/12/12 20:32	
Bromomethane	ug/L	<0.33	4.0	06/12/12 20:32	
Carbon disulfide	ug/L	<0.13	1.0	06/12/12 20:32	
Carbon tetrachloride	ug/L	<0.094	1.0	06/12/12 20:32	
Chlorobenzene	ug/L	<0.071	1.0	06/12/12 20:32	
Chloroethane	ug/L	<0.20	0.50	06/12/12 20:32	
Chloroform	ug/L	<0.086	0.50	06/12/12 20:32	
Chloromethane	ug/L	<0.13	1.0	06/12/12 20:32	
cis-1,2-Dichloroethene	ug/L	<0.080	0.50	06/12/12 20:32	
cis-1,3-Dichloropropene	ug/L	<0.18	0.50	06/12/12 20:32	
Dibromochloromethane	ug/L	<0.084	0.50	06/12/12 20:32	
Dibromomethane	ug/L	<0.089	0.50	06/12/12 20:32	
Dichlorodifluoromethane	ug/L	<0.20	0.50	06/12/12 20:32	
Ethylbenzene	ug/L	<0.078	0.50	06/12/12 20:32	
Iodomethane	ug/L	<0.50	4.0	06/12/12 20:32	
Methylene Chloride	ug/L	<2.0	4.0	06/12/12 20:32	
Styrene	ug/L	<0.075	0.50	06/12/12 20:32	
Tetrachloroethene	ug/L	<0.16	0.50	06/12/12 20:32	
Toluene	ug/L	<0.065	0.50	06/12/12 20:32	
trans-1,2-Dichloroethene	ug/L	<0.14	0.50	06/12/12 20:32	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	06/12/12 20:32	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	10.0	06/12/12 20:32	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

METHOD BLANK: 1215387 Matrix: Water

Associated Lab Samples: 10194577017, 10194577022, 10194577023, 10194577024, 10194577025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/L	<0.11	0.50	06/12/12 20:32	
Trichlorofluoromethane	ug/L	<0.11	0.50	06/12/12 20:32	
Vinyl acetate	ug/L	<1.9	10.0	06/12/12 20:32	
Vinyl chloride	ug/L	<0.16	0.40	06/12/12 20:32	
Xylene (Total)	ug/L	<0.15	1.5	06/12/12 20:32	
1,2-Dichloroethane-d4 (S)	%	101	75-125	06/12/12 20:32	
4-Bromofluorobenzene (S)	%	99	75-125	06/12/12 20:32	
Dibromofluoromethane (S)	%	100	75-125	06/12/12 20:32	
Toluene-d8 (S)	%	100	75-125	06/12/12 20:32	

LABORATORY CONTROL SAMPLE: 1215388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	18.6	93	75-125	
1,1,1-Trichloroethane	ug/L	20	18.2	91	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	70-125	
1,1,2-Trichloroethane	ug/L	20	18.3	91	75-125	
1,1-Dichloroethane	ug/L	20	18.7	94	73-125	
1,1-Dichloroethene	ug/L	20	18.6	93	68-125	
1,2,3-Trichloropropane	ug/L	20	19.5	97	74-125	
1,2-Dibromo-3-chloropropane	ug/L	20	19.8	99	68-128	
1,2-Dibromoethane (EDB)	ug/L	20	18.6	93	71-125	
1,2-Dichlorobenzene	ug/L	20	18.7	93	75-125	
1,2-Dichloroethane	ug/L	20	18.7	94	75-125	
1,2-Dichloropropane	ug/L	20	19.2	96	75-125	
1,4-Dichlorobenzene	ug/L	20	18.4	92	73-125	
2-Butanone (MEK)	ug/L	20	20.1	101	45-128	
2-Hexanone	ug/L	20	18.9	95	64-126	
4-Methyl-2-pentanone (MIBK)	ug/L	20	20.3	101	66-130	
Acetone	ug/L	50	43.6	87	52-128	
Acrylonitrile	ug/L	200	191	96	73-125	
Benzene	ug/L	20	18.3	91	74-125	
Bromochloromethane	ug/L	20	19.2	96	75-125	
Bromodichloromethane	ug/L	20	18.9	94	75-125	
Bromoform	ug/L	20	18.9	95	70-128	
Bromomethane	ug/L	20	22.1	110	59-150	
Carbon disulfide	ug/L	20	18.8	94	67-125	
Carbon tetrachloride	ug/L	20	18.5	93	76-125	
Chlorobenzene	ug/L	20	18.5	92	75-125	
Chloroethane	ug/L	20	20.0	100	74-125	
Chloroform	ug/L	20	19.7	98	75-125	
Chloromethane	ug/L	20	18.6	93	74-125	
cis-1,2-Dichloroethene	ug/L	20	18.7	94	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.2	91	75-125	
Dibromochloromethane	ug/L	20	18.8	94	75-125	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

LABORATORY CONTROL SAMPLE: 1215388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromomethane	ug/L	20	18.3	92	74-125	
Dichlorodifluoromethane	ug/L	20	18.9	94	64-135	
Ethylbenzene	ug/L	20	18.0	90	75-125	
Iodomethane	ug/L	20	18.1	91	61-140	
Methylene Chloride	ug/L	20	19.0	95	69-125	
Styrene	ug/L	20	18.6	93	74-125	
Tetrachloroethene	ug/L	20	18.5	92	69-129	
Toluene	ug/L	20	18.3	92	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.3	91	73-125	
trans-1,3-Dichloropropene	ug/L	20	18.4	92	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	47.2	94	75-125	
Trichloroethene	ug/L	20	18.7	94	69-125	
Trichlorofluoromethane	ug/L	20	19.0	95	75-131	
Vinyl acetate	ug/L	20	19.3	97	75-125	
Vinyl chloride	ug/L	20	18.8	94	71-125	
Xylene (Total)	ug/L	60	55.7	93	75-125	
1,2-Dichloroethane-d4 (S)	%			102	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Dibromofluoromethane (S)	%			101	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE SAMPLE: 1215389

Parameter	Units	10194577017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	20	18.6	93	75-125	
1,1,1-Trichloroethane	ug/L	<0.15	20	19.6	98	75-138	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	20	18.5	92	59-136	
1,1,2-Trichloroethane	ug/L	<0.12	20	18.3	92	75-125	
1,1-Dichloroethane	ug/L	0.98	20	20.4	97	75-134	
1,1-Dichloroethene	ug/L	<0.16	20	20.2	101	75-140	
1,2,3-Trichloropropane	ug/L	<0.22	20	19.0	95	68-130	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	20	19.6	98	64-133	
1,2-Dibromoethane (EDB)	ug/L	<0.10	20	18.5	93	75-125	
1,2-Dichlorobenzene	ug/L	<0.25	20	18.7	93	75-125	
1,2-Dichloroethane	ug/L	<0.053	20	18.6	93	72-133	
1,2-Dichloropropane	ug/L	0.29J	20	19.8	97	75-125	
1,4-Dichlorobenzene	ug/L	0.59	20	18.9	92	75-125	
2-Butanone (MEK)	ug/L	<2.0	20	19.5	97	56-128	
2-Hexanone	ug/L	<2.0	20	18.9	94	64-126	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	20	19.8	99	66-125	
Acetone	ug/L	<12.5	50	41.1	82	52-128	
Acrylonitrile	ug/L	<5.0	200	187	94	58-150	
Benzene	ug/L	0.69	20	19.4	94	75-136	
Bromochloromethane	ug/L	<0.10	20	19.1	95	75-128	
Bromodichloromethane	ug/L	<0.066	20	18.9	94	75-127	
Bromoform	ug/L	<0.14	20	18.7	93	63-132	
Bromomethane	ug/L	<0.33	20	22.5	112	59-150	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

MATRIX SPIKE SAMPLE: 1215389

Parameter	Units	10194577017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon disulfide	ug/L	0.24J	20	20.3	100	53-128	
Carbon tetrachloride	ug/L	<0.094	20	20.2	101	75-144	
Chlorobenzene	ug/L	0.14J	20	19.0	94	75-125	
Chloroethane	ug/L	<0.20	20	24.0	120	69-150	
Chloroform	ug/L	<0.086	20	19.9	99	75-128	
Chloromethane	ug/L	<0.13	20	19.4	97	73-144	
cis-1,2-Dichloroethene	ug/L	1.1	20	19.6	93	75-133	
cis-1,3-Dichloropropene	ug/L	<0.18	20	18.3	92	75-125	
Dibromochloromethane	ug/L	<0.084	20	18.8	94	75-125	
Dibromomethane	ug/L	<0.089	20	18.4	92	75-127	
Dichlorodifluoromethane	ug/L	<0.20	20	24.3	121	75-150	
Ethylbenzene	ug/L	<0.078	20	18.7	93	75-125	
Iodomethane	ug/L	<0.50	20	19.0	95	75-150	
Methylene Chloride	ug/L	<2.0	20	19.1	96	56-130	
Styrene	ug/L	<0.075	20	18.8	94	30-147	
Tetrachloroethene	ug/L	0.33J	20	19.8	97	75-135	
Toluene	ug/L	<0.065	20	19.1	96	75-125	
trans-1,2-Dichloroethene	ug/L	0.22J	20	19.7	97	74-140	
trans-1,3-Dichloropropene	ug/L	<0.18	20	18.2	91	70-125	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	50	46.4	93	49-135	
Trichloroethene	ug/L	0.46J	20	20.3	99	75-133	
Trichlorofluoromethane	ug/L	<0.11	20	22.4	112	75-150	
Vinyl acetate	ug/L	<1.9	20	18.2	91	50-150	
Vinyl chloride	ug/L	19.3	20	41.0	109	75-150	
Xylene (Total)	ug/L	<0.15	60	57.3	95	75-125	
1,2-Dichloroethane-d4 (S)	%				103	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Dibromofluoromethane (S)	%				101	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 1215390

Parameter	Units	10194577022 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	<0.082		30	
1,1,1-Trichloroethane	ug/L	<0.15	<0.15		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	<0.075		30	
1,1,2-Trichloroethane	ug/L	<0.12	<0.12		30	
1,1-Dichloroethane	ug/L	<0.072	<0.072		30	
1,1-Dichloroethene	ug/L	<0.16	<0.16		30	
1,2,3-Trichloropropane	ug/L	<0.22	<0.22		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	<0.80		30	
1,2-Dibromoethane (EDB)	ug/L	<0.10	<0.10		30	
1,2-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,2-Dichloroethane	ug/L	<0.053	<0.053		30	
1,2-Dichloropropane	ug/L	<0.12	<0.12		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
2-Butanone (MEK)	ug/L	<2.0	<2.0		30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

SAMPLE DUPLICATE: 1215390

Parameter	Units	10194577022 Result	Dup Result	RPD	Max RPD	Qualifiers
2-Hexanone	ug/L	<2.0	<2.0		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	<2.0		30	
Acetone	ug/L	<12.5	<12.5		30	
Acrylonitrile	ug/L	<5.0	<5.0		30	
Benzene	ug/L	<0.047	<0.047		30	
Bromochloromethane	ug/L	<0.10	<0.10		30	
Bromodichloromethane	ug/L	<0.066	<0.066		30	
Bromoform	ug/L	<0.14	<0.14		30	
Bromomethane	ug/L	<0.33	<0.33		30	
Carbon disulfide	ug/L	0.16J	0.19J		30	
Carbon tetrachloride	ug/L	<0.094	<0.094		30	
Chlorobenzene	ug/L	<0.071	<0.071		30	
Chloroethane	ug/L	<0.20	<0.20		30	
Chloroform	ug/L	<0.086	<0.086		30	
Chloromethane	ug/L	<0.13	<0.13		30	
cis-1,2-Dichloroethene	ug/L	0.19J	0.18J		30	
cis-1,3-Dichloropropene	ug/L	<0.18	<0.18		30	
Dibromochloromethane	ug/L	<0.084	<0.084		30	
Dibromomethane	ug/L	<0.089	<0.089		30	
Dichlorodifluoromethane	ug/L	<0.20	<0.20		30	
Ethylbenzene	ug/L	<0.078	<0.078		30	
Iodomethane	ug/L	<0.50	<0.50		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
Styrene	ug/L	<0.075	<0.075		30	
Tetrachloroethene	ug/L	1.1	1.1	1	30	
Toluene	ug/L	<0.065	<0.065		30	
trans-1,2-Dichloroethene	ug/L	<0.14	<0.14		30	
trans-1,3-Dichloropropene	ug/L	<0.18	<0.18		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	<0.27		30	
Trichloroethene	ug/L	0.32J	0.31J		30	
Trichlorofluoromethane	ug/L	<0.11	<0.11		30	
Vinyl acetate	ug/L	<1.9	<1.9		30	
Vinyl chloride	ug/L	<0.16	<0.16		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	99	100	.8		
4-Bromofluorobenzene (S)	%	100	100	.4		
Dibromofluoromethane (S)	%	99	99	.08		
Toluene-d8 (S)	%	100	100	.3		

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MSV/20517
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10194577021

METHOD BLANK: 1220579
Matrix: Water
Associated Lab Samples: 10194577021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	06/18/12 15:50	
1,1,1-Trichloroethane	ug/L	<0.15	0.50	06/18/12 15:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	0.50	06/18/12 15:50	
1,1,2-Trichloroethane	ug/L	<0.12	0.50	06/18/12 15:50	
1,1-Dichloroethane	ug/L	<0.072	0.50	06/18/12 15:50	
1,1-Dichloroethene	ug/L	<0.16	0.50	06/18/12 15:50	
1,2,3-Trichloropropane	ug/L	<0.22	4.0	06/18/12 15:50	
1,2-Dibromo-3-chloropropane	ug/L	<0.80	4.0	06/18/12 15:50	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	06/18/12 15:50	
1,2-Dichlorobenzene	ug/L	<0.25	0.50	06/18/12 15:50	
1,2-Dichloroethane	ug/L	<0.053	0.50	06/18/12 15:50	
1,2-Dichloropropane	ug/L	<0.12	4.0	06/18/12 15:50	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	06/18/12 15:50	
2-Butanone (MEK)	ug/L	<2.0	4.0	06/18/12 15:50	
2-Hexanone	ug/L	<2.0	4.0	06/18/12 15:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.0	4.0	06/18/12 15:50	
Acetone	ug/L	<12.5	25.0	06/18/12 15:50	
Acrylonitrile	ug/L	<5.0	10.0	06/18/12 15:50	
Benzene	ug/L	<0.047	0.50	06/18/12 15:50	
Bromochloromethane	ug/L	<0.10	1.0	06/18/12 15:50	
Bromodichloromethane	ug/L	<0.066	0.50	06/18/12 15:50	
Bromoform	ug/L	<0.14	4.0	06/18/12 15:50	
Bromomethane	ug/L	0.58J	4.0	06/18/12 15:50	
Carbon disulfide	ug/L	0.15J	1.0	06/18/12 15:50	
Carbon tetrachloride	ug/L	<0.094	1.0	06/18/12 15:50	
Chlorobenzene	ug/L	<0.071	1.0	06/18/12 15:50	
Chloroethane	ug/L	<0.20	0.50	06/18/12 15:50	
Chloroform	ug/L	<0.086	0.50	06/18/12 15:50	
Chloromethane	ug/L	<0.13	1.0	06/18/12 15:50	
cis-1,2-Dichloroethene	ug/L	<0.080	0.50	06/18/12 15:50	
cis-1,3-Dichloropropene	ug/L	<0.18	0.50	06/18/12 15:50	
Dibromochloromethane	ug/L	<0.084	0.50	06/18/12 15:50	
Dibromomethane	ug/L	<0.089	0.50	06/18/12 15:50	
Dichlorodifluoromethane	ug/L	<0.20	0.50	06/18/12 15:50	
Ethylbenzene	ug/L	<0.078	0.50	06/18/12 15:50	
Iodomethane	ug/L	3.9J	4.0	06/18/12 15:50	
Methylene Chloride	ug/L	<2.0	4.0	06/18/12 15:50	
Styrene	ug/L	<0.075	0.50	06/18/12 15:50	
Tetrachloroethene	ug/L	<0.16	0.50	06/18/12 15:50	
Toluene	ug/L	<0.065	0.50	06/18/12 15:50	
trans-1,2-Dichloroethene	ug/L	<0.14	0.50	06/18/12 15:50	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	06/18/12 15:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.27	10.0	06/18/12 15:50	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

METHOD BLANK: 1220579 Matrix: Water

Associated Lab Samples: 10194577021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/L	<0.11	0.50	06/18/12 15:50	
Trichlorofluoromethane	ug/L	<0.11	0.50	06/18/12 15:50	
Vinyl acetate	ug/L	<1.9	10.0	06/18/12 15:50	
Vinyl chloride	ug/L	<0.16	0.40	06/18/12 15:50	
Xylene (Total)	ug/L	<0.15	1.5	06/18/12 15:50	
1,2-Dichloroethane-d4 (S)	%	90	75-125	06/18/12 15:50	
4-Bromofluorobenzene (S)	%	94	75-125	06/18/12 15:50	
Dibromofluoromethane (S)	%	93	75-125	06/18/12 15:50	
Toluene-d8 (S)	%	98	75-125	06/18/12 15:50	

LABORATORY CONTROL SAMPLE & LCSD: 1220580 1220581

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.4	19.8	107	99	75-125	8	20	
1,1,1-Trichloroethane	ug/L	20	20.5	17.8	102	89	75-125	14	20	
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	20.2	104	101	70-125	3	20	
1,1,2-Trichloroethane	ug/L	20	21.0	19.3	105	97	75-125	8	20	
1,1-Dichloroethane	ug/L	20	20.8	16.8	104	84	73-125	21	20	D6
1,1-Dichloroethene	ug/L	20	20.8	18.1	104	90	68-125	14	20	
1,2,3-Trichloropropane	ug/L	20	21.1	21.0	106	105	74-125	.8	20	
1,2-Dibromo-3-chloropropane	ug/L	20	21.7	23.3	109	116	68-128	7	20	
1,2-Dibromoethane (EDB)	ug/L	20	21.2	20.0	106	100	71-125	6	20	
1,2-Dichlorobenzene	ug/L	20	21.2	19.1	106	96	75-125	11	20	
1,2-Dichloroethane	ug/L	20	20.8	17.2	104	86	75-125	19	20	
1,2-Dichloropropane	ug/L	20	21.0	18.2	105	91	75-125	14	20	
1,4-Dichlorobenzene	ug/L	20	21.0	18.8	105	94	73-125	11	20	
2-Butanone (MEK)	ug/L	20	20.9	22.6	104	113	45-128	8	20	
2-Hexanone	ug/L	20	22.1	25.2	111	126	64-126	13	20	
4-Methyl-2-pentanone (MIBK)	ug/L	20	21.9	24.1	110	121	66-130	10	20	
Acetone	ug/L	50	59.3	55.3	119	111	52-128	7	20	
Acrylonitrile	ug/L	200	199	203	99	102	73-125	2	20	
Benzene	ug/L	20	20.1	17.0	101	85	74-125	17	20	
Bromochloromethane	ug/L	20	21.1	18.2	106	91	75-125	15	20	
Bromodichloromethane	ug/L	20	21.2	18.8	106	94	75-125	12	20	
Bromoform	ug/L	20	21.3	21.8	106	109	70-128	2	20	
Bromomethane	ug/L	20	14.2	12.5	71	63	59-150	12	20	
Carbon disulfide	ug/L	20	21.0	18.1	105	91	67-125	15	20	
Carbon tetrachloride	ug/L	20	20.9	17.9	104	89	76-125	16	20	
Chlorobenzene	ug/L	20	20.8	18.8	104	94	75-125	10	20	
Chloroethane	ug/L	20	22.0	16.7	110	84	74-125	27	20	D6
Chloroform	ug/L	20	21.1	17.9	105	90	75-125	16	20	
Chloromethane	ug/L	20	19.1	15.8	95	79	74-125	19	20	
cis-1,2-Dichloroethene	ug/L	20	20.7	17.6	103	88	75-125	16	20	
cis-1,3-Dichloropropene	ug/L	20	20.8	18.7	104	93	75-125	11	20	
Dibromochloromethane	ug/L	20	20.9	19.7	105	99	75-125	6	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

LABORATORY CONTROL SAMPLE & LCSD: 1220580 1220581

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromomethane	ug/L	20	21.2	19.3	106	96	74-125	9	20	
Dichlorodifluoromethane	ug/L	20	19.7	16.6	98	83	64-135	17	20	
Ethylbenzene	ug/L	20	20.6	18.6	103	93	75-125	10	20	
Iodomethane	ug/L	20	13.5	12.4	67	62	61-140	9	20	
Methylene Chloride	ug/L	20	21.0	18.2	105	91	69-125	14	20	
Styrene	ug/L	20	21.0	19.1	105	96	74-125	9	20	
Tetrachloroethene	ug/L	20	20.7	20.0	104	100	69-129	4	20	
Toluene	ug/L	20	20.5	18.5	102	93	75-125	10	20	
trans-1,2-Dichloroethene	ug/L	20	20.7	17.4	103	87	73-125	17	20	
trans-1,3-Dichloropropene	ug/L	20	21.3	18.9	106	94	75-125	12	20	
trans-1,4-Dichloro-2-butene	ug/L	50	53.7	50.3	107	101	75-125	6	20	
Trichloroethene	ug/L	20	20.8	19.5	104	97	69-125	7	20	
Trichlorofluoromethane	ug/L	20	21.2	17.4	106	87	75-131	20	20	
Vinyl acetate	ug/L	20	21.1	19.3	105	96	75-125	9	20	
Vinyl chloride	ug/L	20	19.6	15.7	98	79	71-125	22	20	D6
Xylene (Total)	ug/L	60	61.8	56.4	103	94	75-125	9	20	
1,2-Dichloroethane-d4 (S)	%				101	93	75-125			
4-Bromofluorobenzene (S)	%				100	94	75-125			
Dibromofluoromethane (S)	%				99	94	75-125			
Toluene-d8 (S)	%				100	98	75-125			

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9021 Analysis Method: SM 2510B
QC Batch Method: SM 2510B Analysis Description: 2510B Specific Conductance
Associated Lab Samples: 10194577004, 10194577005, 10194577009, 10194577019

METHOD BLANK: 1214964 Matrix: Water
Associated Lab Samples: 10194577004, 10194577005, 10194577009, 10194577019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<5.0	10.0	06/11/12 15:03	

LABORATORY CONTROL SAMPLE: 1214965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	981	98	90-110	

SAMPLE DUPLICATE: 1214966

Parameter	Units	10194380001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	496	503	1	20	

SAMPLE DUPLICATE: 1214967

Parameter	Units	10194550008 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	64.4	66.6	3	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9157 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577011, 10194577012, 10194577014, 10194577015

METHOD BLANK: 1225211 Matrix: Water
Associated Lab Samples: 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577011, 10194577012, 10194577014, 10194577015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	0.70J	1.0	06/22/12 17:29	
Sulfate	mg/L	<0.12	1.0	06/22/12 17:29	

LABORATORY CONTROL SAMPLE: 1225212

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.3	97	90-110	
Sulfate	mg/L	20	19.5	98	90-110	

MATRIX SPIKE SAMPLE: 1225957

Parameter	Units	10194577004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.1	20	25.1	100	80-120	
Sulfate	mg/L	9.0	20	29.4	102	80-120	

MATRIX SPIKE SAMPLE: 1225959

Parameter	Units	10194577006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.8	20	20.9	96	80-120	
Sulfate	mg/L	4.3	20	24.3	100	80-120	

SAMPLE DUPLICATE: 1225956

Parameter	Units	10194577002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	21.1	21.2	.06	20	
Sulfate	mg/L	13.9	13.0	6	20	

SAMPLE DUPLICATE: 1225958

Parameter	Units	10194577005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	18.1	18.0	.4	20	
Sulfate	mg/L	13.3	13.1	.9	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9180 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577023, 10194577024

METHOD BLANK: 1226111 Matrix: Water
Associated Lab Samples: 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577023, 10194577024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.18	1.0	06/24/12 09:47	
Sulfate	mg/L	<0.12	1.0	06/24/12 09:47	

LABORATORY CONTROL SAMPLE: 1226112

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	19.3	97	90-110	
Sulfate	mg/L	20	19.5	98	90-110	

MATRIX SPIKE SAMPLE: 1226115

Parameter	Units	10195233002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	14.0	20	35.3	106	80-120	E
Sulfate	mg/L	4.9	20	24.5	98	80-120	

MATRIX SPIKE SAMPLE: 1226116

Parameter	Units	10195233003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.2	20	21.7	98	80-120	
Sulfate	mg/L	2.9	20	22.8	99	80-120	

SAMPLE DUPLICATE: 1226113

Parameter	Units	10194577019 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.9	3.9	.7	20	
Sulfate	mg/L	13.9	13.8	.2	20	

SAMPLE DUPLICATE: 1226114

Parameter	Units	10195233001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	3.3	3.1	4	20	
Sulfate	mg/L	11.1	11.1	.4	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9049 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577010, 10194577011, 10194577012

METHOD BLANK: 1217346 Matrix: Water
Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577010, 10194577011, 10194577012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0035	0.010	06/14/12 16:36	

METHOD BLANK: 1217348 Matrix: Water
Associated Lab Samples: 10194577001, 10194577002, 10194577003, 10194577004, 10194577005, 10194577006, 10194577007, 10194577009, 10194577010, 10194577011, 10194577012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0035	0.010	06/14/12 16:39	

LABORATORY CONTROL SAMPLE: 1217347

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.31	93	90-110	

LABORATORY CONTROL SAMPLE: 1217349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.34	102	90-110	

MATRIX SPIKE SAMPLE: 1217351

Parameter	Units	10194550009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.010	.33	0.32	93	90-110	

MATRIX SPIKE SAMPLE: 1217353

Parameter	Units	10194577007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	3.8	.33	4.8	300	90-110	M2

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

SAMPLE DUPLICATE: 1217350

Parameter	Units	10194550007 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.30	0.30	0	20	

SAMPLE DUPLICATE: 1217352

Parameter	Units	10194577005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.85	0.85	0	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9089 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10194577013, 10194577014, 10194577015, 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577023, 10194577024

METHOD BLANK: 1220125 Matrix: Water
Associated Lab Samples: 10194577013, 10194577014, 10194577015, 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577023, 10194577024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0035	0.010	06/18/12 16:40	

METHOD BLANK: 1220131 Matrix: Water
Associated Lab Samples: 10194577013, 10194577014, 10194577015, 10194577016, 10194577017, 10194577018, 10194577019, 10194577022, 10194577023, 10194577024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0035	0.010	06/18/12 16:43	

LABORATORY CONTROL SAMPLE: 1220126

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.34	102	90-110	

LABORATORY CONTROL SAMPLE: 1220132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.33	99	90-110	

MATRIX SPIKE SAMPLE: 1220128

Parameter	Units	10194577018 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	5.6	.33	5.8	60	90-110	M2

MATRIX SPIKE SAMPLE: 1220130

Parameter	Units	10195443002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.050	.33	0.39	102	90-110	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

SAMPLE DUPLICATE: 1220127

Parameter	Units	10194577016 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.020	0.020	0	20	

SAMPLE DUPLICATE: 1220129

Parameter	Units	10195407001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.15	0.15	0	20	

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QUALITY CONTROL DATA

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

QC Batch: MT/9007 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 10194577004, 10194577005, 10194577009, 10194577019

LABORATORY CONTROL SAMPLE: 1213155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1213156

Parameter	Units	10194577004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	.1	3	H6

SAMPLE DUPLICATE: 1213157

Parameter	Units	10194550006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	.1	3	H6

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QUALIFIERS

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	The internal standard recovery associated with this result exceeds the upper control limit. The reported result should be considered an estimated value.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M2	Matrix spike recovery was below QC limits due to sample dilution. Data acceptance based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10194577023	**VET WELL**	EPA 3020	MPRP/32898	EPA 6020	ICPM/13013
10194577002	**LF-3**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577003	**MW-4**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577004	**MW-5**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577005	**MW-6**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577006	**MW-6B**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577007	**MW-7A**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577009	**MW-8A**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577011	**MW-8C**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577012	**MW-9A**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577014	**MW-10**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577015	**MW-11**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577016	**MW-12**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577017	**MW-13**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577018	**MW-14**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577019	**MW-15**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577022	**McILHATTEN SEEP**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577024	**DUP**	EPA 3020	MPRP/32897	EPA 6020	ICPM/13029
10194577001	**LF-2**	EPA 8260B	MSV/20437		
10194577002	**LF-3**	EPA 8260B	MSV/20437		
10194577003	**MW-4**	EPA 8260B	MSV/20437		
10194577004	**MW-5**	EPA 8260B	MSV/20437		
10194577005	**MW-6**	EPA 8260B	MSV/20437		
10194577006	**MW-6B**	EPA 8260B	MSV/20437		
10194577007	**MW-7A**	EPA 8260B	MSV/20437		
10194577008	**MW-7B**	EPA 8260B	MSV/20437		
10194577009	**MW-8A**	EPA 8260B	MSV/20437		
10194577010	**MW-8B**	EPA 8260B	MSV/20437		
10194577011	**MW-8C**	EPA 8260B	MSV/20437		
10194577012	**MW-9A**	EPA 8260B	MSV/20437		
10194577013	**MW-9B**	EPA 8260B	MSV/20437		
10194577014	**MW-10**	EPA 8260B	MSV/20437		
10194577015	**MW-11**	EPA 8260B	MSV/20437		
10194577016	**MW-12**	EPA 8260B	MSV/20437		
10194577017	**MW-13**	EPA 8260B	MSV/20465		
10194577018	**MW-14**	EPA 8260B	MSV/20437		
10194577019	**MW-15**	EPA 8260B	MSV/20437		
10194577020	**MW-16**	EPA 8260B	MSV/20437		
10194577021	**SHOP WELL**	EPA 8260B	MSV/20517		
10194577022	**McILHATTEN SEEP**	EPA 8260B	MSV/20465		
10194577023	**VET WELL**	EPA 8260B	MSV/20465		
10194577024	**DUP**	EPA 8260B	MSV/20465		
10194577025	**TRIP BLANK**	EPA 8260B	MSV/20465		
10194577004	**MW-5**	SM 2510B	MT/9021		
10194577005	**MW-6**	SM 2510B	MT/9021		

Pace Analytical Services, Inc.
602 S 25th Street
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(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303.301 Bozeman LF
Pace Project No.: 10194577

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10194577009	**MW-8A**	SM 2510B	MT/9021		
10194577019	**MW-15**	SM 2510B	MT/9021		
10194577002	**LF-3**	EPA 300.0	MT/9157		
10194577003	**MW-4**	EPA 300.0	MT/9157		
10194577004	**MW-5**	EPA 300.0	MT/9157		
10194577005	**MW-6**	EPA 300.0	MT/9157		
10194577006	**MW-6B**	EPA 300.0	MT/9157		
10194577007	**MW-7A**	EPA 300.0	MT/9157		
10194577009	**MW-8A**	EPA 300.0	MT/9157		
10194577011	**MW-8C**	EPA 300.0	MT/9157		
10194577012	**MW-9A**	EPA 300.0	MT/9157		
10194577014	**MW-10**	EPA 300.0	MT/9157		
10194577015	**MW-11**	EPA 300.0	MT/9157		
10194577016	**MW-12**	EPA 300.0	MT/9180		
10194577017	**MW-13**	EPA 300.0	MT/9180		
10194577018	**MW-14**	EPA 300.0	MT/9180		
10194577019	**MW-15**	EPA 300.0	MT/9180		
10194577022	**McILHATTEN SEEP**	EPA 300.0	MT/9180		
10194577023	**VET WELL**	EPA 300.0	MT/9180		
10194577024	**DUP**	EPA 300.0	MT/9180		
10194577001	**LF-2**	EPA 353.2	MT/9049		
10194577002	**LF-3**	EPA 353.2	MT/9049		
10194577003	**MW-4**	EPA 353.2	MT/9049		
10194577004	**MW-5**	EPA 353.2	MT/9049		
10194577005	**MW-6**	EPA 353.2	MT/9049		
10194577006	**MW-6B**	EPA 353.2	MT/9049		
10194577007	**MW-7A**	EPA 353.2	MT/9049		
10194577009	**MW-8A**	EPA 353.2	MT/9049		
10194577010	**MW-8B**	EPA 353.2	MT/9049		
10194577011	**MW-8C**	EPA 353.2	MT/9049		
10194577012	**MW-9A**	EPA 353.2	MT/9049		
10194577013	**MW-9B**	EPA 353.2	MT/9089		
10194577014	**MW-10**	EPA 353.2	MT/9089		
10194577015	**MW-11**	EPA 353.2	MT/9089		
10194577016	**MW-12**	EPA 353.2	MT/9089		
10194577017	**MW-13**	EPA 353.2	MT/9089		
10194577018	**MW-14**	EPA 353.2	MT/9089		
10194577019	**MW-15**	EPA 353.2	MT/9089		
10194577022	**McILHATTEN SEEP**	EPA 353.2	MT/9089		
10194577023	**VET WELL**	EPA 353.2	MT/9089		
10194577024	**DUP**	EPA 353.2	MT/9089		
10194577004	**MW-5**	SM 4500-H+B	MT/9007		
10194577005	**MW-6**	SM 4500-H+B	MT/9007		
10194577009	**MW-8A**	SM 4500-H+B	MT/9007		
10194577019	**MW-15**	SM 4500-H+B	MT/9007		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1523697

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Tetra Tech	Report To: Mark Pearson	Attention:
Address: 851 Bridger Dr, Ste 6 Bozeman, MT 59715	Copy To:	Company Name:
Email To: mark.pearson@tetratech.com	Purchase Order No.:	Address:
Phone: 582-8780 Fax:	Project Name: Bozeman Landfill	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 114-710303.301	Pace Project Manager: Samantha Rupe
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Partial Analysis List	Full Analysis List	pH, SC	VOCs	Commons	NO_3+NO_2 as N	Dissolved Metals	Total Recoverable Metals	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 10194577
1	LF-2			6/4	1100				4										✓			✓	✓					001
2	LF-3				955				7										✓			✓	✓	✓	✓	✓		002
3	MW-4				730				7										✓			✓	✓	✓	✓	✓		003
4	MW-5				1440				7										✓			✓	✓	✓	✓	✓		004
5	MW-6			6/5	1200				7										✓			✓	✓	✓	✓	✓		005
6	MW-6B				1205				7											✓			✓	✓	✓	✓		006
7	MW-7A				1340				7										✓			✓	✓	✓	✓		007
8	MW-7B				1330				3										✓			✓					008
9	MW-8A				1015				7										✓			✓	✓	✓	✓	✓		009
10	MW-8B				1000				4													✓		✓				010
11	MW-8C				910				7											✓		✓	✓	✓	✓	✓		011
12	MW-9A			6/4	1310				7										✓			✓	✓	✓	✓			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
See attached 'Partial Analysis' and 'Full Analysis' Lists and PQL and MDL	Mark F. Pearson	6/6/12	1300	FedEx	6/6/12					
	Fedex	6/7/12	0955	Norma C. Trankley/Pace	6/7/12	0955	1.2	Y	Y	
							0.0	Y	Y	
							0.0	Y	Y	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark F. Pearson

SIGNATURE of SAMPLER: Mark F. Pearson DATE Signed (MM/DD/YY): 6/6/12

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1523696

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Bozeman Landfill	Pace Project Manager: Samantha Rupe
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MT

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Partial Analysis List	Full Analysis List	pH, SC	VOCs	Commons	NO_3+NO_2 as N	Dissolved Metals	Total Recov. Metals	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-9B			6/4	1250				4														✓		✓				10194577 6/4/12 013
2	MW-10			6/5	1440				7													✓		✓	✓	✓	✓			014
3	MW-11			6/4	1830				7													✓		✓	✓	✓	✓			015
4	MW-12			6/5	1800				7													✓		✓	✓	✓	✓			016
5	MW-13			6/6	900				7													✓		✓	✓	✓	✓			017
6	MW-14			6/4	1730				7													✓		✓	✓	✓	✓			018
7	MW-15			↓	1545				7													✓		✓	✓	✓	✓			019
8	MW-16				1635				3															✓						020
9	Shop well				800				3															✓						021
10	McMahon Seep			6/5	1500				7													✓		✓	✓	✓	✓			022
11	Vet Well			↓	1610				7													✓		✓	✓	✓		✓		023
12	Dup			↓	1530				7													✓		✓	✓	✓	✓			024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
See attached analysis lists and PQL and MDL	Mark F. Pearson	6/6/12	1300	FedEx	6/6/12		

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark F. Pearson

SIGNATURE of SAMPLER: Mark F. Pearson

DATE Signed (MM/DD/YY): 6/6/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 3

1523431

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Bozeman Landfill	Pace Project Manager: Samantha Rupe
Requested Due Date/TAT:	Project Number: 1	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MT

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	VOCs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Blank Trip Blank				1/10	—				2										✓		10194577 025
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Matrix Codes: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
See attached analysis lists and RL and MDL	Mark F. Pearson	6/6/12	1300	Fed Ex	6/6/12		

95 of 98

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark F. Pearson

SIGNATURE of SAMPLER: Mark F. Pearson

DATE Signed (MM/DD/YY): 6/6/12

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

FULL ANALYSIS

TABLE 3
BOZEMAN LANDFILL CONSTITUENT LIST FOR ANALYSIS
adopted in part from: **CONSTITUENTS FOR DETECTION MONITORING ARM 17.50.1306**
Appendix I to 40 CFR Part 258 (July 1, 2008)

InorganicConstituents:	
Antimony - **Removed - Do not analyze**	Selenium
Arsenic	Silver
Barium	Thallium
Beryllium - **Removed - Do not analyze**	Vanadium
Cadmium	Zinc
Chromium	
Cobalt	Chloride
Copper	Sulfate
Iron	Nitrate + Nitrite as N
Lead	pH (only in wells MW-5, MW-6, MW-8A, MW-15)
Nickel	Specific Conductance (only in wells MW-5, MW-6, MW-8A, MW-15)
Manganese	

Volatile Organic Constituents:	
Acetone	cis-1,3-Dichloropropene
Acrylonitrile	trans-1,3-Dichloropropene
Benzene	Ethylbenzene
Bromochloromethane	2-Hexanone;Methylbutylketone
Bromodichloromethane	Methylbromide;Bromomethane
Bromoform;Tribromomethane	Methylchloride;Chloromethane
Carbondisulfide	Methylenebromide;Dibromomethane
Carbontetrachloride	Methylenechloride;Dichloromethane
Chlorobenzene	Methylethylketone;MEK;2-Butanone
Chloroethane;Ethylchloride	Methyliodide;Idomethane
Chloroform;Trichloromethane	4-Methyl-2-pentanone;Methylisobutylketone
Dichlorodifluoromethane	Styrene
Dibromochloromethane;Chlorodibromomethane	1,1,1,2-Tetrachloroethane
1,2-Dibromo-3-chloropropane; DBCP	1,1,2,2-Tetrachloroethane
1,2-Dibromoethane; Ethylenedibromide; EDB	Tetrachloroethylene;Tetrachloroethene;Perchloroethylene
o-Dichlorobenzene; 1,2-Dichlorobenzene	Toluene
p-Dichlorobenzene; 1,4-Dichlorobenzene	1,1,1-Trichloroethane;Methylchloroform
trans-1,4-Dichloro-2-butene	1,1,2-Trichloroethane
1,1-Dichlorethane;Ethylidenechloride	Trichloroethylene;Trichloroethene
1,2-Dichlorethane;Ethylenedichloride	Trichlorofluoromethane;CFC-11
1,1-Dichloroethylene;1,1-Dichloroethene;Vinylidenechloride	1,2,3-Trichloropropane
cis-1,2-Dichloroethylene;cis-1,2-Dichloroethene	Vinylacetate
trans-1,2-Dichloroethylene;trans-1,2-Dichloroethene	Vinylchloride
1,2-Dichloropropane;Propylenedichloride	Xylenes

PARTIAL ANALYSIS

TABLE 4
BOZEMAN LANDFILL CONSTITUENT LIST FOR ANALYSIS
adopted in part from: **CONSTITUENTS FOR DETECTION MONITORING ARM 17.50.1306**
Appendix I to 40 CFR Part 258 (July 1, 2008)

InorganicConstituents: Antimony - **Removed - Do not analyze** Barium Beryllium - **Removed - Do not analyze** Iron Manganese	Chloride Sulfate Nitrate + Nitrite as N pH (only in wells MW-5, MW-6, MW-8A, MW-15) Specific Conductance (only in wells MW-5, MW-6, MW-8A, MW-15)

Volatile Organic Constituents: Acetone Acrylonitrile Benzene Bromochloromethane Bromodichloromethane Bromoform;Tribromomethane Carbondisulfide Carbontetrachloride Chlorobenzene Chloroethane;Ethylchloride Chloroform;Trichloromethane Dichlorodifluoromethane Dibromochloromethane;Chlorodibromomethane 1,2-Dibromo-3-chloropropane; DBCP 1,2-Dibromoethane; Ethylenedibromide; EDB o-Dichlorobenzene; 1,2-Dichlorobenzene p-Dichlorobenzene; 1,4-Dichlorobenzene trans-1,4-Dichloro-2-butene 1,1-Dichlorethane;Ethylidenechloride 1,2-Dichlorethane;Ethylenedichloride 1,1-Dichloroethylene;1,1-Dichloroethene;Vinylidenechloride cis-1,2-Dichloroethylene;cis-1,2-Dichloroethene trans-1,2-Dichloroethylene;trans-1,2-Dichloroethene 1,2-Dichloropropane;Propylenedichloride	cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethylbenzene 2-Hexanone;Methylbutylketone Methylbromide;Bromomethane Methylchloride;Chloromethane Methylenebromide;Dibromomethane Methylenechloride;Dichloromethane Methylethylketone;MEK;2-Butanone Methyliodide;Idomethane 4-Methyl-2-pentanone;Methylisobutylketone Styrene 1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane Tetrachloroethylene;Tetrachloroethene;Perchloroethylene Toluene 1,1,1-Trichloroethane;Methylchloroform 1,1,2-Trichloroethane Trichloroethylene;Trichloroethene Trichlorofluoromethane;CFC-11 1,2,3-Trichloropropane Vinylacetate Vinylchloride Xylenes

Pace Analytical	Document Name: Sample Condition Upon Receipt Form Document Number: F-MT-C-184 Rev.00	Revised Date: 01Nov2011 Page 1 of 1 Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: T+-Bozeman Project # 10194577

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace [ ] Other _____

Tracking #: Return Air

Custody Seal on Cooler/Box Present: [X] yes [ ] no Seals intact: [X] yes [ ] no

Packing Material: [X] Bubble Wrap [ ] Bubble Bags [ ] None [ ] Other _____ Temp Blank: Yes _____ No _____

Thermometer Used: T383045 or 135 Type of Ice: (Wet) Blue None [X] Samples on ice, cooling process has begun

Cooler Temperature: 1.2/0.0/0.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: AC 6/7/12

Temp should be above freezing to 6°C.

		Comments:
Chain of Custody Present:	[X] Yes [ ] No [ ] N/A	1.
Chain of Custody Filled Out:	[X] Yes [ ] No [ ] N/A	2.
Chain of Custody Relinquished:	[X] Yes [ ] No [ ] N/A	3.
Sampler Name & Signature on COC:	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time:	[X] Yes [ ] No [ ] N/A	5.
Short Hold Time Analysis (<72hr):	[X] Yes [ ] No [ ] N/A	6. pH
Rush Turn Around Time Requested:	[ ] Yes [X] No [ ] N/A	7.
Sufficient Volume:	[X] Yes [ ] No [ ] N/A	8.
Correct Containers Used:	[X] Yes [ ] No [ ] N/A	9.
-Pace Containers Used:	[X] Yes [ ] No [ ] N/A	
Containers Intact:	[X] Yes [ ] No [ ] N/A	10.
Filtered volume received for Dissolved tests	[X] Yes [ ] No [ ] N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: H2O	[X] Yes [ ] No [ ] N/A	12. SC 6/7/12
All containers needing acid/base preservation have been checked. Noncompliance are noted in 13.	[X] Yes [ ] No [ ] N/A	13. HNO3 [X] H2SO4 [ ] NaOH [ ] HCl Samp # 001-008 OK - 009 Added 1:1 Sulfuric Added 1:1 Nitric
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ] Yes [X] No [ ] N/A	Initial when completed: SC Lot # of added preservative: 136 3040 14:36 136 3040 6/7/12
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	[X] Yes [ ] No	
Samples checked for dechlorination:	[ ] Yes [ ] No [X] N/A	14.
Headspace in VOA Vials (>6mm):	[ ] Yes [ ] No [X] N/A	15.
Trip Blank Present:	[ ] Yes [ ] No [X] N/A	16.
Trip Blank Custody Seals Present		
Pace Trip Blank Lot # (if purchased):		

Field Data Required? Y / N

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

#13 001-008 O.K 010-025 OK

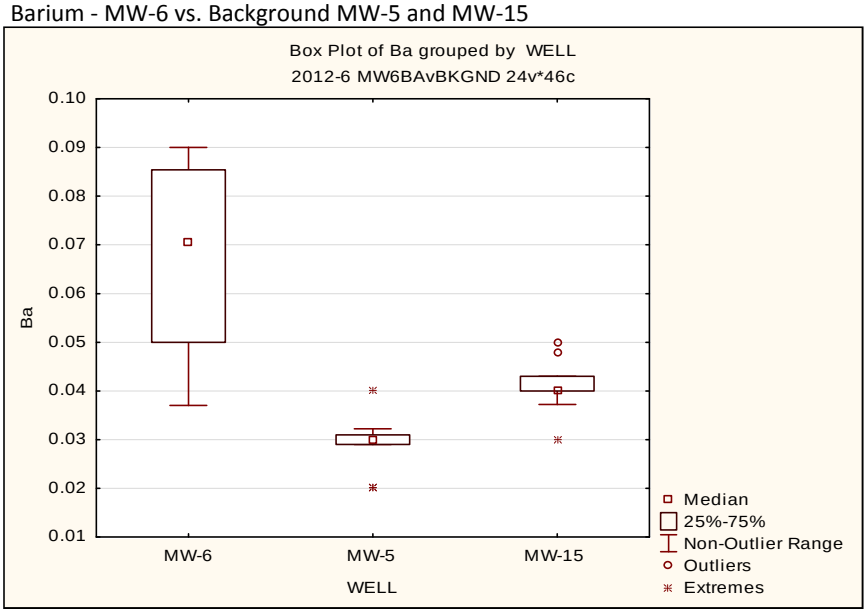
Project Manager Review: _____ Date: 6-7-12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

APPENDIX E

STATISTICAL EVALUATION DATA AND WORKSHEETS

Barium - MW-6 vs. Background MW-5 and MW-15

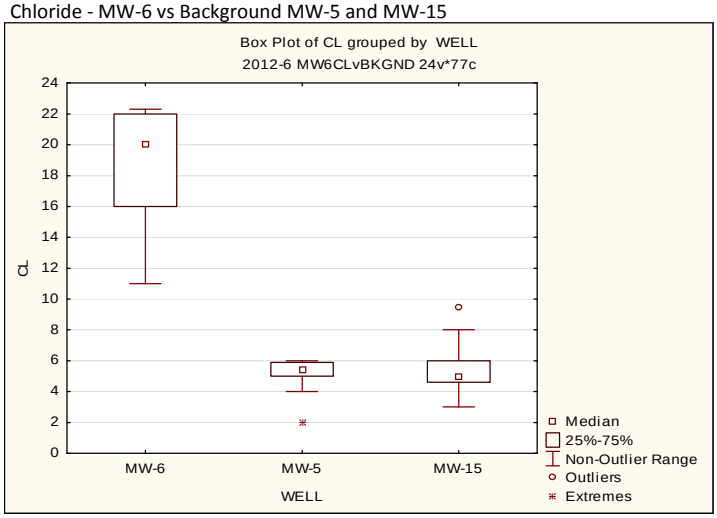


Variable	Descriptive Statistics (2012-6 MW6BAvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
Ba6	15	0.07	0.07	0.04	0.09	0.017
Ba5	15	0.03	0.03	0.02	0.04	0.005
Ba15	15	0.04	0.04	0.03	0.05	0.004

Variable	Mann-Whitney U Test (2012-6 MW6BAvBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Ba6-5	344.0000	121.0000	1.000000	4.604066	0.000004	4.618473	0.000004	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW6BAvBKGND) By variable WELL6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Ba6-15	329.5000	135.5000	15.50000	4.002634	0.000063	4.024177	0.000057	15	15	0.000009

Chloride - MW-6 vs Background MW-5 and MW-15

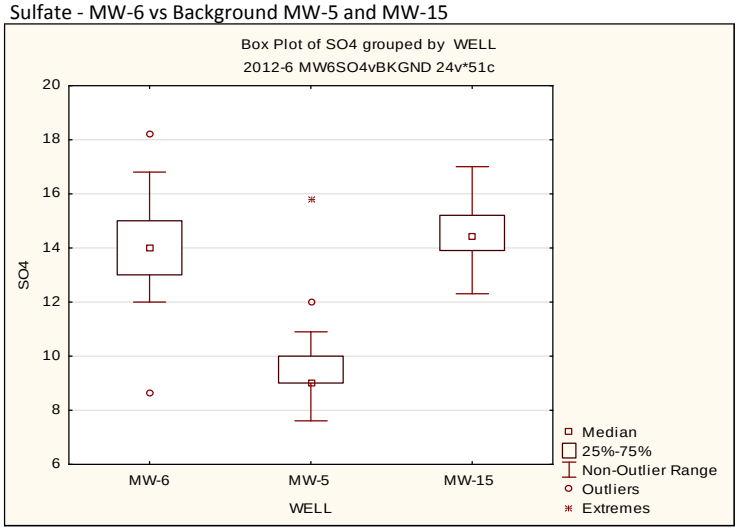


Variable	Descriptive Statistics (2012-6 MW6CLvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
Cl6	15	18.47	20.00	11.00	22.30	3.5754
Cl5	15	5.15	5.40	2.00	6.00	1.0474
Cl15	15	5.51	5.00	3.00	9.50	1.7320

Variable	Mann-Whitney U Test (2012-6 MW6CLvBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Cl6-5	345.0000	120.0000	0.00	4.645544	0.000003	4.652795	0.000003	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW6CLvBKGND) By variable WELL6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Cl6-15	345.0000	120.0000	0.00	4.645544	0.000003	4.653834	0.000003	15	15	0.000000

Sulfate - MW-6 vs Background MW-5 and MW-15

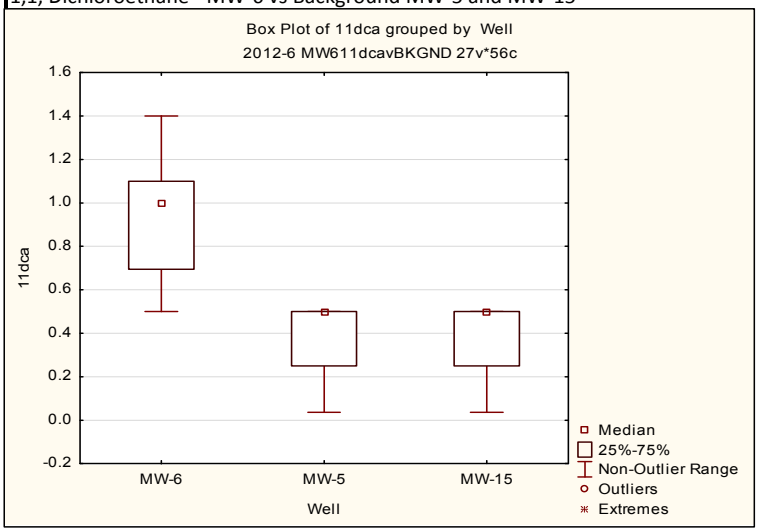


Variable	Descriptive Statistics (2012-6 MW6SO4vBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
SO46	15	14.11	14.00	8.62	18.20	2.2338
SO45	15	9.81	9.00	7.60	15.80	1.9344
SO415	15	14.47	14.40	12.30	17.00	1.2759

Variable	Mann-Whitney U Test (2012-6 MW6SO4vBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
SO46-5	319.5000	145.5000	25.50000	3.587853	0.000333	3.624320	0.000290	15	15	0.000113

Variable	Mann-Whitney U Test (2012-6 MW6SO4vBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
SO46-15	218.0000	247.0000	98.00000	-0.580693	0.561448	-0.583491	0.559564	15	15	0.566774

1,1, Dichloroethane - MW-6 vs Background MW-5 and MW-15

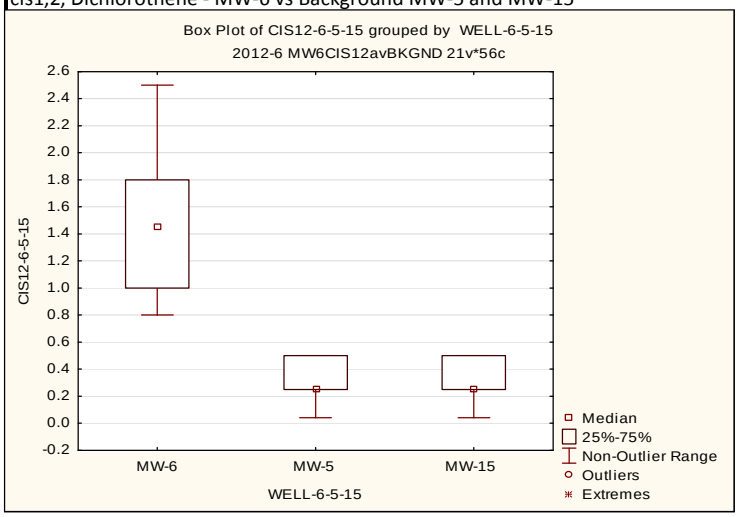


Variable	Descriptive Statistics (2012-6 MW611dcavBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
11dca6	20	0.93	1.00	0.50	1.40	0.2793
11dca5	15	0.36	0.50	0.04	0.50	0.1900
11dca15	15	0.36	0.50	0.04	0.50	0.1900

Variable	Mann-Whitney U Test (2012-6 MW611dcavBKGND) By variable Well6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
11dca6-5	487.5000	142.5000	22.50000	4.233333	0.000023	4.394795	0.000011	20	15	0.000003

Variable	Mann-Whitney U Test (2012-6 MW611dcavBKGND) By variable Well6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
11dca6-15	487.5000	142.5000	22.50000	4.233333	0.000023	4.394795	0.000011	20	15	0.000003

cis1,2, Dichlorothene - MW-6 vs Background MW-5 and MW-15

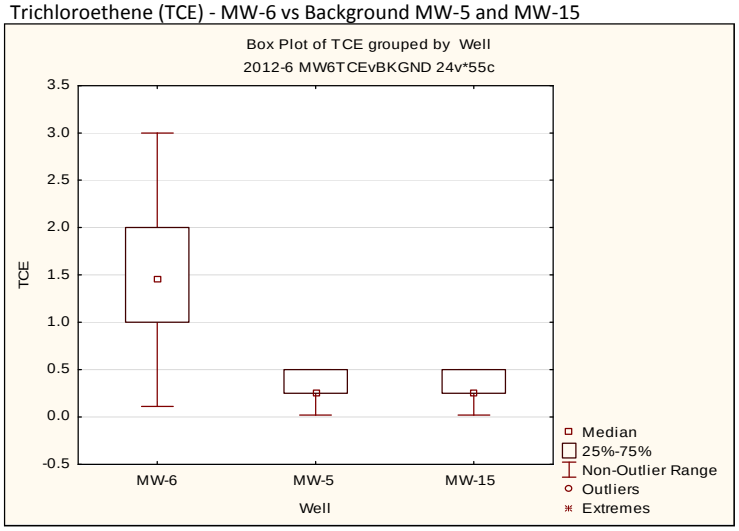


Variable	Descriptive Statistics (2012-6 MW6CIS12avBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
CIS12-6	20	1.45	1.45	0.80	2.50	0.5166
CIS12-5	15	0.28	0.25	0.04	0.50	0.1594
CIS12-15	15	0.28	0.25	0.04	0.50	0.1594

Variable	Mann-Whitney U Test (2012-6 MW6CIS12avBKGND) By variable Well6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
CIS12-6-5	510.0000	120.0000	0.00	4.983333	0.000001	5.029688	0.000000	20	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW15CIS12avBKGND) By variable Well6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
CIS12-6-5	510.0000	120.0000	0.00	4.983333	0.000001	5.029688	0.000000	20	15	0.000000

Trichloroethene (TCE) - MW-6 vs Background MW-5 and MW-15

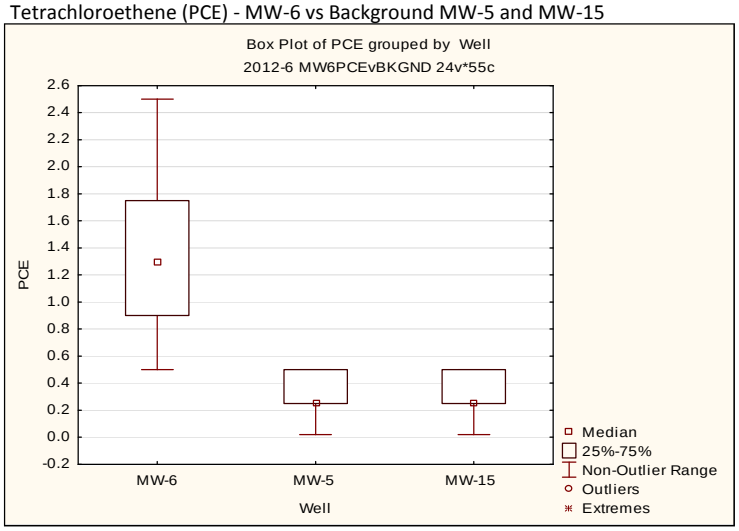


Variable	Descriptive Statistics (2012-6 MW6TCEvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
TCE6	20	1.48	1.45	0.11	3.00	0.6695
TCE5	15	0.28	0.25	0.02	0.50	0.1576
TCE15	15	0.28	0.25	0.02	0.50	0.1576

Variable	Mann-Whitney U Test (2012-6 MW6TCEvBKGND) By variable WELL6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
TCE6-15	497.5000	132.5000	12.50000	4.566667	0.000005	4.600293	0.000004	20	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW6TCEvBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
TCE6-5	497.5000	132.5000	12.50000	4.566667	0.000005	4.600293	0.000004	20	15	0.000000

Tetrachloroethene (PCE) - MW-6 vs Background MW-5 and MW-15

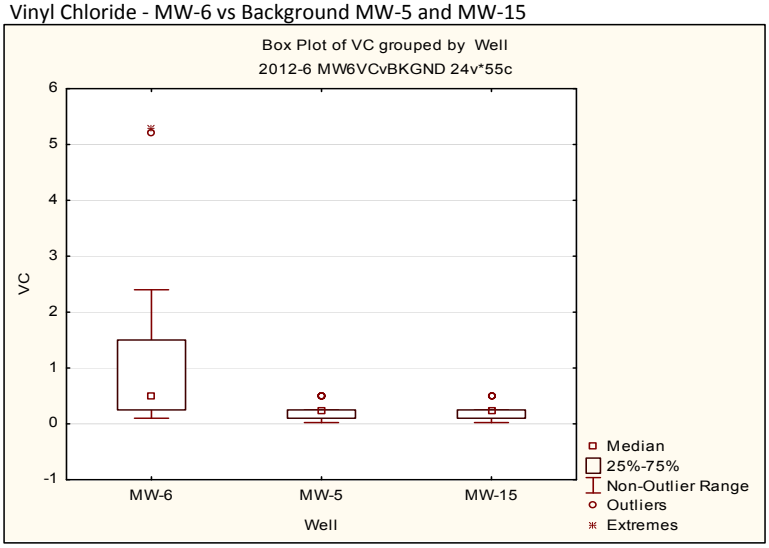


Variable	Descriptive Statistics (2012-6 MW6PCEvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
PCE6	20	1.33	1.30	0.50	2.50	0.5535
PCE5	15	0.29	0.25	0.02	0.50	0.1482
PCE15	15	0.26	0.25	0.02	0.50	0.1514

Variable	Mann-Whitney U Test (2012-6 MW6PCEvBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
PCE6-5	506.0000	124.0000	4.000000	4.850000	0.000001	4.905975	0.000001	20	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW6PCEvBKGND) By variable WELL6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
PCE6-15	506.0000	124.0000	4.000000	4.850000	0.000001	4.905975	0.000001	20	15	0.000000

Vinyl Chloride - MW-6 vs Background MW-5 and MW-15

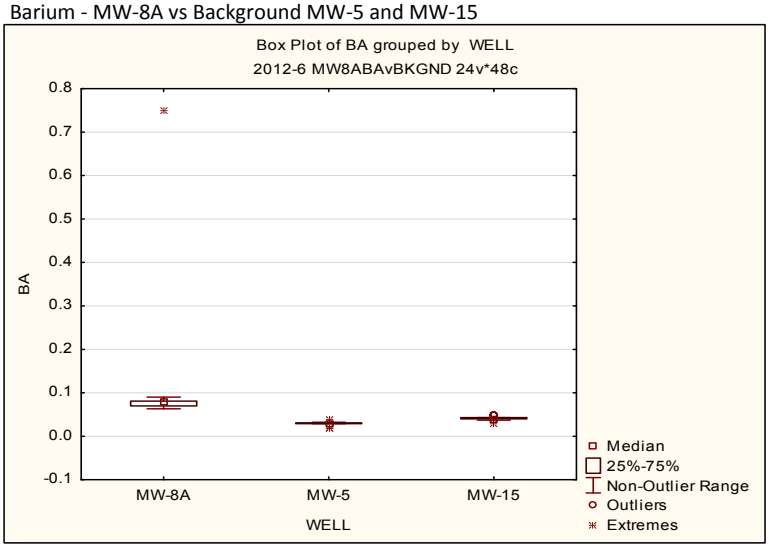


Variable	Descriptive Statistics (2012-6 MW6VCvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC6	20	1.13	0.50	0.10	5.30	1.5609
VC5	15	0.24	0.25	0.02	0.50	0.1517
VC15	15	0.24	0.25	0.02	0.50	0.1517

Variable	Mann-Whitney U Test (2012-6 MW6VCvBKGND) By variable WELL6-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
VC6-5	439.0000	191.0000	71.00000	2.616667	0.008880	2.703845	0.006855	20	15	0.007639

Variable	Mann-Whitney U Test (2012-6 MW6VCvBKGND) By variable WELL6-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
VC6-15	439.0000	191.0000	71.00000	2.616667	0.008880	2.703845	0.006855	20	15	0.007639

Barium - MW-8A vs Background MW-5 and MW-15

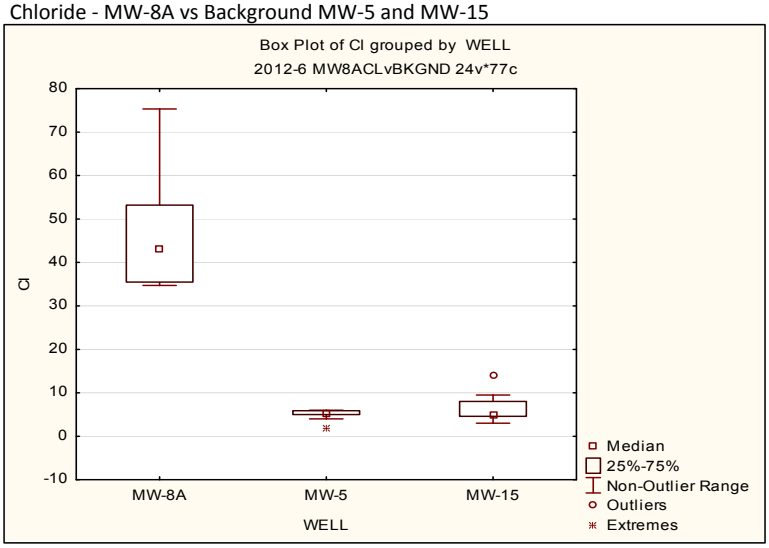


Variable	Descriptive Statistics (2012-6 MW8ABAvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
Ba8A	15	0.12	0.08	0.06	0.75	0.1743
Ba5	15	0.03	0.03	0.02	0.04	0.0047
Ba15	15	0.04	0.04	0.03	0.05	0.0045

Variable	Mann-Whitney U Test (2012-6 MW8ABAvBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Ba8A-5	345.0000	120.0000	0.00	4.645544	0.000003	4.662691	0.000003	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW8ABAvBKGND) By variable WELL8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Ba8A-15	345.0000	120.0000	0.00	4.645544	0.000003	4.670023	0.000003	15	15	0.000000

Chloride - MW-8A vs Background MW-5 and MW-15

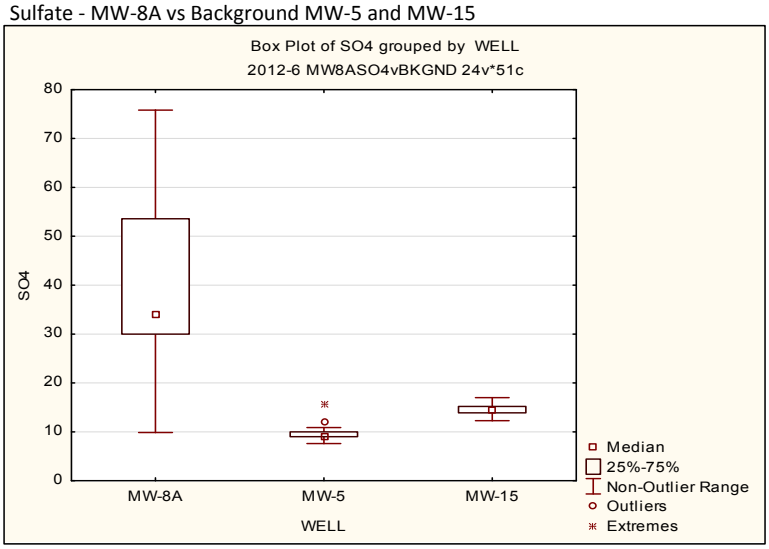


Variable	Descriptive Statistics (2012-6 MW8ACLvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
CL8A	15	45.57	43.00	34.70	75.30	12.1669
Cl5	15	5.15	5.40	2.00	6.00	1.0474
Cl15	15	6.13	5.00	3.00	14.00	2.7758

Variable	Mann-Whitney U Test (2012-6 MW8ACLvBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Cl8A-5	345.0000	120.0000	0.00	4.645544	0.000003	4.651238	0.000003	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW8ACLvBKGND) By variable WELL8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
Cl8A-15	345.0000	120.0000	0.00	4.645544	0.000003	4.652276	0.000003	15	15	0.000000

Sulfate - MW-8A vs Background MW-5 and MW-15

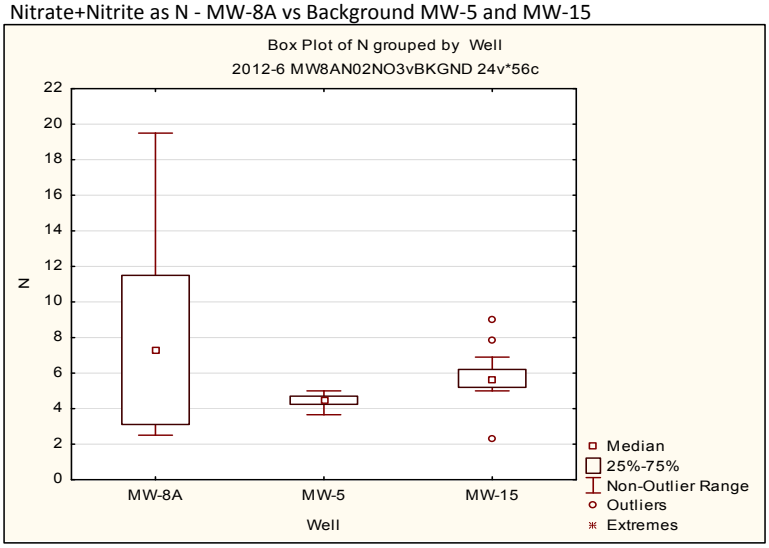


Variable	Descriptive Statistics (2012-6 MW8ASO4vBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
SO48A	15	38.63	34.10	9.85	75.80	16.4575
SO45	15	9.81	9.00	7.60	15.80	1.9344
SO415	15	14.47	14.40	12.30	17.00	1.2759

Variable	Mann-Whitney U Test (2012-6 MW8ASO4vBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
SO48A-5	341.0000	124.0000	4.000000	4.479631	0.000007	4.523622	0.000006	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW8ASO4vBKGND) By variable WELL8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
SO48A-15	330.0000	135.0000	15.00000	4.023373	0.000057	4.027406	0.000056	15	15	0.000009

Nitrate+Nitrite as N - MW-8A vs Background MW-5 and MW-15

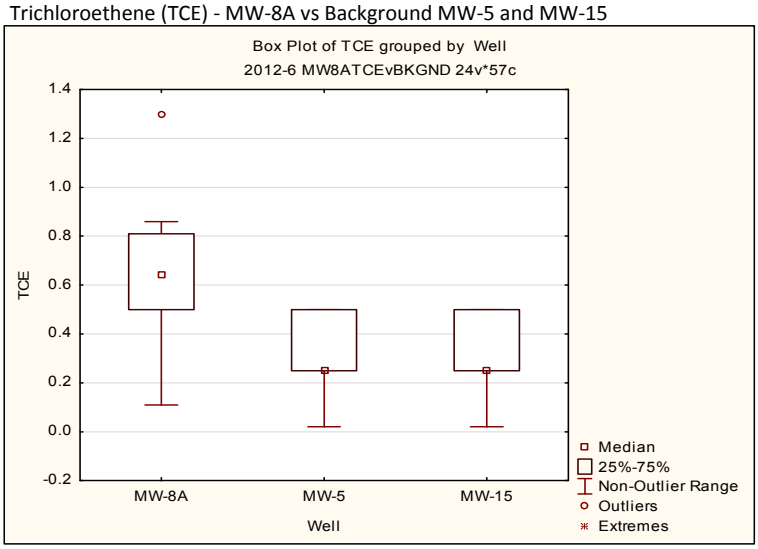


Variable	Descriptive Statistics (2012-6 MW8AN02NO3vBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
N8A	15	7.70	7.30	2.51	19.50	5.3397
N5	15	4.43	4.48	3.66	5.00	0.3275
N15	15	5.77	5.61	2.28	8.98	1.4712

Variable	Mann-Whitney U Test (2012-6 MW8AN02NO3vBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
N8A-5	259.5000	205.5000	85.50000	1.099169	0.271695	1.099536	0.271535	15	15	0.267097

Variable	Mann-Whitney U Test (2012-6 MW8AN02NO3vBKGND) By variable WELL8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
N8A-15	240.0000	225.0000	105.0000	0.290346	0.771551	0.290508	0.771428	15	15	0.774840

Trichloroethene (TCE) - MW-8A vs Background MW-5 and MW-15

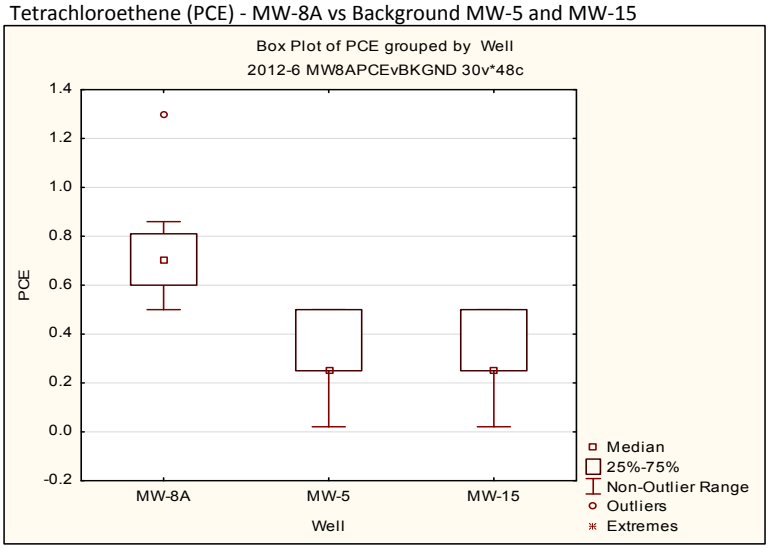


Variable	Descriptive Statistics (2012-6 MW8ATCEvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
TCE8A	15	0.65	0.64	0.11	1.30	0.2734
TCE5	15	0.28	0.25	0.02	0.50	0.1576
TCE15	15	0.28	0.25	0.02	0.50	0.1576

Variable	Mann-Whitney U Test (2012-6 MW8ATCEvBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
TCE8A-5	322.5000	142.5000	22.50000	3.712287	0.000205	3.772784	0.000161	15	15	0.000056

Variable	Mann-Whitney U Test (2012-6 MW8ATCEvBKGND) By variable WELL8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
TCE8A-15	322.5000	142.5000	22.50000	3.712287	0.000205	3.772784	0.000161	15	15	0.000056

Tetrachloroethene (PCE) - MW-8A vs Background MW-5 and MW-15

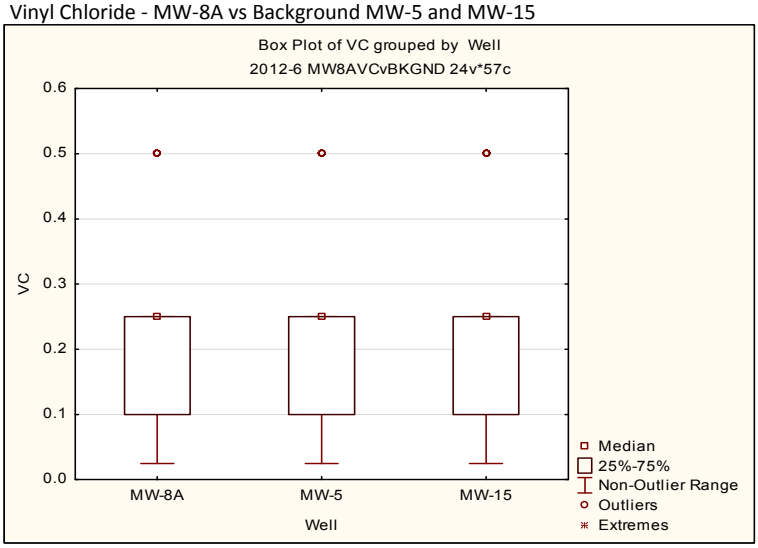


Variable	Descriptive Statistics (2012-6 MW8APCEvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
PCE8A	15	0.72	0.70	0.50	1.30	0.2052
PCE5	15	0.28	0.25	0.02	0.50	0.1517
PCE15	15	0.28	0.25	0.02	0.50	0.1517

Variable	Mann-Whitney U Test (2012-6 MW8APCEvBKGND) By variable Well8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
PCE8A-5	339.0000	126.0000	6.000000	4.396675	0.000011	4.469866	0.000008	15	15	0.000000

Variable	Mann-Whitney U Test (2012-6 MW8APCEvBKGND) By variable Well8A-15 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
PCE8A-15	339.0000	126.0000	6.000000	4.396675	0.000011	4.469866	0.000008	15	15	0.000000

Vinyl Chloride - MW-8A vs Background MW-5 and MW-15



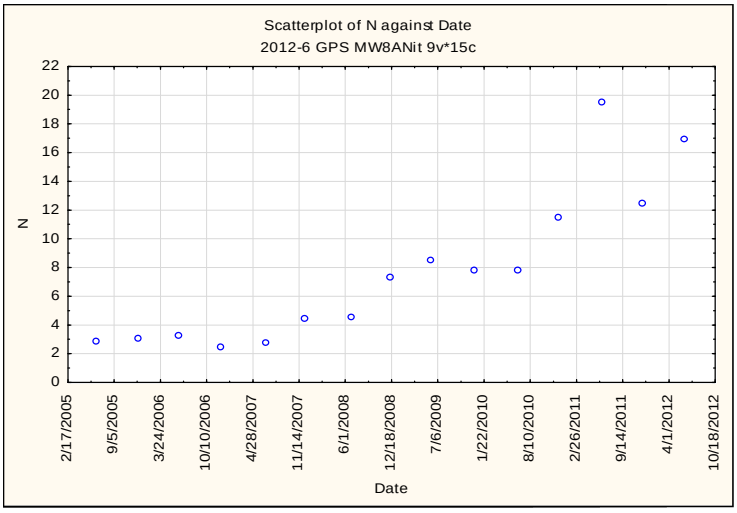
Variable	Descriptive Statistics (2012-6 MW8AVCvBKGND)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC8A	15	0.24	0.25	0.02	0.50	0.1517
VC5	15	0.24	0.25	0.02	0.50	0.1517
VC15	15	0.24	0.25	0.02	0.50	0.1517

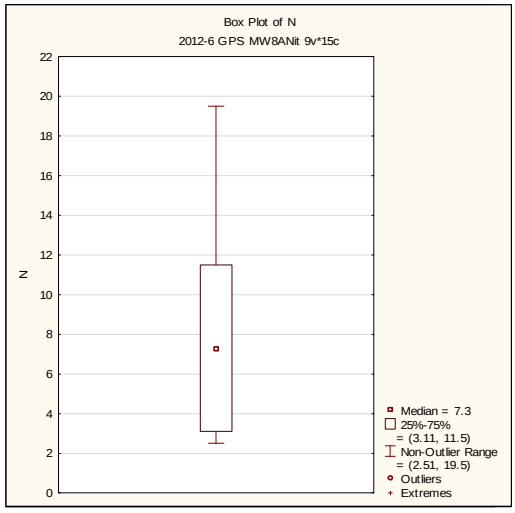
Variable	Mann-Whitney U Test (2012-6 MW8AVCvBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
VC8A-5	232.5000	232.5000	112.5000	0.00	1.000000	0.00	1.000000	15	15	1.000000

Variable	Mann-Whitney U Test (2012-6 MW8AVCvBKGND) By variable WELL8A-5 Marked tests are significant at p <.01000									
	Rank Sum	Rank Sum	U	Z	p-value	Z	p-value	Valid N	Valid N	2*1sided
VC8A-5	232.5000	232.5000	112.5000	0.00	1.000000	0.00	1.000000	15	15	1.000000

NITRATE + NITRITE as NITROGEN IN MW-8A

	Var1	Date	N	N Flag	GPS
1	MW-8A	6/16/2005	2.900		10
2	MW-8A	12/14/2005	3.110		10
3	MW-8A	6/13/2006	3.250		10
4	MW-8A	12/6/2006	2.510		10
5	MW-8A	6/20/2007	2.800	JF	10
6	MW-8A	12/10/2007	4.510	JF%	10
7	MW-8A	6/24/2008	4.520		10
8	MW-8A	12/9/2008	7.300		10
9	MW-8A	6/1/2009	8.500		10
10	MW-8A	12/9/2009	7.800	JF	10
11	MW-8A	6/15/2010	7.800		10
12	MW-8A	12/7/2010	11.500	J	10
13	MW-8A	6/14/2011	19.500		10
14	MW-8A	12/5/2011	12.500		10
15	MW-8A	6/4/2012	17.000		10



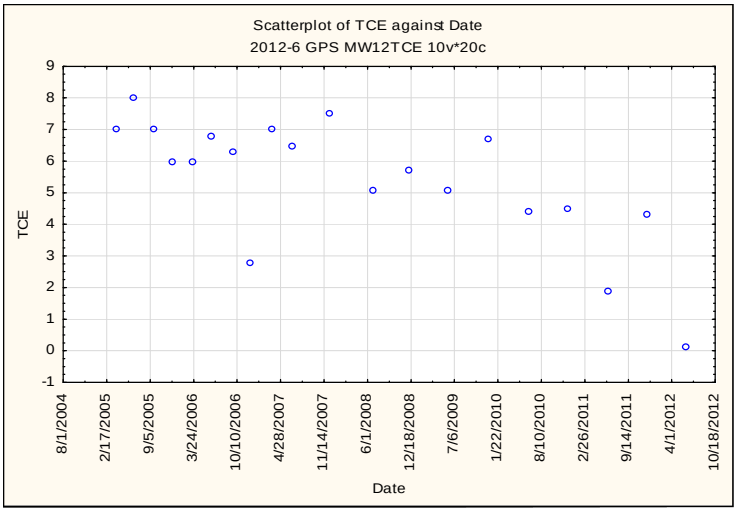


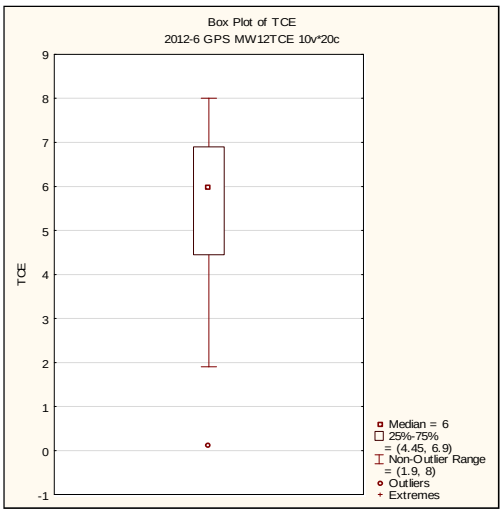
Descriptive Statistics (2012-6 GPS MW8ANit)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
N	15	7.700000	7.300000	2.510000	19.50000	5.339711

Wilcoxon Matched Pairs Test (2012-6 GPS MW8ANit) Marked tests are significant at p <.05000				
	Valid	T	Z	p-value
N & GPS	15	32.50000	1.561895	0.118314

TRICHLOROETHENE (TCE) IN MW-12

	Well	Date	TCE	TCEFlag	GPS
1	MW-12	3/29/2005	7		5
2	MW-12	6/17/2005	8		5
3	MW-12	9/20/2005	7		5
4	MW-12	12/14/2005	6		5
5	MW-12	3/16/2006	6		5
6	MW-12	6/13/2006	6.8		5
7	MW-12	9/21/2006	6.3		5
8	MW-12	12/7/2006	2.8		5
9	MW-12	3/15/2007	7		5
10	MW-12	6/21/2007	6.5		5
11	MW-12	12/11/2007	7.5		5
12	MW-12	6/25/2008	5.1		5
13	MW-12	12/10/2008	5.7		5
14	MW-12	6/2/2009	5.1		5
15	MW-12	12/9/2009	6.7		5
16	MW-12	6/15/2010	4.4		5
17	MW-12	12/7/2010	4.5		5
18	MW-12	6/14/2011	1.9		5
19	MW-12	12/6/2011	4.3		5
20	MW-12	6/5/2012	0.11	U	5



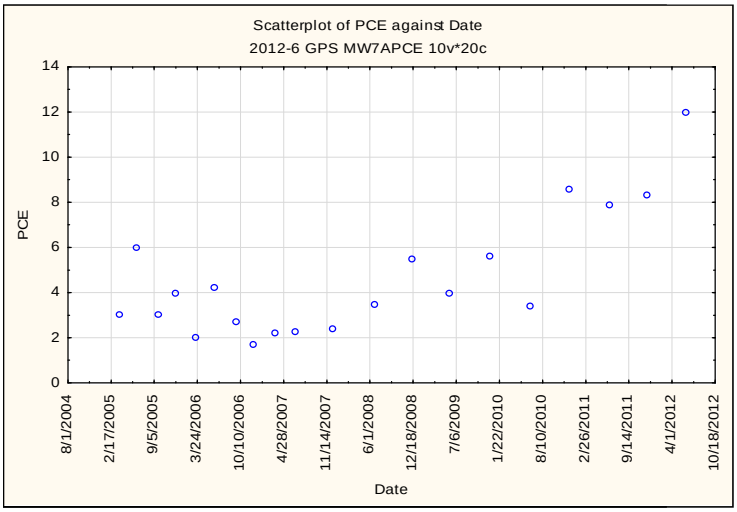


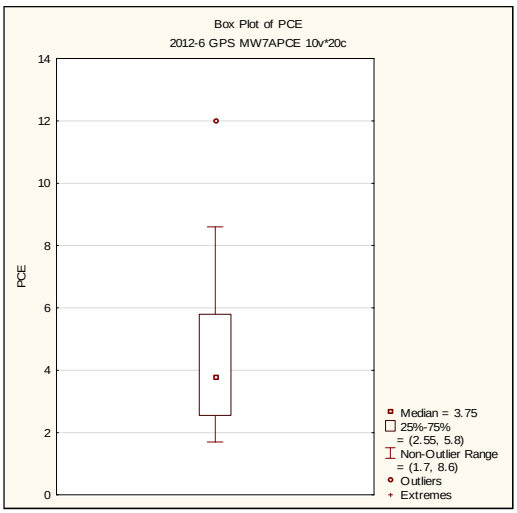
Descriptive Statistics (2012-6 GPS MW12TCE)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
TCE	20	5.435500	6.000000	0.110000	8.000000	1.993396

Wilcoxon Matched Pairs Test (2012-6 GPS MW12TCE) Marked tests are significant at p <.01000				
	Valid	T	Z	p-value
TCE & GPS	20	67.50000	1.399975	0.161522

TETRACHLOROETHENE (PCE) IN MW-7A

	Well	Date	PCE	PCEFlag	GPS
1	MW-7A	3/29/2005	3		5
2	MW-7A	6/17/2005	6		5
3	MW-7A	9/20/2005	3		5
4	MW-7A	12/14/2005	4		5
5	MW-7A	3/16/2006	2		5
6	MW-7A	6/13/2006	4.2		5
7	MW-7A	9/21/2006	2.7		5
8	MW-7A	12/7/2006	1.7		5
9	MW-7A	3/15/2007	2.2		5
10	MW-7A	6/20/2007	2.3		5
11	MW-7A	12/10/2007	2.4		5
12	MW-7A	6/24/2008	3.5		5
13	MW-7A	12/10/2008	5.5		5
14	MW-7A	6/2/2009	4		5
15	MW-7A	12/9/2009	5.6		5
16	MW-7A	6/16/2010	3.4		5
17	MW-7A	12/7/2010	8.6		5
18	MW-7A	6/14/2011	7.9		5
19	MW-7A	12/6/2011	8.3		5
20	MW-7A	6/5/2012	12		5



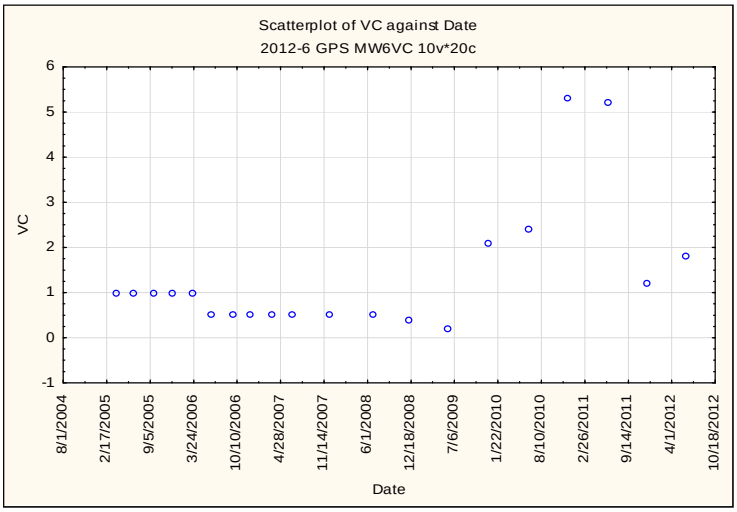


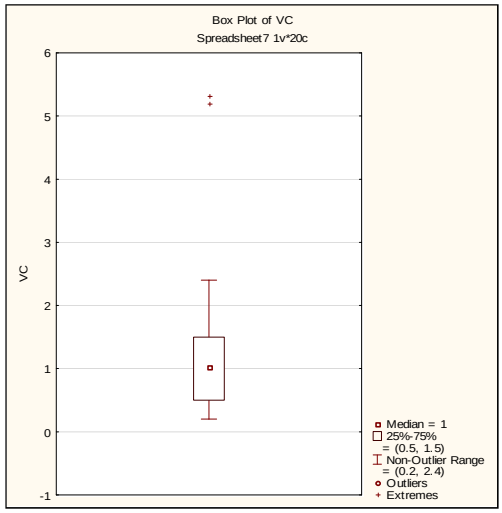
Descriptive Statistics (2012-6 GPS MW7APCE)							
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.	Std.Dev.
PCE	20	4.615000	3.750000	1.700000	12.00000	2.737897	1.454747

Wilcoxon Matched Pairs Test (2012-6 GPS MW7APCE) Marked tests are significant at p <.01000					
		Valid	T	Z	p-value
PCE	& GPS	20	80.00000	0.933317	0.350657

VINYL CHLORIDE IN MW-6

	Well	Date	VC	VCFlag	GPS
1	MW-6	3/29/2005	1	U	2
2	MW-6	6/16/2005	1	U	2
3	MW-6	9/20/2005	1	U	2
4	MW-6	12/14/2005	1	U	2
5	MW-6	3/16/2006	1	U	2
6	MW-6	6/13/2006	0.5	U	2
7	MW-6	9/21/2006	0.5	U(1)	2
8	MW-6	12/6/2006	0.5	U	2
9	MW-6	3/15/2007	0.5	U	2
10	MW-6	6/20/2007	0.5	UJF%	2
11	MW-6	12/10/2007	0.5	U	2
12	MW-6	6/24/2008	0.5	U	2
13	MW-6	12/9/2008	0.4	U	2
14	MW-6	6/2/2009	0.2	U	2
15	MW-6	12/9/2009	2.1		2
16	MW-6	6/15/2010	2.4		2
17	MW-6	12/7/2010	5.3	J	2
18	MW-6	6/13/2011	5.2	J	2
19	MW-6	12/5/2011	1.2		2
20	MW-6	6/5/2012	1.8		2



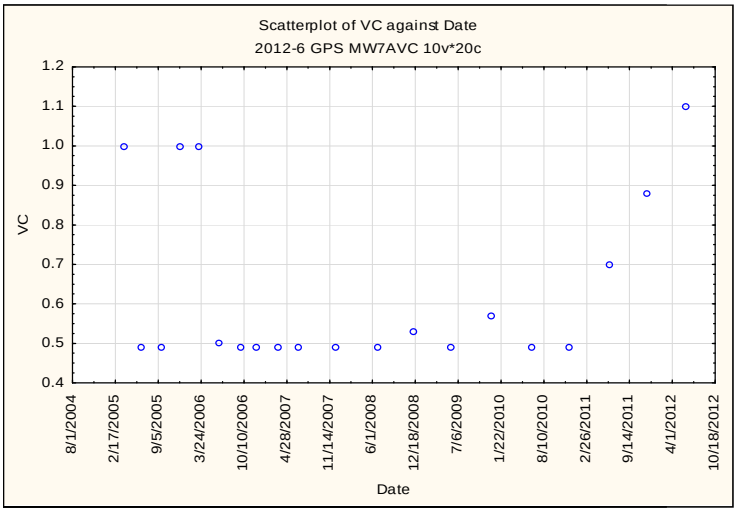


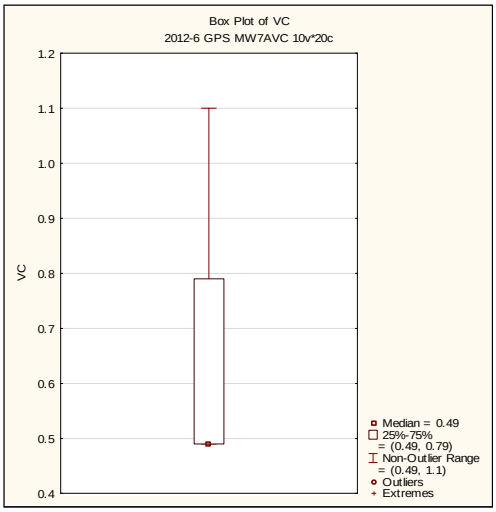
Descriptive Statistics (2012-6 GPS MW6VC)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	20	1.355000	1.000000	0.200000	5.300000	1.454747

Wilcoxon Matched Pairs Test (2012-6 GPS MW6VC) Marked tests are significant at p <.01000				
	Valid	T	Z	p-value
GPS & VC	20	43.00000	2.314626	0.020634

VINYL CHLORIDE IN MW-7A

	Well	Date	VC	VCFlag	GPS
1	MW-7A	3/29/2005	1		2
2	MW-7A	6/17/2005	0.49	U	2
3	MW-7A	9/20/2005	0.49	U	2
4	MW-7A	12/14/2005	1		2
5	MW-7A	3/16/2006	1		2
6	MW-7A	6/13/2006	0.5		2
7	MW-7A	9/21/2006	0.49	U	2
8	MW-7A	12/7/2006	0.49	U	2
9	MW-7A	3/15/2007	0.49	U	2
10	MW-7A	6/20/2007	0.49	U	2
11	MW-7A	12/10/2007	0.49	U	2
12	MW-7A	6/24/2008	0.49	U	2
13	MW-7A	12/10/2008	0.53		2
14	MW-7A	6/2/2009	0.49	U	2
15	MW-7A	12/9/2009	0.57		2
16	MW-7A	6/16/2010	0.49	U	2
17	MW-7A	12/7/2010	0.49	U	2
18	MW-7A	6/14/2011	0.7		2
19	MW-7A	12/6/2011	0.88		2
20	MW-7A	6/5/2012	1.1		2



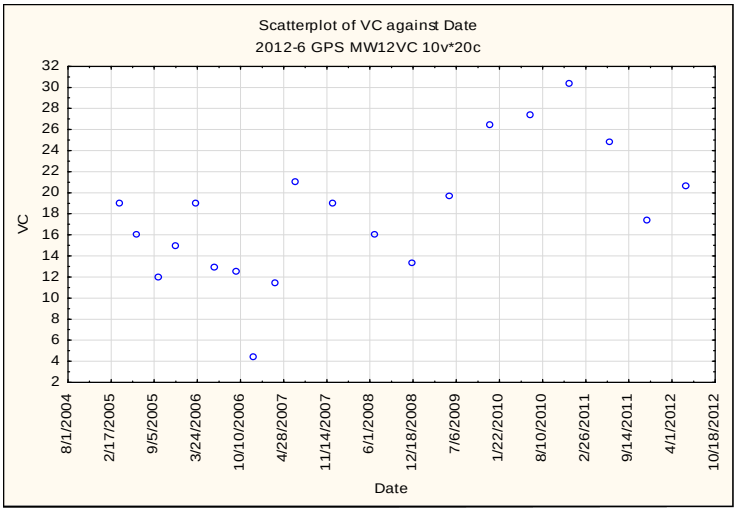


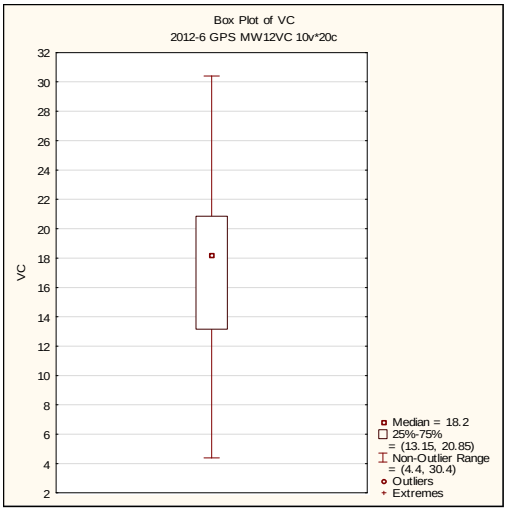
Descriptive Statistics (2012-6 GPS MW7A VC)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	20	0.633500	0.490000	0.490000	1.100000	0.223000

Wilcoxon Matched Pairs Test (2012-6 GPS MW7A VC) Marked tests are significant at p <.01000					
		Valid	T	Z	p-value
VC	& GPS	20	0.00	3.919930	0.000089

VINYL CHLORIDE IN MW-12

	Well	Date	VC	VCFlag	GPS
1	MW-12	3/29/2005	19		2
2	MW-12	6/17/2005	16		2
3	MW-12	9/20/2005	12		2
4	MW-12	12/14/2005	15		2
5	MW-12	3/16/2006	19		2
6	MW-12	6/13/2006	13		2
7	MW-12	9/21/2006	12.5		2
8	MW-12	12/7/2006	4.4		2
9	MW-12	3/15/2007	11.5		2
10	MW-12	6/21/2007	21	JF%	2
11	MW-12	12/11/2007	19		2
12	MW-12	6/25/2008	16		2
13	MW-12	12/10/2008	13.3		2
14	MW-12	6/2/2009	19.7		2
15	MW-12	12/9/2009	26.4		2
16	MW-12	6/15/2010	27.4		2
17	MW-12	12/7/2010	30.4	J	2
18	MW-12	6/14/2011	24.9	J	2
19	MW-12	12/6/2011	17.4		2
20	MW-12	6/5/2012	20.7		2



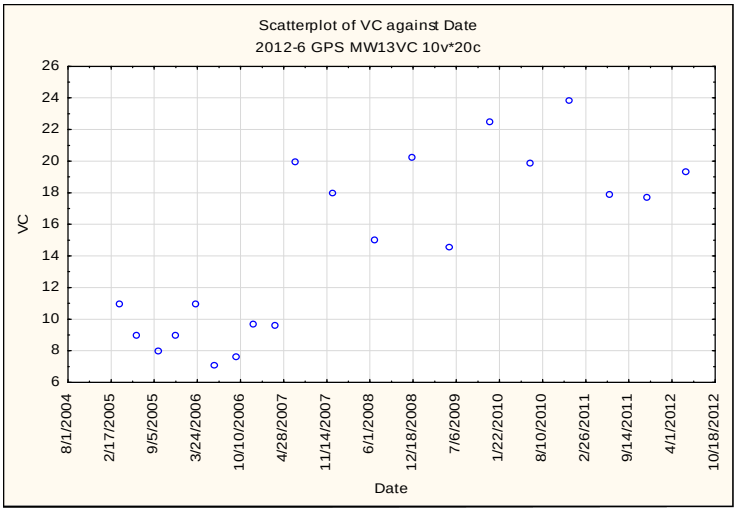


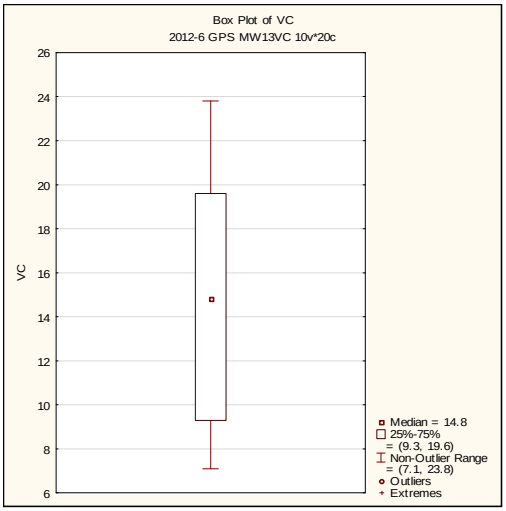
Descriptive Statistics (2012-6 GPS MW12VC)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	20	17.93000	18.20000	4.400000	30.40000	6.241972

Wilcoxon Matched Pairs Test (2012-6 GPS MW12VC) Marked tests are significant at p <.01000				
	Valid	T	Z	p-value
VC & GPS	20	0.00	3.919930	0.000089

VINYL CHLORIDE IN MW-13

	Well	Date	VC	VCFlag	GPS
1	MW-13	3/29/2005	11		2
2	MW-13	6/17/2005	9		2
3	MW-13	9/20/2005	8		2
4	MW-13	12/14/2005	9		2
5	MW-13	3/16/2006	11		2
6	MW-13	6/13/2006	7.1		2
7	MW-13	9/21/2006	7.6		2
8	MW-13	12/7/2006	9.7		2
9	MW-13	3/15/2007	9.6		2
10	MW-13	6/20/2007	20	JF%	2
11	MW-13	12/11/2007	18		2
12	MW-13	6/24/2008	15		2
13	MW-13	12/10/2008	20.2		2
14	MW-13	6/2/2009	14.6		2
15	MW-13	12/9/2009	22.5		2
16	MW-13	6/16/2010	19.9		2
17	MW-13	12/7/2010	23.8	J	2
18	MW-13	6/14/2011	17.9	J	2
19	MW-13	12/7/2011	17.7		2
20	MW-13	6/6/2012	19.3		2





Descriptive Statistics (2012-6 GPS MW13VC)						
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	20	14.54500	14.80000	7.100000	23.80000	5.507743

Wilcoxon Matched Pairs Test (2012-6 GPS MW13VC) Marked tests are significant at p <.01000				
	Valid	T	Z	p-value
VC & GPS	20	0.00	3.919930	0.000089