TETRA TECH, INC.

March 31, 2014

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

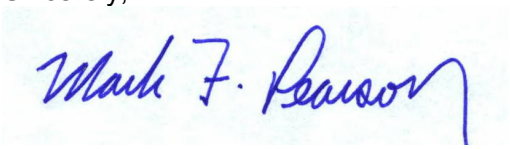
RE: Report of Groundwater Monitoring Activities – December 2013
Bozeman Landfill
Bozeman, Montana

Dear Dustin:

Please find the attached report of Groundwater Monitoring Activities for December 2013. Please contact me with any questions or comments to this report or project. Copies have been forwarded to the parties listed below.

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

Sincerely,



Mark F. Pearson
Project Manager/Hydrogeologist

mfp

Enclosure: Report of Groundwater Monitoring Activities – December 2013

Copies of this report sent to:
1) Mr. John Collins, Montana DEQ – hard copy and pdf on CD
2) Mr. and Mrs. Gianforte –pdf via email

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REPORT OF GROUNDWATER MONITORING ACTIVITIES
DECEMBER 2013

BOZEMAN LANDFILL
BOZEMAN, MONTANA

REPORT OF GROUNDWATER MONITORING ACTIVITIES
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BOZEMAN 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.
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March 31, 2014

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring activities conducted during December 2013 at the Bozeman Landfill (**Figure 1**, **Appendix A**). Tetra Tech personnel conducted the monitoring in accordance with a Task Order dated November 20, 2013 and the *Groundwater Sampling and Analysis Plan* dated October 28, 2010. The task order was approved by the City of Bozeman on December 2, 2013.

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

1.1 METHODS

This section describes methods used to monitor groundwater at the Bozeman 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**. A schedule of laboratory analysis conducted during the December 2013 monitoring event is presented in **Table 1**.

1.1.1 Water Level and Field Parameter Measurements

Depth to groundwater was measured in monitoring wells during the December 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, measured in milligrams per liter), and oxidation reduction potential (ORP, measured in millivolts) were measured. Initially, an Oakton PC-300 temperature, pH, and conductivity meter was initially used then replaced with a YSI®-556 multimeter where temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential could be measured. Field parameters were measured in grab samples collected from the monitoring wells during purging; in purge water during pumping of wells; and/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

As with the previous semi-annual monitoring events, the December 2013 monitoring event was an assessment groundwater monitoring event. This consisted of groundwater samples being collected from 16 monitoring wells (LF-2, LF-3, MW-4, MW-5, MW-6, MW-6B, MW-7A, MW-8A, MW-8C, MW-9A, MW-11, MW-12, MW-13, MW-14, MW-15, and MW-16). Samples were also collected from the Landfill Shop Well (shop well), McIlhattan Seep, and Valley View (formerly McIlhattan) Veterinary Clinic (Vet) well. Well MW-10 could not be sampled due to the formation of ice in the well during the monitoring. Locations of wells and other sampling locations are shown in **Figure 2**.

Groundwater quality in wells MW-5 and MW-15 is considered to represent background water quality conditions and hence, these wells are ‘background’ wells. There are two point of compliance (POC) monitoring locations within the landfill property and these are wells MW-6

and MW-8A. The groundwater protection standard (GPS) can be considered the concentration of constituents in the background wells. The GPS is also federal and/or state regulatory levels for any particular constituent. Groundwater quality in the POC wells is then compared with the background wells to determine if a constituent exceeds the GPS.

The required constituents to be analyzed are listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7). The water samples collected were analyzed for volatile organic compounds (VOCs) in accordance with method 8260B MSV Low Level and inorganic constituents in accordance with method 6020 MET ICPMS (metals), method 300.0 IC (anions), and method 353.2 (nitrate+nitrite as N). Analytical methods are included with the laboratory analytical report in **Appendix D**.

DEQ had previously approved omissions and additions of constituents to the Appendix I list. Montana landfill inorganic constituents include chloride, sulfate, electrical conductivity, pH, nitrate+nitrite, and up to 15 metals. Not all the wells or sites were sampled for metals analysis. Metals analysis was conducted in samples collected from MW-5, MW-6, MW-6B, MW-8A, MW-8C, MW-13, MW-14, MW-15, and the Valley View Veterinary well. In addition, DEQ approved the omission of antimony, beryllium, and mercury from the list of metals.

All of the wells and sample sites were analyzed for VOCs at a minimum. In addition, the Method 8260 list of constituents was increased to include all of the constituents analyzed in the air monitoring project.

Pace Analytical Services, Inc. (Pace), in Billings, Montana was contracted to furnish the sample containers, a trip blank, and conduct the analysis of water samples. 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 (in accordance with Method 8260 Low Level) listed in Appendix I to 40 CFR Part 258 contained in ARM 17.50.1306(7) plus dichlorodifluoromethane. A duplicate sample (labelled DUP) was also collected at well MW-13 and submitted for analysis of VOCs and inorganic constituents.

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 242 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 concentrations. All other samples were collected in appropriate labeled containers and preserved, as necessary.

The December 2013 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 Bozeman Landfill during the December 2013 monitoring event are summarized 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. A groundwater flow and gradient map representing the December 2013 groundwater elevations is presented in **Figure 3**.

Site Depth to Groundwater and Seasonal Variation

Depth to first interception of groundwater ranges between approximately one foot below ground surface (bgs) in well MW-10 (observed as ice in the well casing) near the western margin of the site, 14 feet bgs in wells LF-2 and LF-3, 52 feet bgs in wells MW-11 and MW-12, and 110 feet bgs in well MW-5 at the eastern margin of the site. Seasonal variation of groundwater elevations, since the year 2000, has been an average of 0.9 foot in well MW-10; 0.7 and 0.4 foot in wells LF-2 and LF-3, respectively; 0.3 foot in wells MW-11 and MW-12; and 0.9 foot in well MW-5. **Chart 1**

(**Appendix B**) presents the change in groundwater levels through time in three monitoring wells across the site.

Site Groundwater Flow Direction and Hydraulic Gradient

The December 2013 water levels at the landfill were generally consistent with groundwater elevations measured in 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, 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-11. The groundwater gradient decreases between wells MW-11 and MW-4 to approximately 2.5% and then, if inferred to steepen again to approximately 4% between wells MW-4 and MW-10 (based on previous groundwater elevation measurements). In addition, in the vicinity of well MW-10, the 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 being within the alluvial valley of the East Gallatin River (**Figure 3**).

In addition to map hydraulic gradients described 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 continues to be a minimum of 10 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 — Consistent with 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 approximately four feet higher than in well MW-8A indicating an upward hydraulic gradient groundwater at depths greater than approximately 70 feet. 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 — Consistent with 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 are reiterated in this section and 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 December 2013 hydraulic gradients ranging from 2.5%

to 5.6%, the approximate rate of groundwater movement beneath the Bozeman Landfill ranges between four and nine feet per day.

2.2 GROUNDWATER QUALITY

A discussion of the December 2013 results for analyses of inorganic constituents and volatile organic compounds is presented in the following sections. The Groundwater Protection Standard (GPS) is the concentration of constituents in site upgradient wells MW-5 and MW-15 and/or equal to the United States Environmental Protection Agency (U.S. EPA) Maximum Contaminant Level (MCL). However, 2.1 µg/L benzene was detected in well MW-5 in the December 2013 monitoring event. The Montana Human Health Standard (HHS) cited in Circular DEQ-7 Montana Numeric Water Quality Standards (DEQ 2012) is also be representative of the GPS, as in the case of vinyl chloride.

2.2.1 Inorganic Groundwater Quality

Montana landfill inorganic constituents analyzed include chloride, sulfate, electrical conductivity, pH, nitrate+nitrite, and up to 15 metals. Metal concentrations in samples collected from monitoring wells during the December 2013 were generally near or below the analytical practical quantitation limit (PQL). These results are generally consistent with previous monitoring events. With exception to nitrate+nitrite as N, inorganic constituent concentrations in wells were below regulatory standards (MCL and HHS).

Concentrations of barium, nickel, selenium, chloride, sulfate, and nitrate+nitrite as N were higher in one or both of the POC wells compared with the background wells and hence, exceeded the GPS. Sites where metal concentrations were higher than the analytical practical quantitation limit (PQL) or of note are listed below:

- The nitrate+nitrite as N concentrations ranged between less than the PQL in well MW-13 to 11 milligrams per liter (mg/L) in well MW-8A. The background N concentration is 5.2 mg/L. The nitrate+nitrite as N concentration in well MW-8A exceeded the GPS or MCL for nitrate+nitrite as N of 10 mg/L (DEQ 2012). However, the concentration of N in this well has been decreasing in each monitoring event (since a high of 19.5 mg/L in June 2011). Well MW-8C had a nitrate+nitrite as N concentration of 6 mg/L. Well LF-2, downgradient of well MW-8A, had a nitrate+nitrite as N concentration of 2.4 mg/L.

- In those well or site samples submitted for analysis of metals, iron concentrations were below the PQL. In previous monitoring events, iron concentrations in wells MW-10 and MW-12 have typically been the highest (approximately three mg/L).

- Manganese concentrations ranged between non-detection to 1.2 mg/L. Manganese concentrations in well MW-13 were the highest (1.2 mg/L).

- Chloride concentrations ranged between 1.6 and 67.6 mg/L. Wells LF-3, MW-4, MW-6, MW-8A, MW-9A, MW-11, MW-12, MW-13, and McIlhattan Seep had chloride concentrations of 20 mg/L or greater. The background chloride concentration is 6 mg/L.

- Sulfate concentrations ranged between 4.4 and 58.3 mg/L. Wells MW-8A and McIlhattan Seep had sulfate concentrations over 50 mg/L. The background sulfate concentration is 13 mg/L.

2.2.2 Organic Groundwater Quality

The VOC analysis (8260B MSV Low Level method) includes the analysis of 58 constituents (**Appendix D**). Detections of VOCs by selected locations are the following:

Wells MW-5 and MW-15
Benzene and toluene were detected in well MW-5. No VOCs detected in well MW-15.

Wells MW-11 and MW-12
Tetrachloroethene, Trichloroethene, Vinyl Chloride, Benzene, 1,4 Dichlorobenzene, Dichlorodifluoromethane, 1,1 Dichloroethane, cis-1,2 Dichloroethene, trans-1,2 Dichloroethene, 1,2 Dichloropropane, Trichlorofluoromethane

Well MW-6
Tetrachloroethene, Trichloroethene, Vinyl Chloride, Chloroethane, 1,1 Dichloroethane, cis-1,2 Dichloroethene

Well MW-8A
Tetrachloroethene, Trichloroethene, cis-1,2 Dichloroethene

Wells LF-2 and LF-3
Tetrachloroethene, Trichloroethene, Dichlorodifluoromethane, cis-1,2 Dichloroethene

McIlhattan Seep
Chloromethane, Tetrachloroethene, Trichloroethene

Table 2 summarizes concentrations of selected VOCs in monitoring events including December 2013. Wells or sites with concentrations of tetrachloroethene and/or trichloroethene included wells LF-2, LF-3, MW-4, MW-6, MW-7A, MW-8A, MW-9A, MW-11, MW-12, MW-13, MW-16, shop well, and the McIlhattan Seep. Tetrachloroethene concentrations ranged between non-detection and 7.3 micrograms per liter (µg/L, 7.3 µg/L in the Shop Well). Trichloroethene concentrations ranged between non-detection and 1.4 µg/L (1.4 µg/L in well MW-16). Wells or sites with concentrations of vinyl chloride included wells MW-6, MW-7A, MW-12, and MW-13 where concentrations ranged between 0.22 (estimated) and 22.4 µg/L (22.4 µg/L in well MW-12).

Tetrachloroethene (in the Shop Well) and vinyl chloride (in wells MW-6, MW-7A MW-12, and MW-13) were the only VOCs detected above the GPS during the December 2013 monitoring event. The GPS for tetrachloroethene is 5 µg/L. The U.S. EPA GPS for vinyl chloride is 2 µg/L. However, Montana has a lower GPS (also known as the Human Health Standard) for vinyl chloride of 0.2 µg/L (DEQ 2012).

3.0 DATA VALIDATION

This section describes the data validation process used to determine the adequacy and quality of December 2013 laboratory analytical data at the Bozeman 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 the U.S. EPA (1994a and 1994b).

3.1 FIELD QA/QC

A duplicate sample was collected from well MW-13 during the December 2013 monitoring event. The sample was labeled "Dup" and shipped with the other natural samples to Pace Analytical Services, Inc., in Billings, Montana for analysis of VOCs and inorganic constituents listed in ARM 17.50.1306 (plus dichlorodifluoromethane). A trip blank also accompanied the groundwater samples collected in December 2013. 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 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 well MW-13 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 constituent by the average of the two reported values. Analytical results of constituents where the RPD was greater than 20 percent are considered estimated concentrations. The nitrite + nitrate as N analytical results between the natural and duplicate samples collected from well MW-13 had a RPDs greater than 20 percent. Therefore, this constituent was flagged as estimated in the project analytical database.

AVDs are calculated by subtracting the results of the two reported values for a given constituent. If the difference exceeds the MDL, then results for this constituent are considered estimated. Analytical results between the natural and duplicate samples collected from well MW-13 had no AVDs greater than the MDL.

All trip blank results were evaluated using the following criteria:

- For detected constituents, 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

Analytical results of the trip blank sample were reviewed to determine if any constituent was measured in the sample at detectable concentrations. No VOCs were detected in the December 2013 trip blank.

3.2 LABORATORY QA/QC

Pace Analytical received groundwater samples collected from the City of Bozeman Landfill on December 20, 2013. 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 (unless otherwise noted on the report via a qualifier). The lab personnel 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 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 constituents listed in ARM 17.50.1307 have not exceeded the GPS for a period of three consecutive years based on statistical analysis of the data.

Of those constituents listed in ARM 17.50.1307, the following constituents have equaled or exceeded the GPS at the Bozeman Landfill on at least a single occasion in the last seven years (since December 2006):

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

These constituents 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.

Results from two POC wells downgradient of the *Unlined Closed Cell* were evaluated. These are wells MW-6 and MW-8A (**Figure 2**). The upgradient wells considered to represent background groundwater quality conditions are MW-5 and MW-15.

In consideration of vinyl chloride concentrations in wells MW-6 and MW-7A, statistics was conducted using the U.S. EPA MCL of 2 µg/L as the GPS instead of the Montana HHS of 0.2 µg/L. The reasons for this are as follows:

- A larger data set (of 15 to 20 data points) can be used when the GPS is set to 2 µg/L.
- The MW-6 and MW-7A data sets incorporating a PQL or MDL of 0.2 µg/L are, at present, too small to conduct meaningful statistical calculations (see **Table 3**).
- Statistical calculations can continue to be performed for vinyl chloride in wells MW-6 and MW-7A while the collection of additional data points at a lower detection limit is ongoing. A GPS of 0.2 µg/L can be used when these data sets are of adequate size for meaningful statistical calculations.

In accordance with ARM 17.50.1307, the statistical analysis was conducted in three steps:

Step 1 - Comparison of constituents in samples collected from the background wells (MW-5 and MW-15) and the POC wells (MW-6 and MW-8A) since December 2010.

Step 2 - Statistical analysis of constituents in samples collected from the POC wells that have a higher concentration than samples collected from the background wells. In addition, the statistical analysis was conducted on constituents that have exceeded the GPS in the last seven years (December 2006 to present) to determine if there is a statistically significant increase over background values.

Step 3 - Statistical examination of trends of those constituents that have exceeded the GPS in the last seven years (December 2006 to present) 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, in the project analytical database and **Table 3**, between the practical quantitation limit (PQL) or reporting limit (RL) and the minimum detection limit (MDL) is flagged with a “J” and that value is used in the analysis and any value below the MDL is marked with a “U”. In the December 2013 data, results lower than the PQL were used and included results between the PQL and MDL. Results less than the MDL are considered to be equal to half the MDL. This is in accordance with U.S. 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 constituents in the December 2013 monitoring that had sufficient sample sizes to test for normality, none exhibited a normal distribution. Hence, where the proportion of non-detects allow, 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 constituent concentrations in downgradient wells to the 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 constituents 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 concentrations in the POC wells 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 that 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 December 2013 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 had exhibited vinyl chloride concentrations above the U.S. EPA GPS (2 µg/L) in monitoring events conducted from December 2009 to June 2011 (four events). Vinyl chloride concentrations have been below the U.S. EPA GPS in the four sample data sets after June 2011 (December 2011 to December 2013). There are nine valid sample data monitor values with no flag since December 2009. Evaluation of the nine sample data sets from December 2009 to December 2013 indicated, with a p-value of 0.86, no difference between the GPS and the nine valid sample data values for well MW-6. Furthermore, a more conservative evaluation using the flagged and un-flagged sample data values from December 2006 to December 2013 (16 values)

also indicated, with a p-value of 0.088, no significant difference between the GPS and the 16 sample data values.

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 concentrations in the POC wells 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 evaluate 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 MDL (in un-transformed units) are used to replace non-detect data.

4.3 RESULTS AND DISCUSSION

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 4** and **5**. The output from statistical analysis including descriptive statistics, data plots, and test results are contained in **Appendix E**.

Step 1
A comparison of medians between the upgradient and POC wells was conducted for the last three years of data. Results of this comparison indicated that the following constituents were above background concentrations in one or both of the POC wells:

1,1 dichloroethane
cis 1,2 dichloroethene
Tetrachloroethene
Trichloroethene
Vinyl Chloride
N as NO_2+NO_3
Chloride
Sulfate
Barium
Nickel
Selenium

Step 2
A comparison of medians between the upgradient and POC wells was conducted for the last seven years of data (approximately 15 data points, although up to 20 data points could be used) and results of the Mann-Whitney U test are presented in **Table 4**. Plots and calculations supporting **Table 4** are contained in **Appendix E**. These results indicated that the following constituents were above background concentrations in one or both of the POC wells:

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

As in previous reporting; barium, nickel, and selenium were excluded from this step 2 calculation. Barium concentrations in the POC wells has consistently exceeded the background wells, however, DEQ has allowed the omission of statistics calculations for barium. Nickel and selenium have sparodically exceeded concentrations in the POC wells and have remained at concentrations below the HHS. Therefore, these metals have not been included in the Step 2 calculation.

Step 3
Eight statistical tests were performed using the 1-sample Wilcoxon method at the 99 percent confidence level. Results are presented in **Table 5**.

Using the U.S. EPA GPS of 2 µg/L for vinyl chloride, concentrations of vinyl chloride in wells MW-12 and MW-13 were statistically different from the GPS at the 99 percent confidence level. As observed from the statistics and charts for wells MW-12 and MW-13, vinyl chloride concentrations are greater than the U.S.EPA GPS value of 2 ug/L. Analysis of vinyl chloride samples in well MW-7A indicates that concentrations are statistically different from the U.S. EPA GPS of 2 ug/L. Although there is a statistical difference, the analysis of the MW-7A results shows that the difference is due to the fact that there is a statistically lower value of vinyl chloride in the sample concentrations. Vinyl chloride has been detected in wells MW-7A, MW-12, and MW-13 since the 1990's.

Tetrachloroethene in well MW-7A does not exhibit concentrations statistically different from the GPS at the 99 percent confidence level. Concentrations of tetrachloroethene appear to have decreased since December 2012. Due to the consideration of sampling results only for the last seven years, trichloroethene in well MW-12 does not exhibit concentrations that are statistically different from 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 constituents at the 99 percent confidence level.

5.0 SUMMARY

The following summarizes data, calculations, and interpretations resulting from the December 2013 groundwater monitoring event at the Bozeman Landfill:

- December 2013 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 (**Figure 3**).

- Consistent with the results of the December 2012 monitoring event, upward groundwater gradients were measured at MW-6 and MW-8A well locations. Also, consistent with

results of previous monitoring events, MW-7 and MW-9 well locations have no upward or downward groundwater gradients down to 74 and 57 feet depths, respectively.

- Tetrachloroethene concentrations ranged between non-detection and 7.3 µg/L in wells LF-2, LF-3, MW-4, MW-6, MW-7A, MW-8A, MW-9A, MW-11, MW-12, MW-13, MW-16, Landfill Shop Well, and the McIlhattan Seep. Trichloroethene was also detected in these wells at concentrations up to 1.4 µg/L. Concentrations of vinyl chloride ranged between 0.22 (estimated) and 22.4 µg/L in wells MW-6, MW-7A, MW-12, and MW-13.

- Tetrachloroethene (in the Shop Well) and vinyl chloride (in wells MW-6, MW-7A, MW-12, and MW-13) exceeded the Montana HHS and/or GPS during the December 2013 monitoring event. The concentration of vinyl chloride in well MW-6 has exceeded the Montana Human Health Standard of 0.2 µg/L since December 2009.

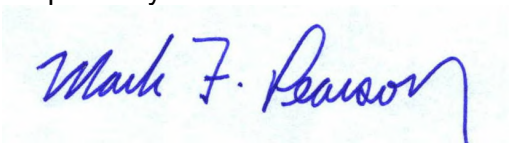
- Due to higher analytical reporting limits for vinyl chloride in monitoring results before 2009, the U.S. EPA GPS of 2 µg/L was used in the statistics calculations. The concentration of vinyl chloride in wells MW-12 and MW-13 is statistically greater than the U.S. EPA GPS of 2 µg/L. Vinyl chloride in well MW-6 does not meet statistics criteria to be significantly different from the U.S. EPA GPS.

- As of December 2013, the concentration of 1,1 dichloroethane, cis 1,2 dichloroethene, tetrachloroethene, and trichloroethene in POC wells was significantly different (higher) than the GPS in the three year comparison of medians between background and POC wells.

- Although statistics calculations indicated that nitrate+nitrite as N in well MW-8A was not statistically different from the background concentrations or greater than the GPS, nitrate+nitrite as N in well MW-8A has exceeded the GPS for the sixth consecutive monitoring event (since December 2010). The concentration of nitrate+nitrite as N was 11 mg/L in well MW-8A and 2.4 mg/L in well LF-2 (downgradient of well MW-8A).

According to ARM 17.50.1310(5)(b), the City of Bozeman is required to continue corrective actions at the Bozeman 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 June 2014.

Prepared by:



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Caitlin Fleming, P.E.
Project Engineer

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U.S. EPA, 1994b. *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. Office of Emergency and Remedial Response. February 1994.

ONLINE REFERENCES

U.S. EPA Groundwater Protection Standard for Vinyl Chloride:
http://water.epa.gov/drink/contaminants/index.cfm#List

Montana DEQ Solid Waste Program Laws and Rules:
http://www.deq.mt.gov/SolidWaste/LawsRules.mcpx

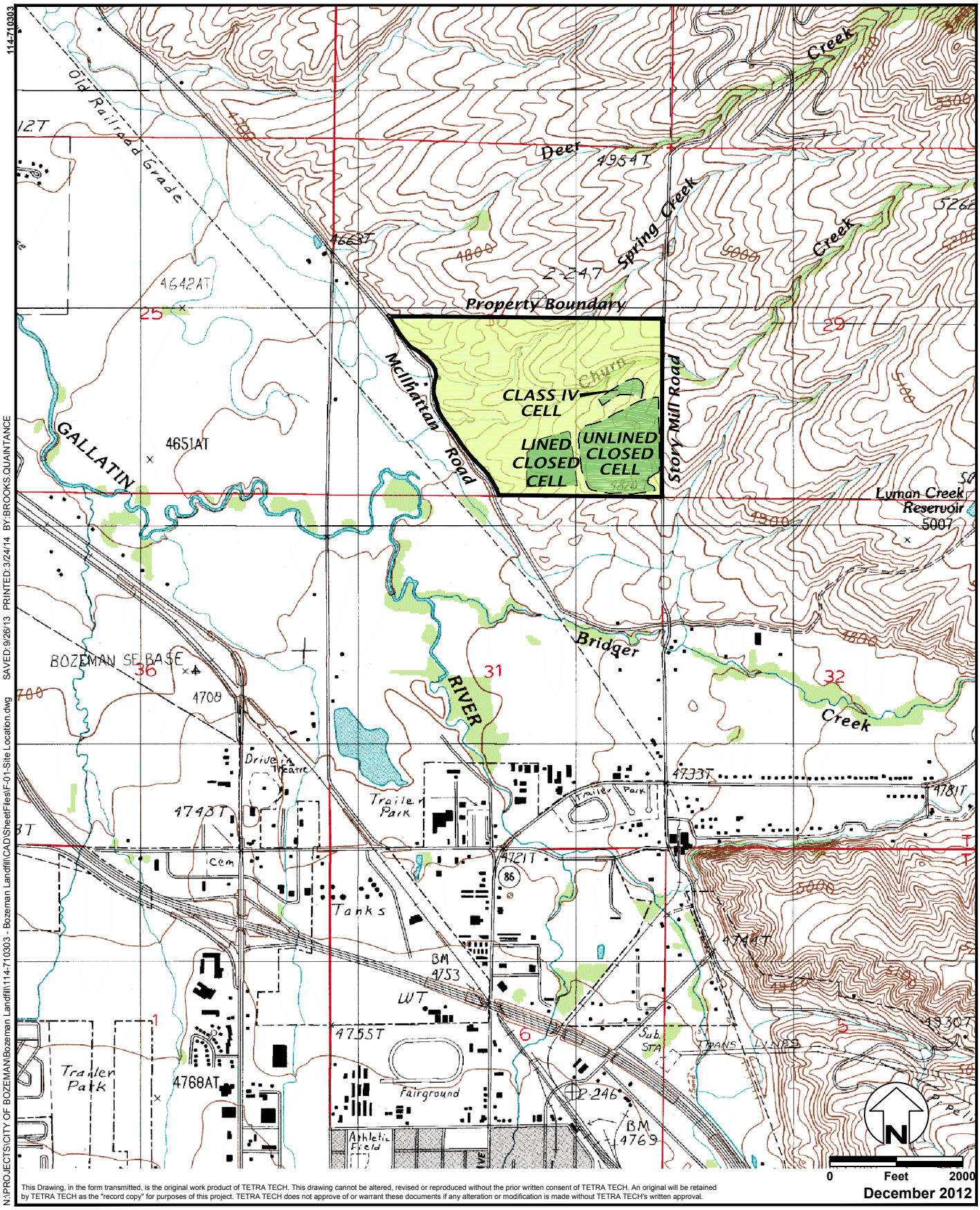
APPENDIX A

FIGURES

FIGURE 1 Site Location Map

FIGURE 2 Site Map

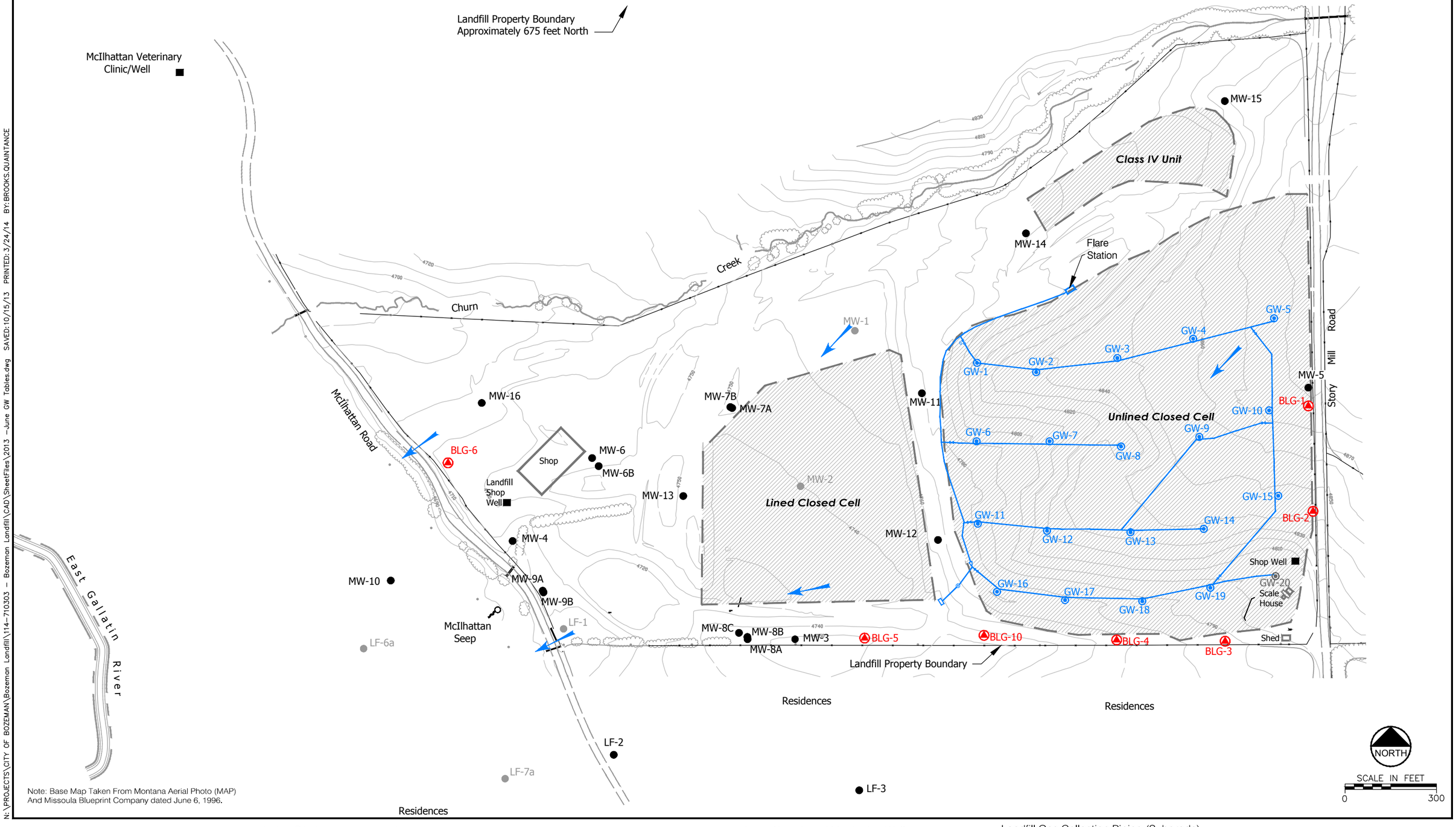
FIGURE 3 December 2013 – Water Table Map



From USGS 7.5' Bozeman Quad (1987)

114-710326.400

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.

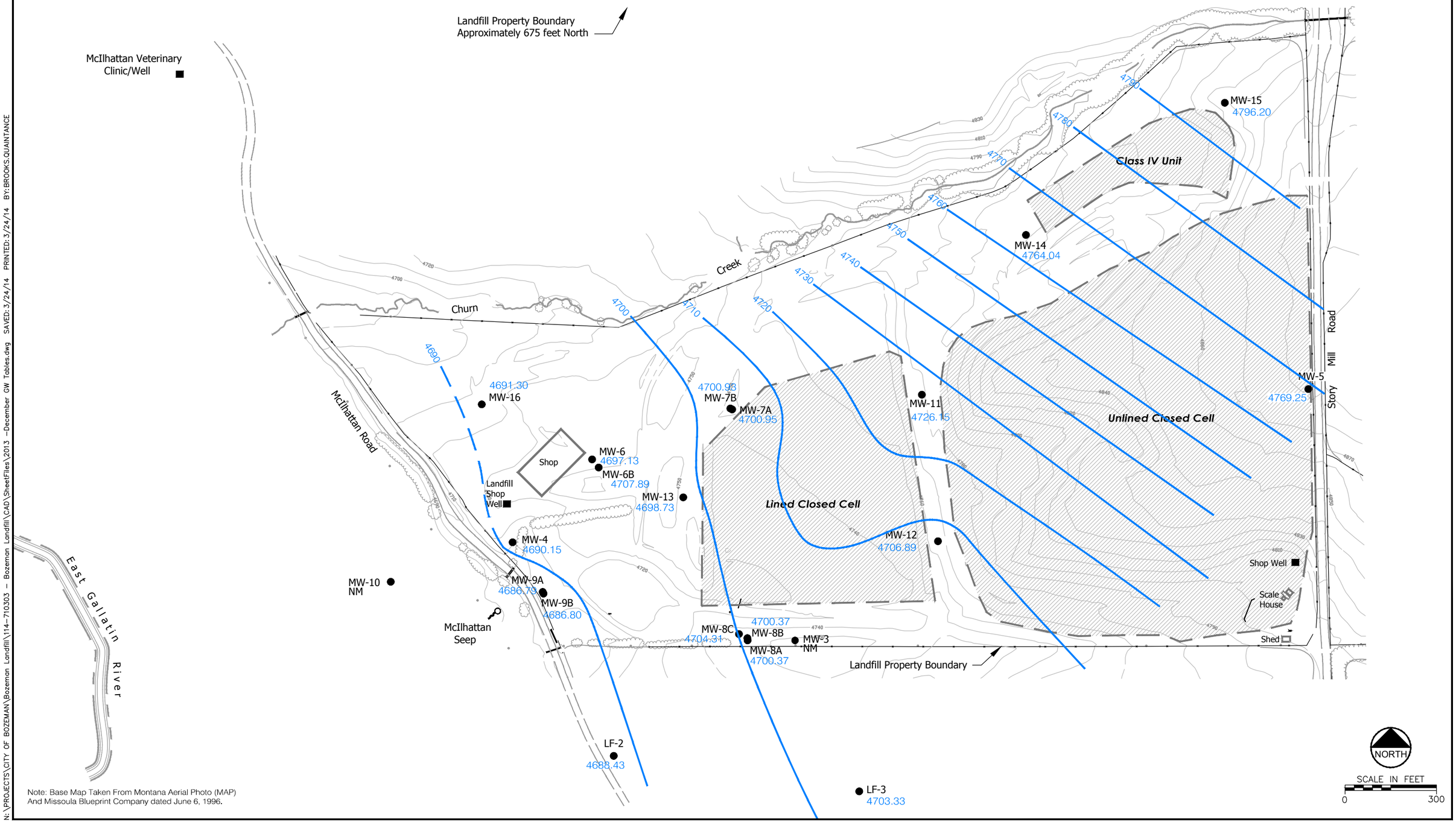
Note: Site topographic contours shown are not indicative of current site topography.

BSV - Soil Gas Probes are not shown.

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

114-710326.400

Site Map
Bozeman Sanitary Landfill
Bozeman, Montana
FIGURE 2



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.

— — Dashed Where Inferred
● Monitoring Well
■ Supply Well
NM Not Measured

4703.33 Groundwater Elevation (feet AMSL)

114-710326.400

December 2013 - Water Table Map
Bozeman Sanitary Landfill
Bozeman, Montana
FIGURE 3

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\CAD\SheetFiles\2013 -December GW Tables.dwg SAVED: 3/24/14 PRINTED: 3/24/14 BY:BROOKS.QUAINTANCE

APPENDIX B

TABLES AND CHART

TABLE 1
Schedule of Field Measurements and Laboratory Analysis – December 2013
Bozeman Landfill, Bozeman Montana

Well or Sampling Site	Monitoring Frequency	December 2013							
		Field	Laboratory	VOCs	Inorganics				
		pH, SC, DO & ORP	pH & SC		Fe, Mg (dissolved)	'Full List' Metals (dissolved)	Chloride	Sulfate	N as NO2+NO3
LF-2	Semi-annual monitoring	x		x					x
LF-3	Semi-annual monitoring	x		x			x	x	x
MW-4	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-5	Semi-annual monitoring	x	x	x		x	x	x	x
MW-6	Semi-annual monitoring	x	x	x		x	x	x	x
MW-6B	Last required monitoring event	x		x		x	x	x	x
MW-7A	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-7B	Next monitoring in 2015								
MW-8A	Semi-annual monitoring	x	x	x		x	x	x	x
MW-8B	Next monitoring in 2015								
MW-8C	Last required monitoring event	x		x		x	x	x	x
MW-9A	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-9B	Next monitoring in 2015								
MW-10	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-11	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-12	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-13	Semi-annual monitoring	x		x		x	x	x	x
MW-14	Annual monitoring due	x		x		x			
MW-15	Semi-annual monitoring	x	x	x		x	x	x	x
MW-16	Last required monitoring event	x		x					
Shop/Office Well	Semi-annual monitoring	x		x					
McIlhatten Seep	Semi-annual monitoring w/o metals	x		x			x	x	x
Valley View Vet Well	Semi-annual monitoring	x		x		x (1)	x	x	x

Notes :

VOCs : Volatile organic compounds

Fe, Mg : Iron, manganese

'Full List' : Analysis of 15 metals including:

arsenic	chromium	iron	nickel	thallium
barium	cobalt	lead	selenium	vanadium
cadmium	copper	manganese	silver	zinc

(1) : Total recoverable analysis of metals

TABLE 2
Groundwater Levels
Bozeman 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	4708.54
12/4/2012	14.26	4688.45	13.93	4703.17	49.24	4702.65	20.73	4690.17	111.31	4771.06	31.44	4697.25	19.40	4707.83
6/12/2013	14.05	4688.66	14.33	4702.77	N.M.	-----	20.69	4690.21	112.36	4770.01	31.47	4697.22	19.25	4707.98
12/18/2013	14.28	4688.43	13.77	4703.33	N.M.	-----	20.75	4690.15	113.12	4769.25	31.56	4697.13	19.34	4707.89

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.

N.M. Not measured

----- Not calculated

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

TABLE 2 (Continued)
Groundwater Levels
Bozeman 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
12/4/2012	56.69	4701.18	56.80	4701.15	47.50	4700.72	47.77	4700.70	43.09	4704.54	28.39	4686.88	28.62	4686.88
6/12/2013	56.81	4701.06	56.81	4701.14	47.74	4700.48	48.02	4700.45	43.31	4704.32	28.28	4686.99	28.53	4686.97
12/18/2013	56.92	4700.95	57.02	4700.93	47.85	4700.37	48.10	4700.37	43.32	4704.31	28.48	4686.79	28.70	4686.80

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 2 (Continued)
Groundwater Levels
Bozeman 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
12/5/2012	2.03	4672.98	51.84	4726.31	55.85	4707.17	43.59	4698.95	32.83	4765.11	45.98	4799.02	26.24	4691.09
6/12/2013	1.58	4673.43	51.85	4726.30	56.25	4706.77	43.70	4698.84	33.24	4764.70	47.20	4797.80	26.24	4691.09
12/18/2013	N.M.	-----	52.00	4726.15	56.13	4706.89	43.81	4698.73	33.90	4764.04	48.80	4796.20	26.03	4691.30

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 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
LF-2	12/6/2010	U 1	U 1	U 1	U 1	U 1	1.3	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	1.1	U 0.05	U 0.049
	12/5/2011	U 0.05	0.27	U 5	U 0.072	U 0.13	1.4	J 0.23	U 0.16
	6/4/2012	J 0.12	J 0.25	U 2	U 0.072	U 0.13	1.9	J 0.31	U 0.16
	12/6/2012	U 0.05	J 0.15	U 2	U 0.072	U 0.13	1.1	J 0.14	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	0.86	J 0.12	U 0.2
	12/18/2013	U 0.24	J 0.29	U 2	U 0.25	U 0.5	0.83	J 0.15	U 0.1
LF-3	1/18/1994	U 2	U 1	U 5	U 1	U 1	5	1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	2/1/1995	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	3	1	U 1
	11/28/1995	U 1	U 1	U 5	U 1	U 1	6	2	U 1
	6/25/1996	U 1	1	U 5	U 1	U 1	6	2	U 1
	12/11/1996	U 1	U* 1	U 5	U 1	U 1	5	2	U 1
	6/19/1997	U 1	1	U 1	U 1	U 2	6	2	U 2
	12/15/1997	U 1	1	U 5	U 1	U 1	2	6	U 1
	3/24/1998	U 1	1	U 5	U 1	U 1	7	2	U 1
	6/29/1998	U 1	U 1	<(2) 5	(2) U 1	< (2) 1	6	3	U 1
	9/29/1998	U 1	1	11	U 1	U 1	7	3	U 1
	12/14/1998	U 1	1	U(1)B 5	U 1	(1) U 1	6	6	U 1
	3/15/1999	U 1	(1) U 1	(1) U 5	U 1		6	2	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	4	1	U 1
	9/13/1999	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	U 1
	12/13/1999	U 1	(1) U 1	(1) U 5	U 1	U 1	5	2	U 1
	3/22/2000	U 1	(1) U 1	U 5	U 1	U 1	5	2	U 1
	6/7/2000	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	U 1
	9/22/2000	U 1	U 1	(1) U 5	U 1	U 1	4	1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	4	1	U 1
	3/22/2001	U 1	1	U 5	U 1	U 1	5	1	U 1
	6/11/2001	U 1	1	U 5	U 1	U 1	5	2	U 1
	9/19/2001	U 1	1	U(1,3) 5	U 1	1	5	3	U 1
	12/17/2001	U 1	1	(1) U 5	(1) U 1	U 1	6	2	U 1
	3/25/2002	U 1	1	U 5	U 1	2	6	1	U 1
	6/13/2002	U 1	1	(1) U 5	(1) U 1	U 1	5	1	U 1
	9/24/2002	U 1	1	UJR 5	U 1	U 1	5	1	U 1
	12/12/2002	U 1	1	(1) U 5	U 1	U 1	6	1	U 1
	3/24/2003	U 1	1	(1) U 5	(1) U 1	(1) U 1	5	1	U 1
	6/9/2003	U 1	1	(1) U 5	U 1	(1) U 1	5	1	U 1
	9/25/2003	U 1	1	(1) U 5	(1) U 1	U 1	5	1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	JJF% 1

Notes: µg/L - micrograms per liter
HHS - Human Health Standard (EPA Maximum Contaminant Level or HHS in Montana Circular DEQ-7, October 2012
NA - Not Applicable

J - Estimated Concentration
(1) - No HHS established
-- - Not collected/analyzed
U - Below Method Detection Limit
* (1) X F% - Additional QA/QC notes

- Value greater than or equal to the HHS

Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

TABLE 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
LF-3	3/25/2004	U 1	1	U 5	U 1	U 1	4	(1) U 1	U 1
	6/9/2004	U 1	1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	9/9/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	3/29/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	3	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	U 5	U 1	U 1	3	(1) U 1	U 1
	9/20/2005	U 1	(1) U 1	(1) BU 5	U 1	U 1	3	U 1	U 1
	12/13/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	3	(1) U 1	U 1
	3/16/2006	U 1	(1) U 1	U 5	U 1	U 1	3	(1) U 1	U 1
	6/12/2006	U 0.5	0.8	(1) U 5	(1) U 1	U 1	2.7	0.5	U 0.5
	9/20/2006	U 0.5	0.6	U(1) 5	U(1) 1	U 1	2.3	U(1) 0.5	U 0.5
	12/5/2006	U 0.5	0.7	U 5	U 1	U 1	2.7	U(1) 0.5	U 0.5
	3/13/2007	U 0.5	0.8	U 5	U(1) 1	U 1	2.7	0.6	U 0.5
	6/21/2007	U 0.5	0.9	U 5	U 1	U 1	2.6	0.6	JJF% 0.5
	12/11/2007	U 0.5	0.8	U 5	U 1	U(1) 1	2.5	0.6	U 0.5
	6/25/2008	U 0.5	1	U(1) 5	U 1	U 1	2.9	0.7	U 0.5
	12/8/2008	U 1	1.6	U 4	U 1	U 1	3.9	1.1	U 0.4
	6/2/2009	U 0.5	1.5	U 2	U 0.5	U 2	4.5	1	U 0.2
	12/10/2009	U 0.5	1.8	UB 2	U 0.5	U 2	4.4	1	U 0.2
	6/16/2010	U 0.5	2.1	30.4	U 0.5	U 0.5	4.4	1.1	U 0.5
	12/6/2010	U 1	1.2	U 1	U 1	U 1	3.9	U 1	U 1
	6/13/2011	U 0.04	1.9	U 2	J 0.11	J 0.11	3.9	0.96	U 0.049
	12/6/2011	U 0.05	1.8	U 5	U 0.072	U 0.13	3.8	0.9	U 0.16
	6/4/2012	J 0.05	1.9	U 2	J 0.086	U 0.13	4.1	0.94	U 0.16
	12/6/2012	U 0.05	1.8	U 2	J 0.14	U 0.13	3.8	0.88	U 0.16
	6/12/2013	U 0.24	2.3	U 2	U 0.25	U 0.5	4.2	1	U 0.2
	12/18/2013	U 0.24	2.2	U 2	U 0.25	U 0.5	3.4	0.78	U 0.1
MW-4	1/18/1994	U 2	U 1	U 5	2	U 1	4	2	U 1
	6/27/1994	U 1	U 1	U* 5	2	U 1	4	2	U 1
	1/31/1995	U 1	U 1	U* 5	1	U 1	3	2	U 1
	6/27/1995	U 1	U 1	JX 1	1	U 1	2	1	U 1
	11/28/1995	U 1	U 1	U* 5	1	U 1	3	1	U 1
	6/25/1996	U 1	U 1	U 5	1	U 1	3	2	U 1
	12/11/1996	U 1	U* 1	U 5	U 1	U 1	2	1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	2	U 1	U 2
	12/15/1997	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/29/1998	U 1	<(2) 1	<(5) 5	(1) U 1	< (2) 1	2	1	U 1
	12/14/1998	U 1	(1) U 1	U(1)B 5	(1) U 1	(1) U 1	2	2	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	1	U 1
	12/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	2	1	U 1

Notes:
µg/L - micrograms per liter
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NA - Not Applicable
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Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

TABLE 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-4	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	1	1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	2	1	U 1
	12/17/2001	U 1	1	(1) U 5	(1) U 1	U 1	1	1	U 1
	6/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	12/11/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/9/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	JJF% 1
	6/9/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/12/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	0.5	(1) U 0.5	U 0.5
	12/5/2006	U 0.5	U(1) 0.5	U 5	U 1	U 1	U(1) 0.5	U(1) 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.6	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U(1) 0.5	U 5	U 1	U 1	0.5	U(1) 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.5	U(1) 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	J 0.98	J 0.54	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.83	J 0.56	U 0.2
	6/15/2010	U 0.5	0.51	27.6	U 0.5	U 0.5	0.85	0.66	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	U 0.04	J 0.49	U 2	J 0.24	J 0.097	0.78	0.66	U 0.049
	12/7/2011	U 0.05	J 0.4	U 5	J 0.25	U 0.13	0.87	0.64	U 0.16
	6/4/2012	J 0.51	J 0.48	U 2	J 0.25	U 0.13	1.2	0.86	U 0.16
	12/4/2012	U 0.05	J 0.45	U 2	J 0.29	U 0.13	1.1	0.79	U 0.16
	6/10/2013	U 0.24	J 0.5	U 2	J 0.42	U 0.5	1.1	0.97	U 0.2
	12/16/2013	U 0.24	J 0.47	U 2	J 0.45	U 0.5	1	0.77	U 0.1
McIlhattan Seep	12/18/2013	U 0.24	J 0.32	U 2	U 0.25	J 0.7	1.2	J 0.39	U 0.1
MW-5	1/17/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/31/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	11/27/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/25/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/11/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/15/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/29/1998	U 1	U 1	U 5	U 1	1	U 1	U 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1

Notes: µg/L - micrograms per liter
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NA - Not Applicable
J - Estimated Concentration
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- Value greater than or equal to the HHS

Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

TABLE 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-5	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/17/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/13/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/11/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/9/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/9/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/5/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/3/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/14/2010	U 0.5	U 0.5	38.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	J 0.07	U 0.08	U 2	U 0.072	J 0.057	U 0.041	U 0.05	U 0.049
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	J 0.07	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	2.1	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
MW-6	8/3/1993	U 1	2.3	U 1	1.7	U 1	U 1	5.1	3.7
	1/18/1994	U 2	2	U 5	U 1	U 1	1	5	6
	6/28/1994	U 1	3	U 5	3	U 1	1	6	8
	2/1/1995	U* 1	3	U 5	3	U 1	1	5	12
	6/27/1995	U 1	2	U 1	U 1	U 1	U 1	3	9
	11/28/1995	U 1	1	U 5	2	U 1	1	3	6
	6/25/1996	U 1	U* 1	U 5	2	1	1	2	11
	12/11/1996	U 1	U 1	U 5	2	U 1	U* 1	2	11
	6/19/1997	U 1	U 1	U 1	U 1	U 2	1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	2	U 1	2	U 1	14

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-6	3/23/1998	U 1	U 1	U 5	2	U 1	U 1	2	13
	6/29/1998	U 1	<(2) 1	U 5	1	U 1	<(2) 1	1	15
	9/29/1998	U 1	U 1	U 5	1	U 1	U 1	1	9
	3/15/1999	U 1	U 1	(1) U 5	(1) U 1		(1) U 1	1	9
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	9
	9/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	U 1	9
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	10
	3/22/2000	U 1	U 1	U 5	(1) U 1	U 1	U 1	(1) U 1	4
	6/7/2000	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	U 1	3
	9/22/2000	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	3
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	3
	3/21/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	9/19/2001	U 1	(1) U 1	U(1,3) 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	1	U 1
	3/25/2002	U 1	1	U 5	U 1	U 1	U 1	2	U 1
	6/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	9/24/2002	U 1	1	UJR 5	U 1	U 1	U 1	1	U 1
	12/12/2002	U 1	2	(1) U 5	1	U 1	(1) U 1	2	(1) U 1
	3/24/2003	U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	(1) U 1	1	U 1
	6/9/2003	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	9/25/2003	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	12/4/2003	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	JJF% 1
	3/24/2004	U 1	2	U 5	1	U 1	(1) U 1	2	U 1
	6/8/2004	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	9/9/2004	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	12/7/2004	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	3/29/2005	U 1	2	(1) U 5	1	U 1	(1) U 1	2	U 1
	6/16/2005	U 1	1	U 5	1	U 1	2	2	U 1
	9/20/2005	U 1	2	(1) BU 5	(1) U 1	U 1	(1) U 1	3	U 1
	12/14/2005	U 1	1	(1) U 5	1	U 1	2	2	U 1
	3/16/2006	U 1	(1) U 1	U 5	(1) U 1	U 1	2	1	U 1
	6/13/2006	U 0.5	0.8	(1) U 5	1.1	U 1	2.5	1.1	U 0.5
	9/21/2006	U 0.5	1.8	U(1) 5	U(1) 1	U 1	0.9	2.2	U(1) 0.5
	12/6/2006	U 0.5	1.5	U 5	1	U 1	1.8	1.6	U 0.5
	3/15/2007	U 0.5	1	U 5	1	U 1	1.4	1	U 0.5
	6/20/2007	U 0.5	0.8	U 5	U 1	U 1	1.1	1	JJF% 0.5
	12/10/2007	U 0.5	1.8	U 5	1.1	U(1) 1	1.3	1.9	U 0.5
	6/24/2008	U 0.5	0.8	U(1) 5	U 1	U 1	0.9	0.8	U 0.5
	12/9/2008	U 1	1.8	U 4	1.4	U 1	1.7	2.2	U 0.4

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-6	6/2/2009	U 0.5	1.4	U 2	1.1	U 2	J 0.88	1.3	U 0.2
	12/9/2009	U 0.5	1.8	UB 2	1.3	U 2	1.7	1.8	2.1
	6/15/2010	U 0.5	1.5	19.1	1.1	U 0.5	1.3	1.4	2.4
	12/7/2010	U 1	2.2	U 1	1.1	U 1	1	1.5	5.3
	6/13/2011	J 0.31	1.3	U 2	0.94	U 0.021	0.78	0.96	5.2
	12/5/2011	U 0.05	1	U 5	0.89	U 0.13	1.5	0.88	1.2
	6/5/2012	J 0.21	2.5	U 2	1.1	U 0.13	0.93	1.1	1.8
	12/4/2012	J 0.12	2.1	U 2	0.95	U 0.13	0.97	0.79	1.5
	6/10/2013	U 0.24	2.3	U 2	1.2	U 0.5	0.8	0.82	0.65
	12/16/2013	U 0.24	2.9	U 2	1.3	U 0.5	0.64	0.66	1.2
MW-6B	6/5/2012	U 0.05	U 0.08	U 2	U 0.5	U 0.13	U 0.16	U 0.11	U 0.16
	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
MW-7A	1/18/1994	U 2	U 1	12	6	U 1	27	4	U 1
	6/28/1994	U* 1	U 1	18	7	U 1	32	5	U 1
	2/1/1995	U 1	U 1	14	6	U 1	24	4	1
	6/27/1995	2	U 1	JX 17	6	U 1	13	5	U 1
	11/27/1995	U* 1	U 1	10	4	U 1	17	4	1
	6/25/1996	2	U* 1	15	5	U 1	16	6	4
	12/11/1996	U* 1	U 1	10	3	U 1	10	4	2
	6/20/1997	2	U 1	15	4	U 2	13	5	7
	12/16/1997	2	1	JX 18	5	U 1	5	13	5
	3/23/1998	2	U 1	14	4	U 1	11	4	4
	6/30/1998	2	1	15	4	U 1	11	4	6
	9/29/1998	2	1	19	4	U 1	11	4	3
	12/14/1998	2	1	B 21	5	U 1	11	11	4
	3/15/1999	2	(1) U 1	14	4		10	3	3
	6/22/1999	2	U 1	(1) U 5	4	U (1) 5	6	3	4
	9/13/1999	2	(1) U 1	(1) U 5	3	U 1	8	3	3
	12/14/1999	1	U 1	(1) U 5	3	U 1	7	2	2
	3/22/2000	1	U 1	U 5	3	U 1	9	3	2
	6/7/2000	(1) U 1	(1) U 1	(1) U 5	3	U 1	7	U 1	3
	9/22/2000	(1) U 1	U 1	(1) U 5	3	U 1	7	2	3
	11/28/2000	U 1	U 1	U 5	3	U 1	7	2	3
	3/21/2001	U 1	U 1	U 5	4	U 1	11	3	2
	6/11/2001	1	U 1	U 5	4	U 1	12	3	3
	9/19/2001	(1) U 1	U 1	U(1,3) 5	3	U 1	8	2	(1) U 1
	12/17/2001	(1) U 1	(1) U 1	(1) U 5	5	U 1	11	3	2
	3/25/2002	U 1	U 1	U 5	3	U 1	9	2	1

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7A	6/13/2002	(1) U 1	(1) U 1	(1) U 5	5	U 1	10	3	2
	9/24/2002	U 1	U 1	UJR 5	3	U 1	8	2	1
	12/12/2002	(1) U 1	(1) U 1	(1) U 5	5	U 1	12	3	1
	3/24/2003	(1) U 1	(1) U 1	(1) U 5	3	(1) U 1	9	2	(1) U 1
	6/10/2003	(1) U 1	(1) U 1	(1) U 5	3	U 1	9	2	(1) U 1
	9/25/2003	(1) U 1	(1) U 1	(1) U 5	3	U 1	8	2	(1) U 1
	12/4/2003	(1) U 1	(1) U 1	(1) U 5	4	U 1	7	2	)JF% 1
	3/24/2004	U 1	U 1	(1) U 5	2	U 1	4	(1) U 1	(1) U 1
	6/8/2004	U 1	U 1	(1) U 5	2	U 1	6	1	(1) U 1
	9/9/2004	(1) U 1	U 1	(1) U 5	1	U 1	5	(1) U 1	(1) U 1
	12/7/2004	U 1	U 1	(1) U 5	2	U 1	6	1	(1) U 1
	3/29/2005	U 1	U 1	(1) U 5	1	U 1	3	(1) U 1	(1) U 1
	6/17/2005	U 1	U 1	U 5	2	U 1	6	1	U 1
	9/20/2005	U 1	U 1	(1) BU 5	1	U 1	3	(1) U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	1	U 1	4	(1) U 1	(1) U 1
	3/16/2006	U 1	U 1	U 5	(1) U 1	U 1	2	(1) U 1	(1) U 1
	6/13/2006	(1) U 0.5	U 0.5	(1) U 5	1.6	U 1	4.2	0.7	(1) U 0.5
	9/21/2006	U(1) 0.5	U 0.5	U(1) 5	U(1) 1	U 1	2.7	U(1) 0.5	U(1) 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U(1) 1	U 1	1.7	U(1) 0.5	U 0.5
	3/15/2007	U 0.5	U 0.5	U 5	1	U 1	2.2	U(1) 0.5	U 0.5
	6/20/2007	0.5	U 0.5	U 5	U 1	U 1	2.3	0.6	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	1.3	U(1) 1	2.4	0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	1.5	U 1	3.5	0.7	U 0.5
	12/10/2008	U 1	U 1	U 4	2.9	U 1	5.5	1.3	0.53
	6/2/2009	U 0.5	U 0.5	U 2	1.6	U 2	4	J 0.81	U 0.2
	12/9/2009	U 0.5	U 0.5	UB 2	3.1	U 2	5.6	1.4	0.57
	6/16/2010	U 0.5	U 0.5	30.2	1.7	U 0.5	3.4	0.83	U 0.5
	12/7/2010	U 1	U 1	U 1	4.3	U 1	8.6	1.9	U 1
	6/14/2011	0.52	J 0.41	U 2	4.6	U 0.021	7.9	2	0.7
	12/6/2011	0.72	0.67	U 5	5.3	U 0.13	8.3	2.3	0.88
	6/5/2012	0.91	0.94	U 2	6.5	U 0.13	12	3	1.1
	12/5/2012	0.56	0.7	U 2	4.6	U 0.13	7.7	2	0.71
	6/12/2013	J 0.28	0.54	U 2	3.6	U 0.5	5	1.4	J 0.25
	12/17/2013	U 0.24	J 0.47	U 2	3.3	U 0.5	3.9	1.1	0.22
MW-7B	8/3/1993	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	1/18/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	2/1/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7B	6/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
MW-8A	1/19/1994	U 2	U 1	U 5	U 1	U 1	5	1	U 1
	6/28/1994	U 1	1	U 5	U 1	U 1	4	3	U 1
	2/1/1995	U 1	1	U 5	1	U 1	4	3	U 1
	6/27/1995	U 1	1	U 1	1	U 1	2	3	U 1
	11/28/1995	U 1	1	U* 5	2	U 1	3	3	U 1
	6/25/1996	U 1	2	U 5	2	U 1	3	3	U 1
	12/12/1996	U 1	1	U 5	1	U 1	2	3	U 1
	6/19/1997	U 1	1	U 1	1	U 2	2	2	U 2
	12/16/1997	U 1	3	U 5	1	U 1	3	3	U 1
	6/30/1998	U 1	4	<(2) 5	2	U 1	4	5	U 1
	12/15/1998	U 1	5	U(1)B 5	1	(1) U 1	4	4	U 1
	6/22/1999	U 1	3	(1) U 5	U 1	U 1	2	3	U 1
	12/14/1999	U 1	3	(1) U 5	(1) U 1	U 1	2	3	U 1
	6/8/2000	U 1	2	(1) U 5	(1) U 1	U 1	2	3	U 1
	11/29/2000	U 1	2	U 5	U 1	U 1	2	2	U 1
	6/12/2001	U 1	1	U 5	U 1	U 1	2	2	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	12/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/7/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/13/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	0.7	(1) U 0.5	U 0.5
	12/6/2006	U 0.5	U 0.5	U 5	U(1) 1	U(1) 1	0.7	U(1) 0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.8	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	0.6	U 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U(1) 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	J 0.86	U 0.5	U 0.2
	12/9/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.85	U 0.5	U 0.2
	6/15/2010	U 0.5	U 0.5	20	U 0.5	U 0.5	0.81	U 0.5	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	1.3	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	0.64	J 0.28	U 0.049
	12/5/2011	U 0.05	J 0.42	U 5	U 0.072	U 0.13	0.6	J 0.3	U 0.16
	6/5/2012	U 0.05	J 0.46	U 2	U 0.072	U 0.13	0.8	J 0.35	U 0.16
	12/4/2012	U 0.05	0.62	U 2	U 0.072	U 0.13	0.65	J 0.28	U 0.16

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Bozeman 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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-8A	6/12/2013	U 0.24	0.77	U 2	U 0.25	U 0.5	0.68	J 0.33	U 0.2
	12/16/2013	U 0.24	0.96	U 2	U 0.25	U 0.5	0.63	J 0.34	U 0.1
MW-8B	2/1/1995	U 1	2	U 5	1	U 1	4	3	U 1
	12/5/2011	U 0.05	J 0.29	U 5	U 0.072	U 0.13	0.81	J 0.43	U 0.16
	6/5/2012	J 0.06	J 0.23	U 2	U 0.072	U 0.13	0.83	J 0.38	U 0.16
MW-8C	6/5/2012	J 0.06	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
MW-9A	1/18/1994	U 2	U 1	U 5	2	U 1	4	2	U 1
	6/27/1994	U 1	U 1	U 5	2	U 1	5	2	U 1
	1/31/1995	U 1	U* 1	U 5	1	U 1	4	2	U 1
	6/27/1995	U 1	U 1	U 1	1	U 1	2	U 1	U 1
	11/28/1995	U 1	U 1	U* 5	1	U 1	3	1	U 1
	6/25/1996	U 1	U 1	U 5	U* 1	U 1	2	U* 1	U 1
	12/11/1996	U 1	U 1	U 5	U 1	U 1	2	U* 1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/29/1998	U 1	U 1	5	(2) U 1	< (2) 1	1	U(2) 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	(1) U 1	(1) U 1	1	1	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/7/2000	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	(1) U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	2	U 1	U 1
	6/11/2001	U 1	U 1	U 5	1	U 1	2	1	U 1
	12/17/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	1	U 1
	6/13/2002	U 1	1	(1) U 5	(1) U 1	U 1	2	1	U 1
	12/12/2002	U 1	1	(1) U 5	(1) U 1	U 1	2	1	U 1
	6/9/2003	U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	1	(1) U 1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/7/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/13/2006	U 0.5	0.5	(1) U 5	(1) U 1	U 1	1	0.5	U 0.5
	12/6/2006	U 0.5	U(1) 0.5	U 5	U(1) 1	U 1	0.9	0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.8	0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	0.6	U(1) 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.7	U(1) 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-9A	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	1.2	J 0.55	U 0.2
	12/4/2009	U 0.5	J 0.62	UB 2	U 0.5	U 2	1.2	J 0.71	U 0.2
	6/15/2010	U 0.5	0.59	17.7	U 0.5	U 0.5	1.1	0.71	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	1.1	U 1	U 1
	6/14/2011	U 0.04	J 0.44	U 2	J 0.18	U 0.021	0.95	0.64	U 0.049
	12/5/2011	U 0.05	J 0.48	U 5	J 0.28	U 0.13	0.95	0.75	U 0.16
	6/4/2012	J 0.07	J 0.47	U 2	J 0.27	U 0.13	1.4	0.95	U 0.16
	12/4/2012	U 0.05	J 0.46	U 2	J 0.31	U 0.13	1.2	0.78	U 0.16
	6/10/2013	U 0.24	0.54	U 2	J 0.4	U 0.5	1.4	0.95	U 0.2
	12/17/2013	U 0.24	0.68	U 2	J 0.42	U 0.5	1.2	0.85	U 0.1
MW-9B	1/31/1995	U 1	U* 1	U 5	U* 1	U 1	4	2	U 1
	12/5/2011	U 0.05	0.67	U 5	J 0.28	U 0.13	1.2	1.1	U 0.16
	6/4/2012	J 0.05	0.53	U 2	J 0.19	U 0.13	1.4	1	U 0.16
MW-10	6/27/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	2/2/1995	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	11/28/1995	U 1	U 1	U* 5	U 1	U 1	U* 1	U* 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U 1	U 1	U* 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U* 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/29/1998	U 1	U 1	U(3) 5	U 1	3	U 1	1	U 1
	12/15/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	(1) U 1	(1) U 1	U 1
	6/23/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/8/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/12/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/17/2005	U 1	(1) U 1	B U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/13/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/13/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	U 0.5	0.6	U 0.5
	12/6/2006	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	0.6	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	0.7	JJF% 0.5

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-10	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	0.6	U 0.5
	6/26/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	J 0.66	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	J 0.82	U 0.2
	6/16/2010	U 0.5	U 0.5	42.4	U 0.5	U 0.5	U 0.5	0.78	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	0.7	U 0.049
	12/6/2011	U 0.05	J 0.26	U 5	U 0.072	U 0.13	U 0.16	0.57	U 0.16
	6/4/2012	J 0.09	J 0.2	U 2	U 0.072	U 0.13	U 0.16	0.58	U 0.16
	12/5/2012	U 0.05	J 0.17	U 2	U 0.072	U 0.13	U 0.16	J 0.5	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	J 0.39	U 0.2
MW-11	11/27/1995	U 1	U 1	U* 5	U 1	U 1	U 1	U 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/30/1998	U 1	U 1	U(3) 5	U 1	U(3) 1	U 1	U 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	1	U 1	U 1	U 1
	12/14/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/8/2000	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/18/2001	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/14/2002	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	U 1
	12/13/2002	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	U 1	U 1
	12/13/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	6/13/2006	U 0.5	U 0.5	(1) U 5	(1) U 1	U 1	0.6	(1) U 0.5	U 0.5
	12/6/2006	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U 0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 2	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U(1) 0.5	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-11	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.54	U 0.5	U 0.2
	6/15/2010	U 0.5	U 0.5	27.7	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/5/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	J 0.25	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	J 0.32	U 0.11	U 0.16
	12/5/2012	U 0.05	U 0.08	U 2	J 0.2	U 0.13	J 0.34	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	J 0.28	U 0.5	J 0.38	U 0.12	U 0.2
	12/17/2013	U 0.24	U 0.23	U 2	J 0.31	U 0.5	J 0.41	U 0.13	U 0.1
MW-12	11/27/1995	9	12	U* 5	4	U 1	1	11	50
	6/26/1996	11	10	U 5	5	U* 1	U* 1	9	81
	12/12/1996	7	6	U 5	4	U 1	U* 1	9	49
	6/20/1997	8	2	U 1	3	U 2	U 1	2	99
	12/16/1997	6	1	U 5	3	U 1	1	U 1	48
	3/24/1998	5	U 1	U 5	3	U 1	U 1	1	44
	6/30/1998	4	U(3) 1	U(3) 5	2	U 1	U 1	U(3) 1	43
	9/29/1998	3	U 1	U 5	2	U 1	U 1	1	29
	12/15/1998	3	U 1	UB 5	2	(1) U 1	U 1	U 1	22
	3/17/1999	2	(1) U 1	(1) U 5	1	U 1	U 1	U 1	22
	6/23/1999	2	U 1	(1) U 5	U 1	U 1	U 1	U 1	23
	9/13/1999	2	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	25
	12/14/1999	2	(1) U 1	(1) U 5	U 1	U 1	U 1	U 1	25
	3/22/2000	1	(1) U 1	U 5	(1) U 1	U 1	U 1	U 1	16
	6/8/2000	1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	27
	9/22/2000	2	U 1	U 5	1	U 1	U 1	U 1	33
	11/29/2000	2	U 1	U 5	U 1	U 1	U 1	U 1	29
	3/21/2001	2	U 1	U 5	1	U 1	U 1	U 1	19
	6/12/2001	1	U 1	U 5	U 1	U 1	U 1	1	18
	9/19/2001	1	1	U(1,3) 5	(1) U 1	U 1	U 1	1	16
	12/18/2001	2	2	(1) U 5	1	U 1	(1) U 1	2	20
	3/25/2002	1	2	U 5	1	U 1	U 1	3	21
	6/14/2002	1	2	(1) U 5	(1) U 1	U 1	U 1	2	22
	9/24/2002	1	3	UJR 5	U 1	U 1	U 1	3	15
	12/13/2002	1	4	U 5	(1) U 1	U 1	(1) U 1	4	22
	3/24/2003	1	4	(1) U 5	(1) U 1	(1) U 1	U 1	5	16
	6/10/2003	1	5	(1) U 5	(1) U 1	U 1	(1) U 1	6	14
	9/25/2003	1	6	(1) U 5	1	U 1	(1) U 1	8	19
	12/4/2003	2	6	(1) U 5	1	U 1	(1) U 1	8	JF% 27
	3/24/2004	2	7	U 5	1	U 1	(1) U 1	8	24
	6/8/2004	1	7	(1) U 5	1	U 1	(1) U 1	7	15

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-12	9/9/2004	1	7	(1) U 5	1	U 1	(1) U 1	9	17
	12/7/2004	1	7	(1) U 5	1	U 1	(1) U 1	8	16
	3/29/2005	1	7	(1) U 5	1	U 1	(1) U 1	7	19
	6/17/2005	(1) U 1	7	B U 5	1	U 1	1	8	16
	9/20/2005	1	7	(1) BU 5	1	U 1	1	7	12
	12/14/2005	(1) U 1	6	(1) U 5	1	U 1	1	6	15
	3/16/2006	(1) U 1	6	U 5	(1) U 1	U 1	1	6	19
	6/13/2006	1.2	8.3	(1) U 5	1	U 1	1.2	6.8	13
	9/21/2006	0.8	5.9	U(1) 5	U(1) 1	U 1	1.5	6.3	12.5
	12/7/2006	0.5	3.6	U 5	U(1) 1	U 1	U(1) 0.5	2.8	4.4
	3/15/2007	0.9	7.4	U 5	1	U 1	3	7	11.5
	6/21/2007	1	8.2	U 5	U 1	U 1	1.8	6.5	JF% 21
	12/11/2007	0.9	10	U 5	1.2	U 1	1.2	7.5	19
	6/25/2008	0.9	7.1	U(1) 5	U(1) 1	U 1	0.6	5.1	16
	12/10/2008	1.5	7.7	U 4	U 1	U 1	U 1	5.7	13.3
	6/2/2009	1.9	8	U 2	J 0.91	U 2	U 0.5	5.1	19.7
	12/9/2009	2.5	11.6	UB 2	1.2	U 2	U 0.5	6.7	26.4
	6/15/2010	2.2	9.6	22.3	1.1	U 0.5	U 0.5	4.4	27.4
	12/7/2010	1.8	11.3	U 1	1.5	U 1	U 1	4.5	J 30.4
	6/14/2011	2	4.4	U 2	1.4	U 0.021	U 0.041	1.9	J 24.9
	12/6/2011	2.1	9.6	U 5	1.7	U 0.13	U 0.16	4.3	17.4
	6/5/2012	2	10.8	U 2	2	U 0.13	U 0.16	3.5	20.7
	12/5/2012	1.5	9.1	U 2	1.7	U 0.13	U 0.16	1.5	21.2
	6/12/2013	1.4	11.1	U 2	1.9	U 0.5	U 0.25	1	17.7
	12/17/2013	1.5	6.6	U 2	1.5	U 0.5	U 0.25	0.42	22.4
MW-13	11/28/1995	1	U 1	U* 5	2	U 1	U* 1	2	21
	6/25/1996	1	U* 1	U 5	3	U 1	U* 1	1	41
	12/11/1996	1	U* 1	U 5	2	U 1	U 1	U 1	28
	6/20/1997	U 1	1	U 1	1	U 2	1	2	26
	12/16/1997	1	U 1	U 5	2	U 1	2	U 1	29
	3/23/1998	1	U 1	U 5	2	U 1	U 1	1	29
	6/30/1998	1	(3) U 1	U 5	1	U 1	(3) U 1	1	34
	9/29/1998	1	U 1	U 5	1	U 1	U 1	1	24
	12/14/1998	1	(1) U 1	U(1)B 5	1	(1) U 1	(1) U 1	(1) U 1	24
	3/15/1999	(1) U 1	U 1	6	(1) U 1	U 1	U 1	(1) U 1	19
	6/23/1999	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	23
	9/13/1999	(1) U 1	U 1	U 5	U 1	U 1	U 1	(1) U 1	26
	12/14/1999	(1) U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	(1) U 1	27
	3/22/2000	(1) U 1	U 1	U 5	(1) U 1	U 1	U 1	(1) U 1	18
	6/8/2000	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	23

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-13	9/22/2000	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	24
	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	22
	3/21/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	15
	6/12/2001	1	U 1	U 5	U 1	U 1	U 1	U 1	19
	9/19/2001	(1) U 1	(1) U 1	U(1,3) 5	(1) U 1	U 1	(1) U 1	(1) U 1	12
	12/18/2001	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	10
	3/25/2002	U 1	U 1	U 5	U 1	U 1	U 1	U 1	11
	6/13/2002	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	12
	9/24/2002	U 1	U 1	UJR 5	U 1	U 1	U 1	U 1	10
	12/13/2002	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	12
	3/24/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	(1) U 1	(1) U 1	8
	6/10/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	7
	9/25/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	13
	12/4/2003	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	JF% 15
	3/24/2004	(1) U 1	U 1	U 5	1	U 1	(1) U 1	(1) U 1	13
	6/8/2004	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	8
	9/9/2004	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	11
	12/7/2004	(1) U 1	(1) U 1	(1) U 5	1	U 1	U 1	(1) U 1	9
	3/29/2005	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	11
	6/17/2005	(1) U 1	U 1	U 5	1	U 1	U 1	(1) U 1	9
	9/20/2005	(1) U 1	(1) U 1	(1) BU 5	1	U 1	(1) U 1	(1) U 1	8
	12/14/2005	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	9
	3/16/2006	U 1	(1) U 1	U 5	(1) U 1	U 1	(1) U 1	(1) U 1	11
	6/13/2006	0.6	0.7	(1) U 5	(1) U 1	U 1	(1) U 0.5	(1) U 0.5	7.1
	9/21/2006	0.6	U(1) 0.5	U(1) 5	U(1) 1	U 1	U(1) 0.5	U(1) 0.5	7.6
	12/7/2006	0.5	0.7	U 5	U(1) 1	U 1	U 0.5	U(1) 0.5	9.7
	3/15/2007	U(1) 0.5	0.8	U 5	1	U 1	U(1) 0.5	U 0.5	9.6
	6/20/2007	0.6	1	U 5	1	U 1	U 0.5	0.6	JF% 20
	12/11/2007	0.6	0.9	U 5	1.2	U 1	U 0.5	U(1) 0.5	18
	6/24/2008	U(1) 0.5	0.8	U(1) 5	U 1	U 1	U(1) 0.5	0.5	15
	12/10/2008	U 1	1.3	U 4	1.3	U 1	U 1	U 1	20.2
	6/2/2009	J 0.53	1.1	U 2	J 0.96	U 2	U 0.5	J 0.61	14.6
	12/9/2009	J 0.69	1.1	UB 2	1.2	U 2	U 0.5	J 0.61	22.5
	6/16/2010	0.68	1.1	36.3	1	U 0.5	U 0.5	0.55	19.9
	12/7/2010	U 1	U 1	U 1	1.1	U 1	U 1	U 1	J 23.8
	6/15/2011	0.61	0.99	U 2	0.96	U 0.021	J 0.25	0.55	J 17.9
	12/7/2011	0.79	1	U 5	1	U 0.13	J 0.29	0.5	17.7
	6/6/2012	0.69	1.1	U 2	0.98	U 0.13	J 0.33	J 0.46	19.3
	12/5/2012	0.66	1.1	U 2	1.1	U 0.13	J 0.23	J 0.41	20.9
	6/12/2013	0.72	1.2	U 2	1.5	U 0.5	J 0.26	J 0.36	21.1

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-13	12/17/2013	0.59	1.1	U 2	1.5	U 0.5	U 0.25	J 0.32	18.9
MW-14	3/22/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/9/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/13/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/21/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/25/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/10/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/3/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/15/2010	U 0.5	U 0.5	19.7	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/15/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/5/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/17/2013	U 0.24	U 0.23	U 2	U 0.25	J 0.96	U 0.25	U 0.13	U 0.1
MW-15	10/8/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/11/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	(1) U 0.5	U 0.5	U 0.5
	12/5/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	1.2	U 0.5	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-15	6/14/2010	U 0.5	U 0.5	32.9	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
MW-16	6/4/2012	U 0.05	3.4	U 2	1.4	U 0.13	2.2	2.9	U 0.16
	12/4/2012	U 0.05	3.4	U 2	1	U 0.13	1.2	2	U 0.16
	6/10/2013	U 0.24	4.3	U 2	1.5	U 0.5	1.4	2.1	U 0.2
	12/17/2013	U 0.24	4.3	U 2	1.5	U 0.5	1	1.4	U 0.1
McIlhattan Seep	1/19/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/19/1994	U 2	1	U 5	U 1	U 1	4	3	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	1/31/1995	U 1	U* 1	U 5	U* 1	U 1	4	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	3	2	U 1
	11/28/1995	U 1	U 1	U* 5	U* 1	U 1	5	1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U* 1	2	U* 1	U 1
	12/12/1996	U 1	U* 1	U 5	U* 1	U* 1	3	U* 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	1	4	U 1
	6/29/1998	U 1	U(3) 1	8	U(3) 1	U(3) 1	3	1	U 1
	12/15/1998	U 1	(1) U 1	U(1)B 5	(1) U 1	(1) U 1	4	4	U 1
	6/23/1999	U 1	U 1	(1) U 5	U 1	U 1	2	1	U 1
	12/14/1999	U 1	U 1	(1) U 5	U 1	U 1	3	2	U 1
	6/7/2000	U 1	U 1	(1) U 5	U 1	U 1	3	1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	3	1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	3	1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/12/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	4	1	(1) U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	(1) U 1	U 1
	6/17/2005	U 1	(1) U 1	U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/14/2005	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	6/12/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	1.4	(1) U 0.5	U 0.5
	12/7/2006	U 0.5	U(1) 0.5	U 5	U 1	U 1	1.8	0.5	U 0.5

Notes: µg/L - micrograms per liter
HHS - Human Health Standard (EPA Maximum Contaminant Level or HHS in Montana Circular DEQ-7, October 2012
NA - Not Applicable
J - Estimated Concentration
(1) - No HHS established
-- - Not collected/analyzed
U - Below Method Detection Limit
* (1) X F% - Additional QA/QC notes

- Value greater than or equal to the HHS

Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

TABLE 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
McIlhattan Seep	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.6	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	1.3	U 0.5	U 0.5
	6/26/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	1.4	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	1.1	U 0.5	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	1.6	U 0.5	U 0.2
	6/16/2010	U 0.5	U 0.5	40.4	U 0.5	U 0.5	1.2	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	1.2	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	J 0.061	0.73	J 0.26	U 0.049
	12/6/2011	U 0.05	J 0.13	U 5	U 0.072	U 0.13	1.1	J 0.3	U 0.16
	6/5/2012	U 0.05	J 0.19	U 2	U 0.072	U 0.13	1.1	J 0.32	U 0.16
	12/5/2012	U 0.05	J 0.23	U 2	U 0.072	U 0.13	1.2	J 0.32	U 0.16
	6/12/2013	U 0.24	J 0.3	U 2	U 0.25	U 0.5	1.3	0.41	U 0.2
Shop Well	6/13/2011	U 0.04	1	U 2	1.6	U 0.021	3.8	2.3	J 0.13
	12/7/2011	U 0.05	0.95	U 5	1.7	U 0.13	3.9	2.2	U 0.16
	6/4/2012	U 0.05	0.64	U 2	1.2	U 0.13	3.7	1.7	U 0.16
	12/4/2012	U 0.05	0.86	U 2	1.7	J 0.21	4.5	2.1	U 0.16
	6/10/2013	U 0.24	0.65	U 2	1.9	U 0.5	4.4	1.7	U 0.2
	12/16/2013	U 0.24	1.5	U 2	3.7	U 0.5	7.3	3	U 0.1
Vet Clinic Well	1/19/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/31/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	4	2	U 1
	11/28/1995	U 1	U 1	U* 5	U 1	U 1	U 1	U 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/30/1998	U 1	U 1	U(3) 5	U 1	U 1	U 1	U 1	U 1
	12/15/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1
	6/23/1999	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/1999	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/18/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/14/2002	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/4/2003	U 1	U 1	U 5	U 1	U 1	U 1	U 1	JJF% 1

Notes: µg/L - micrograms per liter
HHS - Human Health Standard (EPA Maximum Contaminant Level or HHS in Montana Circular DEQ-7, October 2012
NA - Not Applicable

J - Estimated Concentration
(1) - No HHS established
-- - Not collected/analyzed
U - Below Method Detection Limit
* (1) X F% - Additional QA/QC notes

- Value greater than or equal to the HHS

Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

TABLE 3
Summary of Selected Volatile Organic Compounds at Sampling Locations
Bozeman Landfill
Bozeman, Montana

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)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
Vet Clinic Well	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/17/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/21/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/12/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/25/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/16/2010	U 0.5	U 0.5	38.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/8/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/15/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/7/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/6/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/18/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1

Notes: µg/L - micrograms per liter
HHS - Human Health Standard (EPA Maximum Contaminant Level or HHS in Montana Circular DEQ-7, October 2012
NA - Not Applicable

J - Estimated Concentration
(1) - No HHS established
-- - Not collected/analyzed
U - Below Method Detection Limit
* (1) X F% - Additional QA/QC notes

- Value greater than or equal to the HHS

Vinyl Chloride concentration highlighted only if equal to or greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is 0.2 micrograms per liter.

Table 4
Comparison of Medians of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
December 2013 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	1.1	-	0.25	0.25	16/15	.000/.000	YES
cis1,2 Dichlorothene	ug/L	1.65	-	0.25	0.25	16/15	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	1.05	-	0.25	0.25	16/15	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	-	0.68	0.25	0.25	15/15	.000/.000	YES
Trichloroethene (TCE)	ug/L	1.05	-	0.25	0.25	16/15	.000/.000	YES
Trichloroethene (TCE)	ug/L	-	0.62	0.25	0.25	17/16	.000/.000	YES
Vinyl Chloride	ug/L	0.925	-	0.10	0.10	16/15	.000/.000	YES(4)
Vinyl Chloride	ug/L	-	0.225	0.225	0.225	16	.955/.955	NO
Chloride	mg/L	20	-	5.0	4.9	15/15	.000/.000	YES
Chloride	mg/L	-	47.6	5.0	5.0	15/15	.000/.000	YES
Nitrate+Nitrite as N	mg/L	-	8.5	4.41		15/15	.0019/-	YES
Nitrate+Nitrite as N	mg/L	-	8.5		5.4	15/15	-/.019	NO
Sulfate	mg/L	14	-	9.0		15/15	.000/-	YES
Sulfate	mg/L	14			14.0	15/15	-/.967	NO
Sulfate	mg/L	-	38.1	9.0	14.0	15/15	.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)

(4) Groundwater protection standards (GPS) for vinyl chloride is considered to be 2 ug/L as established the by the US EPA and the highest value in the MW-6 data set for vinyl chloride is less that the GPS.

Table 5
Summary of Statistical Analysis of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
December 2013 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	0.798	No
Trichloroethene (TCE)	MW-12	5	1SW	16	0.205	No
Tetrachlorethene (PCE)	MW-7A	5	1SW	16	0.798	No
Vinyl Chloride	MW-6	2	1SW	16	0.088	No
	MW-7A	2	1SW	16	0.0004	No[5]
	MW-12	2	1SW	16	0.0004	Yes
	MW-13	2	1SW	18	0.0004	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)

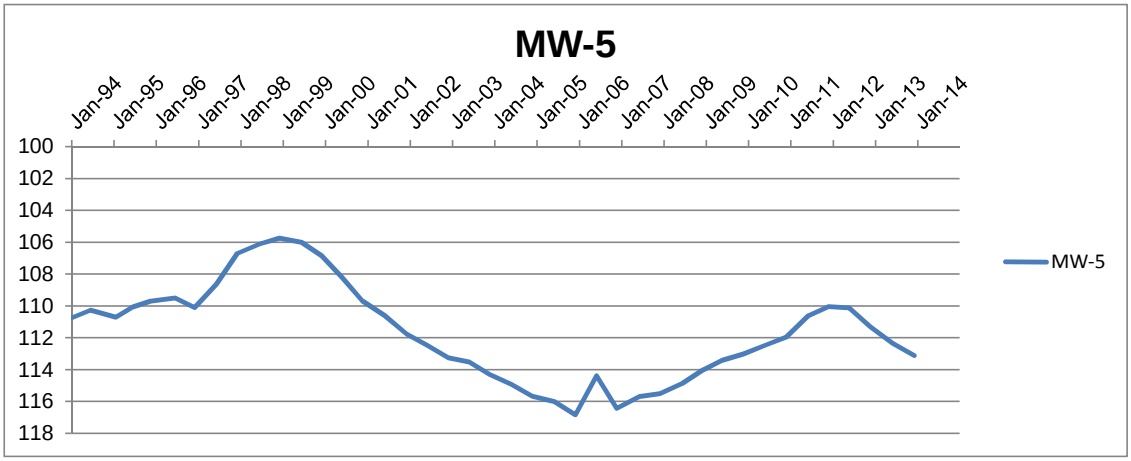
(4) Results are significant if the p-value is less than or equal to 0.01

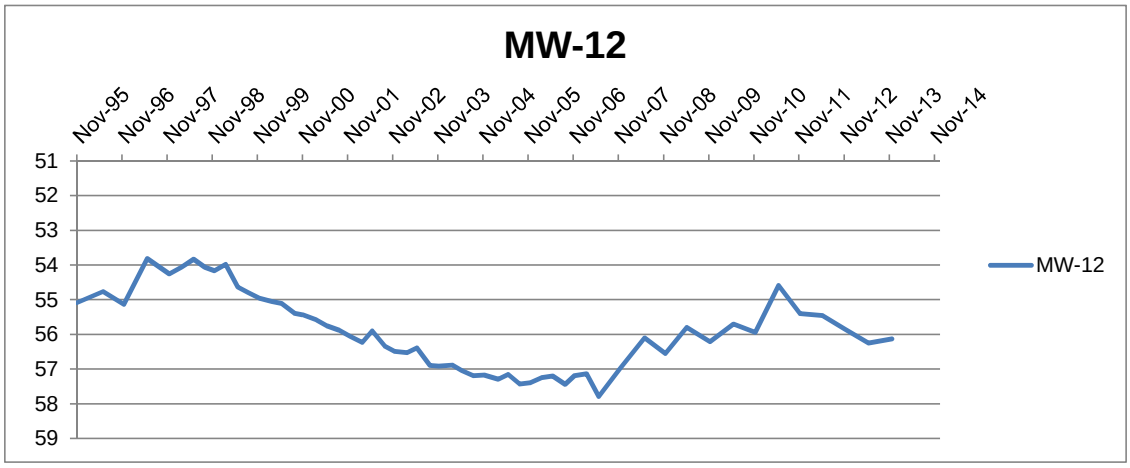
(5) The Wilcoxon test indicated that there is a significant difference between well MW-7A vinyl chloride values and the GPS for vinyl chloride. The difference is due to the fact that well MW-7A vinyl chloride values are lower than the vinyl chloride GPS of 2 ug/L

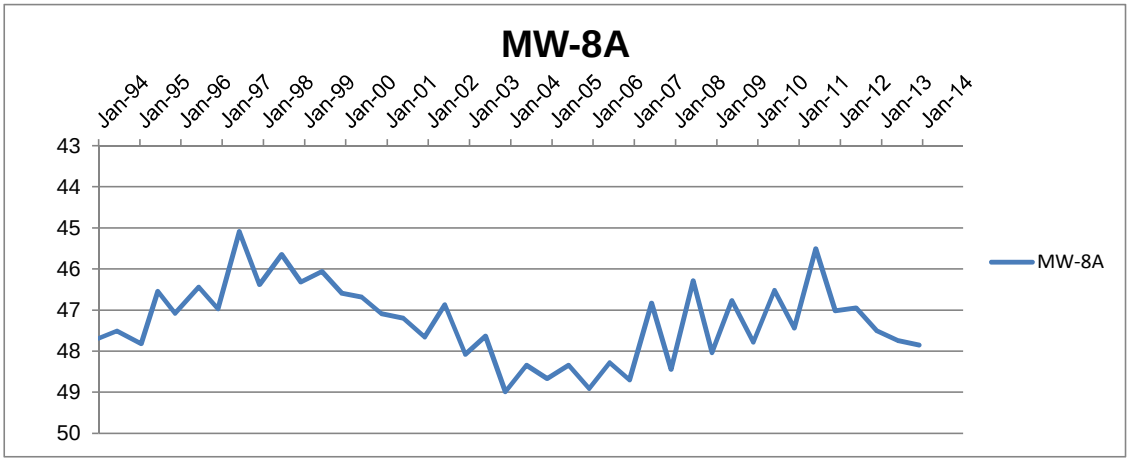
CHART 1

Changes in Groundwater Levels Through Time

Bozeman Landfill, Bozeman, Montana







Note : Y axis: Depth to Groundwater in feet below Top of Casing

APPENDIX C

GROUNDWATER SAMPLING LOGS

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/18/13 1050 Station No. LF-2

Personnel: MFP Weather: Calm, 33°F, 5" snowpack

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 14.28 = 5.32 ft. water in well

WELL EVACUATION

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

5.32 ft. water in well x _____ 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	9.07	7.52	548	301	10.26
	7.0	9.55	7.38	538	302	10.24
	10.5	9.23	7.38	538	302	10.26
	10.75	10.11	7.34	541	306	9.78 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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	451556	12/18/13
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: Cloudy, sediment-laden water bailed

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/18/13 @ 1330 Station No. LF-3

Personnel: MFP Weather: Calm, Cloudy, 5" snowpack, ~39°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 13.77 = 23.73 ft. water in well

WELL EVACUATION

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

23.73 ft. water in well x _____ gal./ft * = one casing volume 15.5 gals. x 3 = purge volume 46.5 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): 1 gal / 50 sec = 1.2 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1244	Start Pumping					
1257	15.5	9.45	7.33	706	328	8.12
1310	31.0	9.42	7.27	710	331	8.16
1323	46.5	9.65	7.28	710	329	8.33
1330	Sample Time					

Flow-thru

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/18/13
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: Clear water

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/16/13@1500 Station No. MW-4

Personnel: MFP, BOG Weather: Sl. breeze, ~35°F, 5" snowpack

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 20.75 = 17.75 ft. water in well

WELL EVACUATION

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

17.75 ft. water in well x _____ gal./ft * = one casing volume 2.9 gals. x 3 = purge volume 8.7 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): 1 qt/20 sec = 3 qt/min = 0.75 gal/min

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1430							
1439	6.75	9.11	7.11	1003	310.8	2.05	
1445	9.75	9.11	7.06	1013	311.6	2.03	
1450		9.16	7.07	1018	311	2.07	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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/16/13
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: 12/16/13 @1015 Station No. MW-5

Personnel: MFP Weather: Calm, cold

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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

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

Well Depth (ft. below measuring point): 160 - Depth to Water 113.12 = 46.88 ft. water in well

WELL EVACUATION

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

46.9 ft. water in well x _____ gal./ft * = one casing volume 7.6 gals. x 3 = purge volume 23.0 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): Pumping Rate = 1 gal / 1.15 min = Restart 1 gal / 80 sec

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
926	Start Pumping		3 gal/stop	reset		
940	Re-start pumping		1/80 sec	= 0.75 gpm	5 gal	
950	8	10.0	7.0	484		
1000	15.5	11.1	7.0	474		
1015	19.0	10.16	7.0	478	in cup	

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

Pump working erratically

WELL SAMPLING

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

Sample Type: Natural [✓] Duplicate [N/A] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [X] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [X] No [ ]	Metals: dissolved [X] or total [ ]	250 ml poly	HNO_3
Yes [X] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [X] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	Oakton	12/16/13
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 [ ]

→ was later found to not function well & switched out w/ YSI-556 multimeter - MDP

Comments:

Meas.	CH_4	O_2	CO_2	N_2
BKG-1	0.0	17.7	2.4	79.9
BKG-2	0.0	17.3	1.6	81.1

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/16/13 @ 1715 Station No. MW-6

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 31.56 = 34.44 ft. water in well

WELL EVACUATION

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

34.44 ft. water in well x _____ gal./ft * = one casing volume 5.6 gals. x 3 = purge volume 17.0 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): ~1 gal/86 sec ~ 1

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
Start	4556					
	5.6	10.13	6.98	865	316	5.24
	11.2	10.62	6.80	897	317	3.33
	17.0	10.55	6.81	934	319	5.28
	17.5	10.52	~~7.35~~ 6.89	711	~~NA~~ 310	~~3.10~~ 6.51

DO measured: In-well [ ] In water bailed [X] In water pumped [ ] Other Downhole ~7' above well TD

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/16/13
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: 12/16/13 @ 1615 Station No. MW-6B

Personnel: MFP, BOQ 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): 100.0 - Depth to Water 19.34 = 80.7 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] w/disposable tubing Disposable bailer [ ] Spigot [ ] Other

80.7 ft. water in well x _____ gal./ft.* = one casing volume 13.1 gals. x 3 = purge volume 39.3 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): 1 gal / 26 sec = 2.3 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
Start	1556					
1602	15	9.93	7.82	344	298	10.16
1608	30	9.99	7.82	344	302	9.78
1612	45	10.02	7.82	344	303	9.81
Sampled 1615						

flow thru

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/16/13
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 [ ]

- Pump and water level meter

Comments: Checked YSI-556 pH 7.0 buffer & YSI was 7.09 s.u.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/17/13 @ 1350 Station No. MW-7A

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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): 65.90 - Depth to Water 56.92 = 5.98 ft. water in well

WELL EVACUATION

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

5.98 ft. water in well x _____ gal./ft * = one casing volume 9.7 gals. x 3 = purge volume 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
1320 ~~1330~~	1	9.35	7.06	~~485~~	155.7	9.08
1325	2	10.08	6.99	572	161.7	8.64
1328	3	10.09	7.48	605	168.5	7.35
_____	3.5	10.37	6.67	600	179.3	6.13 Downhole
1350	Sample Time	_____	_____	_____	_____	_____

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: DTGW in MW-7B = 57.02'

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/16/13 @ 1340 Station No. MW-8A

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 47.85 = 11.65 ft. water in well

WELL EVACUATION

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

11.65 ft. water in well x _____ gal./ft * = one casing volume 1.9 gals. x 3 = purge volume 5.7 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	
	~~1.9~~ 2.5	8.78	7.31	1248	297	10.24	
	3.8	8.56	7.19	1249	302	9.19	
	5.7	8.48	7.17	1239	305	7.67	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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	YSI-556 (Water Line)	12/16/13
pH		
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: DTGW in MW-8B = 48.10'
Dup collected @ time 1350
Cloudy water

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/16/13 @ 1315 Station No. MW-8C

Personnel: MFP, BOQ Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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): 103.0 - Depth to Water 43.32 = 59.7 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] Disposable bailer [ ] Spigot [ ] Other w/disposable tubing

59.7 ft. water in well x _____ gal./ft * = one casing volume 9.72 gals. x 3 = purge volume 29.2 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): ~1 gal/30sec = 2 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp °C	pH	SC NS	ORP	DO	
1245	Start Pumping						
1252	14	9.5	7.56	398	282	10.73	
1255	20	9.6	7.62	405	282	10.52	
1300	30	9.6	7.65	409	283	10.41	Flow Thru
1315	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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level (Water Line)	451-556	12/16/13 @ 1130
pH		
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 [ ]

(Pump and water level meter

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/17/13 @ 1140 Station No. MW-9A

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 28.48 = 10.52 ft. water in well

WELL EVACUATION

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

10.52 ft. water in well x _____ 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	9.10	7.12	1140	177	5.64
_____	3.4	9.10	7.04	1126	179	5.04
_____	5.1	8.74	7.09	1133	183	5.67
1140	5.6	9.47	7.00	1143	185	0.92 Downhole
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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: DTGW in MW-9B = 28.70'

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/18/13 Station No. MW-10

Personnel: MFP, DOQ Weather: Sunny, calm, 30°F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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)

Unable to measure because water is frozen in well

Well Depth (ft. below measuring point): _____ - Depth to Water_____ = _____ 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
	Unable to sample well					

Water in well solidly frozen due to below zero temps the previous week.

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 [ ]	250 ml poly	HNO_3
Yes [ ] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level		
pH		
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: 12/17/13 @ 1040 Station No. MW-11

Personnel: MEP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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): 70.0 - Depth to Water 52.0 = 18.0 ft. water in well

WELL EVACUATION

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

18.0 ft. water in well x _____ gal./ft * = one casing volume 2.9 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
1044	2.9	9.10	7.38	714	91.8	7.92
	5.8	9.13	7.32	710	121	7.91
	8.8	9.46	7.54	707	131	7.55
	9.3	9.48	7.38	716	145	6.51

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: 12/17/13 940 Station No. MW-12

Personnel: MFP Weather:

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 56.13 = 9.67 ft. water in well

WELL EVACUATION

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

9.67 ft. water in well x _____ gal./ft * = one casing volume 1.6 gals. x 3 = purge volume 4.8 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
	1.6	10.84	6.61	960	122	3.91
	3.2	11.43	6.57	962	80	3.14
	4.8	11.59	6.54	962	79	2.52
	5.3	11.85	6.54	963	73	0.53 Downhole
940 Sample time						

DO measured: In-well [ ] In water bailed [X] 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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: 12/17/13 @ 1230 Station No. MW-13

Personnel: MFP Weather: Calm, 5" snow on ground, ~45°F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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): 61.3 - Depth to Water 43.81 = 17.49 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft.* = one casing volume 2.9 gals. x 3 = purge volume 8.7 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	
	2.9	11.01	6.80	1057	185	3.00	
	5.8	11.01	6.60	1058	172	3.24	
	8.7	11.27	6.65	1057	174	3.46	Downhole
	9.5	11.68	6.66	1056	157	0.33	

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	451-556	12/17/13
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: Duplicate Sample collected - DUP @ 12/17/13 @ 1300 time

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/17/13 @ 1500 Station No. MW-14

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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): 47.50 - Depth to Water 33.90 = 13.6 ft. water in well

WELL EVACUATION

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

13.6 ft. water in well x _____ gal./ft * = one casing volume 2.2 gals. x 3 = purge volume 6.6 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
1445	2.2	9.20	7.17	907	224.5	4.75
1452	4.4	9.58	7.07	878	225.5	5.54
1500	6.6	9.73	7.10	877	227.3	~~5.16~~ 5.65
_____	6.9	10.12	7.05	849	227.7	2.20 ↓ slowly
1500	Sample Time	_____	_____	_____	_____	Downhole measurement 2.11 final

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 [ ]	250 ml poly	HNO_3
Yes [ ] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: 12/16/13 @ 1130 Station No. MW-15

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 48.80 = 23.7 ft. water in well

WELL EVACUATION

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

23.7 ft. water in well x _____ gal./ft * = one casing volume 3.9 gals. x 3 = purge volume 11.6 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
		8.9	7.00	455	-	-
3.9 gal		9.0	*~~7.42~~ 7.34	460	-	-
7.8		8.9	*7.53	481	-	-
11.6		7.9	*7.58	487	in cup	
1130 Sampled						

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

*pH probe not functioning consistently

WELL SAMPLING

Sampling Method: Submersible Pump [N/A] 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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
Yes [ ] No [ ]			

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

Water Line

Meter	Model No.	Calibration Date
Water level	Oakton	12/16/13
pH		
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: 12/17/13 @ 1420 Station No. MW-16

Personnel: MFP Weather: _____

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: None

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 26.03 = 13.97 ft. water in well

WELL EVACUATION

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

13.97 ft. water in well x _____ 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): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1401	2.3	8.00	6.94	943	184.1	11.28
	4.6	8.50	6.88	892	197.2	11.58
	6.9	10.08	6.80	914	207.0	10.53
	7.2	10.92	6.77	912	215	8.96 Downhole
1420	Sample Time					

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 [ ]	250 ml poly	HNO_3
Yes [ ] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/17/13
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: Very cloudy water

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/16/13 @ 1515 Station No. Shop Well

Personnel: MFP Weather: _____

Well Locked? Yes [ ] No [✓] Note Any Problems With Condition of Well: None

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [ ] Other 6" Steel 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 NM = _____ ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [✓] (Water supply 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): Flow = 1.1 gal / 5.81 sec = 11.4 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1430	Start Purge						
1515	511 gal	9.44	7.68	661	300	5.47	flow thru in bucket

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 [ ]	250 ml poly	HNO_3
Yes [ ] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/16/13
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

McIlhattan

Project: Bozeman Landfill Date: 12/18/13 @ 950 Station No. Seep

Personnel: MFP, BOQ Weather:

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

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 Spring 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	9.93	7.19	1045	300.5	8.14 - immersed multiprobe in stream flow
950	Sample Time					

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/18/13
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: Clear water

Well MW-10 could not be monitored/sampled due to water being frozen?

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/18/13 @ 1110 Station No. Vet Well

Personnel: MFP Weather:

Well Locked? Yes [ ] No [ ] Note Any Problems With Condition of Well: None apparent

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

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

Well Depth (ft. below measuring point): _____ - 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): 1 gal / 13.7 sec = 4.4 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1010	Start Purge	9.74	7.45	509	306	9.03	flow thru in bucket
1105	Purging						
	242 gal.						
1110	Sample Time						

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 [ ]	250 ml poly	HNO_3
Yes [✓] No [ ]	Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [ ]			
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	12/18/13
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: _____

APPENDIX D

LABORATORY ANALYTICAL REPORT

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

January 07, 2014

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

RE: Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 20, 2013. 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: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
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
EPA Region 5 #WD-15J
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
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
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
Washington Department of Ecology #: C993

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

SAMPLE SUMMARY

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10253154001	**LF-2**	Water	12/18/13 10:50	12/20/13 11:20
10253154002	**LF-3**	Water	12/18/13 13:30	12/20/13 11:20
10253154003	**MW-4**	Water	12/16/13 15:00	12/20/13 11:20
10253154004	**MW-5**	Water	12/16/13 10:15	12/20/13 11:20
10253154005	**MW-6**	Water	12/16/13 17:15	12/20/13 11:20
10253154006	**MW-6B**	Water	12/16/13 16:15	12/20/13 11:20
10253154007	**MW-7A**	Water	12/17/13 13:50	12/20/13 11:20
10253154008	**MW-8A**	Water	12/16/13 13:40	12/20/13 11:20
10253154009	**MW-8C**	Water	12/16/13 13:15	12/20/13 11:20
10253154010	**MW-9A**	Water	12/17/13 11:40	12/20/13 11:20
10253154011	**MW-11**	Water	12/17/13 10:40	12/20/13 11:20
10253154012	**MW-12**	Water	12/17/13 09:40	12/20/13 11:20
10253154013	**MW-13**	Water	12/17/13 12:30	12/20/13 11:20
10253154014	**DUP**	Water	12/17/13 13:00	12/20/13 11:20
10253154015	**MW-14**	Water	12/17/13 15:00	12/20/13 11:20
10253154016	**MW-15**	Water	12/16/13 11:30	12/20/13 11:20
10253154017	**MW-16**	Water	12/17/13 14:20	12/20/13 11:20
10253154018	**SHOP WELL**	Water	12/16/13 15:15	12/20/13 11:20
10253154019	**MCILHATTEN SEEP**	Water	12/18/13 09:50	12/20/13 11:20
10253154020	**VET WELL**	Water	12/18/13 01:10	12/20/13 11:20
10253154021	**TRIP BLANK**	Water		12/20/13 11:20

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

SAMPLE ANALYTE COUNT

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10253154001	**LF-2**	EPA 8260B	LPM	61
		EPA 353.2	CH2	1
10253154002	**LF-3**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154003	**MW-4**	EPA 8260B	EB2	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154004	**MW-5**	EPA 6020	RJS	15
		EPA 8260B	EB2	61
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
		SM 4500-H+B	SC1	1
10253154005	**MW-6**	EPA 6020	RJS	15
		EPA 8260B	EB2	61
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
		SM 4500-H+B	SC1	1
10253154006	**MW-6B**	EPA 6020	RJS	15
		EPA 8260B	EB2	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154007	**MW-7A**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154008	**MW-8A**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
		SM 4500-H+B	SC1	1
10253154009	**MW-8C**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1

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

SAMPLE ANALYTE COUNT

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10253154010	**MW-9A**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154011	**MW-11**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154012	**MW-12**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154013	**MW-13**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154014	**DUP**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154015	**MW-14**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
10253154016	**MW-15**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		SM 2510B	WT1	1
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
		SM 4500-H+B	SC1	1
10253154017	**MW-16**	EPA 8260B	LPM	61
10253154018	**SHOP WELL**	EPA 8260B	EB2	61
10253154019	**MCILHATTEN SEEP**	EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154020	**VET WELL**	EPA 6020	RJS	15
		EPA 8260B	LPM	61
		EPA 300.0	EJS	2
		EPA 353.2	CH2	1
10253154021	**TRIP BLANK**	EPA 8260B	LPM	61

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602 S 25th Street
Billings, MT 591014549
(406)254-7226

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

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, where applicable, 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.

Additional Comments:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

General Information:
9 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, where applicable, with any exceptions noted below.

QC Batch: MPRP/43922

B: Analyte was detected in the associated method blank.

- BLANK for HBN 282347 [MPRP/439 (Lab ID: 1602062)
  - Silver, Dissolved
  - Zinc, Dissolved

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.

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

General Information:
21 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.

QC Batch: MSV/26006

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1600840)
  - n-Hexane
- DUP (Lab ID: 1601820)
  - n-Hexane
- LCS (Lab ID: 1600841)
  - n-Hexane
- MW-4 (Lab ID: 10253154003)
  - n-Hexane
- MW-5 (Lab ID: 10253154004)
  - n-Hexane
- MW-6 (Lab ID: 10253154005)
  - n-Hexane
- MW-6B (Lab ID: 10253154006)
  - n-Hexane
- SHOP WELL (Lab ID: 10253154018)
  - n-Hexane

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, where applicable, with any exceptions noted below.

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

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PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

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

QC Batch: MSV/26006

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10253154003

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

- MS (Lab ID: 1601819)
  - 1,1,2-Trichlorotrifluoroethane
  - Carbon disulfide
  - Cyclohexane

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: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **SM 2510B**
Description: 2510B Specific Conductance
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

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, where applicable, 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: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

General Information:
16 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, where applicable, with any exceptions noted below.

QC Batch: MT/14807

B: Analyte was detected in the associated method blank.
- BLANK for HBN 282593 [MT/14807 (Lab ID: 1603714)
  - Chloride

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: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

General Information:
17 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, where applicable, with any exceptions noted below.

QC Batch: MT/14783

B: Analyte was detected in the associated method blank.
- BLANK for HBN 282332 [MT/14783 (Lab ID: 1602011)
  - Nitrogen, NO2 plus NO3

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/14783

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10252870006,10253154010

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
- MS (Lab ID: 1602016)
  - Nitrogen, NO2 plus NO3

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: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Tetra Tech, Inc. - MT
Date: January 07, 2014

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: 10253154016)
- MW-5 (Lab ID: 10253154004)
- MW-6 (Lab ID: 10253154005)
- MW-8A (Lab ID: 10253154008)

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, where applicable, 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.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: LF-2 **Lab ID: 10253154001** Collected: 12/18/13 10:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 18:09	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:09	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:09	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:09	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 18:09	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:09	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:09	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:09	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 18:09	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 18:09	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:09	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:09	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 18:09	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 18:09	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:09	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:09	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:09	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:09	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 18:09	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:09	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 18:09	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:09	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:09	75-35-4	
cis-1,2-Dichloroethene	**0.29J**	ug/L	0.50	0.23	1		12/26/13 18:09	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:09	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 18:09	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 18:09	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:09	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 18:09	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:09	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:09	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:09	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:09	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:09	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:09	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 18:09	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:09	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:09	79-34-5	
Tetrachloroethene	**0.83**	ug/L	0.50	0.25	1		12/26/13 18:09	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: LF-2 **Lab ID: 10253154001** Collected: 12/18/13 10:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 18:09	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 18:09	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	79-00-5	
Trichloroethene	**0.15J**	ug/L	0.40	0.13	1		12/26/13 18:09	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:09	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 18:09	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 18:09	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:09	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:09	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 18:09	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 18:09	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		12/26/13 18:09	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 18:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 18:09	460-00-4	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**2.8**	mg/L	0.10	0.047	10		12/27/13 10:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: LF-3 **Lab ID: 10253154002** Collected: 12/18/13 13:30 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 18:33	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:33	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:33	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:33	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 18:33	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:33	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:33	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:33	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 18:33	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 18:33	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:33	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:33	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 18:33	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 18:33	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:33	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:33	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:33	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 18:33	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:33	110-57-6	
Dichlorodifluoromethane	**0.63J**	ug/L	1.0	0.40	1		12/26/13 18:33	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:33	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:33	75-35-4	
cis-1,2-Dichloroethene	**2.2**	ug/L	0.50	0.23	1		12/26/13 18:33	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:33	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 18:33	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 18:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:33	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 18:33	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:33	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:33	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:33	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:33	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:33	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:33	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 18:33	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:33	79-34-5	
Tetrachloroethene	**3.4**	ug/L	0.50	0.25	1		12/26/13 18:33	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: LF-3 **Lab ID: 10253154002** Collected: 12/18/13 13:30 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 18:33	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 18:33	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	79-00-5	
Trichloroethene	**0.78**	ug/L	0.40	0.13	1		12/26/13 18:33	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:33	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 18:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 18:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:33	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:33	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 18:33	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 18:33	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		12/26/13 18:33	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 18:33	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 18:33	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**24.8**	mg/L	2.0	0.24	2		12/31/13 20:25	16887-00-6	
Sulfate	**17.0**	mg/L	2.0	1.0	2		12/31/13 20:25	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.5**	mg/L	0.10	0.047	10		12/27/13 09:59		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-4 **Lab ID: 10253154003** Collected: 12/16/13 15:00 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/24/13 05:41	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/24/13 05:41	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 05:41	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 05:41	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/24/13 05:41	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/24/13 05:41	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 05:41	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 05:41	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/24/13 05:41	75-15-0	M1
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/24/13 05:41	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 05:41	108-90-7	
Chloroethane	**0.72J**	ug/L	1.0	0.50	1		12/24/13 05:41	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/24/13 05:41	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/24/13 05:41	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/24/13 05:41	110-82-7	M1
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 05:41	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 05:41	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/24/13 05:41	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/24/13 05:41	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/24/13 05:41	110-57-6	
Dichlorodifluoromethane	**1.2**	ug/L	1.0	0.40	1		12/24/13 05:41	75-71-8	
1,1-Dichloroethane	**0.45J**	ug/L	0.50	0.25	1		12/24/13 05:41	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/24/13 05:41	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 05:41	75-35-4	
cis-1,2-Dichloroethene	**0.47J**	ug/L	0.50	0.23	1		12/24/13 05:41	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 05:41	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/24/13 05:41	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/24/13 05:41	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/24/13 05:41	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/24/13 05:41	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 05:41	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/24/13 05:41	110-54-3	CL
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/24/13 05:41	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 05:41	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/24/13 05:41	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/24/13 05:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 05:41	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/24/13 05:41	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 05:41	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 05:41	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/24/13 05:41	79-34-5	
Tetrachloroethene	**1.0**	ug/L	0.50	0.25	1		12/24/13 05:41	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-4 **Lab ID: 10253154003** Collected: 12/16/13 15:00 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/24/13 05:41	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/24/13 05:41	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	79-00-5	
Trichloroethene	**0.77**	ug/L	0.40	0.13	1		12/24/13 05:41	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/24/13 05:41	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/24/13 05:41	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/24/13 05:41	76-13-1	M1
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 05:41	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/24/13 05:41	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/24/13 05:41	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/24/13 05:41	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		12/24/13 05:41	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		12/24/13 05:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/24/13 05:41	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**32.9**	mg/L	2.0	0.24	2		12/31/13 20:57	16887-00-6	
Sulfate	**15.2**	mg/L	2.0	1.0	2		12/31/13 20:57	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.8**	mg/L	0.050	0.024	5		12/27/13 10:04		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-5 **Lab ID: 10253154004** Collected: 12/16/13 10:15 Received: 12/20/13 11:20 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	**0.00060**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 14:39	7440-38-2	
Barium, Dissolved	**0.030**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 14:39	7440-39-3	
Cadmium, Dissolved	**<0.000032**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 14:39	7440-43-9	
Chromium, Dissolved	**0.0023**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 14:39	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 14:39	7440-48-4	
Copper, Dissolved	**0.00034J**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 14:39	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 14:39	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:39	7439-92-1	
Manganese, Dissolved	**<0.00018**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 14:39	7439-96-5	
Nickel, Dissolved	**<0.00015**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 14:39	7440-02-0	
Selenium, Dissolved	**0.00024J**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 14:39	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 14:39	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 14:39	7440-28-0	
Vanadium, Dissolved	**0.0029**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:39	7440-62-2	
Zinc, Dissolved	**0.0029J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 14:39	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/24/13 06:05	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:05	107-13-1	
Benzene	**2.1**	ug/L	0.50	0.24	1		12/24/13 06:05	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 06:05	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/24/13 06:05	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:05	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:05	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:05	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/24/13 06:05	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/24/13 06:05	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:05	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 06:05	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/24/13 06:05	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/24/13 06:05	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:05	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:05	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:05	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/24/13 06:05	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/24/13 06:05	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:05	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/24/13 06:05	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:05	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:05	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/24/13 06:05	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:05	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/24/13 06:05	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-5 **Lab ID: 10253154004** Collected: 12/16/13 10:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/24/13 06:05	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:05	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/24/13 06:05	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:05	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:05	110-54-3	CL
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:05	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:05	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/24/13 06:05	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:05	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/24/13 06:05	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:05	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:05	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/24/13 06:05	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/24/13 06:05	109-99-9	
Toluene	**0.28J**	ug/L	0.50	0.22	1		12/24/13 06:05	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/24/13 06:05	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/24/13 06:05	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/24/13 06:05	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/24/13 06:05	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:05	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:05	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/24/13 06:05	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/24/13 06:05	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		12/24/13 06:05	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/24/13 06:05	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/24/13 06:05	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**397**	umhos/cm	10.0	5.0	1		12/23/13 14:10		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**4.7**	mg/L	1.0	0.12	1		12/31/13 21:28	16887-00-6	
Sulfate	**8.9**	mg/L	1.0	0.50	1		12/31/13 21:28	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.2**	mg/L	0.10	0.047	10		12/27/13 10:06		

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-5 **Lab ID: 10253154004** Collected: 12/16/13 10:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.050	1		12/20/13 15:10		H6

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-6 **Lab ID: 10253154005** Collected: 12/16/13 17:15 Received: 12/20/13 11:20 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	**0.00032J**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 14:25	7440-38-2	
Barium, Dissolved	**0.072**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 14:25	7440-39-3	
Cadmium, Dissolved	**<0.000032**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 14:25	7440-43-9	
Chromium, Dissolved	**0.00069**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 14:25	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 14:25	7440-48-4	
Copper, Dissolved	**0.00021J**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 14:25	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 14:25	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:25	7439-92-1	
Manganese, Dissolved	**0.0098**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 14:25	7439-96-5	
Nickel, Dissolved	**0.0013**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 14:25	7440-02-0	
Selenium, Dissolved	**<0.00012**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 14:25	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 14:25	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 14:25	7440-28-0	
Vanadium, Dissolved	**0.0027**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:25	7440-62-2	
Zinc, Dissolved	**0.0018J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 14:25	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/24/13 06:53	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:53	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:53	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 06:53	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/24/13 06:53	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:53	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:53	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:53	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/24/13 06:53	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/24/13 06:53	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:53	108-90-7	
Chloroethane	**1.2**	ug/L	1.0	0.50	1		12/24/13 06:53	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/24/13 06:53	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/24/13 06:53	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:53	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:53	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/24/13 06:53	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/24/13 06:53	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:53	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/24/13 06:53	75-71-8	
1,1-Dichloroethane	**1.3**	ug/L	0.50	0.25	1		12/24/13 06:53	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:53	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:53	75-35-4	
cis-1,2-Dichloroethene	**2.9**	ug/L	0.50	0.23	1		12/24/13 06:53	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:53	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/24/13 06:53	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-6 **Lab ID: 10253154005** Collected: 12/16/13 17:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/24/13 06:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:53	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/24/13 06:53	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 06:53	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:53	110-54-3	CL
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:53	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:53	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/24/13 06:53	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/24/13 06:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 06:53	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/24/13 06:53	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 06:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 06:53	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/24/13 06:53	79-34-5	
Tetrachloroethene	**0.64**	ug/L	0.50	0.25	1		12/24/13 06:53	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/24/13 06:53	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/24/13 06:53	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	79-00-5	
Trichloroethene	**0.66**	ug/L	0.40	0.13	1		12/24/13 06:53	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/24/13 06:53	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/24/13 06:53	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/24/13 06:53	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 06:53	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/24/13 06:53	108-05-4	
Vinyl chloride	**1.2**	ug/L	0.20	0.10	1		12/24/13 06:53	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/24/13 06:53	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		12/24/13 06:53	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/24/13 06:53	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		12/24/13 06:53	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**831**	umhos/cm	10.0	5.0	1		12/23/13 14:13		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**37.4**	mg/L	5.0	0.60	5		12/31/13 22:00	16887-00-6	
Sulfate	**30.1**	mg/L	5.0	2.5	5		12/31/13 22:00	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.5**	mg/L	0.050	0.024	5		12/27/13 10:45		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-6 **Lab ID: 10253154005** Collected: 12/16/13 17:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.7**	Std. Units	0.10	0.050	1		12/20/13 15:11		H6

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-6B **Lab ID: 10253154006** Collected: 12/16/13 16:15 Received: 12/20/13 11:20 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	**0.00083**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 14:30	7440-38-2	
Barium, Dissolved	**0.015**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 14:30	7440-39-3	
Cadmium, Dissolved	**<0.000032**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 14:30	7440-43-9	
Chromium, Dissolved	**0.0067**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 14:30	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 14:30	7440-48-4	
Copper, Dissolved	**<0.00017**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 14:30	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 14:30	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:30	7439-92-1	
Manganese, Dissolved	**0.00031J**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 14:30	7439-96-5	
Nickel, Dissolved	**<0.00015**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 14:30	7440-02-0	
Selenium, Dissolved	**0.00013J**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 14:30	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 14:30	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 14:30	7440-28-0	
Vanadium, Dissolved	**0.0049**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 14:30	7440-62-2	
Zinc, Dissolved	**0.033**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 14:30	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/24/13 07:16	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/24/13 07:16	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 07:16	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 07:16	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/24/13 07:16	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/24/13 07:16	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 07:16	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 07:16	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/24/13 07:16	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/24/13 07:16	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 07:16	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 07:16	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/24/13 07:16	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/24/13 07:16	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/24/13 07:16	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 07:16	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 07:16	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/24/13 07:16	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/24/13 07:16	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/24/13 07:16	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/24/13 07:16	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/24/13 07:16	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 07:16	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/24/13 07:16	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 07:16	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/24/13 07:16	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-6B **Lab ID: 10253154006** Collected: 12/16/13 16:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/24/13 07:16	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/24/13 07:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/24/13 07:16	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 07:16	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/24/13 07:16	110-54-3	CL
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/24/13 07:16	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 07:16	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/24/13 07:16	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/24/13 07:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 07:16	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/24/13 07:16	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 07:16	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 07:16	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/24/13 07:16	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/24/13 07:16	109-99-9	
Toluene	**0.27J**	ug/L	0.50	0.22	1		12/24/13 07:16	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/24/13 07:16	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/24/13 07:16	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/24/13 07:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/24/13 07:16	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 07:16	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/24/13 07:16	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/24/13 07:16	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/24/13 07:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		12/24/13 07:16	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/24/13 07:16	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/24/13 07:16	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**1.6**	mg/L	1.0	0.12	1		12/31/13 22:31	16887-00-6	B
Sulfate	**4.4**	mg/L	1.0	0.50	1		12/31/13 22:31	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.90**	mg/L	0.020	0.0094	2		12/27/13 10:09		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-7A **Lab ID: 10253154007** Collected: 12/17/13 13:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 14:56	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:56	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:56	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:56	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 14:56	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:56	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:56	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:56	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 14:56	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 14:56	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:56	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:56	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 14:56	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 14:56	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:56	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:56	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:56	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:56	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 14:56	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:56	110-57-6	
Dichlorodifluoromethane	**1.4**	ug/L	1.0	0.40	1		12/26/13 14:56	75-71-8	
1,1-Dichloroethane	**3.3**	ug/L	0.50	0.25	1		12/26/13 14:56	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:56	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:56	75-35-4	
cis-1,2-Dichloroethene	**0.47J**	ug/L	0.50	0.23	1		12/26/13 14:56	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:56	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 14:56	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 14:56	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:56	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 14:56	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:56	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:56	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:56	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:56	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 14:56	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:56	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 14:56	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:56	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:56	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:56	79-34-5	
Tetrachloroethene	**3.9**	ug/L	0.50	0.25	1		12/26/13 14:56	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-7A **Lab ID: 10253154007** Collected: 12/17/13 13:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 14:56	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 14:56	108-88-3	
1,1,1-Trichloroethane	**0.43J**	ug/L	0.50	0.25	1		12/26/13 14:56	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	79-00-5	
Trichloroethene	**1.1**	ug/L	0.40	0.13	1		12/26/13 14:56	79-01-6	
Trichlorofluoromethane	**0.59**	ug/L	0.50	0.12	1		12/26/13 14:56	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 14:56	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 14:56	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:56	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:56	108-05-4	
Vinyl chloride	**0.22**	ug/L	0.20	0.10	1		12/26/13 14:56	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 14:56	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/26/13 14:56	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 14:56	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/26/13 14:56	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**16.5**	mg/L	2.0	0.24	2		12/31/13 23:03	16887-00-6	
Sulfate	**21.5**	mg/L	2.0	1.0	2		12/31/13 23:03	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.0**	mg/L	0.10	0.047	10		12/27/13 10:10		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-8A **Lab ID: 10253154008** Collected: 12/16/13 13:40 Received: 12/20/13 11:20 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	**0.00062**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/31/13 08:54	7440-38-2	
Barium, Dissolved	**0.088**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/31/13 08:54	7440-39-3	
Cadmium, Dissolved	**0.000087**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/31/13 08:54	7440-43-9	
Chromium, Dissolved	**0.0045**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/31/13 08:54	7440-47-3	
Cobalt, Dissolved	**0.000097J**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/31/13 08:54	7440-48-4	
Copper, Dissolved	**0.00076**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/31/13 08:54	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/31/13 08:54	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/31/13 08:54	7439-92-1	
Manganese, Dissolved	**0.0046**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/31/13 08:54	7439-96-5	
Nickel, Dissolved	**0.0014**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/31/13 08:54	7440-02-0	
Selenium, Dissolved	**0.0013**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/31/13 08:54	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/31/13 08:54	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/31/13 08:54	7440-28-0	
Vanadium, Dissolved	**0.0030**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/31/13 08:54	7440-62-2	
Zinc, Dissolved	**0.0093**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/31/13 08:54	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 13:44	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:44	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:44	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 13:44	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 13:44	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:44	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:44	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:44	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 13:44	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 13:44	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:44	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 13:44	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 13:44	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 13:44	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:44	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:44	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:44	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 13:44	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 13:44	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:44	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 13:44	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:44	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:44	75-35-4	
cis-1,2-Dichloroethene	**0.96**	ug/L	0.50	0.23	1		12/26/13 13:44	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:44	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 13:44	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-8A **Lab ID: 10253154008** Collected: 12/16/13 13:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 13:44	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:44	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 13:44	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:44	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:44	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:44	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:44	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 13:44	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:44	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 13:44	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:44	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:44	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 13:44	79-34-5	
Tetrachloroethene	**0.63**	ug/L	0.50	0.25	1		12/26/13 13:44	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 13:44	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 13:44	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	79-00-5	
Trichloroethene	**0.34J**	ug/L	0.40	0.13	1		12/26/13 13:44	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 13:44	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 13:44	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 13:44	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:44	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:44	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 13:44	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 13:44	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/26/13 13:44	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 13:44	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		12/26/13 13:44	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**1170**	umhos/cm	10.0	5.0	1		12/23/13 14:17		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**67.6**	mg/L	5.0	0.60	5		12/31/13 23:34	16887-00-6	
Sulfate	**51.6**	mg/L	5.0	2.5	5		12/31/13 23:34	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**11.0**	mg/L	0.40	0.19	40		12/27/13 10:47		

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-8A **Lab ID: 10253154008** Collected: 12/16/13 13:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.050	1		12/20/13 15:11		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-8C **Lab ID: 10253154009** Collected: 12/16/13 13:15 Received: 12/20/13 11:20 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	**0.00057**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 15:22	7440-38-2	
Barium, Dissolved	**0.018**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 15:22	7440-39-3	
Cadmium, Dissolved	**<0.000032**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 15:22	7440-43-9	
Chromium, Dissolved	**0.0030**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 15:22	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 15:22	7440-48-4	
Copper, Dissolved	**<0.00017**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 15:22	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 15:22	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:22	7439-92-1	
Manganese, Dissolved	**<0.00018**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 15:22	7439-96-5	
Nickel, Dissolved	**<0.00015**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 15:22	7440-02-0	
Selenium, Dissolved	**0.00022J**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 15:22	7782-49-2	
Silver, Dissolved	**0.000096J**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 15:22	7440-22-4	B
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 15:22	7440-28-0	
Vanadium, Dissolved	**0.0031**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:22	7440-62-2	
Zinc, Dissolved	**0.0025J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 15:22	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 14:08	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:08	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:08	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:08	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 14:08	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:08	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:08	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:08	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 14:08	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 14:08	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:08	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:08	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 14:08	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 14:08	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:08	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:08	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:08	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:08	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 14:08	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:08	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 14:08	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:08	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:08	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 14:08	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:08	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 14:08	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-8C **Lab ID: 10253154009** Collected: 12/16/13 13:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 14:08	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:08	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 14:08	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:08	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:08	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:08	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:08	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 14:08	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:08	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 14:08	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:08	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:08	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:08	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 14:08	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 14:08	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 14:08	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 14:08	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 14:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 14:08	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:08	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:08	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 14:08	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 14:08	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/26/13 14:08	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 14:08	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 14:08	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**6.6**	mg/L	1.0	0.12	1		01/01/14 02:12	16887-00-6	
Sulfate	**7.7**	mg/L	1.0	0.50	1		01/01/14 02:12	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.6**	mg/L	0.20	0.094	20		12/27/13 10:13		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-9A **Lab ID: 10253154010** Collected: 12/17/13 11:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 15:21	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 15:21	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 15:21	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 15:21	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 15:21	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 15:21	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 15:21	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 15:21	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 15:21	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 15:21	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 15:21	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 15:21	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 15:21	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 15:21	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 15:21	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 15:21	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 15:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 15:21	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 15:21	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 15:21	110-57-6	
Dichlorodifluoromethane	**0.71J**	ug/L	1.0	0.40	1		12/26/13 15:21	75-71-8	
1,1-Dichloroethane	**0.42J**	ug/L	0.50	0.25	1		12/26/13 15:21	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 15:21	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 15:21	75-35-4	
cis-1,2-Dichloroethene	**0.68**	ug/L	0.50	0.23	1		12/26/13 15:21	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 15:21	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 15:21	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 15:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 15:21	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 15:21	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 15:21	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 15:21	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 15:21	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 15:21	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 15:21	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 15:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 15:21	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 15:21	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 15:21	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 15:21	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 15:21	79-34-5	
Tetrachloroethene	**1.2**	ug/L	0.50	0.25	1		12/26/13 15:21	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-9A **Lab ID: 10253154010** Collected: 12/17/13 11:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 15:21	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 15:21	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	79-00-5	
Trichloroethene	**0.85**	ug/L	0.40	0.13	1		12/26/13 15:21	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 15:21	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 15:21	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 15:21	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 15:21	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 15:21	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 15:21	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 15:21	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/26/13 15:21	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 15:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/26/13 15:21	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**47.9**	mg/L	3.0	0.36	3		01/01/14 03:46	16887-00-6	
Sulfate	**17.0**	mg/L	3.0	1.5	3		01/01/14 03:46	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**2.3**	mg/L	0.050	0.024	5		12/27/13 10:14		M6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-11 **Lab ID: 10253154011** Collected: 12/17/13 10:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 16:09	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:09	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:09	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 16:09	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 16:09	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:09	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:09	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:09	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 16:09	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 16:09	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:09	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 16:09	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 16:09	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 16:09	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:09	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:09	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:09	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:09	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 16:09	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:09	110-57-6	
Dichlorodifluoromethane	**7.1**	ug/L	1.0	0.40	1		12/26/13 16:09	75-71-8	
1,1-Dichloroethane	**0.31J**	ug/L	0.50	0.25	1		12/26/13 16:09	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:09	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:09	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 16:09	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:09	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 16:09	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 16:09	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:09	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 16:09	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:09	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:09	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:09	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:09	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 16:09	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:09	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 16:09	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:09	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:09	79-34-5	
Tetrachloroethene	**0.41J**	ug/L	0.50	0.25	1		12/26/13 16:09	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-11 **Lab ID: 10253154011** Collected: 12/17/13 10:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 16:09	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 16:09	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 16:09	79-01-6	
Trichlorofluoromethane	**5.2**	ug/L	0.50	0.12	1		12/26/13 16:09	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 16:09	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 16:09	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:09	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:09	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 16:09	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 16:09	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/26/13 16:09	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 16:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 16:09	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**31.4**	mg/L	2.0	0.24	2		01/01/14 04:18	16887-00-6	
Sulfate	**39.3**	mg/L	2.0	1.0	2		01/01/14 04:18	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**7.5**	mg/L	0.20	0.094	20		12/27/13 10:21		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-12 **Lab ID: 10253154012** Collected: 12/17/13 09:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 16:33	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:33	107-13-1	
Benzene	**1.5**	ug/L	0.50	0.24	1		12/26/13 16:33	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 16:33	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 16:33	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:33	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:33	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:33	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 16:33	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 16:33	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:33	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 16:33	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 16:33	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 16:33	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:33	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:33	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:33	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 16:33	95-50-1	
1,4-Dichlorobenzene	**0.29J**	ug/L	0.50	0.25	1		12/26/13 16:33	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:33	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 16:33	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	0.50	0.25	1		12/26/13 16:33	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:33	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:33	75-35-4	
cis-1,2-Dichloroethene	**6.6**	ug/L	0.50	0.23	1		12/26/13 16:33	156-59-2	
trans-1,2-Dichloroethene	**0.23J**	ug/L	0.50	0.21	1		12/26/13 16:33	156-60-5	
1,2-Dichloropropane	**0.24J**	ug/L	4.0	0.20	1		12/26/13 16:33	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 16:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:33	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 16:33	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:33	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:33	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:33	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:33	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 16:33	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:33	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 16:33	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:33	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-12 **Lab ID: 10253154012** Collected: 12/17/13 09:40 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 16:33	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 16:33	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	79-00-5	
Trichloroethene	**0.42**	ug/L	0.40	0.13	1		12/26/13 16:33	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 16:33	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 16:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 16:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:33	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:33	108-05-4	
Vinyl chloride	**22.4**	ug/L	0.20	0.10	1		12/26/13 16:33	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 16:33	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/26/13 16:33	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 16:33	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		12/26/13 16:33	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**25.2**	mg/L	3.0	0.36	3		01/01/14 04:49	16887-00-6	
Sulfate	**17.2**	mg/L	3.0	1.5	3		01/01/14 04:49	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.056**	mg/L	0.010	0.0047	1		12/27/13 10:24		B

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-13 **Lab ID: 10253154013** Collected: 12/17/13 12:30 Received: 12/20/13 11:20 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	**0.00019J**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 15:26	7440-38-2	
Barium, Dissolved	**0.093**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 15:26	7440-39-3	
Cadmium, Dissolved	**0.00016**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 15:26	7440-43-9	
Chromium, Dissolved	**<0.000081**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 15:26	7440-47-3	
Cobalt, Dissolved	**0.00036J**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 15:26	7440-48-4	
Copper, Dissolved	**0.00024J**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 15:26	7440-50-8	
Iron, Dissolved	**0.015J**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 15:26	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:26	7439-92-1	
Manganese, Dissolved	**1.2**	mg/L	0.0050	0.0018	10	12/27/13 12:13	12/31/13 09:03	7439-96-5	
Nickel, Dissolved	**0.0033**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 15:26	7440-02-0	
Selenium, Dissolved	**<0.00012**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 15:26	7782-49-2	
Silver, Dissolved	**0.000069J**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 15:26	7440-22-4	B
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 15:26	7440-28-0	
Vanadium, Dissolved	**0.0021**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:26	7440-62-2	
Zinc, Dissolved	**0.0019J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 15:26	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 16:57	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:57	107-13-1	
Benzene	**0.59**	ug/L	0.50	0.24	1		12/26/13 16:57	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 16:57	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 16:57	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:57	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:57	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:57	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 16:57	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 16:57	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:57	108-90-7	
Chloroethane	**2.0**	ug/L	1.0	0.50	1		12/26/13 16:57	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 16:57	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 16:57	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:57	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:57	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:57	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 16:57	95-50-1	
1,4-Dichlorobenzene	**0.54**	ug/L	0.50	0.25	1		12/26/13 16:57	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:57	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 16:57	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	0.50	0.25	1		12/26/13 16:57	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:57	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:57	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	0.50	0.23	1		12/26/13 16:57	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:57	156-60-5	
1,2-Dichloropropane	**0.25J**	ug/L	4.0	0.20	1		12/26/13 16:57	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-13 **Lab ID: 10253154013** Collected: 12/17/13 12:30 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 16:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:57	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 16:57	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 16:57	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:57	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:57	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:57	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 16:57	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 16:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 16:57	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 16:57	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 16:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 16:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 16:57	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 16:57	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 16:57	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	79-00-5	
Trichloroethene	**0.32J**	ug/L	0.40	0.13	1		12/26/13 16:57	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 16:57	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 16:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 16:57	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 16:57	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 16:57	108-05-4	
Vinyl chloride	**18.9**	ug/L	0.20	0.10	1		12/26/13 16:57	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 16:57	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%.	75-125		1		12/26/13 16:57	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 16:57	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 16:57	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**19.9**	mg/L	2.0	0.24	2		01/01/14 05:21	16887-00-6	
Sulfate	**10.9**	mg/L	2.0	1.0	2		01/01/14 05:21	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.0050J**	mg/L	0.010	0.0047	1		12/27/13 10:26		B

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: DUP **Lab ID: 10253154014** Collected: 12/17/13 13:00 Received: 12/20/13 11:20 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	0.000093	1	12/27/13 12:13	12/30/13 15:30	7440-38-2	
Barium, Dissolved	**0.094**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 15:30	7440-39-3	
Cadmium, Dissolved	**0.00014**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 15:30	7440-43-9	
Chromium, Dissolved	**<0.000081**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 15:30	7440-47-3	
Cobalt, Dissolved	**0.00038J**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 15:30	7440-48-4	
Copper, Dissolved	**0.00025J**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 15:30	7440-50-8	
Iron, Dissolved	**0.018J**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 15:30	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:30	7439-92-1	
Manganese, Dissolved	**1.2**	mg/L	0.0050	0.0018	10	12/27/13 12:13	12/31/13 09:07	7439-96-5	
Nickel, Dissolved	**0.0036**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 15:30	7440-02-0	
Selenium, Dissolved	**<0.00012**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 15:30	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 15:30	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 15:30	7440-28-0	
Vanadium, Dissolved	**0.0022**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:30	7440-62-2	
Zinc, Dissolved	**0.0019J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 15:30	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 19:44	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:44	107-13-1	
Benzene	**0.63**	ug/L	0.50	0.24	1		12/26/13 19:44	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 19:44	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 19:44	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:44	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:44	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:44	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 19:44	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 19:44	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:44	108-90-7	
Chloroethane	**1.9**	ug/L	1.0	0.50	1		12/26/13 19:44	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 19:44	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 19:44	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:44	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:44	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:44	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 19:44	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 19:44	95-50-1	
1,4-Dichlorobenzene	**0.54**	ug/L	0.50	0.25	1		12/26/13 19:44	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:44	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 19:44	75-71-8	
1,1-Dichloroethane	**1.4**	ug/L	0.50	0.25	1		12/26/13 19:44	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:44	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:44	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	0.50	0.23	1		12/26/13 19:44	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:44	156-60-5	
1,2-Dichloropropane	**0.35J**	ug/L	4.0	0.20	1		12/26/13 19:44	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: DUP **Lab ID: 10253154014** Collected: 12/17/13 13:00 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 19:44	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:44	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 19:44	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:44	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:44	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:44	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:44	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 19:44	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:44	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 19:44	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:44	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:44	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 19:44	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 19:44	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 19:44	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	79-00-5	
Trichloroethene	**0.32J**	ug/L	0.40	0.13	1		12/26/13 19:44	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 19:44	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 19:44	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 19:44	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:44	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:44	108-05-4	
Vinyl chloride	**17.9**	ug/L	0.20	0.10	1		12/26/13 19:44	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 19:44	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%.	75-125		1		12/26/13 19:44	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 19:44	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		12/26/13 19:44	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**19.8**	mg/L	2.0	0.24	2		01/01/14 05:52	16887-00-6	
Sulfate	**10.7**	mg/L	2.0	1.0	2		01/01/14 05:52	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.074**	mg/L	0.010	0.0047	1		12/27/13 10:27		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-14 **Lab ID: 10253154015** Collected: 12/17/13 15:00 Received: 12/20/13 11:20 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	0.000093	1	12/27/13 12:13	12/30/13 15:35	7440-38-2	
Barium, Dissolved	**0.11**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 15:35	7440-39-3	
Cadmium, Dissolved	**0.00018**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 15:35	7440-43-9	
Chromium, Dissolved	**0.00026J**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 15:35	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 15:35	7440-48-4	
Copper, Dissolved	**0.00077**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 15:35	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 15:35	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:35	7439-92-1	
Manganese, Dissolved	**0.0018**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 15:35	7439-96-5	
Nickel, Dissolved	**<0.00015**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 15:35	7440-02-0	
Selenium, Dissolved	**0.00082**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 15:35	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 15:35	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 15:35	7440-28-0	
Vanadium, Dissolved	**0.0024**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:35	7440-62-2	
Zinc, Dissolved	**0.0040J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 15:35	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 17:21	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:21	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:21	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 17:21	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 17:21	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:21	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:21	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:21	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 17:21	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 17:21	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:21	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 17:21	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 17:21	67-66-3	
Chloromethane	**0.96J**	ug/L	4.0	0.50	1		12/26/13 17:21	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:21	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:21	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 17:21	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 17:21	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:21	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 17:21	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:21	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:21	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 17:21	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:21	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 17:21	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-14 **Lab ID: 10253154015** Collected: 12/17/13 15:00 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 17:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:21	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 17:21	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:21	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:21	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:21	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:21	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 17:21	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:21	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 17:21	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:21	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:21	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 17:21	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 17:21	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 17:21	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 17:21	79-01-6	
Trichlorofluoromethane	**2.0**	ug/L	0.50	0.12	1		12/26/13 17:21	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 17:21	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 17:21	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:21	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:21	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 17:21	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 17:21	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		12/26/13 17:21	17060-07-0	
Toluene-d8 (S)	95	%.	75-125		1		12/26/13 17:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/26/13 17:21	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-15 **Lab ID: 10253154016** Collected: 12/16/13 11:30 Received: 12/20/13 11:20 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	**0.00028J**	mg/L	0.00050	0.000093	1	12/27/13 12:13	12/30/13 15:48	7440-38-2	
Barium, Dissolved	**0.045**	mg/L	0.00030	0.00014	1	12/27/13 12:13	12/30/13 15:48	7440-39-3	
Cadmium, Dissolved	**<0.000032**	mg/L	0.000080	0.000032	1	12/27/13 12:13	12/30/13 15:48	7440-43-9	
Chromium, Dissolved	**0.0019**	mg/L	0.00050	0.000081	1	12/27/13 12:13	12/30/13 15:48	7440-47-3	
Cobalt, Dissolved	**<0.000052**	mg/L	0.00050	0.000052	1	12/27/13 12:13	12/30/13 15:48	7440-48-4	
Copper, Dissolved	**0.00027J**	mg/L	0.00050	0.00017	1	12/27/13 12:13	12/30/13 15:48	7440-50-8	
Iron, Dissolved	**<0.0059**	mg/L	0.050	0.0059	1	12/27/13 12:13	12/30/13 15:48	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:48	7439-92-1	
Manganese, Dissolved	**<0.00018**	mg/L	0.00050	0.00018	1	12/27/13 12:13	12/30/13 15:48	7439-96-5	
Nickel, Dissolved	**<0.00015**	mg/L	0.00050	0.00015	1	12/27/13 12:13	12/30/13 15:48	7440-02-0	
Selenium, Dissolved	**0.00033J**	mg/L	0.00050	0.00012	1	12/27/13 12:13	12/30/13 15:48	7782-49-2	
Silver, Dissolved	**<0.000050**	mg/L	0.00050	0.000050	1	12/27/13 12:13	12/30/13 15:48	7440-22-4	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/27/13 12:13	12/30/13 15:48	7440-28-0	
Vanadium, Dissolved	**0.0017**	mg/L	0.00010	0.000046	1	12/27/13 12:13	12/30/13 15:48	7440-62-2	
Zinc, Dissolved	**0.0026J**	mg/L	0.0050	0.00098	1	12/27/13 12:13	12/30/13 15:48	7440-66-6	B
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 14:32	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:32	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 14:32	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 14:32	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 14:32	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:32	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 14:32	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 14:32	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:32	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 14:32	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 14:32	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:32	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 14:32	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:32	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 14:32	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-15 **Lab ID: 10253154016** Collected: 12/16/13 11:30 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 14:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:32	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 14:32	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:32	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 14:32	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 14:32	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:32	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 14:32	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 14:32	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 14:32	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 14:32	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 14:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 14:32	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 14:32	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 14:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		12/26/13 14:32	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 14:32	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		12/26/13 14:32	460-00-4	
2510B Specific Conductance	Analytical Method: SM 2510B								
Specific Conductance	**461**	umhos/cm	10.0	5.0	1		12/23/13 14:21		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**6.0**	mg/L	1.0	0.12	1		01/01/14 06:24	16887-00-6	
Sulfate	**13.0**	mg/L	1.0	0.50	1		01/01/14 06:24	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.2**	mg/L	0.20	0.094	20		12/27/13 10:50		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-15 **Lab ID: 10253154016** Collected: 12/16/13 11:30 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.050	1		12/20/13 15:14		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-16 **Lab ID: 10253154017** Collected: 12/17/13 14:20 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 17:45	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:45	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:45	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 17:45	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 17:45	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:45	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:45	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:45	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 17:45	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 17:45	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:45	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 17:45	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 17:45	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 17:45	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:45	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:45	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:45	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 17:45	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 17:45	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:45	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 17:45	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	0.50	0.25	1		12/26/13 17:45	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:45	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:45	75-35-4	
cis-1,2-Dichloroethene	**4.3**	ug/L	0.50	0.23	1		12/26/13 17:45	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:45	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 17:45	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 17:45	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:45	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 17:45	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 17:45	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:45	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:45	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:45	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 17:45	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 17:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 17:45	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 17:45	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 17:45	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 17:45	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 17:45	79-34-5	
Tetrachloroethene	**1.0**	ug/L	0.50	0.25	1		12/26/13 17:45	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MW-16 **Lab ID: 10253154017** Collected: 12/17/13 14:20 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 17:45	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 17:45	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	79-00-5	
Trichloroethene	**1.4**	ug/L	0.40	0.13	1		12/26/13 17:45	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 17:45	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 17:45	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 17:45	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 17:45	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 17:45	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 17:45	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 17:45	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/26/13 17:45	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 17:45	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/26/13 17:45	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: SHOP WELL **Lab ID: 10253154018** Collected: 12/16/13 15:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/24/13 08:52	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/24/13 08:52	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 08:52	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 08:52	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/24/13 08:52	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/24/13 08:52	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 08:52	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 08:52	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/24/13 08:52	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/24/13 08:52	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 08:52	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/24/13 08:52	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/24/13 08:52	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/24/13 08:52	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/24/13 08:52	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 08:52	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 08:52	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/24/13 08:52	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/24/13 08:52	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/24/13 08:52	110-57-6	
Dichlorodifluoromethane	**6.8**	ug/L	1.0	0.40	1		12/24/13 08:52	75-71-8	
1,1-Dichloroethane	**3.7**	ug/L	0.50	0.25	1		12/24/13 08:52	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/24/13 08:52	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 08:52	75-35-4	
cis-1,2-Dichloroethene	**1.5**	ug/L	0.50	0.23	1		12/24/13 08:52	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 08:52	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/24/13 08:52	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/24/13 08:52	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/24/13 08:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/24/13 08:52	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/24/13 08:52	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/24/13 08:52	110-54-3	CL
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/24/13 08:52	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/24/13 08:52	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/24/13 08:52	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/24/13 08:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/24/13 08:52	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/24/13 08:52	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/24/13 08:52	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/24/13 08:52	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/24/13 08:52	79-34-5	
Tetrachloroethene	**7.3**	ug/L	0.50	0.25	1		12/24/13 08:52	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: SHOP WELL **Lab ID: 10253154018** Collected: 12/16/13 15:15 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/24/13 08:52	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/24/13 08:52	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	79-00-5	
Trichloroethene	**3.0**	ug/L	0.40	0.13	1		12/24/13 08:52	79-01-6	
Trichlorofluoromethane	**0.94**	ug/L	0.50	0.12	1		12/24/13 08:52	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/24/13 08:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/24/13 08:52	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/24/13 08:52	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/24/13 08:52	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/24/13 08:52	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/24/13 08:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%.	75-125		1		12/24/13 08:52	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/24/13 08:52	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		12/24/13 08:52	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MCILHATTEN SEEP **Lab ID: 10253154019** Collected: 12/18/13 09:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 18:57	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:57	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:57	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:57	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 18:57	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:57	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:57	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:57	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 18:57	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 18:57	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:57	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 18:57	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 18:57	67-66-3	
Chloromethane	**0.70J**	ug/L	4.0	0.50	1		12/26/13 18:57	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:57	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:57	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:57	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 18:57	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:57	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 18:57	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:57	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:57	75-35-4	
cis-1,2-Dichloroethene	**0.32J**	ug/L	0.50	0.23	1		12/26/13 18:57	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:57	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 18:57	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 18:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:57	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 18:57	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 18:57	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:57	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:57	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:57	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:57	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 18:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 18:57	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 18:57	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 18:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 18:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 18:57	79-34-5	
Tetrachloroethene	**1.2**	ug/L	0.50	0.25	1		12/26/13 18:57	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: MCILHATTEN SEEP **Lab ID: 10253154019** Collected: 12/18/13 09:50 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 18:57	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 18:57	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	79-00-5	
Trichloroethene	**0.39J**	ug/L	0.40	0.13	1		12/26/13 18:57	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 18:57	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 18:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 18:57	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 18:57	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 18:57	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 18:57	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 18:57	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		12/26/13 18:57	17060-07-0	
Toluene-d8 (S)	95	%.	75-125		1		12/26/13 18:57	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/26/13 18:57	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**52.8**	mg/L	3.0	0.36	3		01/01/14 06:55	16887-00-6	
Sulfate	**58.3**	mg/L	3.0	1.5	3		01/01/14 06:55	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.8**	mg/L	0.20	0.094	20		12/27/13 10:30		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: VET WELL **Lab ID: 10253154020** Collected: 12/18/13 01:10 Received: 12/20/13 11:20 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	**0.00057**	mg/L	0.00050	0.000093	1	12/23/13 15:24	12/25/13 03:31	7440-38-2	
Barium	**0.028**	mg/L	0.00030	0.00014	1	12/23/13 15:24	12/25/13 03:31	7440-39-3	
Cadmium	**<0.000032**	mg/L	0.000080	0.000032	1	12/23/13 15:24	12/25/13 03:31	7440-43-9	
Chromium	**0.00093**	mg/L	0.00050	0.000081	1	12/23/13 15:24	12/25/13 03:31	7440-47-3	
Cobalt	**<0.000052**	mg/L	0.00050	0.000052	1	12/23/13 15:24	12/25/13 03:31	7440-48-4	
Copper	**0.013**	mg/L	0.00050	0.00017	1	12/23/13 15:24	12/25/13 03:31	7440-50-8	
Iron	**<0.0059**	mg/L	0.050	0.0059	1	12/23/13 15:24	12/25/13 03:31	7439-89-6	
Lead	**0.00032**	mg/L	0.00010	0.000046	1	12/23/13 15:24	12/25/13 03:31	7439-92-1	
Manganese	**<0.00018**	mg/L	0.00050	0.00018	1	12/23/13 15:24	12/25/13 03:31	7439-96-5	
Nickel	**<0.00015**	mg/L	0.00050	0.00015	1	12/23/13 15:24	12/25/13 03:31	7440-02-0	
Selenium	**0.00074**	mg/L	0.00050	0.00012	1	12/23/13 15:24	12/25/13 03:31	7782-49-2	
Silver	**<0.000050**	mg/L	0.00050	0.000050	1	12/23/13 15:24	12/25/13 03:31	7440-22-4	
Thallium	**<0.000025**	mg/L	0.00010	0.000025	1	12/23/13 15:24	12/25/13 03:31	7440-28-0	
Vanadium	**0.0041**	mg/L	0.00010	0.000046	1	12/23/13 15:24	12/25/13 03:31	7440-62-2	
Zinc	**0.012**	mg/L	0.0050	0.00098	1	12/23/13 15:24	12/25/13 03:31	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 19:21	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:21	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:21	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 19:21	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 19:21	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:21	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:21	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:21	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 19:21	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 19:21	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:21	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 19:21	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 19:21	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 19:21	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:21	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:21	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 19:21	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 19:21	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:21	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 19:21	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:21	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:21	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 19:21	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:21	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 19:21	78-87-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: VET WELL **Lab ID: 10253154020** Collected: 12/18/13 01:10 Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 19:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:21	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 19:21	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 19:21	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:21	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:21	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:21	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 19:21	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 19:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 19:21	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 19:21	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 19:21	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 19:21	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 19:21	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 19:21	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 19:21	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 19:21	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 19:21	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 19:21	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 19:21	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 19:21	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 19:21	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 19:21	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 19:21	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	75-125		1		12/26/13 19:21	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/26/13 19:21	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/26/13 19:21	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**12.5**	mg/L	1.0	0.12	1		01/01/14 08:30	16887-00-6	
Sulfate	**19.3**	mg/L	1.0	0.50	1		01/01/14 08:30	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.7**	mg/L	0.10	0.047	10		12/27/13 10:51		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: TRIP BLANK **Lab ID: 10253154021** Collected: Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 13:20	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:20	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:20	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 13:20	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 13:20	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:20	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:20	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:20	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 13:20	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 13:20	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:20	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 13:20	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 13:20	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 13:20	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:20	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:20	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:20	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 13:20	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 13:20	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:20	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 13:20	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:20	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:20	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 13:20	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:20	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 13:20	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		12/26/13 13:20	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:20	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		12/26/13 13:20	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 13:20	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:20	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:20	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:20	74-88-4	
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		12/26/13 13:20	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/26/13 13:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 13:20	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		12/26/13 13:20	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 13:20	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 13:20	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		12/26/13 13:20	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Sample: TRIP BLANK **Lab ID: 10253154021** Collected: Received: 12/20/13 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		12/26/13 13:20	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		12/26/13 13:20	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		12/26/13 13:20	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/26/13 13:20	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		12/26/13 13:20	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		12/26/13 13:20	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 13:20	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		12/26/13 13:20	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		12/26/13 13:20	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		12/26/13 13:20	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/26/13 13:20	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/26/13 13:20	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		12/26/13 13:20	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MPRP/43902
QC Batch Method: EPA 3020
Analysis Method: EPA 6020
Analysis Description: 6020 MET
Associated Lab Samples: 10253154020

METHOD BLANK: 1600876
Matrix: Water
Associated Lab Samples: 10253154020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.000093	0.00050	12/25/13 01:59	
Barium	mg/L	<0.00014	0.00030	12/25/13 01:59	
Cadmium	mg/L	<0.000032	0.000080	12/25/13 01:59	
Chromium	mg/L	<0.000081	0.00050	12/25/13 01:59	
Cobalt	mg/L	<0.000052	0.00050	12/25/13 01:59	
Copper	mg/L	<0.00017	0.00050	12/25/13 01:59	
Iron	mg/L	<0.0059	0.050	12/25/13 01:59	
Lead	mg/L	<0.000046	0.00010	12/25/13 01:59	
Manganese	mg/L	<0.00018	0.00050	12/25/13 01:59	
Nickel	mg/L	<0.00015	0.00050	12/25/13 01:59	
Selenium	mg/L	<0.00012	0.00050	12/25/13 01:59	
Silver	mg/L	0.000060J	0.00050	12/25/13 01:59	
Thallium	mg/L	<0.000025	0.00010	12/25/13 01:59	
Vanadium	mg/L	<0.000046	0.00010	12/25/13 01:59	
Zinc	mg/L	0.0010J	0.0050	12/25/13 01:59	

LABORATORY CONTROL SAMPLE: 1600877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.079	99	80-120	
Barium	mg/L	.08	0.078	98	80-120	
Cadmium	mg/L	.08	0.078	98	80-120	
Chromium	mg/L	.08	0.079	99	80-120	
Cobalt	mg/L	.08	0.080	100	80-120	
Copper	mg/L	.08	0.081	101	80-120	
Iron	mg/L	1	0.99	99	80-120	
Lead	mg/L	.08	0.079	99	80-120	
Manganese	mg/L	.08	0.078	98	80-120	
Nickel	mg/L	.08	0.080	100	80-120	
Selenium	mg/L	.08	0.081	101	80-120	
Silver	mg/L	.08	0.080	100	80-120	
Thallium	mg/L	.08	0.080	100	80-120	
Vanadium	mg/L	.08	0.078	98	80-120	
Zinc	mg/L	.08	0.079	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600878 1600879

Parameter	Units	10253167001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	1.6 ug/L	.08	.08	0.082	0.082	101	101	75-125	.1	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1600878 1600879

Parameter	Units	10253167001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	237 ug/L	.08	.08	0.32	0.32	100	99	75-125	.1	20	
Cadmium	mg/L	0.081 ug/L	.08	.08	0.075	0.075	93	93	75-125	.2	20	
Chromium	mg/L	36.8 ug/L	.08	.08	0.11	0.12	98	98	75-125	.3	20	
Cobalt	mg/L	0.12J ug/L	.08	.08	0.081	0.081	101	101	75-125	.2	20	
Copper	mg/L	1.0 ug/L	.08	.08	0.078	0.078	96	97	75-125	.3	20	
Iron	mg/L	62.2 ug/L	1	1	1.0	1.0	95	95	75-125	.3	20	
Lead	mg/L	0.046J ug/L	.08	.08	0.074	0.074	92	92	75-125	.1	20	
Manganese	mg/L	109 ug/L	.08	.08	0.19	0.19	95	97	75-125	.9	20	
Nickel	mg/L	2.8 ug/L	.08	.08	0.081	0.081	98	97	75-125	.4	20	
Selenium	mg/L	0.60 ug/L	.08	.08	0.079	0.080	99	99	75-125	.4	20	
Silver	mg/L	ND	.08	.08	0.075	0.075	93	94	75-125	.3	20	
Thallium	mg/L	0.037J ug/L	.08	.08	0.074	0.075	93	93	75-125	.5	20	
Vanadium	mg/L	1.4 ug/L	.08	.08	0.081	0.081	99	100	75-125	.3	20	
Zinc	mg/L	1.9J ug/L	.08	.08	0.077	0.075	93	92	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MPRP/43922 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10253154004, 10253154005, 10253154006, 10253154008, 10253154009, 10253154013, 10253154014, 10253154015, 10253154016

METHOD BLANK: 1602062 Matrix: Water
Associated Lab Samples: 10253154004, 10253154005, 10253154006, 10253154008, 10253154009, 10253154013, 10253154014, 10253154015, 10253154016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.000093	0.00050	12/30/13 14:21	
Barium, Dissolved	mg/L	<0.00014	0.00030	12/30/13 14:21	
Cadmium, Dissolved	mg/L	<0.000032	0.000080	12/30/13 14:21	
Chromium, Dissolved	mg/L	<0.000081	0.00050	12/30/13 14:21	
Cobalt, Dissolved	mg/L	<0.000052	0.00050	12/30/13 14:21	
Copper, Dissolved	mg/L	<0.00017	0.00050	12/30/13 14:21	
Iron, Dissolved	mg/L	<0.0059	0.050	12/30/13 14:21	
Lead, Dissolved	mg/L	<0.000046	0.00010	12/30/13 14:21	
Manganese, Dissolved	mg/L	<0.00018	0.00050	12/31/13 08:50	
Nickel, Dissolved	mg/L	<0.00015	0.00050	12/30/13 14:21	
Selenium, Dissolved	mg/L	<0.00012	0.00050	12/30/13 14:21	
Silver, Dissolved	mg/L	0.000051J	0.00050	12/30/13 14:21	
Thallium, Dissolved	mg/L	<0.000025	0.00010	12/30/13 14:21	
Vanadium, Dissolved	mg/L	<0.000046	0.00010	12/30/13 14:21	
Zinc, Dissolved	mg/L	0.0014J	0.0050	12/30/13 14:21	

LABORATORY CONTROL SAMPLE: 1602063

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	98	80-120	
Cadmium, Dissolved	mg/L	.08	0.080	100	80-120	
Chromium, Dissolved	mg/L	.08	0.080	100	80-120	
Cobalt, Dissolved	mg/L	.08	0.078	98	80-120	
Copper, Dissolved	mg/L	.08	0.083	104	80-120	
Iron, Dissolved	mg/L	1	1.0	101	80-120	
Lead, Dissolved	mg/L	.08	0.080	100	80-120	
Manganese, Dissolved	mg/L	.08	0.081	101	80-120	
Nickel, Dissolved	mg/L	.08	0.081	101	80-120	
Selenium, Dissolved	mg/L	.08	0.083	104	80-120	
Silver, Dissolved	mg/L	.08	0.081	102	80-120	
Thallium, Dissolved	mg/L	.08	0.080	101	80-120	
Vanadium, Dissolved	mg/L	.08	0.078	98	80-120	
Zinc, Dissolved	mg/L	.08	0.083	104	80-120	

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1602064 1602065

Parameter	Units	10253154004 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	0.00060	.08	.08	0.080	0.081	99	101	75-125	2	20	
Barium, Dissolved	mg/L	0.030	.08	.08	0.11	0.11	98	99	75-125	1	20	
Cadmium, Dissolved	mg/L	<0.000032	.08	.08	0.079	0.080	99	100	75-125	.4	20	
Chromium, Dissolved	mg/L	0.0023	.08	.08	0.081	0.082	99	99	75-125	.1	20	
Cobalt, Dissolved	mg/L	<0.000052	.08	.08	0.077	0.078	96	98	75-125	2	20	
Copper, Dissolved	mg/L	0.00034 J	.08	.08	0.082	0.082	102	102	75-125	.4	20	
Iron, Dissolved	mg/L	<0.0059	1	1	1.0	1.0	100	101	75-125	2	20	
Lead, Dissolved	mg/L	<0.000046	.08	.08	0.079	0.079	99	99	75-125	.08	20	
Manganese, Dissolved	mg/L	<0.00018	.08	.08	0.079	0.079	98	99	75-125	1	20	
Nickel, Dissolved	mg/L	<0.00015	.08	.08	0.080	0.080	100	100	75-125	.4	20	
Selenium, Dissolved	mg/L	0.00024 J	.08	.08	0.080	0.082	99	102	75-125	3	20	
Silver, Dissolved	mg/L	<0.000050	.08	.08	0.079	0.080	99	100	75-125	.4	20	
Thallium, Dissolved	mg/L	<0.000025	.08	.08	0.080	0.079	99	99	75-125	.1	20	
Vanadium, Dissolved	mg/L	0.0029	.08	.08	0.081	0.082	98	99	75-125	1	20	
Zinc, Dissolved	mg/L	0.0029J	.08	.08	0.085	0.088	103	106	75-125	3	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MSV/26006 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10253154003, 10253154004, 10253154005, 10253154006, 10253154018

METHOD BLANK: 1600840 Matrix: Water
Associated Lab Samples: 10253154003, 10253154004, 10253154005, 10253154006, 10253154018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	1.0	12/24/13 02:30	
1,1,1-Trichloroethane	ug/L	<0.25	0.50	12/24/13 02:30	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	0.50	12/24/13 02:30	
1,1,2-Trichloroethane	ug/L	<0.25	0.50	12/24/13 02:30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	12/24/13 02:30	
1,1-Dichloroethane	ug/L	<0.25	0.50	12/24/13 02:30	
1,1-Dichloroethene	ug/L	<0.24	0.50	12/24/13 02:30	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	12/24/13 02:30	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	12/24/13 02:30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	12/24/13 02:30	
1,2-Dibromoethane (EDB)	ug/L	<0.13	0.50	12/24/13 02:30	
1,2-Dichlorobenzene	ug/L	<0.092	0.50	12/24/13 02:30	
1,2-Dichloroethane	ug/L	<0.21	0.50	12/24/13 02:30	
1,2-Dichloropropane	ug/L	<0.20	4.0	12/24/13 02:30	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	12/24/13 02:30	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	200	12/24/13 02:30	
2-Butanone (MEK)	ug/L	<2.5	5.0	12/24/13 02:30	
2-Hexanone	ug/L	<2.5	5.0	12/24/13 02:30	
2-Propanol	ug/L	<100	100	12/24/13 02:30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	12/24/13 02:30	
Acetone	ug/L	<10.0	20.0	12/24/13 02:30	
Acrylonitrile	ug/L	<5.0	10.0	12/24/13 02:30	
Benzene	ug/L	<0.24	0.50	12/24/13 02:30	
Bromochloromethane	ug/L	<0.50	1.0	12/24/13 02:30	
Bromodichloromethane	ug/L	<0.18	1.0	12/24/13 02:30	
Bromoform	ug/L	<2.0	4.0	12/24/13 02:30	
Bromomethane	ug/L	<2.0	4.0	12/24/13 02:30	
Carbon disulfide	ug/L	<0.22	1.0	12/24/13 02:30	
Carbon tetrachloride	ug/L	<0.31	1.0	12/24/13 02:30	
Chlorobenzene	ug/L	<0.24	0.50	12/24/13 02:30	
Chloroethane	ug/L	<0.50	1.0	12/24/13 02:30	
Chloroform	ug/L	<0.50	0.50	12/24/13 02:30	
Chloromethane	ug/L	<0.50	4.0	12/24/13 02:30	
cis-1,2-Dichloroethene	ug/L	<0.23	0.50	12/24/13 02:30	
cis-1,3-Dichloropropene	ug/L	<0.42	1.0	12/24/13 02:30	
Cyclohexane	ug/L	<2.5	5.0	12/24/13 02:30	
Dibromochloromethane	ug/L	<0.25	1.0	12/24/13 02:30	
Dibromomethane	ug/L	<0.25	0.50	12/24/13 02:30	
Dichlorodifluoromethane	ug/L	<0.40	1.0	12/24/13 02:30	
Ethylbenzene	ug/L	<0.21	0.50	12/24/13 02:30	
Iodomethane	ug/L	<2.0	4.0	12/24/13 02:30	
Isopropylbenzene (Cumene)	ug/L	<0.12	0.50	12/24/13 02:30	
Methyl-tert-butyl ether	ug/L	<0.25	0.50	12/24/13 02:30	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

METHOD BLANK: 1600840 Matrix: Water
Associated Lab Samples: 10253154003, 10253154004, 10253154005, 10253154006, 10253154018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylene Chloride	ug/L	<2.0	4.0	12/24/13 02:30	
n-Hexane	ug/L	<5.0	10.0	12/24/13 02:30	CL
n-Propylbenzene	ug/L	<0.25	0.50	12/24/13 02:30	
Styrene	ug/L	<0.24	0.50	12/24/13 02:30	
Tetrachloroethene	ug/L	<0.25	0.50	12/24/13 02:30	
Tetrahydrofuran	ug/L	<2.9	10.0	12/24/13 02:30	
Toluene	ug/L	<0.22	0.50	12/24/13 02:30	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	12/24/13 02:30	
trans-1,3-Dichloropropene	ug/L	<0.25	1.0	12/24/13 02:30	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	10.0	12/24/13 02:30	
Trichloroethene	ug/L	<0.13	0.40	12/24/13 02:30	
Trichlorofluoromethane	ug/L	<0.12	0.50	12/24/13 02:30	
Vinyl acetate	ug/L	<5.0	10.0	12/24/13 02:30	
Vinyl chloride	ug/L	<0.10	0.20	12/24/13 02:30	
Xylene (Total)	ug/L	<0.75	1.5	12/24/13 02:30	
1,2-Dichloroethane-d4 (S)	%.	102	75-125	12/24/13 02:30	
4-Bromofluorobenzene (S)	%.	102	75-125	12/24/13 02:30	
Toluene-d8 (S)	%.	98	75-125	12/24/13 02:30	

LABORATORY CONTROL SAMPLE: 1600841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.7	103	75-125	
1,1,1-Trichloroethane	ug/L	20	24.0	120	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	21.6	108	75-125	
1,1,2-Trichloroethane	ug/L	20	21.1	105	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.2	91	51-139	
1,1-Dichloroethane	ug/L	20	23.0	115	75-125	
1,1-Dichloroethene	ug/L	20	22.6	113	71-126	
1,2,3-Trichloropropane	ug/L	20	20.4	102	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.5	98	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	48.3	97	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	21.4	107	75-125	
1,2-Dichlorobenzene	ug/L	20	19.6	98	75-125	
1,2-Dichloroethane	ug/L	20	20.7	104	74-125	
1,2-Dichloropropane	ug/L	20	21.9	110	75-125	
1,4-Dichlorobenzene	ug/L	20	19.0	95	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	474	119	74-129	
2-Butanone (MEK)	ug/L	100	96.0	96	68-126	
2-Hexanone	ug/L	100	104	104	70-125	
2-Propanol	ug/L	200	184	92	70-137	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.0	99	72-125	
Acetone	ug/L	100	110	110	69-132	
Acrylonitrile	ug/L	200	215	107	72-125	
Benzene	ug/L	20	20.5	102	75-125	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

LABORATORY CONTROL SAMPLE: 1600841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromochloromethane	ug/L	20	23.0	115	75-125	
Bromodichloromethane	ug/L	20	21.6	108	75-125	
Bromoform	ug/L	20	19.5	98	75-126	
Bromomethane	ug/L	20	16.5	82	30-150	
Carbon disulfide	ug/L	20	24.6	123	66-126	
Carbon tetrachloride	ug/L	20	23.2	116	74-127	
Chlorobenzene	ug/L	20	19.8	99	75-125	
Chloroethane	ug/L	20	23.7	119	68-132	
Chloroform	ug/L	20	22.0	110	75-125	
Chloromethane	ug/L	20	20.0	100	61-129	
cis-1,2-Dichloroethene	ug/L	20	22.3	111	75-125	
cis-1,3-Dichloropropene	ug/L	20	21.0	105	75-125	
Cyclohexane	ug/L	100	105	105	64-126	
Dibromochloromethane	ug/L	20	21.4	107	75-125	
Dibromomethane	ug/L	20	21.7	108	75-125	
Dichlorodifluoromethane	ug/L	20	16.9	85	49-137	
Ethylbenzene	ug/L	20	19.6	98	75-125	
Iodomethane	ug/L	20	18.3	91	30-141	
Isopropylbenzene (Cumene)	ug/L	20	20.2	101	75-125	
Methyl-tert-butyl ether	ug/L	20	21.6	108	74-126	
Methylene Chloride	ug/L	20	22.0	110	75-125	
n-Hexane	ug/L	50	27.5	55	50-149	CL
n-Propylbenzene	ug/L	20	20.0	100	73-125	
Styrene	ug/L	20	20.7	103	75-125	
Tetrachloroethene	ug/L	20	20.4	102	75-125	
Tetrahydrofuran	ug/L	200	201	101	71-125	
Toluene	ug/L	20	20.2	101	75-125	
trans-1,2-Dichloroethene	ug/L	20	23.5	117	74-125	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	47.6	95	70-127	
Trichloroethene	ug/L	20	20.6	103	75-125	
Trichlorofluoromethane	ug/L	20	22.1	110	69-129	
Vinyl acetate	ug/L	20	22.0	110	70-125	
Vinyl chloride	ug/L	20	22.8	114	70-128	
Xylene (Total)	ug/L	60	60.3	101	75-125	
1,2-Dichloroethane-d4 (S)	%.			103	75-125	
4-Bromofluorobenzene (S)	%.			102	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE SAMPLE: 1601819

Parameter	Units	10253154003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	20	21.8	109	75-125	
1,1,1-Trichloroethane	ug/L	<0.25	20	25.4	127	75-136	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	20	22.2	111	66-131	
1,1,2-Trichloroethane	ug/L	<0.25	20	22.2	111	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	20	30.5	153	75-150	M1

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE SAMPLE: 1601819

Parameter	Units	10253154003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethane	ug/L	0.45J	20	25.6	126	75-131	
1,1-Dichloroethene	ug/L	<0.24	20	24.9	125	75-138	
1,2,3-Trichloropropane	ug/L	<0.54	20	21.1	105	71-126	
1,2,4-Trimethylbenzene	ug/L	<0.25	20	20.2	101	70-126	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	50.5	101	69-127	
1,2-Dibromoethane (EDB)	ug/L	<0.13	20	22.7	113	75-125	
1,2-Dichlorobenzene	ug/L	<0.092	20	19.9	100	75-125	
1,2-Dichloroethane	ug/L	<0.21	20	22.0	110	74-128	
1,2-Dichloropropane	ug/L	<0.20	20	22.9	115	75-125	
1,4-Dichlorobenzene	ug/L	<0.25	20	19.2	96	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	400	481	120	54-150	
2-Butanone (MEK)	ug/L	<2.5	100	99.5	100	64-125	
2-Hexanone	ug/L	<2.5	100	107	107	67-125	
2-Propanol	ug/L	<100	200	186	93	49-150	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	103	103	69-125	
Acetone	ug/L	<10.0	100	119	115	57-135	
Acrylonitrile	ug/L	<5.0	200	220	110	69-126	
Benzene	ug/L	<0.24	20	21.5	108	70-135	
Bromochloromethane	ug/L	<0.50	20	24.1	120	75-125	
Bromodichloromethane	ug/L	<0.18	20	22.4	112	75-125	
Bromoform	ug/L	<2.0	20	20.0	100	68-133	
Bromomethane	ug/L	<2.0	20	19.3	96	56-150	
Carbon disulfide	ug/L	<0.22	20	27.4	137	66-135	M1
Carbon tetrachloride	ug/L	<0.31	20	26.3	131	75-137	
Chlorobenzene	ug/L	<0.24	20	21.0	105	75-125	
Chloroethane	ug/L	0.72J	20	25.4	123	64-150	
Chloroform	ug/L	<0.50	20	24.0	120	75-127	
Chloromethane	ug/L	<0.50	20	22.4	112	65-140	
cis-1,2-Dichloroethene	ug/L	0.47J	20	24.9	122	75-129	
cis-1,3-Dichloropropene	ug/L	<0.42	20	21.3	106	75-125	
Cyclohexane	ug/L	<2.5	100	152	152	74-150	M1
Dibromochloromethane	ug/L	<0.25	20	22.3	112	75-125	
Dibromomethane	ug/L	<0.25	20	22.5	112	75-125	
Dichlorodifluoromethane	ug/L	1.2	20	31.2	150	70-150	
Ethylbenzene	ug/L	<0.21	20	20.9	104	75-125	
Iodomethane	ug/L	<2.0	20	19.3	96	49-150	
Isopropylbenzene (Cumene)	ug/L	<0.12	20	21.6	108	75-125	
Methyl-tert-butyl ether	ug/L	<0.25	20	22.0	110	70-132	
Methylene Chloride	ug/L	<2.0	20	22.7	112	73-125	
n-Hexane	ug/L	<5.0	50	68.5	137	69-150	
n-Propylbenzene	ug/L	<0.25	20	20.8	104	75-128	
Styrene	ug/L	<0.24	20	21.1	106	52-137	
Tetrachloroethene	ug/L	1.0	20	23.4	112	75-130	
Tetrahydrofuran	ug/L	<2.9	200	209	104	69-125	
Toluene	ug/L	<0.22	20	21.0	105	75-125	
trans-1,2-Dichloroethene	ug/L	<0.21	20	25.0	125	75-135	
trans-1,3-Dichloropropene	ug/L	<0.25	20	21.0	105	75-125	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	50	49.1	98	62-130	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE SAMPLE: 1601819

Parameter	Units	10253154003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	0.77	20	22.4	108	75-129	
Trichlorofluoromethane	ug/L	<0.12	20	28.3	141	75-150	
Vinyl acetate	ug/L	<5.0	20	22.7	114	57-139	
Vinyl chloride	ug/L	<0.10	20	25.7	128	75-147	
Xylene (Total)	ug/L	<0.75	60	64.7	108	75-125	
1,2-Dichloroethane-d4 (S)	%.				104	75-125	
4-Bromofluorobenzene (S)	%.				102	75-125	
Toluene-d8 (S)	%.				101	75-125	

SAMPLE DUPLICATE: 1601820

Parameter	Units	10253154004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	<0.25		30	
1,1,1-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	<0.13		30	
1,1,2-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	<0.33		30	
1,1-Dichloroethane	ug/L	<0.25	<0.25		30	
1,1-Dichloroethene	ug/L	<0.24	<0.24		30	
1,2,3-Trichloropropane	ug/L	<0.54	<0.54		30	
1,2,4-Trimethylbenzene	ug/L	<0.25	<0.25		30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	<0.13	<0.13		30	
1,2-Dichlorobenzene	ug/L	<0.092	<0.092		30	
1,2-Dichloroethane	ug/L	<0.21	<0.21		30	
1,2-Dichloropropane	ug/L	<0.20	<0.20		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	<21.4		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
2-Propanol	ug/L	<100	<100		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Acrylonitrile	ug/L	<5.0	<5.0		30	
Benzene	ug/L	2.1	2.1	.9	30	
Bromochloromethane	ug/L	<0.50	<0.50		30	
Bromodichloromethane	ug/L	<0.18	<0.18		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	
Carbon disulfide	ug/L	<0.22	<0.22		30	
Carbon tetrachloride	ug/L	<0.31	<0.31		30	
Chlorobenzene	ug/L	<0.24	<0.24		30	
Chloroethane	ug/L	<0.50	<0.50		30	
Chloroform	ug/L	<0.50	<0.50		30	
Chloromethane	ug/L	<0.50	<0.50		30	
cis-1,2-Dichloroethene	ug/L	<0.23	<0.23		30	
cis-1,3-Dichloropropene	ug/L	<0.42	<0.42		30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

SAMPLE DUPLICATE: 1601820

Parameter	Units	10253154004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyclohexane	ug/L	<2.5	<2.5		30	
Dibromochloromethane	ug/L	<0.25	<0.25		30	
Dibromomethane	ug/L	<0.25	<0.25		30	
Dichlorodifluoromethane	ug/L	<0.40	<0.40		30	
Ethylbenzene	ug/L	<0.21	<0.21		30	
Iodomethane	ug/L	<2.0	<2.0		30	
Isopropylbenzene (Cumene)	ug/L	<0.12	<0.12		30	
Methyl-tert-butyl ether	ug/L	<0.25	<0.25		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Hexane	ug/L	<5.0	<5.0		30	CL
n-Propylbenzene	ug/L	<0.25	<0.25		30	
Styrene	ug/L	<0.24	<0.24		30	
Tetrachloroethene	ug/L	<0.25	<0.25		30	
Tetrahydrofuran	ug/L	<2.9	<2.9		30	
Toluene	ug/L	0.28J	0.26J		30	
trans-1,2-Dichloroethene	ug/L	<0.21	<0.21		30	
trans-1,3-Dichloropropene	ug/L	<0.25	<0.25		30	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	<5.0		30	
Trichloroethene	ug/L	<0.13	<0.13		30	
Trichlorofluoromethane	ug/L	<0.12	<0.12		30	
Vinyl acetate	ug/L	<5.0	<5.0		30	
Vinyl chloride	ug/L	<0.10	<0.10		30	
Xylene (Total)	ug/L	<0.75	<0.75		30	
1,2-Dichloroethane-d4 (S)	%.	103	103	.7		
4-Bromofluorobenzene (S)	%.	101	103	2		
Toluene-d8 (S)	%.	97	96	1		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MSV/26027 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10253154001, 10253154002, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154015, 10253154016, 10253154017, 10253154019, 10253154020, 10253154021

METHOD BLANK: 1601854 Matrix: Water
Associated Lab Samples: 10253154001, 10253154002, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154015, 10253154016, 10253154017, 10253154019, 10253154020, 10253154021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	1.0	12/26/13 12:33	
1,1,1-Trichloroethane	ug/L	<0.25	0.50	12/26/13 12:33	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	0.50	12/26/13 12:33	
1,1,2-Trichloroethane	ug/L	<0.25	0.50	12/26/13 12:33	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	12/26/13 12:33	
1,1-Dichloroethane	ug/L	<0.25	0.50	12/26/13 12:33	
1,1-Dichloroethene	ug/L	<0.24	0.50	12/26/13 12:33	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	12/26/13 12:33	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	12/26/13 12:33	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	12/26/13 12:33	
1,2-Dibromoethane (EDB)	ug/L	<0.13	0.50	12/26/13 12:33	
1,2-Dichlorobenzene	ug/L	<0.092	0.50	12/26/13 12:33	
1,2-Dichloroethane	ug/L	<0.21	0.50	12/26/13 12:33	
1,2-Dichloropropane	ug/L	<0.20	4.0	12/26/13 12:33	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	12/26/13 12:33	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	200	12/26/13 12:33	
2-Butanone (MEK)	ug/L	<2.5	5.0	12/26/13 12:33	
2-Hexanone	ug/L	<2.5	5.0	12/26/13 12:33	
2-Propanol	ug/L	<100	100	12/26/13 12:33	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	12/26/13 12:33	
Acetone	ug/L	<10.0	20.0	12/26/13 12:33	
Acrylonitrile	ug/L	<5.0	10.0	12/26/13 12:33	
Benzene	ug/L	<0.24	0.50	12/26/13 12:33	
Bromochloromethane	ug/L	<0.50	1.0	12/26/13 12:33	
Bromodichloromethane	ug/L	<0.18	1.0	12/26/13 12:33	
Bromoform	ug/L	<2.0	4.0	12/26/13 12:33	
Bromomethane	ug/L	<2.0	4.0	12/26/13 12:33	
Carbon disulfide	ug/L	<0.22	1.0	12/26/13 12:33	
Carbon tetrachloride	ug/L	<0.31	1.0	12/26/13 12:33	
Chlorobenzene	ug/L	<0.24	0.50	12/26/13 12:33	
Chloroethane	ug/L	<0.50	1.0	12/26/13 12:33	
Chloroform	ug/L	<0.50	0.50	12/26/13 12:33	
Chloromethane	ug/L	<0.50	4.0	12/26/13 12:33	
cis-1,2-Dichloroethene	ug/L	<0.23	0.50	12/26/13 12:33	
cis-1,3-Dichloropropene	ug/L	<0.42	1.0	12/26/13 12:33	
Cyclohexane	ug/L	<2.5	5.0	12/26/13 12:33	
Dibromochloromethane	ug/L	<0.25	1.0	12/26/13 12:33	
Dibromomethane	ug/L	<0.25	0.50	12/26/13 12:33	
Dichlorodifluoromethane	ug/L	<0.40	1.0	12/26/13 12:33	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

METHOD BLANK: 1601854 Matrix: Water

Associated Lab Samples: 10253154001, 10253154002, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154015, 10253154016, 10253154017, 10253154019, 10253154020, 10253154021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.21	0.50	12/26/13 12:33	
Iodomethane	ug/L	<2.0	4.0	12/26/13 12:33	
Isopropylbenzene (Cumene)	ug/L	<0.12	0.50	12/26/13 12:33	
Methyl-tert-butyl ether	ug/L	<0.25	0.50	12/26/13 12:33	
Methylene Chloride	ug/L	<2.0	4.0	12/26/13 12:33	
n-Hexane	ug/L	<5.0	10.0	12/26/13 12:33	
n-Propylbenzene	ug/L	<0.25	0.50	12/26/13 12:33	
Styrene	ug/L	<0.24	0.50	12/26/13 12:33	
Tetrachloroethene	ug/L	<0.25	0.50	12/26/13 12:33	
Tetrahydrofuran	ug/L	<2.9	10.0	12/26/13 12:33	
Toluene	ug/L	<0.22	0.50	12/26/13 12:33	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	12/26/13 12:33	
trans-1,3-Dichloropropene	ug/L	<0.25	1.0	12/26/13 12:33	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	10.0	12/26/13 12:33	
Trichloroethene	ug/L	<0.13	0.40	12/26/13 12:33	
Trichlorofluoromethane	ug/L	<0.12	0.50	12/26/13 12:33	
Vinyl acetate	ug/L	<5.0	10.0	12/26/13 12:33	
Vinyl chloride	ug/L	<0.10	0.20	12/26/13 12:33	
Xylene (Total)	ug/L	<0.75	1.5	12/26/13 12:33	
1,2-Dichloroethane-d4 (S)	%.	104	75-125	12/26/13 12:33	
4-Bromofluorobenzene (S)	%.	102	75-125	12/26/13 12:33	
Toluene-d8 (S)	%.	97	75-125	12/26/13 12:33	

LABORATORY CONTROL SAMPLE: 1601855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.2	96	75-125	
1,1,1-Trichloroethane	ug/L	20	21.9	109	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	102	75-125	
1,1,2-Trichloroethane	ug/L	20	20.1	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.1	91	51-139	
1,1-Dichloroethane	ug/L	20	21.1	105	75-125	
1,1-Dichloroethene	ug/L	20	20.4	102	71-126	
1,2,3-Trichloropropane	ug/L	20	19.3	97	75-125	
1,2,4-Trimethylbenzene	ug/L	20	17.4	87	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	45.1	90	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.6	103	75-125	
1,2-Dichlorobenzene	ug/L	20	17.3	87	75-125	
1,2-Dichloroethane	ug/L	20	20.5	102	74-125	
1,2-Dichloropropane	ug/L	20	21.0	105	75-125	
1,4-Dichlorobenzene	ug/L	20	17.0	85	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	445	111	74-129	
2-Butanone (MEK)	ug/L	100	101	101	68-126	
2-Hexanone	ug/L	100	102	102	70-125	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 591014549
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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

LABORATORY CONTROL SAMPLE: 1601855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/L	200	182	91	70-137	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.7	99	72-125	
Acetone	ug/L	100	105	105	69-132	
Acrylonitrile	ug/L	200	218	109	72-125	
Benzene	ug/L	20	18.8	94	75-125	
Bromochloromethane	ug/L	20	21.9	109	75-125	
Bromodichloromethane	ug/L	20	20.8	104	75-125	
Bromoform	ug/L	20	19.2	96	75-126	
Bromomethane	ug/L	20	14.4	72	30-150	
Carbon disulfide	ug/L	20	22.0	110	66-126	
Carbon tetrachloride	ug/L	20	21.9	110	74-127	
Chlorobenzene	ug/L	20	18.2	91	75-125	
Chloroethane	ug/L	20	23.1	115	68-132	
Chloroform	ug/L	20	20.7	103	75-125	
Chloromethane	ug/L	20	20.6	103	61-129	
cis-1,2-Dichloroethene	ug/L	20	21.7	109	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.7	104	75-125	
Cyclohexane	ug/L	100	102	102	64-126	
Dibromochloromethane	ug/L	20	20.8	104	75-125	
Dibromomethane	ug/L	20	20.3	102	75-125	
Dichlorodifluoromethane	ug/L	20	18.6	93	49-137	
Ethylbenzene	ug/L	20	17.8	89	75-125	
Iodomethane	ug/L	20	16.2	81	30-141	
Isopropylbenzene (Cumene)	ug/L	20	18.1	91	75-125	
Methyl-tert-butyl ether	ug/L	20	20.9	105	74-126	
Methylene Chloride	ug/L	20	20.7	103	75-125	
n-Hexane	ug/L	50	32.1	64	50-149	
n-Propylbenzene	ug/L	20	17.7	88	73-125	
Styrene	ug/L	20	18.8	94	75-125	
Tetrachloroethene	ug/L	20	18.3	92	75-125	
Tetrahydrofuran	ug/L	200	184	92	71-125	
Toluene	ug/L	20	18.3	92	75-125	
trans-1,2-Dichloroethene	ug/L	20	21.3	107	74-125	
trans-1,3-Dichloropropene	ug/L	20	20.1	100	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	47.6	95	70-127	
Trichloroethene	ug/L	20	18.8	94	75-125	
Trichlorofluoromethane	ug/L	20	21.7	109	69-129	
Vinyl acetate	ug/L	20	22.6	113	70-125	
Vinyl chloride	ug/L	20	21.7	109	70-128	
Xylene (Total)	ug/L	60	54.2	90	75-125	
1,2-Dichloroethane-d4 (S)	%.			105	75-125	
4-Bromofluorobenzene (S)	%.			102	75-125	
Toluene-d8 (S)	%.			99	75-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE SAMPLE: 1601856

Parameter	Units	10253154007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	20	19.7	98	75-125	
1,1,1-Trichloroethane	ug/L	0.43J	20	23.3	115	75-136	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	20	20.1	101	66-131	
1,1,2-Trichloroethane	ug/L	<0.25	20	19.8	99	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	20	25.7	128	75-150	
1,1-Dichloroethane	ug/L	3.3	20	24.9	108	75-131	
1,1-Dichloroethene	ug/L	<0.24	20	22.3	111	75-138	
1,2,3-Trichloropropane	ug/L	<0.54	20	18.9	94	71-126	
1,2,4-Trimethylbenzene	ug/L	<0.25	20	17.6	88	70-126	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	47.5	95	69-127	
1,2-Dibromoethane (EDB)	ug/L	<0.13	20	20.2	101	75-125	
1,2-Dichlorobenzene	ug/L	<0.092	20	17.8	89	75-125	
1,2-Dichloroethane	ug/L	<0.21	20	20.2	101	74-128	
1,2-Dichloropropane	ug/L	<0.20	20	21.8	109	75-125	
1,4-Dichlorobenzene	ug/L	<0.25	20	17.1	86	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	400	443	111	54-150	
2-Butanone (MEK)	ug/L	<2.5	100	95.6	96	64-125	
2-Hexanone	ug/L	<2.5	100	95.5	96	67-125	
2-Propanol	ug/L	<100	200	165	82	49-150	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	92.5	92	69-125	
Acetone	ug/L	<10.0	100	116	111	57-135	
Acrylonitrile	ug/L	<5.0	200	209	105	69-126	
Benzene	ug/L	<0.24	20	19.8	98	70-135	
Bromochloromethane	ug/L	<0.50	20	22.2	111	75-125	
Bromodichloromethane	ug/L	<0.18	20	20.8	104	75-125	
Bromoform	ug/L	<2.0	20	18.9	94	68-133	
Bromomethane	ug/L	<2.0	20	15.4	77	56-150	
Carbon disulfide	ug/L	<0.22	20	22.3	111	66-135	
Carbon tetrachloride	ug/L	<0.31	20	23.1	116	75-137	
Chlorobenzene	ug/L	<0.24	20	18.1	91	75-125	
Chloroethane	ug/L	<0.50	20	24.6	121	64-150	
Chloroform	ug/L	<0.50	20	22.4	112	75-127	
Chloromethane	ug/L	<0.50	20	21.6	108	65-140	
cis-1,2-Dichloroethene	ug/L	0.47J	20	21.4	105	75-129	
cis-1,3-Dichloropropene	ug/L	<0.42	20	20.0	100	75-125	
Cyclohexane	ug/L	<2.5	100	125	125	74-150	
Dibromochloromethane	ug/L	<0.25	20	20.3	101	75-125	
Dibromomethane	ug/L	<0.25	20	21.3	107	75-125	
Dichlorodifluoromethane	ug/L	1.4	20	29.5	140	70-150	
Ethylbenzene	ug/L	<0.21	20	17.9	90	75-125	
Iodomethane	ug/L	<2.0	20	17.4	87	49-150	
Isopropylbenzene (Cumene)	ug/L	<0.12	20	18.4	92	75-125	
Methyl-tert-butyl ether	ug/L	<0.25	20	20.4	102	70-132	
Methylene Chloride	ug/L	<2.0	20	20.9	104	73-125	
n-Hexane	ug/L	<5.0	50	57.6	115	69-150	
n-Propylbenzene	ug/L	<0.25	20	17.7	89	75-128	
Styrene	ug/L	<0.24	20	17.7	89	52-137	
Tetrachloroethene	ug/L	3.9	20	23.1	96	75-130	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE SAMPLE: 1601856

Parameter	Units	10253154007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrahydrofuran	ug/L	<2.9	200	206	103	69-125	
Toluene	ug/L	<0.22	20	18.8	94	75-125	
trans-1,2-Dichloroethene	ug/L	<0.21	20	22.2	111	75-135	
trans-1,3-Dichloropropene	ug/L	<0.25	20	18.4	92	75-125	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	50	43.3	87	62-130	
Trichloroethene	ug/L	1.1	20	20.5	97	75-129	
Trichlorofluoromethane	ug/L	0.59	20	27.9	136	75-150	
Vinyl acetate	ug/L	<5.0	20	19.8	99	57-139	
Vinyl chloride	ug/L	0.22	20	24.4	121	75-147	
Xylene (Total)	ug/L	<0.75	60	55.2	92	75-125	
1,2-Dichloroethane-d4 (S)	%.				101	75-125	
4-Bromofluorobenzene (S)	%.				100	75-125	
Toluene-d8 (S)	%.				98	75-125	

SAMPLE DUPLICATE: 1601857

Parameter	Units	10253154010 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	<0.25		30	
1,1,1-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	<0.13		30	
1,1,2-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	<0.33		30	
1,1-Dichloroethane	ug/L	0.42J	0.44J		30	
1,1-Dichloroethene	ug/L	<0.24	<0.24		30	
1,2,3-Trichloropropane	ug/L	<0.54	<0.54		30	
1,2,4-Trimethylbenzene	ug/L	<0.25	<0.25		30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	<0.13	<0.13		30	
1,2-Dichlorobenzene	ug/L	<0.092	<0.092		30	
1,2-Dichloroethane	ug/L	<0.21	<0.21		30	
1,2-Dichloropropane	ug/L	<0.20	<0.20		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	<21.4		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
2-Propanol	ug/L	<100	<100		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Acrylonitrile	ug/L	<5.0	<5.0		30	
Benzene	ug/L	<0.24	<0.24		30	
Bromochloromethane	ug/L	<0.50	<0.50		30	
Bromodichloromethane	ug/L	<0.18	<0.18		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	
Carbon disulfide	ug/L	<0.22	<0.22		30	
Carbon tetrachloride	ug/L	<0.31	<0.31		30	
Chlorobenzene	ug/L	<0.24	<0.24		30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
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QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

SAMPLE DUPLICATE: 1601857

Parameter	Units	10253154010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloroethane	ug/L	<0.50	<0.50		30	
Chloroform	ug/L	<0.50	<0.50		30	
Chloromethane	ug/L	<0.50	<0.50		30	
cis-1,2-Dichloroethene	ug/L	0.68	0.67	2	30	
cis-1,3-Dichloropropene	ug/L	<0.42	<0.42		30	
Cyclohexane	ug/L	<2.5	<2.5		30	
Dibromochloromethane	ug/L	<0.25	<0.25		30	
Dibromomethane	ug/L	<0.25	<0.25		30	
Dichlorodifluoromethane	ug/L	0.71J	0.63J		30	
Ethylbenzene	ug/L	<0.21	<0.21		30	
Iodomethane	ug/L	<2.0	<2.0		30	
Isopropylbenzene (Cumene)	ug/L	<0.12	<0.12		30	
Methyl-tert-butyl ether	ug/L	<0.25	<0.25		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Hexane	ug/L	<5.0	<5.0		30	
n-Propylbenzene	ug/L	<0.25	<0.25		30	
Styrene	ug/L	<0.24	<0.24		30	
Tetrachloroethene	ug/L	1.2	1.2	.1	30	
Tetrahydrofuran	ug/L	<2.9	<2.9		30	
Toluene	ug/L	<0.22	<0.22		30	
trans-1,2-Dichloroethene	ug/L	<0.21	<0.21		30	
trans-1,3-Dichloropropene	ug/L	<0.25	<0.25		30	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	<5.0		30	
Trichloroethene	ug/L	0.85	0.87	3	30	
Trichlorofluoromethane	ug/L	<0.12	<0.12		30	
Vinyl acetate	ug/L	<5.0	<5.0		30	
Vinyl chloride	ug/L	<0.10	<0.10		30	
Xylene (Total)	ug/L	<0.75	<0.75		30	
1,2-Dichloroethane-d4 (S)	%.	107	107	.4		
4-Bromofluorobenzene (S)	%.	101	101	.08		
Toluene-d8 (S)	%.	96	96	.3		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MT/14758 Analysis Method: SM 2510B
QC Batch Method: SM 2510B Analysis Description: 2510B Specific Conductance
Associated Lab Samples: 10253154004, 10253154005, 10253154008, 10253154016

METHOD BLANK: 1600457 Matrix: Water
Associated Lab Samples: 10253154004, 10253154005, 10253154008, 10253154016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<5.0	10.0	12/23/13 13:31	

LABORATORY CONTROL SAMPLE: 1600458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	987	99	90-110	

SAMPLE DUPLICATE: 1600459

Parameter	Units	10252927001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1010	1000	1	20	

SAMPLE DUPLICATE: 1600460

Parameter	Units	10253104001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	20.0	17.2	15	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MT/14807 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

METHOD BLANK: 1603008 Matrix: Water
Associated Lab Samples: 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.12	1.0	12/31/13 15:23	
Sulfate	mg/L	<0.50	1.0	12/31/13 15:23	

METHOD BLANK: 1603714 Matrix: Water
Associated Lab Samples: 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	0.43J	1.0	01/01/14 00:37	
Sulfate	mg/L	<0.50	1.0	01/01/14 00:37	

LABORATORY CONTROL SAMPLE: 1603009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.6	96	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

LABORATORY CONTROL SAMPLE: 1603715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.7	97	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE SAMPLE: 1603011

Parameter	Units	10253104001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	<1.0	10	9.5	90	90-110	
Sulfate	mg/L	<5.0	10	10.5	93	90-110	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Billings, MT 591014549
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1603013 1603014

Parameter	Units	10253154009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6.6	10	10	17.4	17.6	108	110	90-110	1	20	
Sulfate	mg/L	7.7	10	10	17.8	18.1	101	103	90-110	1	20	

SAMPLE DUPLICATE: 1603716

Parameter	Units	10253104003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	<1.0	0.54J		20	
Sulfate	mg/L	<5.0	2.0	2	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MT/14783 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10253154001, 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

METHOD BLANK: 1602011 Matrix: Water
Associated Lab Samples: 10253154001, 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0060J	0.010	12/27/13 09:50	

METHOD BLANK: 1602013 Matrix: Water
Associated Lab Samples: 10253154001, 10253154002, 10253154003, 10253154004, 10253154005, 10253154006, 10253154007, 10253154008, 10253154009, 10253154010, 10253154011, 10253154012, 10253154013, 10253154014, 10253154016, 10253154019, 10253154020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0047	0.010	12/27/13 09:53	

LABORATORY CONTROL SAMPLE: 1602012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	96	90-110	

LABORATORY CONTROL SAMPLE: 1602014

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: 1602016

Parameter	Units	10253154010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.3	.33	2.2	-12	90-110	M6

MATRIX SPIKE SAMPLE: 1602018

Parameter	Units	10252870006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.27	.33	0.61	103	90-110	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

SAMPLE DUPLICATE: 1602015

Parameter	Units	10253154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.8	2.6	5	20	

SAMPLE DUPLICATE: 1602017

Parameter	Units	10253154011 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	7.5	7.4	1	20	

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

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

QC Batch: MT/14752 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 10253154004, 10253154005, 10253154008, 10253154016

LABORATORY CONTROL SAMPLE: 1599507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 1599508

Parameter	Units	10253154005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.7	6.7	.1	3	H6

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

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

B	Analyte was detected in the associated method blank.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
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.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10253154020	**VET WELL**	EPA 3020	MPRP/43902	EPA 6020	ICPM/18871
10253154004	**MW-5**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154005	**MW-6**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154006	**MW-6B**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154008	**MW-8A**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154009	**MW-8C**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154013	**MW-13**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154014	**DUP**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154015	**MW-14**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154016	**MW-15**	EPA 3020	MPRP/43922	EPA 6020	ICPM/18895
10253154001	**LF-2**	EPA 8260B	MSV/26027		
10253154002	**LF-3**	EPA 8260B	MSV/26027		
10253154003	**MW-4**	EPA 8260B	MSV/26006		
10253154004	**MW-5**	EPA 8260B	MSV/26006		
10253154005	**MW-6**	EPA 8260B	MSV/26006		
10253154006	**MW-6B**	EPA 8260B	MSV/26006		
10253154007	**MW-7A**	EPA 8260B	MSV/26027		
10253154008	**MW-8A**	EPA 8260B	MSV/26027		
10253154009	**MW-8C**	EPA 8260B	MSV/26027		
10253154010	**MW-9A**	EPA 8260B	MSV/26027		
10253154011	**MW-11**	EPA 8260B	MSV/26027		
10253154012	**MW-12**	EPA 8260B	MSV/26027		
10253154013	**MW-13**	EPA 8260B	MSV/26027		
10253154014	**DUP**	EPA 8260B	MSV/26027		
10253154015	**MW-14**	EPA 8260B	MSV/26027		
10253154016	**MW-15**	EPA 8260B	MSV/26027		
10253154017	**MW-16**	EPA 8260B	MSV/26027		
10253154018	**SHOP WELL**	EPA 8260B	MSV/26006		
10253154019	**MCILHATTEN SEEP**	EPA 8260B	MSV/26027		
10253154020	**VET WELL**	EPA 8260B	MSV/26027		
10253154021	**TRIP BLANK**	EPA 8260B	MSV/26027		
10253154004	**MW-5**	SM 2510B	MT/14758		
10253154005	**MW-6**	SM 2510B	MT/14758		
10253154008	**MW-8A**	SM 2510B	MT/14758		
10253154016	**MW-15**	SM 2510B	MT/14758		
10253154002	**LF-3**	EPA 300.0	MT/14807		
10253154003	**MW-4**	EPA 300.0	MT/14807		
10253154004	**MW-5**	EPA 300.0	MT/14807		
10253154005	**MW-6**	EPA 300.0	MT/14807		
10253154006	**MW-6B**	EPA 300.0	MT/14807		
10253154007	**MW-7A**	EPA 300.0	MT/14807		
10253154008	**MW-8A**	EPA 300.0	MT/14807		
10253154009	**MW-8C**	EPA 300.0	MT/14807		
10253154010	**MW-9A**	EPA 300.0	MT/14807		
10253154011	**MW-11**	EPA 300.0	MT/14807		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10253154

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10253154012	**MW-12**	EPA 300.0	MT/14807		
10253154013	**MW-13**	EPA 300.0	MT/14807		
10253154014	**DUP**	EPA 300.0	MT/14807		
10253154016	**MW-15**	EPA 300.0	MT/14807		
10253154019	**MCILHATTEN SEEP**	EPA 300.0	MT/14807		
10253154020	**VET WELL**	EPA 300.0	MT/14807		
10253154001	**LF-2**	EPA 353.2	MT/14783		
10253154002	**LF-3**	EPA 353.2	MT/14783		
10253154003	**MW-4**	EPA 353.2	MT/14783		
10253154004	**MW-5**	EPA 353.2	MT/14783		
10253154005	**MW-6**	EPA 353.2	MT/14783		
10253154006	**MW-6B**	EPA 353.2	MT/14783		
10253154007	**MW-7A**	EPA 353.2	MT/14783		
10253154008	**MW-8A**	EPA 353.2	MT/14783		
10253154009	**MW-8C**	EPA 353.2	MT/14783		
10253154010	**MW-9A**	EPA 353.2	MT/14783		
10253154011	**MW-11**	EPA 353.2	MT/14783		
10253154012	**MW-12**	EPA 353.2	MT/14783		
10253154013	**MW-13**	EPA 353.2	MT/14783		
10253154014	**DUP**	EPA 353.2	MT/14783		
10253154016	**MW-15**	EPA 353.2	MT/14783		
10253154019	**MCILHATTEN SEEP**	EPA 353.2	MT/14783		
10253154020	**VET WELL**	EPA 353.2	MT/14783		
10253154004	**MW-5**	SM 4500-H+B	MT/14752		
10253154005	**MW-6**	SM 4500-H+B	MT/14752		
10253154008	**MW-8A**	SM 4500-H+B	MT/14752		
10253154016	**MW-15**	SM 4500-H+B	MT/14752		

Pace Analytical
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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: 1 of

1751099

Section A Required Client Information:

Company: Tetra Tech
Address: 851 Bitter Dr. Ste 6, Bozeman, 59715
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Mark Pearson
Copy To:
Purchase Order No.:
Project Name: Bozeman Landfill
Project Number: 114-7103226

Section C Invoice Information:

Attention: Deb Lloyd
Company Name: TetraTech
Address: Helena
Pace Quote Reference:
Pace Project Manager: Samantha Ruge
Pace Profile #:

REGULATORY AGENCY

NPDES X GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: MT

Requested Analysis Filtered (Y/N)

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

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	Analysis Test #	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	LF-2			12/18 (2013)	1050														See Attached		10253154001
2	LF-3			12/18	1330																002
3	MW-4			12/16	1500																003
4	MW-5				1015																004
5	MW-6				1715																005
6	MW-6B				1615																006
7	MW-7A			12/17	1350																007
8	MW-8A			12/16	1340																008
9	MW-8C			12/16	1315																009
10	MW-9A			12/17	1140																010
11	MW-11			12/17	1040																011
12	MW-12			12/17	940																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)
	Mark Pearson / Fed Ex	12/18/13	1600	FedEx - Belgrade	12/18	1600				
				MWactive - Pace	12/20/13	1120	0.2	Y	Y	Y
							0.8	Y	Y	Y
							0.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

ORIGINAL

*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.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1751100

Section A Required Client Information:

Company: TetraTech
Address: 5851 Bridger Dr Ste 6 Bozeman 59715
Email To:
Phone: 582-8780 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Mark Pearson
Copy To:
Purchase Order No.:
Project Name: Bozeman Landfill
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

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

ITEM #	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	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1 MW-13			12/17 (2013)	1230																013
2 DUP				1300																014
3 MW-14			↓	1500																015
4 MW-15			12/16	1130																016
5 MW-16			12/17	1420																017
6 Spring well			12/16	1515																018
7 McIlhattan Seep			12/18	950																019
8 Vet Well			12/18	1110																020
9 Trip Blank #127224			11/18																	021
10 Trip Blank #127234			11/18																	
11																				
12																				

See Attached

Only use one 524.2 analysis

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Mark Pearson Fed Ex	12/18/13	1600	Fed Ex-Belgrade	12/18	1600	0.2	Y	Y	Y
				Mwaddell-Pace	12/20/13	1120	0.8	Y	Y	Y
							0.8	Y	Y	Y
							0.0	Y	Y	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

ORIGINAL

*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.

21198
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TABLE 1

Schedule of Field Measurements and Laboratory Analysis – December 2013

Bozeman Landfill, Bozeman Montana

Well or Sampling Site	Monitoring Frequency	December 2013							
		Field pH, SC, DO & ORP	Laboratory pH & SC	VOCs	Inorganics				
					Fe, Mg (dissolved)	'Full List' Metals (dissolved)	Chloride	Sulfate	N as NO2+NO3
LF-2	Semi-annual monitoring	x		x					x
LF-3	Semi-annual monitoring	x		x			x	x	x
MW-4	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-5	Semi-annual monitoring	x	x	x		x	x	x	x
MW-6	Semi-annual monitoring	x	x	x		x	x	x	x
MW-6B	Last required monitoring event	x		x		x	x	x	x
MW-7A	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-7B	Next monitoring in 2015								
MW-8A	Semi-annual monitoring	x	x	x		x	x	x	x
MW-8B	Next monitoring in 2015								
MW-8C	Last required monitoring event	x		x		x	x	x	x
MW-9A	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-9B	Next monitoring in 2015								
MW-10	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-11	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-12	Semi-annual monitoring w/o metals	x		x			x	x	x
MW-13	Semi-annual monitoring	x		x		x	x	x	x
MW-14	Annual monitoring due	x		x		x			
MW-15	Semi-annual monitoring	x	x	x		x	x	x	x
MW-16	Last required monitoring event	x		x					
Shop/Office Well	Semi-annual monitoring	x		x					
McIlhatten Seep	Semi-annual monitoring w/o metals	x		x			x	x	x
Valley View Vet Well	Semi-annual monitoring	x		x		x (1)	x	x	x

Notes :

VOCs : Volatile organic compounds

Fe, Mg : Iron, manganese

'Full List' : Analysis of 15 metals including:

arsenic	chromium	iron	nickel	thallium
barium	cobalt	lead	selenium	vanadium
cadmium	copper	manganese	silver	zinc

(1) : Total recoverable analysis of metals

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 14Nov2012 Page 1 of 1
	Document No.: F-MT-C-184-rev.02	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #: WO#: 10253154

10253154

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 5695 6658 3310, 5320, 5331

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermometer Used: ☒ 1383045 ☐ 135 ☐ NA **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read: 0.2, 0.6, 0.0 **Date and Initials of Person Examining Contents:** MW 12/20/13

Cooler Temp Corrected: 0.2, 0.6, 0.0 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☐ Yes	☒ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	☐ N/A	11. metals
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: H2O	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☒ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☒ Yes	☐ No	☐ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☒ Yes	☐ No		Initial when completed: MW Lot # of added preservative:
Samples checked for dechlorination?	☐ Yes	☐ No	☒ N/A	14.
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	16.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): 127824/34				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 12-23-13

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)

Pace Analytical™	Document Name: MT to MN Sample Transfer Form	Revised Date: 19Apr2013 Page: 1 of 1
	Document Number: F-MT-C-179-rev.04	Issuing Authority: Pace Minnesota Quality Office

Shipping (circle):	UPS (Fed Ex) 5495 6558 5405
Tracking #:	
Client:	Tetra Tech Bozeman
Due Date:	6-Jan-2013
Pace WO:	102353154
Project Manager:	Samantha Rupe

MT to MN Sample Transfer Condition Upon Receipt Form

ANALYSIS REQUESTED

Method Number & Description	Container Type	# of Bottles	Number of Samples	Preservative Yes or No	Verify Arrival Date & Initials
Tests					
8260 VOC	VG9H	62	21	Yes	12/21/13
6020/7470 Dissolved Metals	BP3N	10	10	Yes	12/21/13

REPORTING REQUIREMENTS/ADDITIONAL COMMENTS

MINNESOTA SAMPLE RECEIPT INFORMATION

IR Gun (circle): 80512447, B88A912167504, 72337080 Correction Factor:	+0.1	Sample Matrix:	GW
Cooler Temp Read (°C): 0.2 Cooler Temp Corrected (°C):	0.3	Filtred volume rec'd for dissolved tests:	Yes X No__ NA__
Arrived on ice:	Yes X No__	Samples pH have been checked:	Yes X No__ NA__
Custody Seal Present:	Yes X No__	Trip Blank Present:	Yes X No__ NA__
Short Hold Time Requested < 72 Hours:	Yes__ No X	Trip Blank Custody Seals Present:	Yes__ No__ NA X
Rush TAT Requested:	Yes__ No X	Pace Trip Blank Lot #:	----
Sufficient Sample Volume:	Yes X No__	Sample Composites Required:	Yes__ No__ NA X
Samples Arrived within Hold Time:	Yes X No__	Report Samples:	Wet Wt. X Dry Wt.__
Containers Intact:	Yes X No__	Reporting Units:	----

CUSTODY TRANSFER

Relinquished by/Affiliation	Date	Time	Accepted By Affiliation	Date	Time
	12-20-13	1350		122113	1030

NONCONFORMANCE/RESOLUTION

Person Contacted: _____ **Date:** _____

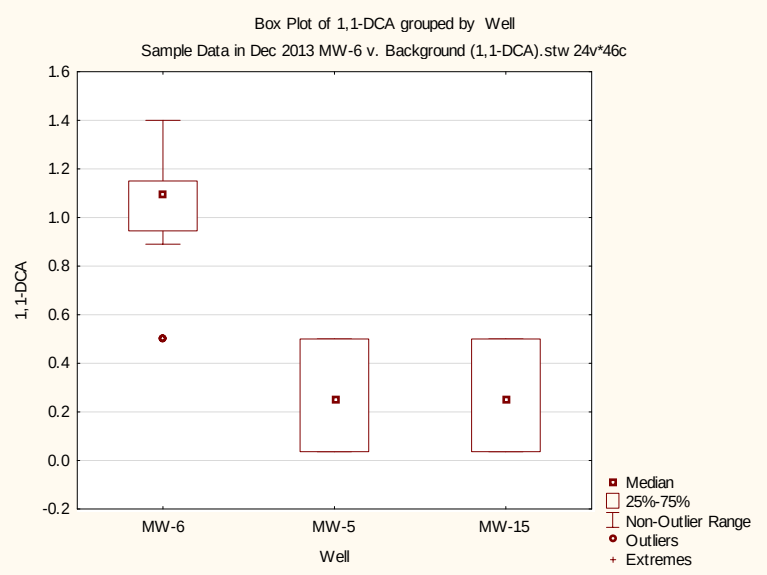
Comments/Resolution: _____

Project Manager Review: _____ **Date:** 12-23-13

APPENDIX E

STATISTICAL EVALUATION DATA AND WORKSHEETS

MW-6 v. Background
1,1-Dichloroethane

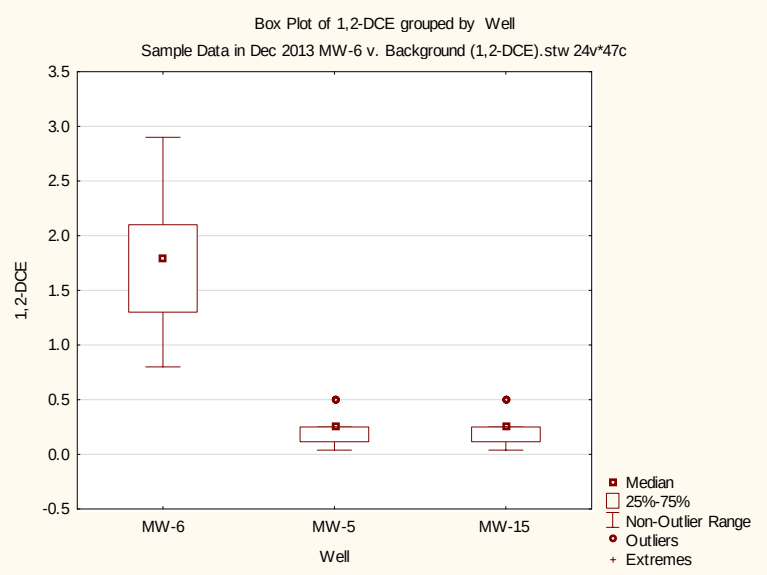


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (1,1-D(					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (1,1-DCA)	16	1.030000	1.100000	0.500000	1.400000	0.249506
MW-5 (1,1-DCA)	15	0.276267	0.250000	0.036000	0.500000	0.203388
MW-15 (1,1-DCA)	15	0.276267	0.250000	0.036000	0.500000	0.203388

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (1,1-DCA).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
1,1-DCA	370.0000	126.0000	6.000000	4.486481	0.000007	4.541758	0.000006	16	15	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (1,1-DCA).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
1,1-DCA	370.0000	126.0000	6.000000	4.486481	0.000007	4.541758	0.000006	16	15	0.000000

MW-6 v. Background
cis-1,2-Dichloroethene

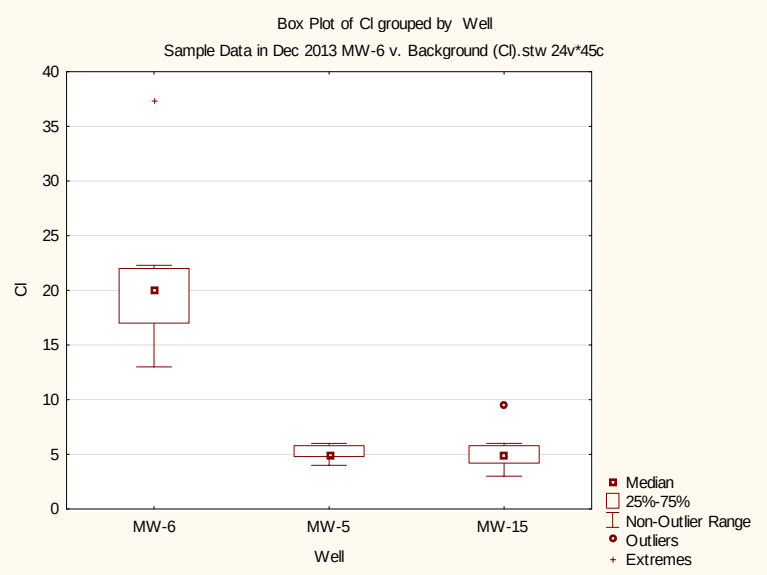


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (1,2-DCE)	16	1.668750	1.650000	0.800000	2.900000	0.621524
MW-5 (1,2-DCE)	15	0.209667	0.250000	0.040000	0.500000	0.149314
MW-15 (1,2-DCE)	15	0.209667	0.250000	0.040000	0.500000	0.149314

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (1,2-DCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
1,2-DCE	408.0000	120.0000	0.00	4.795869	0.000002	4.839078	0.000001	17	15	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (1,2-DCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
1,2-DCE	408.0000	120.0000	0.00	4.795869	0.000002	4.839078	0.000001	17	15	0.000000

MW-6 v. Background
Chloride

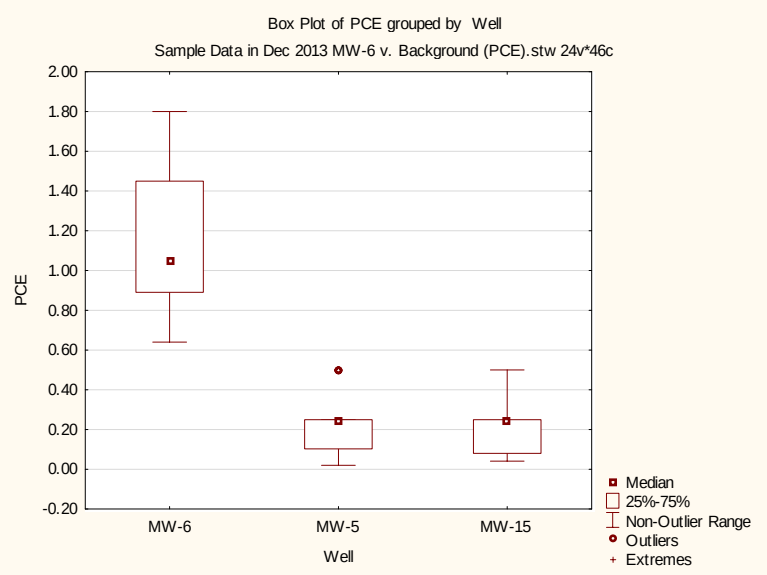


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (Cl).stv					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (Cl)	15	20.11333	20.00000	13.00000	37.40000	5.595006
MW-5 (Cl)	15	5.18667	5.00000	4.00000	6.00000	0.555321
MW-15 (Cl)	15	5.09333	4.90000	3.00000	9.50000	1.465541

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (Cl).stw By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
Cl	345.0000	120.0000	0.00	4.645544	0.000003	4.653834	0.000003	15	15	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (Cl).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
Cl	345.0000	120.0000	0.00	4.645544	0.000003	4.651238	0.000003	15	15	0.000000

MW-6 v. Background
Tetrachloroethene (PCE)

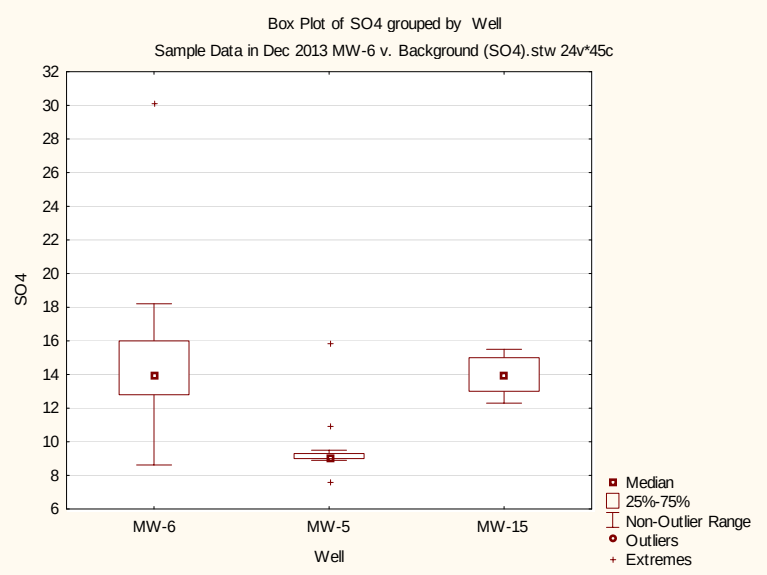


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (PCE).					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (PCE)	16	1.168750	1.050000	0.640000	1.800000	0.366295
MW-5 (PCE)	15	0.217700	0.250000	0.020500	0.500000	0.141104
MW-15 (PCE)	15	0.219067	0.250000	0.041000	0.500000	0.139144

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (PCE).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
PCE	376.0000	120.0000	0.00	4.723652	0.000002	4.752485	0.000002	16	15	0.000000

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (PCE).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
PCE	376.0000	120.0000	0.00	4.723652	0.000002	4.753940	0.000002	16	15	0.000000

MW-6 v. Background
Sulfate

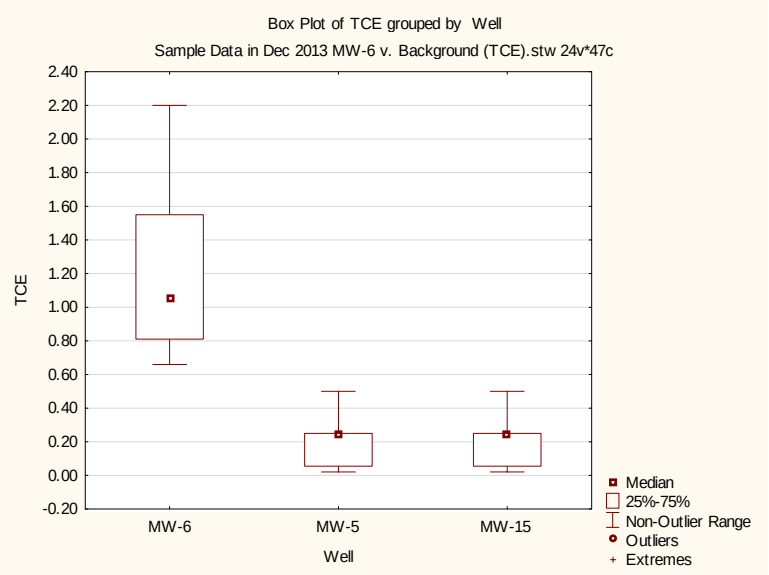


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (SO4)..					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (SO4)	15	14.98133	14.00000	8.62000	30.10000	4.736403
MW-5 (SO4)	15	9.54667	9.00000	7.60000	15.80000	1.845793
MW-15 (SO4)	15	14.02000	14.00000	12.30000	15.50000	0.970420

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (SO4).stw By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
SO4	321.0000	144.0000	24.00000	3.650070	0.000262	3.673849	0.000239	15	15	0.000090

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (SO4).stw By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
SO4	231.5000	233.5000	111.5000	-0.020739	0.983454	-0.020827	0.983383	15	15	0.967417

MW-6 v. Background
Trichloroethene

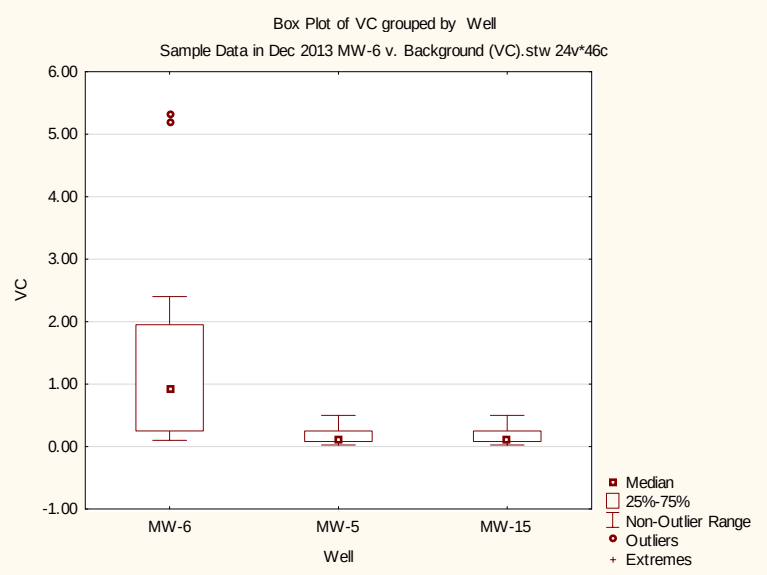


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (TCE)..					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (TCE)	16	1.220625	1.050000	0.660000	2.200000	0.467340
MW-5 (TCE)	15	0.203700	0.250000	0.020500	0.500000	0.153946
MW-15 (TCE)	15	0.203700	0.250000	0.020500	0.500000	0.153946

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (TCE).stw By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
TCE	392.0000	136.0000	0.00	4.805337	0.000002	4.833323	0.000001	16	16	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (TCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
TCE	392.0000	136.0000	0.00	4.805337	0.000002	4.833323	0.000001	16	16	0.000000

MW-6 v. Background
Vinyl Chloride

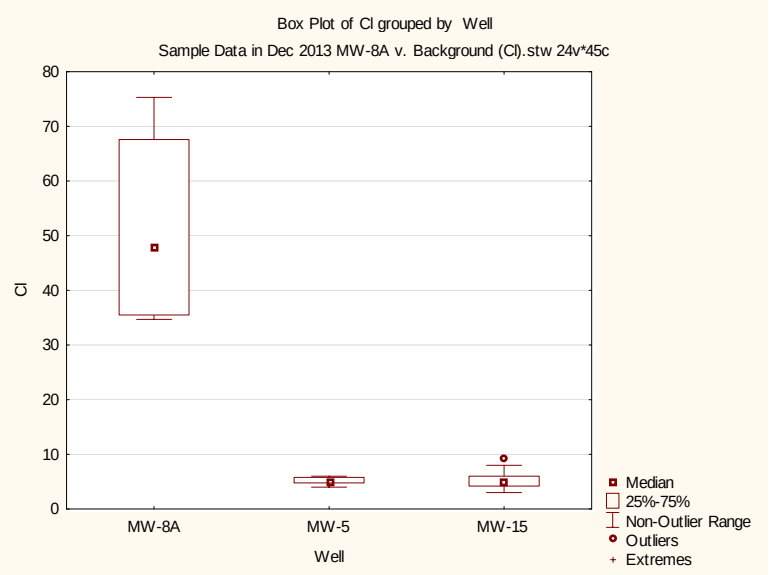


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. Background (VC).st					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (VC)	16	1.431250	0.925000	0.100000	5.300000	1.666921
MW-5 (VC)	15	0.170967	0.100000	0.024500	0.500000	0.124314
MW-15 (VC)	15	0.170967	0.100000	0.024500	0.500000	0.124314

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (VC).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-5	2*1sided exact p
VC	343.5000	152.5000	32.50000	3.438977	0.000584	3.502397	0.000461	16	15	0.000253

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-6 v. Background (VC).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-6	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-6	Valid N MW-15	2*1sided exact p
VC	343.5000	152.5000	32.50000	3.438977	0.000584	3.502397	0.000461	16	15	0.000253

MW-8A v. Background
Chloride

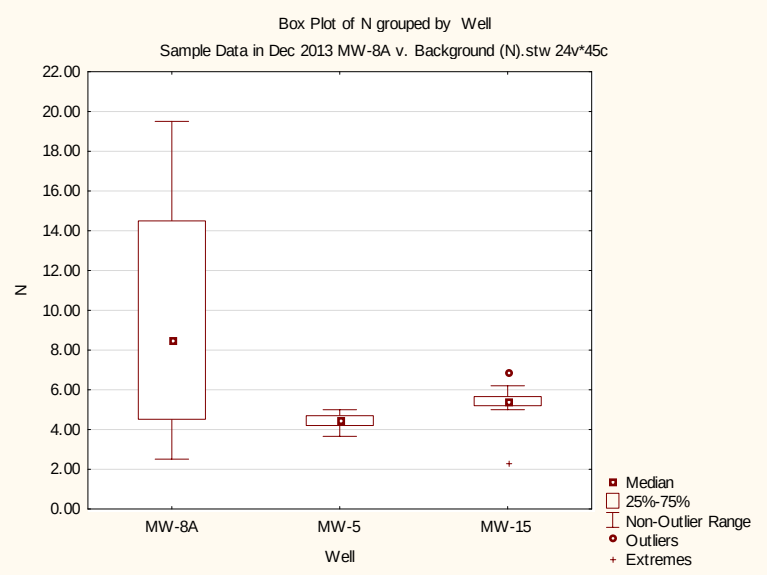


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (Cl).s					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (Cl)	15	50.84000	47.60000	34.70000	75.30000	15.32639
MW-5 (Cl)	15	5.18667	5.00000	4.00000	6.00000	0.55532
MW-15 (Cl)	15	5.50667	5.00000	3.00000	9.50000	1.77903

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (Cl).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
Cl	345.0000	120.0000	0.00	4.645544	0.000003	4.651757	0.000003	15	15	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (Cl).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
Cl	345.0000	120.0000	0.00	4.645544	0.000003	4.647612	0.000003	15	15	0.000000

MW-8A v. Background
Nitrogen, NO2 + NO3

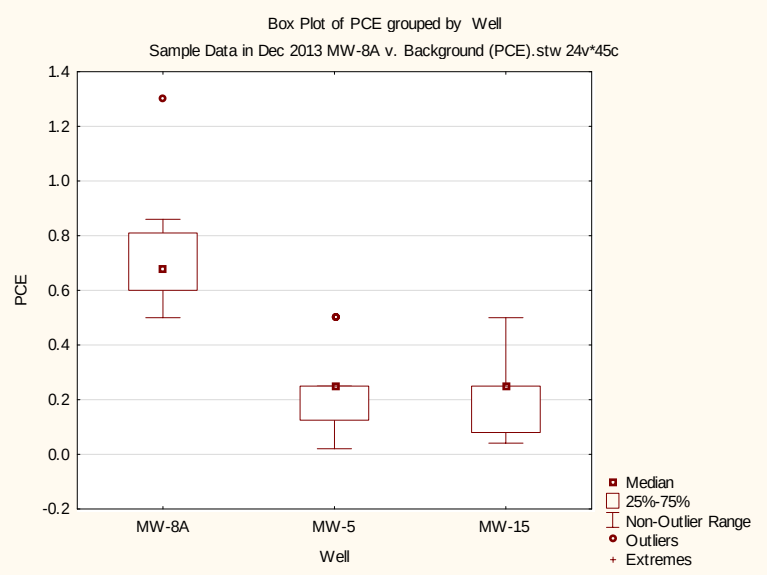


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (N).st					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (N)	15	9.849333	8.500000	2.510000	19.50000	5.291436
MW-5 (N)	15	4.430667	4.410000	3.660000	5.00000	0.325148
MW-15 (N)	15	5.316667	5.400000	2.280000	6.90000	0.968133

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (N).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
N	304.5000	160.5000	40.50000	2.965682	0.003020	2.967333	0.003004	15	15	0.001963

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (N).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
N	289.0000	176.0000	56.00000	2.322772	0.020192	2.326657	0.019984	15	15	0.018554

MW-8A v. Background
Tetrachloroethene (PCE)

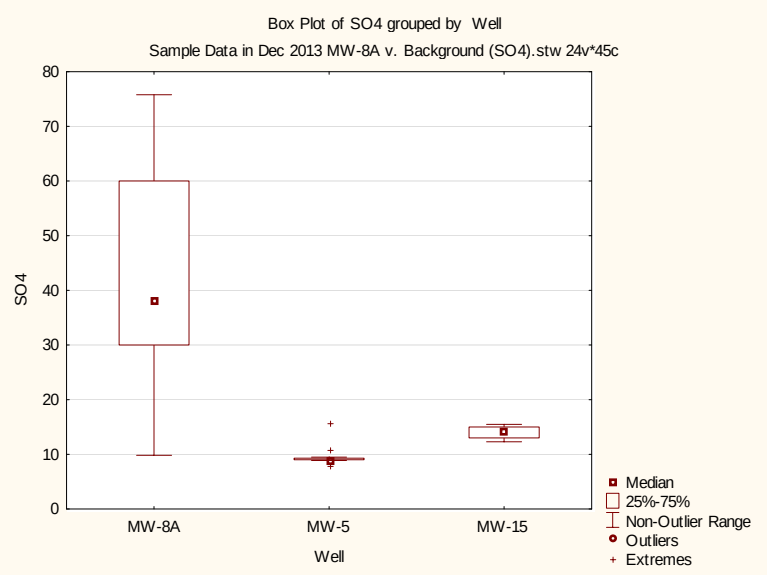


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (PCE					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (PCE)	15	0.734667	0.680000	0.500000	1.300000	0.189656
MW-5 (PCE)	15	0.217700	0.250000	0.020500	0.500000	0.141104
MW-15 (PCE)	15	0.219067	0.250000	0.041000	0.500000	0.139144

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (PCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
PCE	344.0000	121.0000	1.000000	4.604066	0.000004	4.638243	0.000004	15	15	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (PCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
PCE	344.0000	121.0000	1.000000	4.604066	0.000004	4.639815	0.000003	15	15	0.000000

MW-8A v. Background
Sulfate

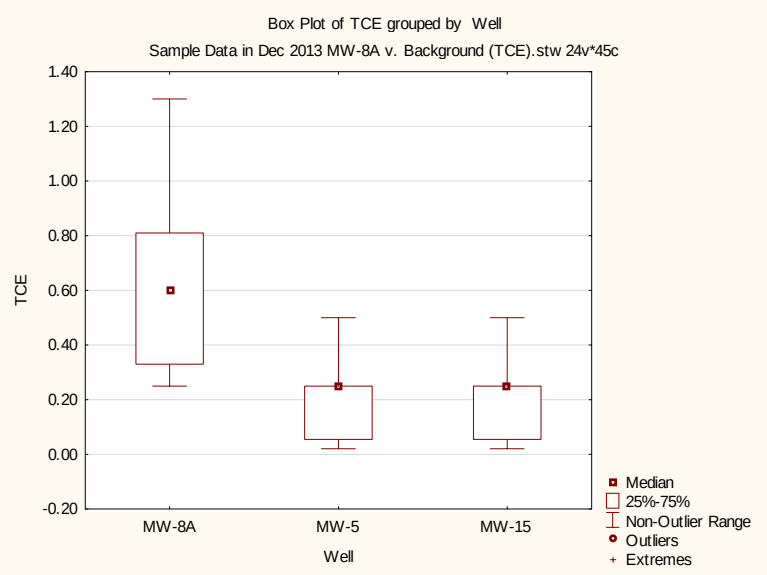


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (SO4					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (SO4)	15	44.67000	38.10000	9.85000	75.80000	19.15980
MW-5 (SO4)	15	9.54667	9.00000	7.60000	15.80000	1.84579
MW-15 (SO4)	15	14.02000	14.00000	12.30000	15.50000	0.97042

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (SO4).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
SO4	343.0000	122.0000	2.000000	4.562587	0.000005	4.591794	0.000004	15	15	0.000000

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (SO4).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
SO4	330.0000	135.0000	15.00000	4.023373	0.000057	4.028754	0.000056	15	15	0.000009

MW-8A v. Background
Trichloroethene (TCE)

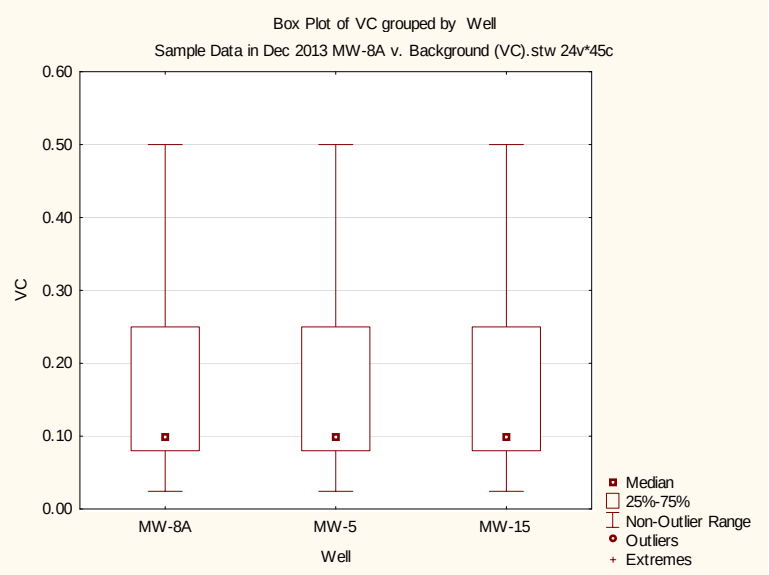


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (TCE					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (TCE)	15	0.610667	0.600000	0.250000	1.300000	0.290258
MW-5 (TCE)	15	0.204367	0.250000	0.020500	0.500000	0.153299
MW-15 (TCE)	15	0.204367	0.250000	0.020500	0.500000	0.153299

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (TCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
TCE	330.5000	134.5000	14.50000	4.044112	0.000053	4.085216	0.000044	15	15	0.000007

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (TCE).stw) By variable Well Marked tests are significant at p <.01000									
variable	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
TCE	330.5000	134.5000	14.50000	4.044112	0.000053	4.085216	0.000044	15	15	0.000007

MW-8A v. Background
Vinyl Chloride

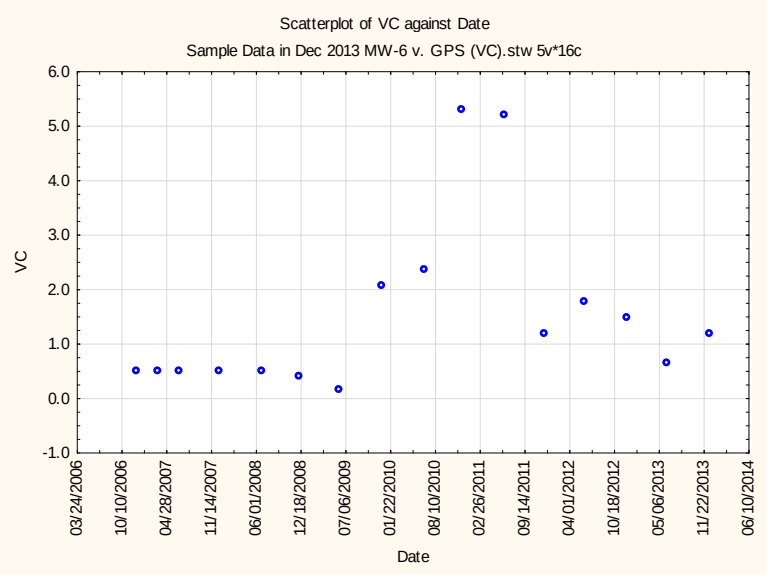


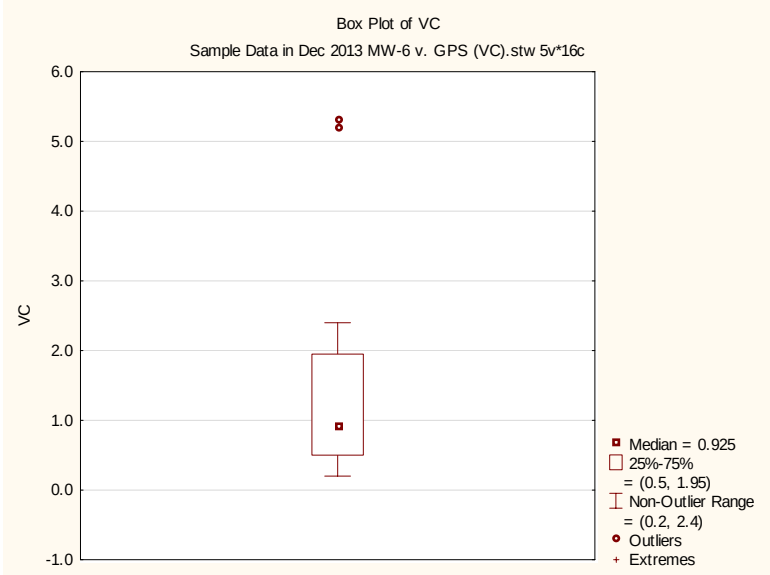
Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. Background (VC).					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (VC)	15	0.170967	0.100000	0.024500	0.500000	0.124314
MW-5 (VC)	15	0.170967	0.100000	0.024500	0.500000	0.124314
MW-15 (VC)	15	0.170967	0.100000	0.024500	0.500000	0.124314

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (VC).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-8A	Rank Sum MW-5	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-5	2*1sided exact p
VC	231.0000	234.0000	111.0000	-0.041478	0.966915	-0.042492	0.966106	15	15	0.967417

variable	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2013 MW-8A v. Background (VC).stw) By variable Well Marked tests are significant at p <.01000									
	Rank Sum MW-8A	Rank Sum MW-15	U	Z	p-value	Z adjusted	p-value	Valid N MW-8A	Valid N MW-15	2*1sided exact p
VC	231.0000	234.0000	111.0000	-0.041478	0.966915	-0.042492	0.966106	15	15	0.967417

MW-6 v. GPS
Vinyl Chloride

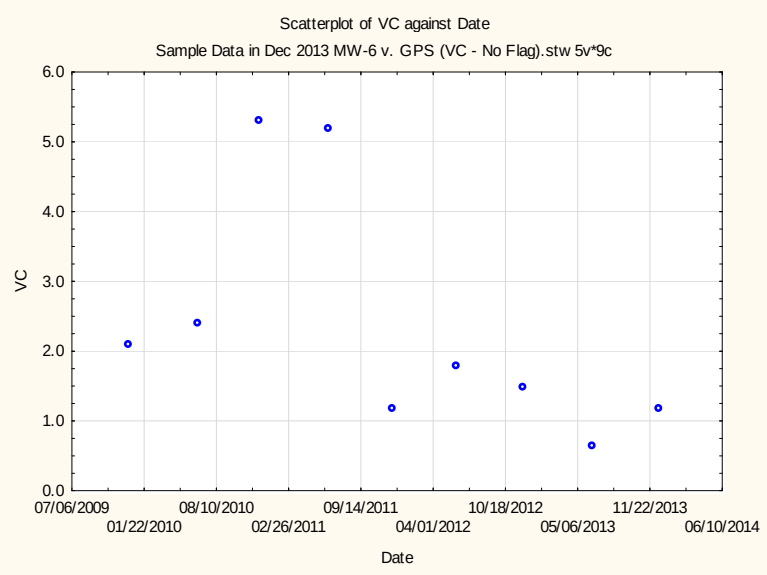


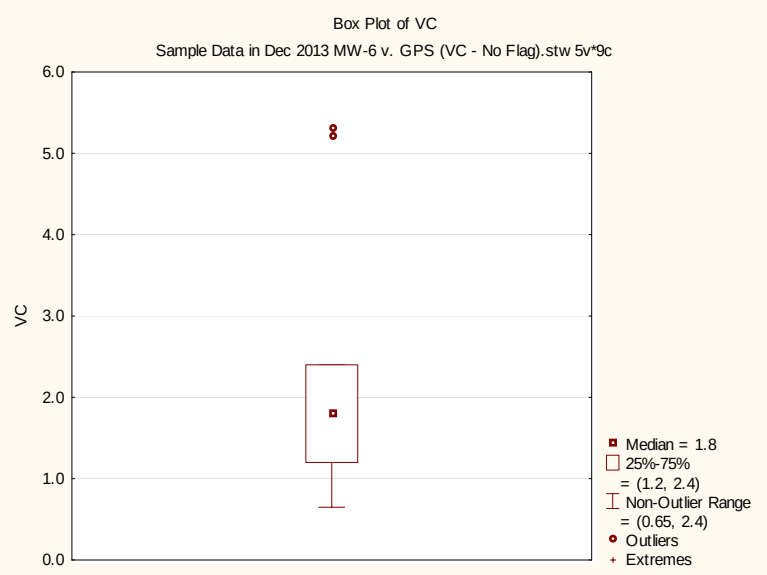


	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	16	1.528125	0.925000	0.200000	5.300000	1.595407

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-6 v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	16	35.00000	1.706389	0.087937

MW-6 v. GPS
Vinyl Chloride - No Flag

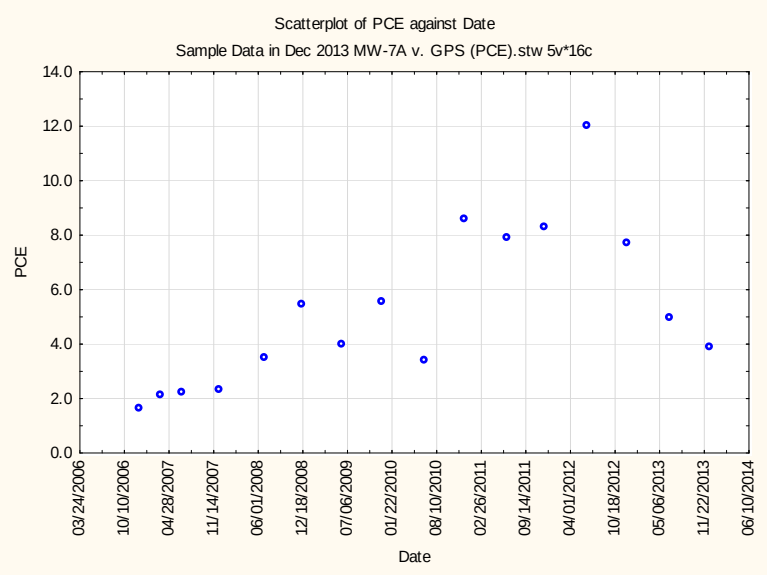


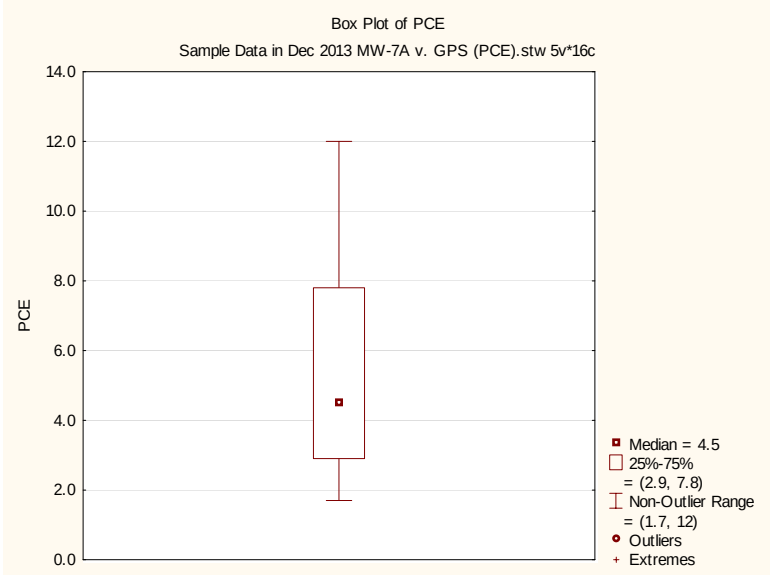


	Descriptive Statistics (Sample Data in Dec 2013 MW-6 v. GPS (VC - No Flag).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	9	2.372222	1.800000	0.650000	5.300000	1.711927

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-6 v. GPS (VC - No Flag).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	9	21.00000	0.177705	0.858955

MW-7A v. GPS
Tetrachloroethene (PCE)

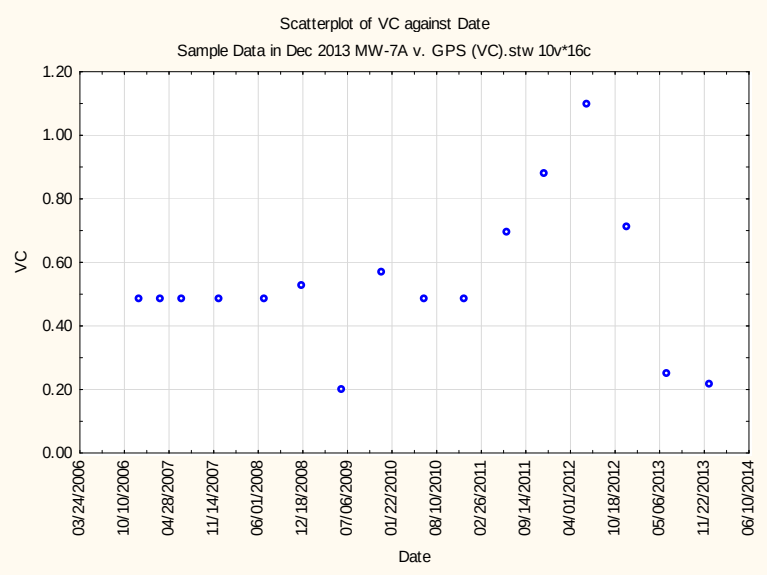


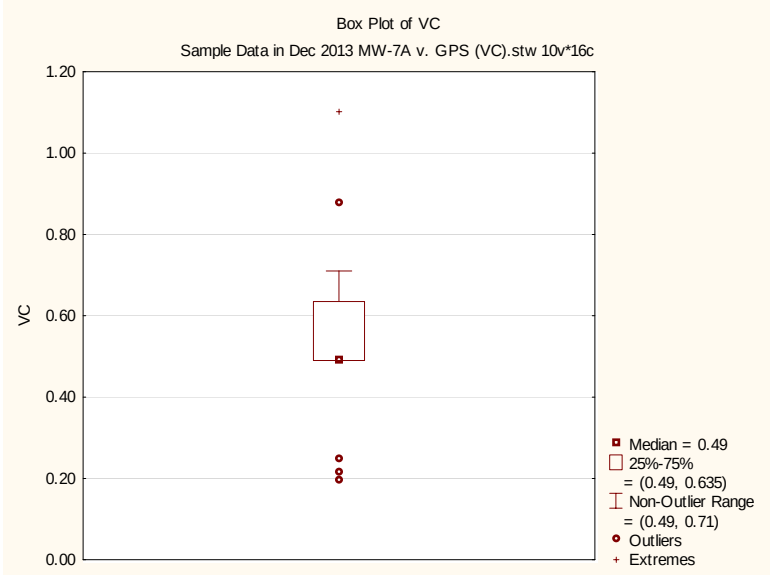


	Descriptive Statistics (Sample Data in Dec 2013 MW-7A v. GPS (PCE).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
PCE	16	5.250000	4.500000	1.700000	12.00000	2.920731

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-7A v. GPS (PCE).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
PCE & GPS	15	55.50000	0.255583	0.798273

MW-7A v. GPS
Vinyl Chloride

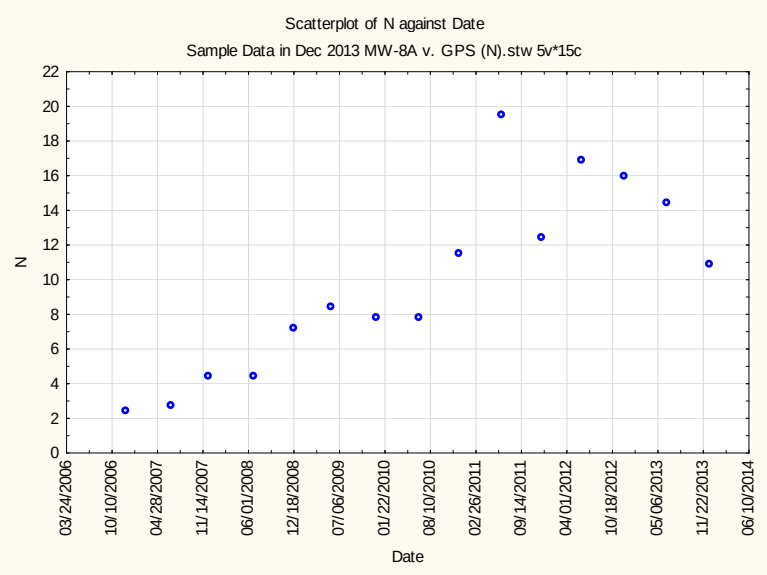


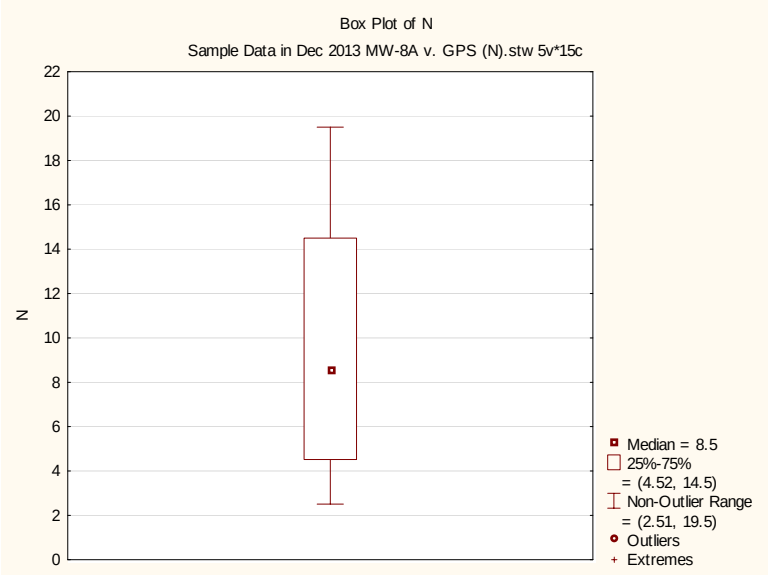


Variable	Descriptive Statistics (Sample Data in Dec 2013 MW-7A v. GPS (VC).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	16	0.536875	0.490000	0.200000	1.100000	0.231537

Pair of Variables	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-7A v. GPS (VC).stw) Marked tests are significant at p <.01000			
	Valid N	T	Z	p-value
VC & GPS	16	0.00	3.516196	0.000438

MW-8A v. GPS
Nitrogen, NO2 + NO3

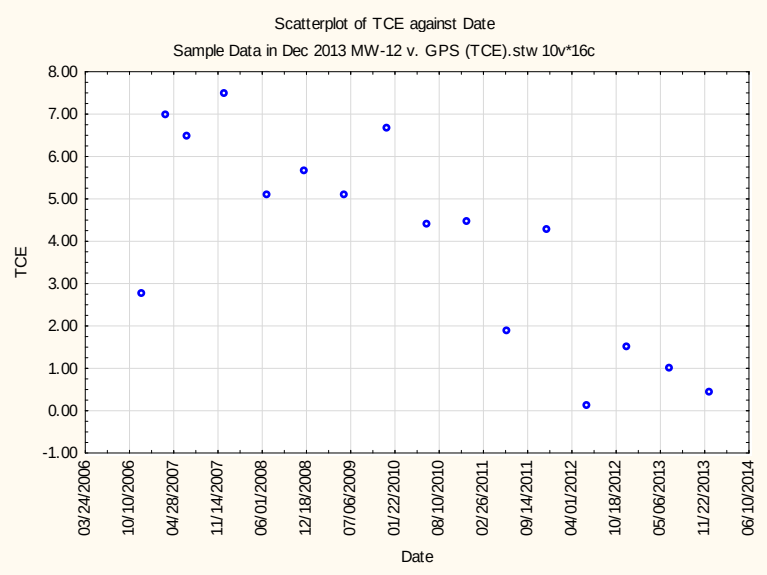


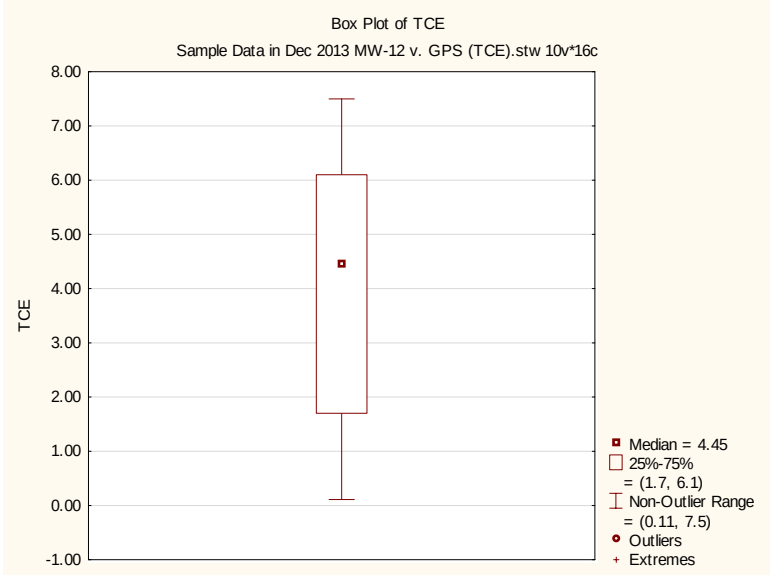


	Descriptive Statistics (Sample Data in Dec 2013 MW-8A v. GPS (N).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
N	15	9.849333	8.500000	2.510000	19.50000	5.291436

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-8A v. GPS (N).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
N & GPS	15	55.50000	0.255583	0.798273

MW-12 v. GPS
Trichloroethene (TCE)

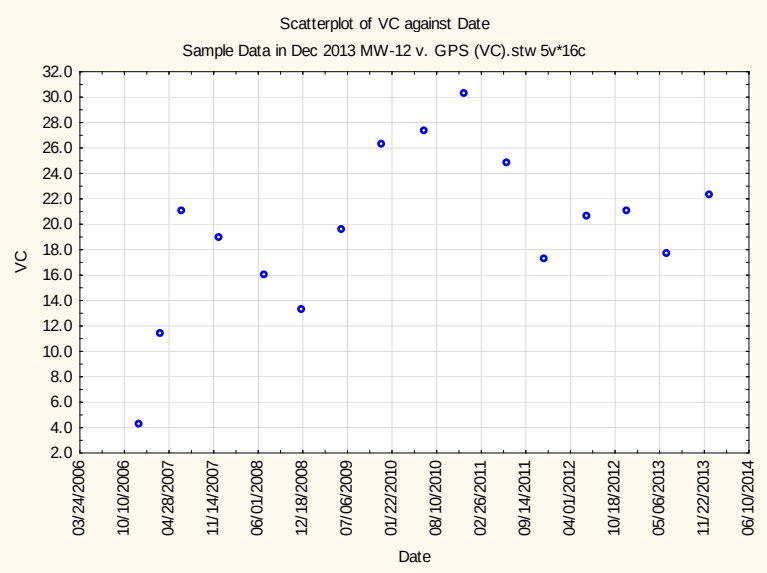


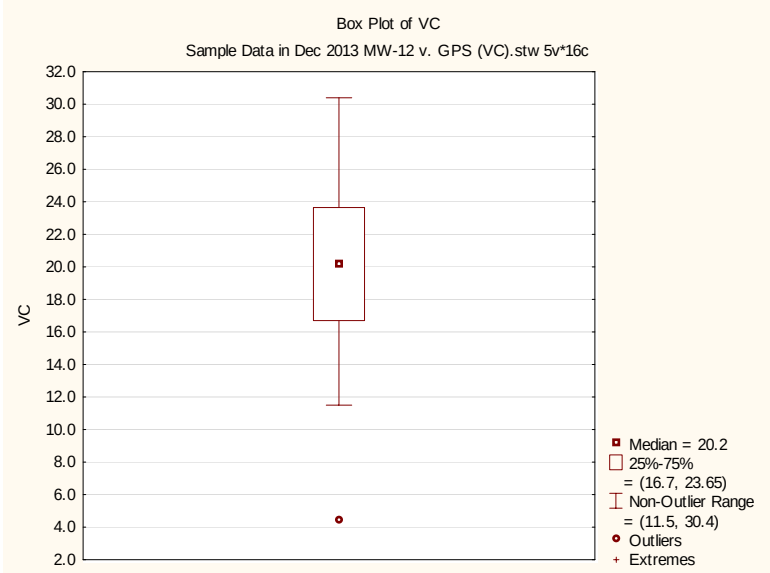


	Descriptive Statistics (Sample Data in Dec 2013 MW-12 v. GPS (TCE).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
TCE	16	4.033125	4.450000	0.110000	7.500000	2.444462

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-12 v. GPS (TCE).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
TCE & GPS	16	43.50000	1.266865	0.205205

MW-12 v. GPS
Vinyl Chloride

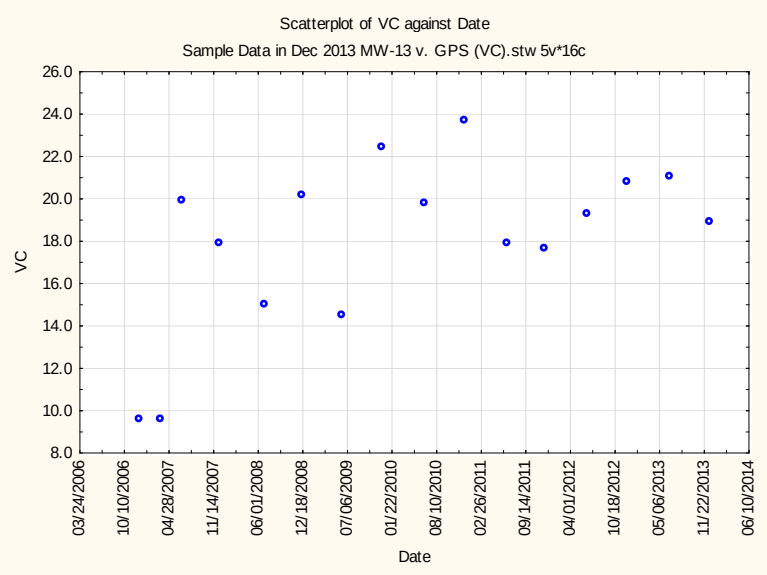


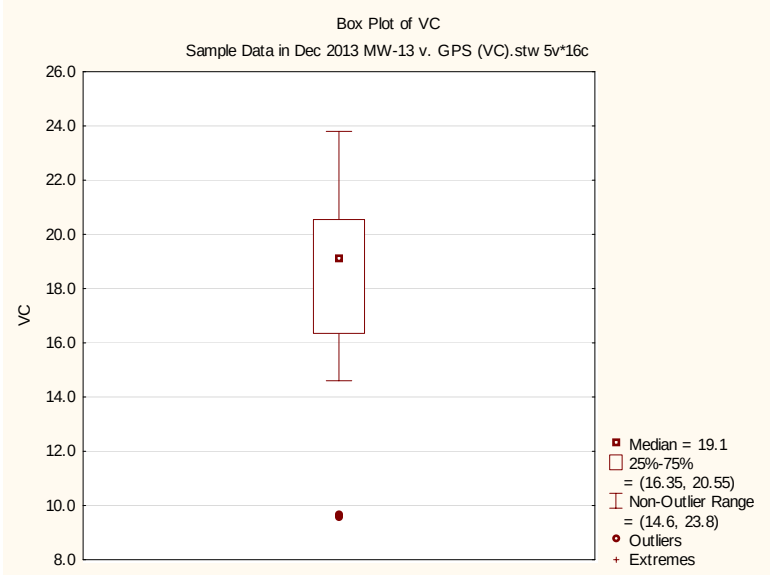


	Descriptive Statistics (Sample Data in Dec 2013 MW-12 v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	16	19.58750	20.20000	4.400000	30.40000	6.447209

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-12 v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	16	0.00	3.516196	0.000438

MW-13 v. GPS
Vinyl Chloride





	Descriptive Statistics (Sample Data in Dec 2013 MW-13 v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	16	18.06875	19.10000	9.600000	23.80000	4.057046

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2013 MW-13 v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	16	0.00	3.516196	0.000438