TETRA TECH, INC.

May 20, 2015

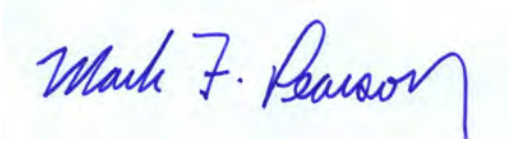
Mr. John Collins
Montana Department of Environmental Quality
Solid Waste Program
P.O. Box 200901
Helena, Montana 59620

RE: FINAL Report of Groundwater Monitoring Activities – December 2014
Bozeman Landfill, Bozeman, Montana

Dear Mr. Collins:

Please find the attached report of Groundwater Monitoring Activities for August 2014. Please contact me with any questions or comments to this report.

Sincerely,



Mark F. Pearson
Project Hydrogeologist

Enclosure: Report of Groundwater Monitoring Activities – December 2014 (sent as an email attachment and in a compact disk)

cc with attachments: Dr. Craig Woolard, PhD, P.E., City of Bozeman

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FINAL
REPORT OF GROUNDWATER MONITORING ACTIVITIES
DECEMBER 2014

BOZEMAN LANDFILL
BOZEMAN, MONTANA

Prepared for:

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City of Bozeman
PO Box 1230
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Tetra Tech Project No. 114-710326

May 20, 2015

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1.0 INTRODUCTION

Tetra Tech conducted groundwater monitoring activities during December 2014 at the Bozeman Landfill and site vicinity (**Figure 1**). This monitoring event addressed the last quarterly monitoring requirement following the installation of additional monitoring wells early in 2014 and a semi-annual monitoring requirement of the existing and additional monitoring wells and stations. Semi-annual monitoring events are typically in June and December. Tetra Tech personnel conducted the monitoring event in accordance with the Task Order December 2014 Assessment Groundwater Monitoring and Landfill Gas Monitoring dated November 14, 2014, and the *Groundwater Sampling and Analysis Plan* dated October 28, 2010.

The drilling, installation, and sampling of an additional groundwater monitoring well (MW-27) occurred in January 2015. This activity was conducted in accordance with Task Order Installation of Two Additional Groundwater Wells and Monitoring dated November 14, 2014.

Methods of the well installation and monitoring activities are presented in Section 2.0. Results of the well installation and monitoring activities are presented in Section 3.0. Figures presenting site location, monitoring sites, and other site aspects are attached. Data tables are also attached. Graphs of selected groundwater data over time in several wells are contained in **Appendix A**. Groundwater sampling logs are contained in **Appendix B,** and laboratory analytical reports are contained in **Appendix C**.

2.0 METHODS

This section describes methods used to monitor groundwater and install an additional groundwater monitoring well at the Bozeman Landfill. The groundwater monitoring event occurred between December 8 and 11, 2015. Monitoring activities included the measurement of water levels and field parameters, purging and sampling of wells, and sampling of two water supply wells and a surface water spring (McIlhattan Seep). Samples were submitted for laboratory analysis. Monitoring sites are shown in **Figure 2**.

2.1 DRILLING AND INSTALLATION OF MONITORING WELL

Per the Work Plan developed by the City of Bozeman (City) for DEQ, one additional well was drilled and completed on January 14, 2015. This well was named MW-27. The well was drilled using a Mobile B-61 hollowstem auger drilling rig and completed with 2-inch diameter, Schedule 40 PVC well casing and machine-slotted well casing. Slot size was 0.01-inch. Filter pack consisted of size #10-20 silica sand, and the grout/well seal consisted of hydrated bentonite chips. Surface completion consisted of a steel cover at grade secured with concrete grout. A detail of well specifications is provided in the well log contained in **Appendix B**.

2.2 WATER LEVEL AND FIELD PARAMETER MEASUREMENTS

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 parameters including temperature, pH, specific conductivity, dissolved oxygen (DO (measured in milligrams per liter), and oxidation reduction potential (ORP) (measured in millivolts) were measured. A YSI®-556 multimeter with a 20-meter cable was used to measure the field parameters. 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 B**.

2.3 GROUNDWATER SAMPLING

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

- Monitoring wells were purged using either dedicated submersible pump(s) and tubing, 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 field parameter measurement. Exceptions to purging three casing volumes are noted in the sampling logs.

- Each sample obtained for dissolved metals and cations 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 B**.

- 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 C**.

- If only field parameter measurements were conducted on a well, then one casing volume was removed prior to measurement.

- Monitoring activities at the McIlhattan Seep (**Figure 2**) consisted of directly filling the sample bottles where the seep emanates at ground surface.

A schedule of field measurements and laboratory analyses for the December 2015 monitoring event and monitoring of well MW-27 in January 2015 is presented in **Table 1**. Samples collected from all monitoring sites were analyzed for volatile organic compounds (VOCs) in accordance with method 8260B MSV Low Level. In addition, the Method 8260 list of constituents had been increased from 48 to 58 to include all constituents analyzed in previous residential indoor air monitoring. Selected wells were also analyzed for inorganic constituents in accordance with EPA method 6020 MET ICPMS (metals and cations), method 300.0 IC (anions), and SM 2540B (total dissolved solids). Analytical methods are included with the laboratory analytical report in **Appendix C**.

Pace Analytical Services, Inc. (Pace), in Billings, Montana, was contracted to furnish the sample containers, a trip blank, and conduct the analysis of the water samples. For the monitoring event, a trip blank was prepared in Pace's Billings laboratory and consisted of de-ionized water. Upon Pace's receipt of the samples in each monitoring event, 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), including dichlorodifluoromethane. One duplicate sample was collected during the monitoring event. Duplicate samples were analyzed for the same constituents as the corresponding natural sample. The December 2014 monitoring event field parameter measurements and laboratory analytical results have been entered into Tetra Tech's database for the project.

A statistical analysis was performed to include the December 2014 monitoring event, on selected constituents and wells to determine statistical significance. This analysis included the examination of water quality data in point of compliance (POC) wells MW-6 and MW-8A compared with water quality data in, what is considered to be, un-impacted and upgradient wells MW-5 and MW-15.

3.0 DATA PRESENTATION AND ANALYSIS

Data collected at the Bozeman Landfill during the December 2015 monitoring event, and monitoring of well MW-27 in January 2015, is summarized in this section. Figures and tables cited in the report are presented at the end of the text. Charts detailing selected constituent concentrations and groundwater levels over time are presented in **Appendix A**. The field groundwater monitoring logs are contained in **Appendix B**. Laboratory analytical reports and the chain-of-custody document for the monitoring event is contained in **Appendix C**.

3.1 NEW MONITORING WELL

One additional well, MW-27, was drilled and completed on January 14, 2015. The location of this well is shown in **Figure 2**. The purpose of this well is to provide groundwater quality information near, what is considered to be, the southern margin of the area of VOC-impacted groundwater, south of the unlined cell. DEQ had also requested that a monitoring well be placed in this area for the above described purpose.

The monitoring well was designed to be screened across the first "significant" intercept to groundwater. One marginally wet zone was noted between nine and 10 feet below ground surface (bgs). Groundwater was intercepted at 19.5 feet bgs. Drilling was conducted to a total depth of 28 feet to install the well. Static depth to groundwater was measured at approximately 20 feet bgs on January 16, 2015.

The drilling of well MW-27 was conducted into geologic materials similar to that of other wells and probes in the vicinity of the landfill. These geologic materials are interpreted to be Quaternary to Upper Tertiary-age unconsolidated sediments deposited by coalescing alluvial fans that form the western flank of the Bridger Mountains (QTaf geologic map unit, MBMG 2002).

In well MW-27, sediments intercepted include dominantly sandy to clayey silt to a depth of 16 feet bgs. Below 16 feet bgs, scattered gravel occurs in the clayey silt. This gravel increases until the lithology changes to dominantly sand and gravel with silt intervals at 19.5 feet bgs. The

lithology from 19.5 feet bgs to the total depth of the boring consists of gravel in sand and silt with clayey silt intervals.

3.2 GROUNDWATER OCCURRENCE AND MOVEMENT

Groundwater data collected at the Bozeman Landfill during the December 2015 monitoring event and monitoring of well MW-27 in January 2015 is summarized in this section.

Site Depth to Groundwater and Seasonal Variation

During the December monitoring event, depth to groundwater (in the stations monitored) ranged between approximately two feet bgs in well MW-10 near the western margin of the site, 14 feet bgs in wells LF-2 and LF-3, 56 feet bgs in well MW-12, and 113 feet bgs in well MW-5 at the eastern margin of the site.

Seasonal variation of groundwater elevations (measured in June and December) since the year 2001 has been an average of 0.9 feet in well MW-10, and 0.6 and 0.4 feet in wells LF-2 and LF-3, respectively; 0.3 feet in wells MW-11 and MW-12; and 0.8 feet in well MW-5. **Chart 1** (in **Appendix A**) presents the change in groundwater levels since 1994 in three monitoring wells across the site.

Site Groundwater Flow Direction and Hydraulic Gradient

The December 2014 groundwater elevations 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. A groundwater contour map was prepared from the December 2014 groundwater measurements and is presented in **Figure 3**.

In December 2014, groundwater gradients beneath the *Unlined Closed Cell* were a consistent 5.5% between wells MW-15 and MW-12. The groundwater gradient decreased between wells MW-12, LF-2, and into the north portion of Bridger Creek Phase 2 subdivision to approximately 1.6%. The groundwater gradient between wells MW-20 and MW-22 (and the south portion of Bridger Creek Phase 2 subdivision) was also approximately 1.6%. The groundwater gradient between wells MW-25 and MW-21 was approximately 1.5%. Groundwater flow and gradients are consistent with previous monitoring events.

3.3 GROUNDWATER QUALITY

A discussion of the December 2014 results for analyses of inorganic constituents and VOCs is presented in the following sections. The discussion compares constituent concentrations with the Groundwater Protection Standard (GPS). The GPS is the concentration of a constituent(s) in site upgradient wells MW-5 and MW-15 and/or equal to Montana Numeric Water Quality Standards and United States Environmental Protection Agency (U.S. EPA) Maximum Contaminant Levels (MCLs).

3.3.1 Organic Groundwater Quality

The VOC analysis (8260B MSV Low Level method) includes the analysis of 58 constituents (**Appendix C**). Seventeen VOC constituents were detected during the December 2014 monitoring event and included the same constituents detected in previous monitoring events

except 1,2,4 trimethylbenzene. A summary of detected VOCs is presented in **Table 3**, and a historical summary of selected VOCs is presented in **Table 4**. **Figures 4** through **7** present the locations of detections of benzene, tetrachloroethene, trichloroethene, and vinyl chloride during December 2014. Wells or sampling stations with exceedances to GPS and/or Montana HHS include the following:

- Wells MW-7A, MW-20, and Shop Well – tetrachloroethene between 7 and 13.8 micrograms per liter (µg/L)
- MW-6, MW-7A, MW-12, MW-13, and MW-18 – vinyl chloride between 0.82 and 17 µg/L
- MW-17 – tetrachloroethene 21.8 µg/L, trichloroethene 7.7 µg/L, and vinyl chloride 1.5 µg/L

Evaluation of VOC results for December 2014 generally indicate detections of the same VOC constituents as in previous monitoring events. Trend charts for selected monitoring wells are presented in **Appendix A**. These charts provide an assessment of selected VOC constituent changes through time, both before and after start-up of the landfill gas extraction system. No discussion has been provided with regard to these charts.

3.3.2 Inorganic Groundwater Quality

In addition to VOCs, inorganic constituents were analyzed and include metals, chloride, sulfate, selected cations, hardness, and total dissolved solids (TDS). Groundwater quality with regard to metals will be discussed first, followed by other inorganic constituents.

Sixteen metals were analyzed in selected monitoring wells and stations during December 2014. The concentrations of metals in groundwater at the site have not exceeded regulatory standards. The December 2014 results are consistent with previous monitoring results. Monitoring stations where metal constituents were higher than the analytical practical quantitation limit (PQL) or of note are listed below:

- Wells MW-10, MW-12, and MW-18 have the highest arsenic and iron. Arsenic ranged between 0.00037 (estimated concentration) and 0.0051 mg/L. Iron ranged between less than 0.008 and 4.2 mg/L.
- Barium ranged between 0.028 and 0.17 mg/L.
- Cadmium was highest in wells MW-7A, MW-9A, and MW-20 (between 0.00015 and 0.00021 mg/L).
- Manganese was highest in wells MW-12, MW-13, MW-18, and MW-20 (between 1.1 and 6.2 mg/L).
- Lead was below practical quantitation limits in monitoring stations with exception to wells MW-9A and MW-10 (0.0014 and 0.00013 mg/L).
- Silver and thallium were below practical quantitation limits in monitoring stations.
- Copper, chromium, cobalt, nickel, selenium, vanadium, and zinc concentrations did not exceed 0.009 mg/L, individually, in monitoring stations.

Other inorganic constituent concentrations are noted below:

- The highest concentration of nitrate + nitrite as N was 7.6/7.7 mg/L in wells MW-8A, MW-11, and MW-27. Background nitrate + nitrite as N concentrations were approximately 5 mg/L.
- Chloride was between 3.4 and 73.5 mg/L. Chloride was highest in wells MW-8A, MW-10, MW-20, and MW-26 (greater than 50 mg/L).
- Sulfate was between 0.5 and 79.5 mg/L. Sulfate concentrations were highest in wells MW-10 and MW-20 and McIlhattan Seep (greater than 50 mg/L).
- Total hardness was between 236 and 1,000 mg/L. Total hardness was highest in wells MW-13, MW-18, and MW-20 (greater than 600 mg/L).
- TDS was between 263 and 1,070 mg/L. TDS was highest in wells MW-18 and MW-20 (greater than 900 mg/L). Background TDS concentrations were less than 500 mg/L.

4.0 DATA VALIDATION

This section describes the data validation process used to determine the adequacy and quality of December 2014 laboratory analytical data at the Bozeman Landfill. The objective of the data validation is to identify any unreliable or invalid laboratory measurements and qualify that data for interpretive use. These validations were performed according to Tetra Tech's Groundwater Monitoring Sampling and Analysis Plan (2010) and guidelines prepared by the U.S. EPA (1999 and 2004).

4.1 FIELD QA/QC

Analytical results were evaluated using field duplicate samples and trip blanks. Results of the quality assurance/quality control (QA/QC) evaluation are discussed below.

Field Duplicate

A duplicate sample (labeled "Dup") was collected from well MW-12 during the December 2014 monitoring event. This duplicate was shipped with the other natural samples to Pace Analytical Services, Inc., in Billings, Montana, for analysis of VOCs and inorganic constituents.

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

- The Relative Percent Difference (RPD) between the two samples was calculated when both values of the natural/duplicate pair were greater than five times the PQL 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 PQL.

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. Analytical results between the natural and duplicate samples collected from well MW-12 did not have RPDs greater than 20 percent.

AVDs are calculated by subtracting the results of the two reported values for a given constituent. If the difference exceeds the PQL, then results for this constituent are considered estimated. Analytical results between the natural and duplicate samples collected from well MW-12 did not have AVDs greater than the respective constituent's PQL.

Trip Blank

There were a total of two trip blanks analyzed. The first was submitted with the samples collected in December 2014. The second was submitted with samples collected from well MW-27 in January 2014.

Each 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 blanks were analyzed for VOCs. The trip blank results were evaluated using the following criteria:

- For detected constituents, all results greater than the PQL 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 PQL but less than 10 times the concentration in the contaminated blank:

    - Acetone
    - 2-butanone
    - Methylene chloride

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

4.2 LABORATORY QA/QC

Pace Analytical received groundwater samples collected from the City of Bozeman Landfill on December 12, 2014, and January 17, 2015. Chain-of-custody documents accompanied the samples from collection to receipt at the laboratory. All samples were properly preserved and analyzed within the respective holding time for each analyte (unless otherwise noted on the report via a qualifier). Lab personnel at Pace 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. 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.

5.0 STATISTICAL ANALYSIS OF WATER QUALITY DATA

The City completed the first of two corrective measures assessments for the Bozeman Landfill in August 1995. A landfill gas extraction system was installed as a result of the first corrective measure assessment 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. As indicated above, there are VOCs that exceed the regulatory standards at the site.

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

Results from two point of compliance (POC) wells MW-6 and MW-8A downgradient of the *Unlined Closed Cell* were evaluated. The locations of these wells are shown in **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 the following:

- 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 4**).
- 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 2011.

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 2007 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.

5.1 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. Any value below the MDL is marked with a "U". In the December 2014 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 data sets meeting all three of the above criteria are considered normally distributed in this analysis.

Of the constituents in the December 2014 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).

5.2 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.

5.2.1 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 2014 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 seven sample data sets after June 2011 (December 2011 to December 2014). There are 11 valid sample data monitor values with no flags since December 2009. Evaluation of the 11 sample data sets from December 2009 to December 2014 indicated, with a p-value of 0.477, no difference between the GPS and the 11 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 2014 (18 values) also indicated, with a p-value of 0.043, no significant difference between the GPS and the 18 sample data values.

5.2.2 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 that 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.

5.3 RESULTS AND DISCUSSION

The progression of the statistics calculations were described as Steps 1 through 3 in the beginning of Section 5.0. Results of statistical analyses are summarized in **Tables 5** and **6**. The output from statistical analysis including descriptive statistics, data plots, and test results are contained in **Appendix D**.

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, chromium, copper, iron, manganese, nickel, selenium, and zinc were above background concentrations in one or both POC wells. However, individual metals, excluding barium, were a maximum of 0.002 mg/L over the upgradient well concentration.

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 5**. Plots and calculations supporting **Table 5** are contained in **Appendix D**. 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
- N as NO_2+NO_3
- 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 occasionally exceeded concentrations in the POC wells and 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 6**.

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 µg/L. Analysis of vinyl chloride samples in well MW-7A indicates that concentrations are statistically different from the U.S. EPA GPS of 2 µg/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 1990s.

Tetrachloroethene in well MW-7A does not exhibit concentrations statistically different from the GPS at the 99 percent confidence level. Due to the consideration of sampling results 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.

6.0 SUMMARY

The following summarizes data, calculations, and interpretations resulting from the December 2014 groundwater monitoring event at the Bozeman Landfill:

- One additional well, MW-27, was drilled and completed on January 14, 2015. The purpose of this well is to provide groundwater quality information near the southern margin of the area of VOC-impacted groundwater, south of the unlined cell. Lithology encountered was typical of alluvial fan sediments consisting of silt overlying gravelly sediments. Groundwater was intercepted at 20 feet bgs in the gravelly sediments.

- During the December 2014 monitoring event, the range in depth to first interception of groundwater was between approximately two feet bgs in well MW-10 near the western margin of the site and 113 feet bgs in well MW-5 at the eastern margin of the site.

- The December 2014 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*. Groundwater flow appears to shift to a west-southwest direction in the southern part of the site, i.e. between wells MW-24 and MW-23.

- Seventeen VOC constituents were detected during the December 2014 monitoring event and included constituents typically detected in previous groundwater monitoring events at the site. Wells or sampling stations with exceedances to GPS and/or Montana HHS include wells MW-7A, MW-17, MW-20, and the Shop Well with tetrachloroethene to 21.8 µg/L; MW-6, MW-7A, MW-12, MW-13, MW-17, and MW-18 with vinyl chloride to 17 µg/L; and MW-17 with 7.7 µg/L trichloroethene.

- 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 2014, 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.

- Statistics calculations indicated that nitrate + nitrite as N in well MW-8A was statistically different from the background concentrations, but was not greater than the GPS. Nitrate + nitrite as N in well MW-8A exceeded the GPS for eight consecutive monitoring events (December 2010 – August 2014). The December 2014 concentration of nitrate + nitrite as N was 7.6 mg/L in well MW-8A and 2.6 mg/L in well LF-2 (downgradient of well MW-8A).

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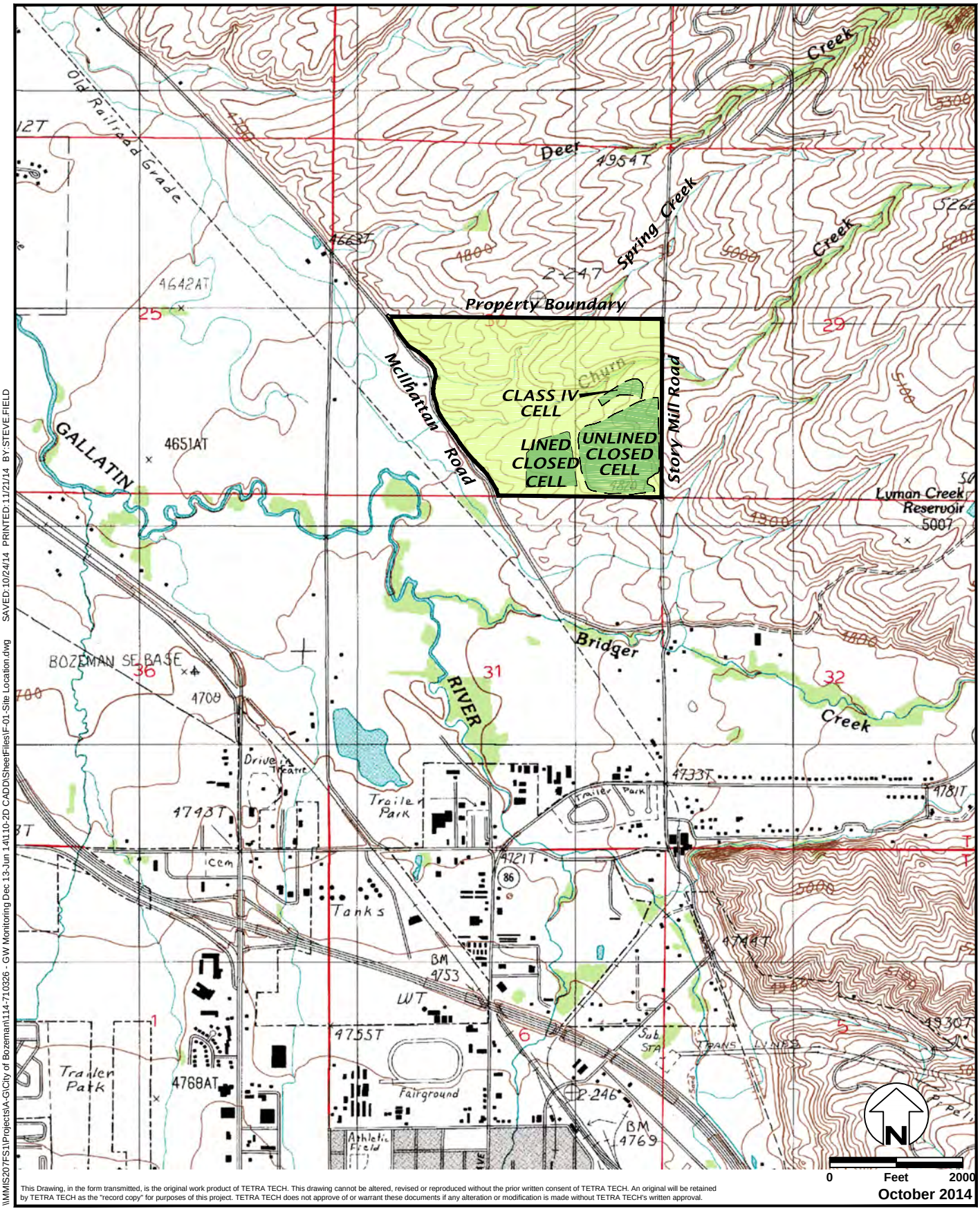
U.S. EPA, 1999. *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. Office of Emergency and Remedial Response. October.

ONLINE REFERENCE:

U.S. EPA Maximum Contaminant Levels
http://water.epa.gov/drink/contaminants/

FIGURES



October 2014

From USGS 7.5' Bozeman Quad (1987)

114-710326.400

Site Location Map
Bozeman Landfill
Bozeman, Montana
FIGURE 1

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\Fig 2 Monitoring ExtractionWells.mxd

114-710326.400

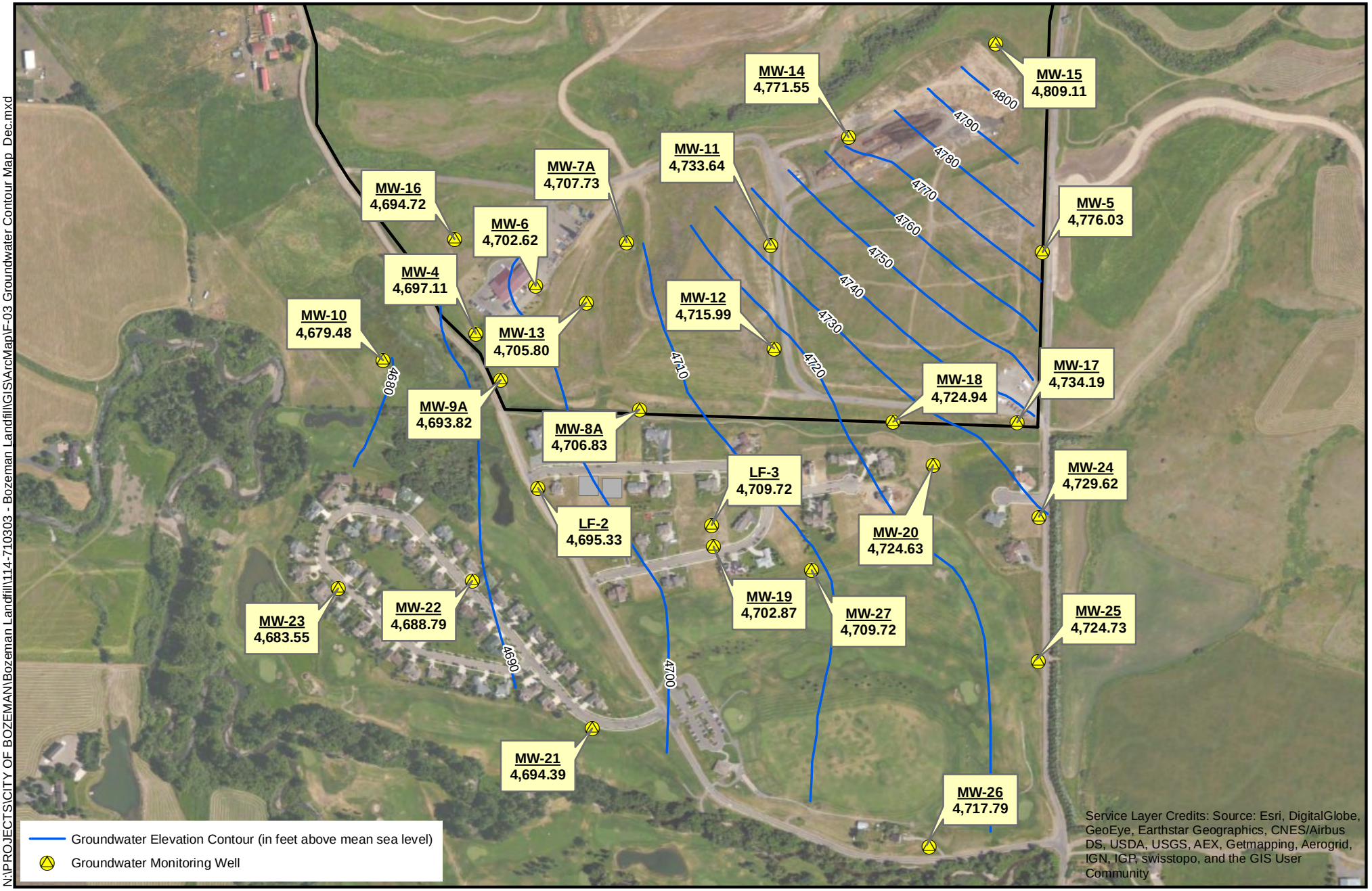
N
W E
S

0 250 500
Feet

Datum: NAD83 State Plane Montana

- Soil Gas Probe
- Groundwater Monitoring Well (Wells labelled in white box callouts were drilled/installed in February and March 2014)
- Methane Monitoring Well
- Landfill Gas (LFG) Extraction Well

Site Plan with Monitoring Stations and Extraction Wells
Bozeman Landfill
Bozeman, Montana
FIGURE 2



N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\F-03 Groundwater Contour Map Dec.mxd

114-710326.400

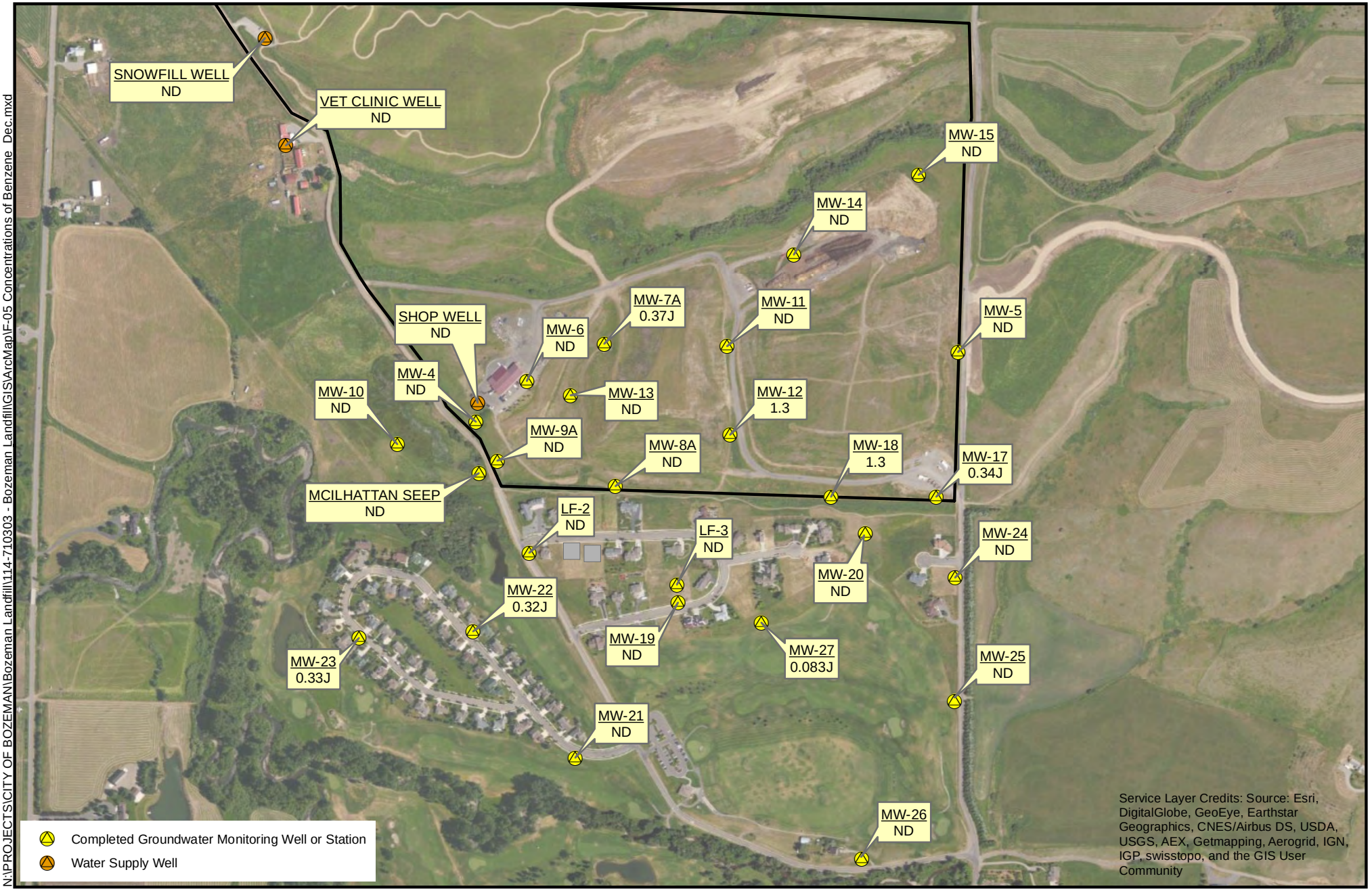
N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate.
Only those wells used for preparation of groundwater contour map are shown

December 2014 - Groundwater Contour Map
Bozeman Landfill
Bozeman, Montana
FIGURE 3



N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\F-05 Concentrations of Benzene_Dec.mxd

114-710326.400

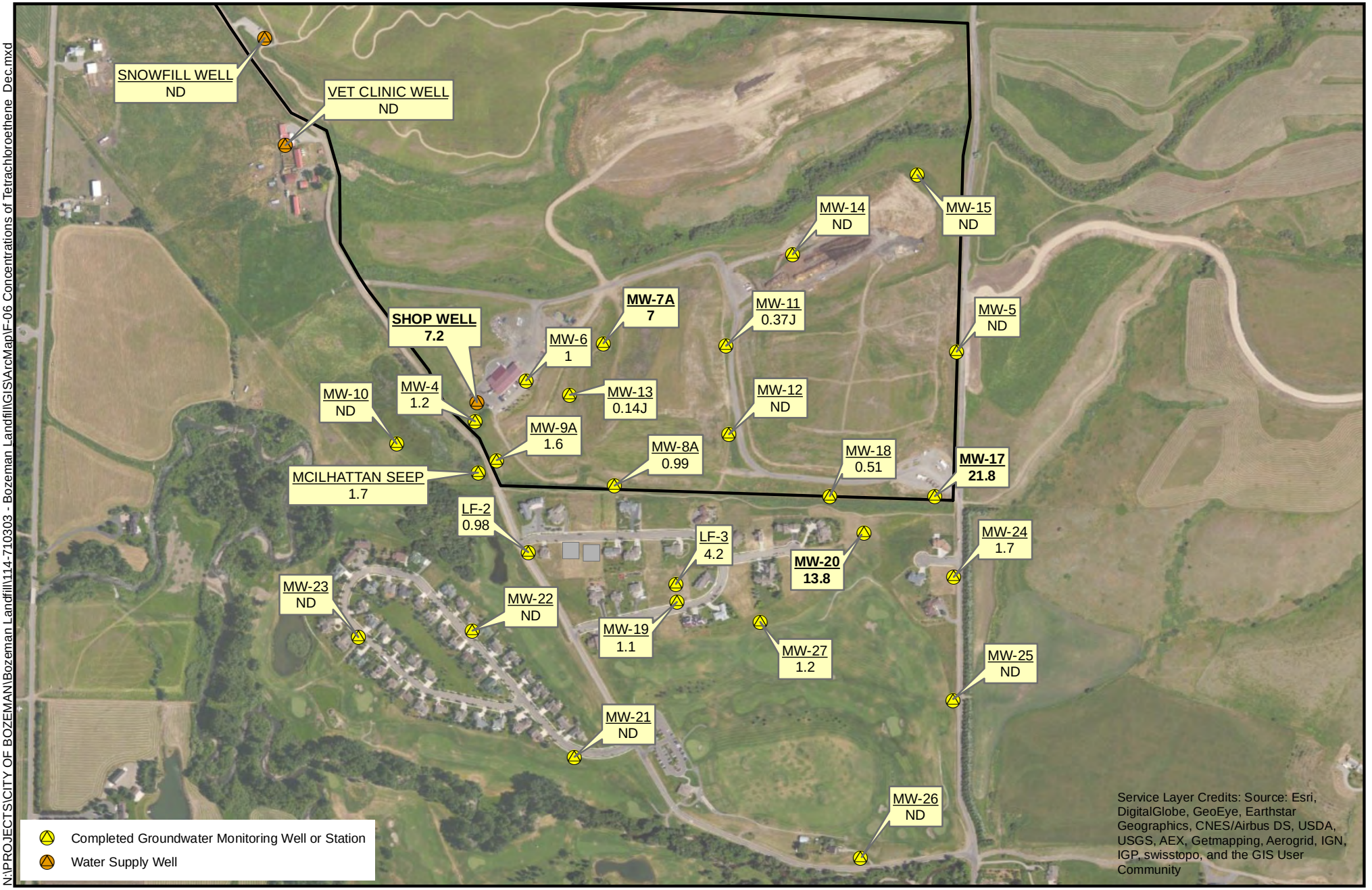
N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
December 2014 Benzene Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
NS: Not Sampled
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Benzene in December 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 4



N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\F-06 Concentrations of Tetrachloroethene_Dec.mxd

114-710326.400

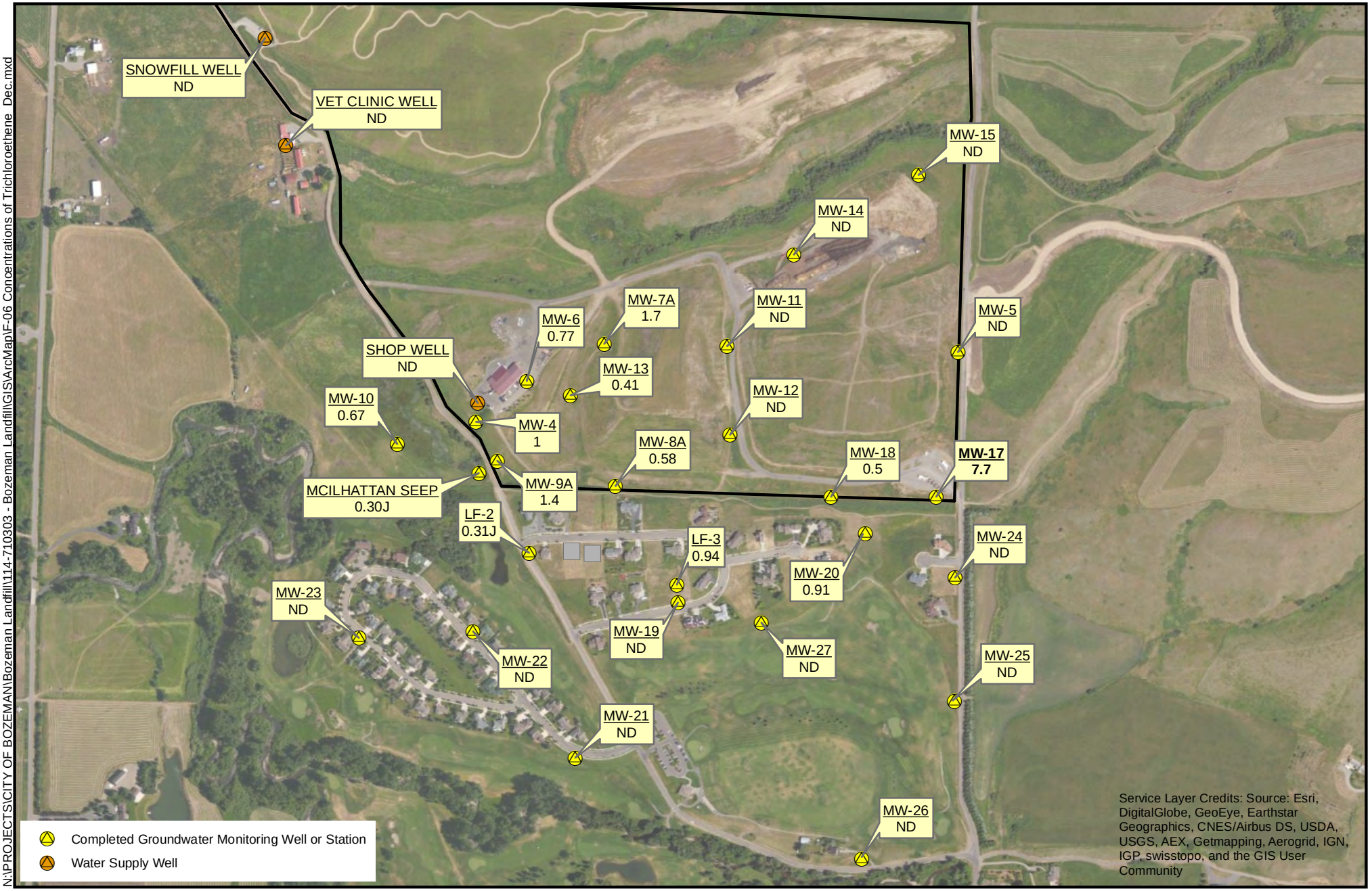
N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
December 2014 Tetrachloroethene Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
NS: Not Sampled
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Tetrachloroethene in December 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 5



N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\F-06 Concentrations of Trichloroethene Dec.mxd

114-710326.400

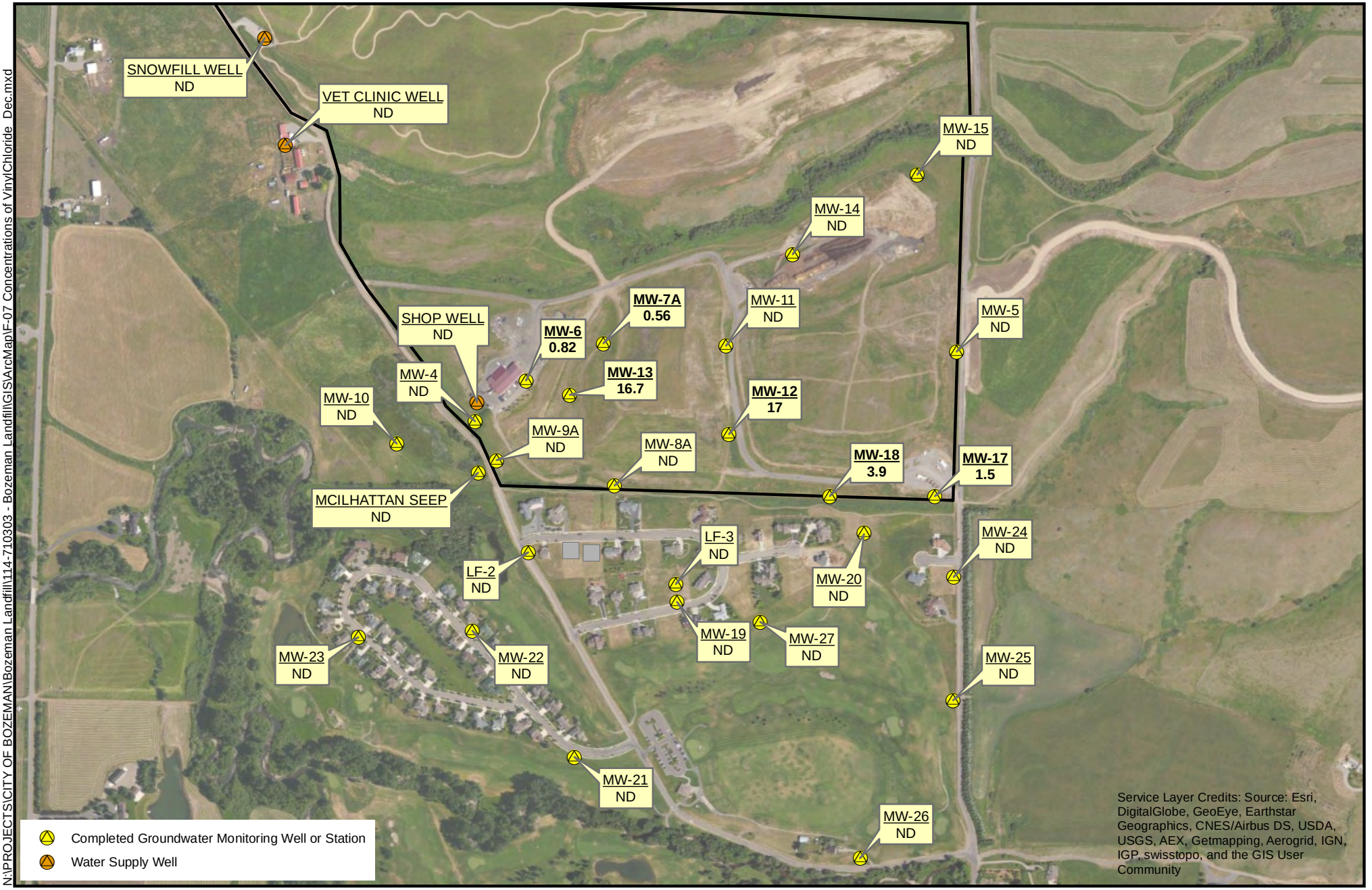
N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
December 2014 Trichloroethene Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
NS: Not Sampled
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Trichloroethene in December 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 6



N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\F-07 Concentrations of VinylChloride Dec.mxd

114-710326.400

N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
December 2014 Vinyl Chloride Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
NS: Not Sampled
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Vinyl Chloride in December 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 7

TABLES

TABLE 1
Schedule of Field Measurements and Laboratory Analysis –December 2014
Bozeman Landfill, Bozeman Montana

Well or Sampling Site	Monitoring Frequency	December 2014									
		Field pH, SC, DO & ORP	Laboratory pH & SC	VOCs	Inorganics						
					'Partial List' Ba, Fe, Mn (dissolved)	'Full List' Metals (dissolved)	Tritium	Cations	Anions Sulfate Chloride	TDS & Total Hardness	N as NO2+NO3
LF- 2	Semi-annual monitoring	1		1					1	1 (1)	1
LF- 3	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 3	No mon. requirement. Last event in 2001										
MW- 4	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 5	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 6	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 6B	Four monitoring events completed										
MW- 7A	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 7B	DEQ requests next monitoring in 2015										
MW- 8A	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 8B	DEQ requests next monitoring in 2015										
MW- 8C	Four monitoring events completed										
MW- 9A	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 9B	DEQ requests next monitoring in 2015										
MW- 10	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 11	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 12	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 13	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 14	Annual mon in Dec 2014	1		1		1		1	1	1	
MW- 15	Semi-annual monitoring	1		1		1		1	1	1	1
MW- 16	Four monitoring events completed										
MW- 17	Last quarterly monitoring event	1		1		1		1	1	1	
MW- 18	Last quarterly monitoring event	1		1		1		1	1	1	
MW- 19	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 20	Last quarterly monitoring event	1		1		1		1	1	1	
MW- 21	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 22	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 23	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 24	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 25	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 26	Last quarterly monitoring event	1		1					1	1 (1)	
MW- 27	Semi-annual monitoring	1		1		1	1	1	1	1 (2)	1
Shop/Office Well	Semi-annual monitoring	1		1							
McIlhattan Seep	Semi-annual monitoring	1		1		1		1	1	1	1
Valley View Vet Well	Semi-annual monitoring	1		1		1 (3)					
Field Duplicate	Semi-annual monitoring	1		1		1		1	1	1	1
Trip Blank	Semi-annual monitoring			1							
Snowfill Well	One-time monitoring	1		1		1		1	1	1	1
	Total Number of Samples		0	31	0	22	1	20	28	28	17

Notes :

VOCs : Volatile organic compounds
Ba, Fe, Mn : Barium, Iron, Manganese
Wells were not sampled
'Full List' : Analysis of 15 metals (reported as dissolved concentrations) including:

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

(1) : TDS only
(2) : TDS not analyzed due to lab error
(3) : Total recoverable analysis of metals

TABLE 2
Groundwater Levels
Bozeman Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4,709.50		4,723.59		4,759.77		4,717.87		4,888.98		4,734.14		4,732.67	
MPE change	Initial MPE	4702.71	Initial MPE	4717.1	Initial MPE	4751.89	Initial MPE	4710.90	Initial MPE	4882.37	Initial MPE	4738.68	Initial MPE	4727.23
											6/30/1998	4728.69		
	6/4/2014	4709.50	6/4/2014	4723.59	6/4/2014	4759.77	6/4/2014	4717.87	6/4/2014	4888.98	6/4/2014	4734.14	6/4/2014	4732.67
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
3/26/2014	13.30	4696.20	13.22	4710.37	N.M.	-----	19.86	4698.01	113.02	4775.96	31.33	4702.81	19.34	4713.33
8/21/2014	14.24	4695.26	14.23	4709.36	N.M.	-----	20.70	4697.17	112.85	4776.13	31.52	4702.62	19.41	4713.26
12/8/2014	14.17	4695.33	13.87	4709.72	N.M.	-----	20.76	4697.11	112.95	4776.03	31.52	4702.62	19.30	4713.37

MPE 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)													
	4764.64		4764.71		4754.58		4754.84		4753.98		4722.11		4722.32	
MPE change	Initial MPE	4755.51	Initial MPE	4755.52	Initial MPE	4748.22	Initial MPE	4747.98	Initial MPE	4747.63	Initial MPE	4715.27	Initial MPE	4715.50
	7/6/2011	4757.87	7/6/2011	4757.95			7/3/2012	4748.47						
	6/4/2014	4764.64	6/4/2014	4764.71	6/4/2014	4754.58	6/4/2014	4754.84	6/4/2014	4753.98	6/4/2014	4722.11	6/4/2014	4722.32
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
3/26/2014	N.M.	-----	N.M.	-----	46.65	4707.93	N.M.	-----	42.60	4711.38	27.48	4694.63	N.M.	-----
8/21/2014	56.87	4707.77	56.94	4707.77	47.65	4706.93	48.92	4705.92	43.53	4710.45	28.35	4693.76	28.60	4693.72
12/8/2014	56.91	4707.73	57.00	4707.71	47.75	4706.83	47.99	4706.85	43.29	4710.69	28.29	4693.82	28.52	4693.80

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)													
	4681.43		4785.49		4772.15		4749.50		4804.85		4856.71		4720.96	
MPE change	Initial MPE	4675.01	Initial MPE	4778.15	Initial MPE	4763.02	Initial MPE 6/30/1998	4748.73 4742.54	Initial MPE	4797.94	Initial MPE	4845.00	Initial MPE	4717.33
	6/4/2014	4681.43	6/4/2014	4785.49	6/4/2014	4772.15	6/4/2014	4749.50	6/4/2014	4804.85	6/4/2014	4856.71	6/4/2014	4720.96
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
3/26/2014	1.40	4680.03	51.76	4733.73	55.72	4716.43	43.46	4706.04	33.23	4771.62	49.05	4807.66	25.64	4695.32
8/21/2014	2.43	4679.00	51.80	4733.69	56.34	4715.81	43.65	4705.85	N.M.	-----	47.02	4809.69	26.18	4694.78
12/8/2014	1.95	4679.48	51.85	4733.64	56.16	4715.99	43.70	4705.80	33.30	4771.55	47.60	4809.11	26.24	4694.72

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

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

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

N.M. Not measured

----- Not calculated

TABLE 2 (Continued)
Groundwater Levels
Bozeman Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4810.03		4772.36		4724.94		4778.01		4704.56		4693.62		4689.79	
Well No.	MW-17		MW-18		MW-19		MW-20		MW-21		MW-22		MW-23	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
6/28/1995														
9/12/1995														
11/28/1995														
6/25/1996														
12/11/1996														
6/19/1997														
12/15/1997														
6/30/1998														
12/14/1998														
6/22/1999														
12/14/1999														
6/8/2000														
11/28/2000														
6/12/2001														
12/19/2001														
6/13/2002														
12/12/2002														
6/10/2003														
12/3/2003														
6/8/2004														
12/6/2004														
6/16/2005														
12/14/2005														
3/16/2006														
6/12/2006														
12/1/2010														
6/13/2011														
12/5/2011														
6/5/2012														
12/5/2012														
6/12/2013														
12/18/2013														
3/26/2014	75.60	4734.43	47.23	4725.13	21.23	4703.71	53.20	4724.81	9.39	4695.17	3.81	4689.81	5.49	4684.30
8/21/2014	76.12	4733.91	47.89	4724.47	22.05	4702.89	54.14	4723.87	9.77	4694.79	4.86	4688.76	6.28	4683.51
12/8/2014	75.84	4734.19	47.42	4724.94	22.07	4702.87	53.38	4724.63	10.17	4694.39	4.83	4688.79	6.24	4683.55

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.

Well MW-18 depth to groundwater = 47.23 measured 5/2/2014

N.M. Not measured

----- Not calculated

TABLE 2 (Continued)
Groundwater Levels
Bozeman Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)							
	4804.52		4775.45		4732.82		4729.45	
Well No.	MW-24		MW-25		MW-26		MW-27	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
6/28/1995								
9/12/1995								
11/28/1995								
6/25/1996								
12/11/1996								
6/19/1997								
12/15/1997								
6/30/1998								
12/14/1998								
6/22/1999								
12/14/1999								
6/8/2000								
11/28/2000								
6/12/2001								
12/19/2001								
6/13/2002								
12/12/2002								
6/10/2003								
12/3/2003								
6/8/2004								
12/6/2004								
6/16/2005								
12/14/2005								
3/16/2006								
6/12/2006								
12/1/2010								
6/13/2011								
12/5/2011								
6/5/2012								
12/5/2012								
6/12/2013								
12/18/2013								
3/26/2014	74.50	4730.02	50.22	4725.23	14.41	4718.41		
8/21/2014	75.45	4729.07	50.75	4724.70	14.79	4718.03		
12/8/2014	74.90	4729.62	50.72	4724.73	15.03	4717.79	19.73	4709.72

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.

Well MW-25 depth to groundwater = 50.22 measured 5/2/2014

Well MW-27 depth to groundwater = 19.73 measured 1/16/2015

N.M. Not measured

----- Not calculated

TABLE 3
Summary of VOC Detections
December 2014 Groundwater Monitoring
Bozeman Landfill, Bozeman, Montana

Monitoring Station Sample Date Analyte	LF-2	LF-3	MW-4	MW-5 ND	MW-6	MW-7A	MW-8A	MW-9A	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15 ND	MW-17	MW-18	MW-19	MW-20	MW-21 ND	MW-22	MW-23	MW-24	MW-25 ND	MW-26 ND	MW-27	McIlhattan Seep	Shop Well	Vet Well ND	Snow-fill Well ND	Trip Blank ND
1112Tetrachloroethane																														
111Trichloroethane						0.78																								
1122Tetrachloroethane																														
112Trichloroethane																														
112Trichlorotrifluoroethane																														
11Dichloroethane					1.3	4.7		0.51			1.0																2.2			
11Dichloroethene																														
123Trichloropropane																														
124Trimethylbenzene																														
12Dibromo3chloropropane																														
12DibromoethaneEDB																														
12Dichlorobenzene																														
12Dichloroethane																0.47J														
12Dichloropropane															0.46J															
14Dichlorobenzene															0.31J	1.4														
14DioxanepDioxane																														
2ButanoneMEK																														
2Hexanone																														
2Propanol																														
4Methyl2pentanoneMIBK																														
Acetone																20.5														
Acrylonitrile																														
Benzene						0.37J					1.3				0.34J	1.3				0.32J	0.33J				0.083J					
Bromochloromethane																														
Bromodichloromethane																														
Bromoform																														
Bromomethane																														
Carbondisulfide																														
Carbontetrachloride																														
Chloride																														
Chlorobenzene																														
Chloroethane																														
Chloroform															0.23J												0.25J			
Chloromethane																														
cis12Dichloroethene		3.4			1.9		1.4				5.5				33	17.1		1.0								0.26J				
cis13Dichloropropene																														
Cyclohexane																														
Dibromochloromethane																														
Dibromomethane																														
Dichlorodifluoromethane		1.4	0.7J			2.0		1.0J		7.5					3.4	1.6		1.5									3.6			
Ethylbenzene																					0.17J									
Iodomethane																														
IsopropylbenzeneCumene																														
MethyleneChloride															4.2															
Methyltertbutylether																														
nHexane																														
nPropylbenzene																														
Styrene																														
Tetrachloroethene	0.98	4.2	1.2		1.0	**7.0**	0.99	1.60		0.37J		0.14J			**21.8**	0.51	1.1	**13.8**				1.7			1.2	1.7	**7.2**			
Tetrahydrofuran																														
Toluene																0.26J	0.47J			0.46J	0.45J									
trans12Dichloroethene																														
trans13Dichloropropene																														
trans14Dichloro2butene																														
Trichloroethene	0.31J	0.94	1.0		0.77	1.7	0.58	1.40	0.67			0.41			**7.7**	0.5		0.91								0.30J				
Trichlorofluoromethane						1.1				5.0			1.2														1.5J			
Vinylacetate																														
Vinylchloride					**0.82**	**0.56**					**17.0**	**16.7**			**1.5**	**3.9**														
XyleneTotal																														

Notes: VOC - Volatile Organic Compound Concentrations in micrograms per liter (µg/L) NA - Not Analyzed

Bolded Values - Constituent concentration exceeding Montana Human Health Standard, Reference - 2012, DEQ. Circular DEQ-7 Montana Numeric Water Quality Standards. October.

ND or blank field - Analyte or Analyte(s) Not Detected

J - Estimated Concentration (less than analytical practical quantitation limit or PQL but greater than the analytical minimum detection limit or MDL)

TABLE 4
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
	3/27/2014	U 0.24	J 0.37	U 2	U 0.25	U 0.5	0.89	J 0.16	U 0.1
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	1.2	J 0.13	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	0.98	J 0.31	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
LF-3	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
	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
	3/26/2014	U 0.24	2	U 2	U 0.25	U 0.5	2.4	0.61	U 0.1
	8/20/2014	U 0.07	2.4	U 2	U 0.077	U 0.34	5.5	1.1	U 0.082
	12/10/2014	U 0.07	3.4	U 2	U 0.087	U 0.34	4.2	0.94	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-4	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
	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
	3/26/2014	U 0.24	0.53	U 2	J 0.45	U 0.5	1	0.86	U 0.1
	8/20/2014	U 0.07	J 0.4	U 2	U 0.077	U 0.34	1.6	0.89	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.2	1	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-5	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
	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
	8/21/2014	6.2	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/9/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
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
	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

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TABLE 4
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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-6	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
	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
	8/20/2014	J 0.15	2	U 2	1	U 0.34	0.69	0.63	0.74
	12/9/2014	U 0.07	1.9	U 2	1.3	U 0.34	1	0.77	0.82
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7A	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
	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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-7A	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
	8/20/2014	J 0.21	0.71	U 2	2.8	U 0.34	6.9	1.8	U 0.082
	12/9/2014	J 0.37	U 0.11	U 2	4.7	U 0.34	7	1.7	0.56
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
	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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-8A	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
	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
	3/27/2014	U 0.24	0.95	U 2	U 0.25	U 0.5	0.65	J 0.35	U 0.1
	8/20/2014	U 0.07	1.2	U 2	U 0.077	U 0.34	1.3	J 0.36	U 0.082
	12/8/2014	U 0.07	1.4	U 2	U 0.087	U 0.34	0.99	0.58	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-9A	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
	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
	8/20/2014	U 0.07	J 0.37	U 2	U 0.077	U 0.34	1.7	0.82	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	0.51	U 0.34	1.6	1.4	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-10	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
	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
	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	J 0.33	U 0.1
	8/21/2014	U 0.07	J 0.18	U 2	U 0.077	U 0.34	U 0.099	0.49	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	0.67	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-11	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
	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
	8/19/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	J 0.36	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	J 0.37	U 0.084	U 0.082
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-12	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
	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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-12	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
	3/27/2014	1.7	3.9	U 2	1.2	U 0.5	U 0.25	J 0.25	19.7
	8/19/2014	1.1	7.2	U 2	0.99	U 0.34	U 0.099	J 0.29	10.7
	12/8/2014	1.3	5.5	U 2	1	U 0.34	U 0.12	U 0.084	17
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
	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

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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-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
	12/17/2013	0.59	1.1	U 2	1.5	U 0.5	U 0.25	J 0.32	18.9
	3/27/2014	0.68	1.1	U 2	1.5	U 0.5	U 0.25	J 0.31	17.1
	8/19/2014	0.59	0.82	U 2	0.83	U 0.34	J 0.25	0.45	11.7
	12/9/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	J 0.14	0.41	16.7
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

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-14	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
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
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
	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
	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-15	8/20/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
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
MW-17	3/25/2014	J 0.38	24.5	J 5	0.57	U 0.5	15.9	5.9	1.5
	5/1/2014	J 0.08	27.6	5.1	0.74	U 0.34	16	5.8	2.3
	8/19/2014	J 0.1	27.4	4.7	0.63	U 0.34	24.8	7.4	1
	12/9/2014	J 0.34	33	4.2	U 0.087	U 0.34	21.8	7.7	1.5
MW-18	5/2/2014	0.66	18.5	U 2	0.56	U 0.34	0.87	J 0.38	3.3
	8/20/2014	1.3	19	U 2	0.65	U 0.34	0.94	0.49	2.5
	12/9/2014	1.3	17.1	U 2	U 0.087	U 0.34	0.51	0.5	3.9
MW-19	3/26/2014	J 0.24	U 0.23	U 2	U 0.25	U 0.5	0.77	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	0.8	U 0.084	U 0.2
	8/20/2014	J 0.14	U 0.11	U 2	U 0.077	U 0.34	1.2	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.1	U 0.084	U 0.082
MW-20	3/25/2014	U 0.24	J 0.32	U 2	U 0.25	U 0.5	10.6	J 0.34	U 0.1
	5/2/2014	J 0.69	J 0.15	U 2	U 0.077	U 0.34	9.4	J 0.33	U 0.2
	8/19/2014	J 0.14	0.95	U 2	U 0.077	U 0.34	14.5	0.76	U 0.082
	12/9/2014	U 0.07	1	U 2	U 0.087	U 0.34	13.8	0.91	U 0.082
MW-21	3/28/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	J 0.18	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-22	3/27/2014	J 0.33	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	J 0.46	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	J 0.32	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-23	3/27/2014	J 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	J 0.2	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	J 0.33	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-24	3/25/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	J 0.3	U 0.13	U 0.1
	5/2/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	J 0.36	U 0.084	U 0.2
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	0.57	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.7	U 0.084	U 0.082
MW-25	5/2/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2

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HHS		**5**	**70**	**5**	(1)	**30**	**5**	**5**	**2**
MW-25	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-26	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/11/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-27	1/16/2015	J 0.08	U 0.11	U 2	U 0.087	U 0.34	1.2	U 0.084	U 0.082
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	U 1	U 1	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
	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

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 the HHS

Vinyl Chloride concentration highlighted only if greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is greater than 0.2 micrograms per liter (not highlighted).

TABLE 4
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	6/2/2009	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
	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
	3/28/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	1.2	0.41	U 0.1
	8/21/2014	U 0.07	J 0.26	U 2	U 0.077	U 0.34	1.7	J 0.3	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
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
	8/19/2014	U 0.07	1	U 2	2.1	U 0.34	8.7	2.5	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	2.2	U 0.34	7.2	U 0.084	U 0.082
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

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 the HHS

Vinyl Chloride concentration highlighted only if greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is greater than 0.2 micrograms per liter (not highlighted).

TABLE 4
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	6/10/2003	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
	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
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
SNOWFILL WELL	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082

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 the HHS

Vinyl Chloride concentration highlighted only if greater than 2 micrograms per liter (EPA Maximum Contaminant Level). Montana HHS is greater than 0.2 micrograms per liter (not highlighted).

Table 5
Comparison of Medians of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
December 2014 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	18/17	.000/.000	YES
cis1,2, Dichlorothene	ug/L	1.8	-	0.25	0.25	18/17	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	1	-	0.25	0.25	18/17	.000/.000	YES
Tetrachlorethene (PCE)	ug/L	-	0.7	0.25	0.25	17/17	.000/.000	YES
Trichloroethene (TCE)	ug/L	1	-	0.25	0.25	18/18	.000/.000	YES
Trichloroethene (TCE)	ug/L	-	0.6	0.25	0.25	17/17	.000/.000	YES
Vinyl Chloride	ug/L	0.78	-	0.1	0.1	18/17	.000/.000	YES(4)
Vinyl Chloride	ug/L	-	0.1	0.1	0.1	17/17	.972/.972	NO
Chloride	mg/L	19.7	-	5	5	17/17	.000/.000	YES
Chloride	mg/L	-	53.2	5	5	17/17	.000/.000	YES
Nitrate+Nitrite as N	mg/L	-	8.5	4.4	5.3	17/17	.001/.006	YES
Sulfate	mg/L	14	-	9		17/17	.000/-	YES
Sulfate	mg/L	14			14	17/17	-/.876	NO
Sulfate	mg/L	-	38.8	9	14	17/17	.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 6
Summary of Statistical Analysis of Selected Groundwater Quality Data
Bozeman Sanitary Landfill, Bozeman, Montana
December 2014 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	17	0.887	No
Trichloroethene (TCE)	MW-12	5	1SW	18	0.067	No
Tetrachlorethene (PCE)	MW-7A	5	1SW	18	0.538	No
Vinyl Chloride	MW-6	2	1SW	18	0.042	No
	MW-7A	2	1SW	18	0.0002	No[5]
	MW-12	2	1SW	18	0.0002	Yes
	MW-13	2	1SW	18	0.0002	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)

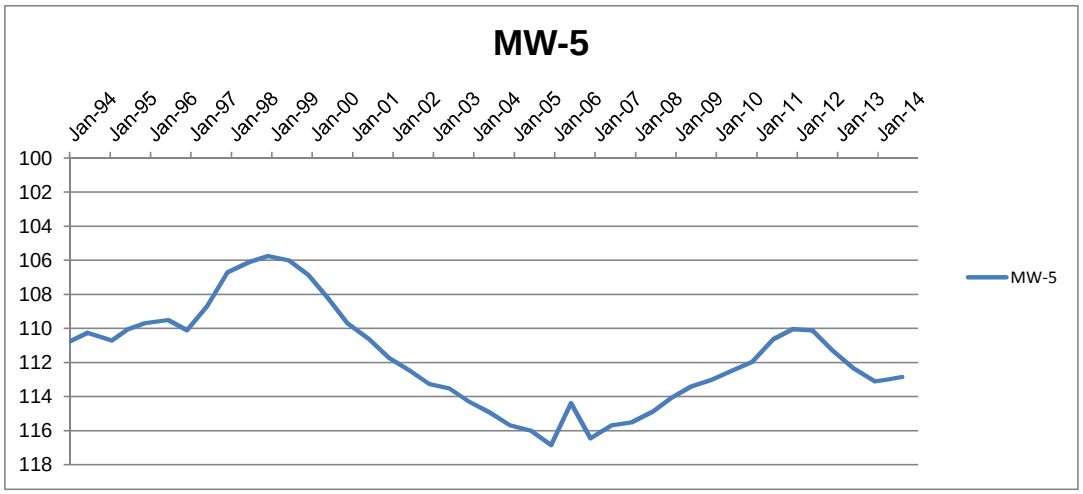
(4) Results are significant if the p-value is less than or equal to 0.01

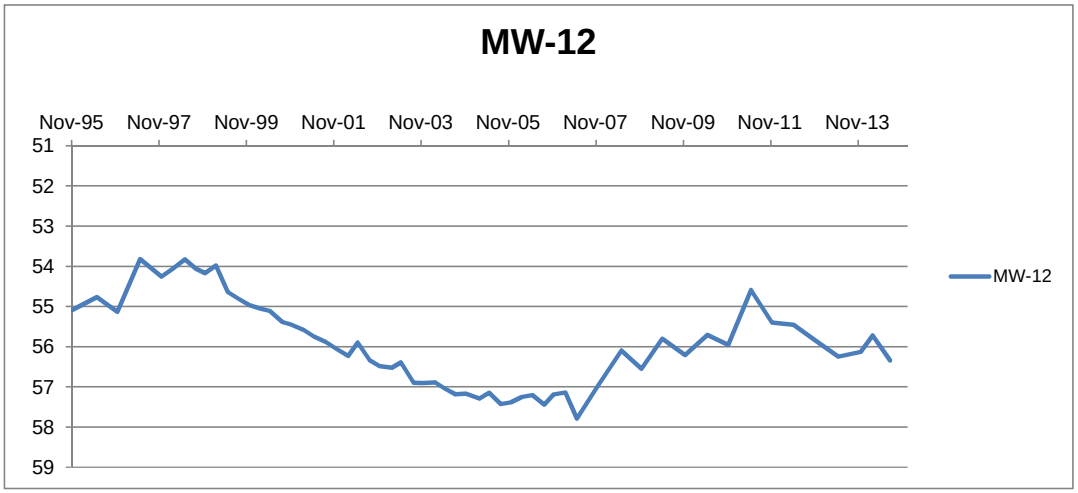
(5) The Wilcoxon test indicated that there is a significant difference between well MW-7A vinyl chloride values and the GPS for vinyl chloride. The difference is due to the fact that well MW-7A vinyl chloride values are lower than the vinyl chloride GPS of 2 ug/L

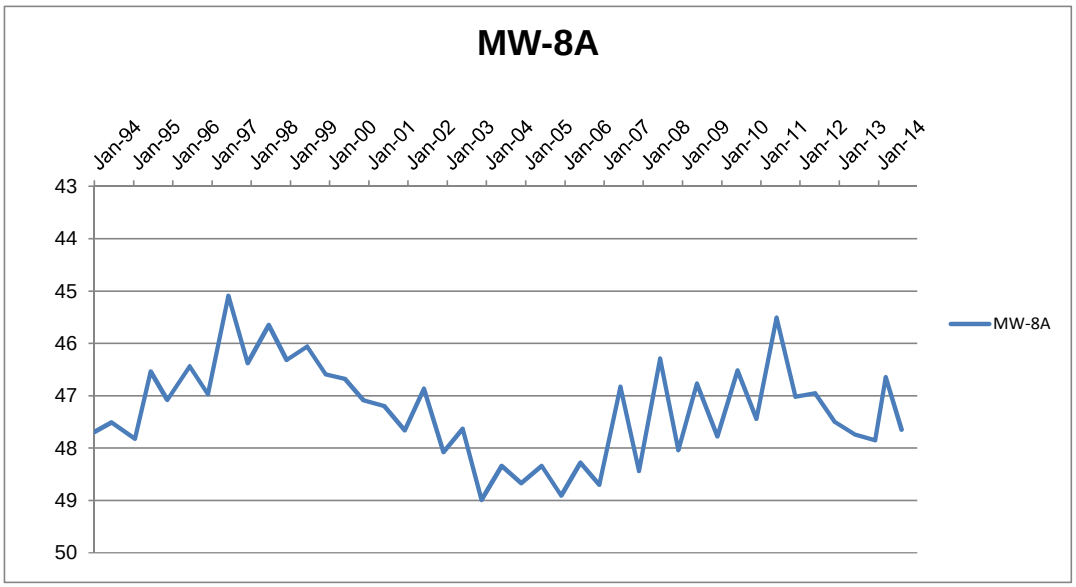
APPENDIX A

GROUNDWATER DATA OVER TIME (Selected Wells)

CHART A-1
Summary of Changes in Groundwater Levels Through Time
Bozeman Landfill, Bozeman, Montana







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

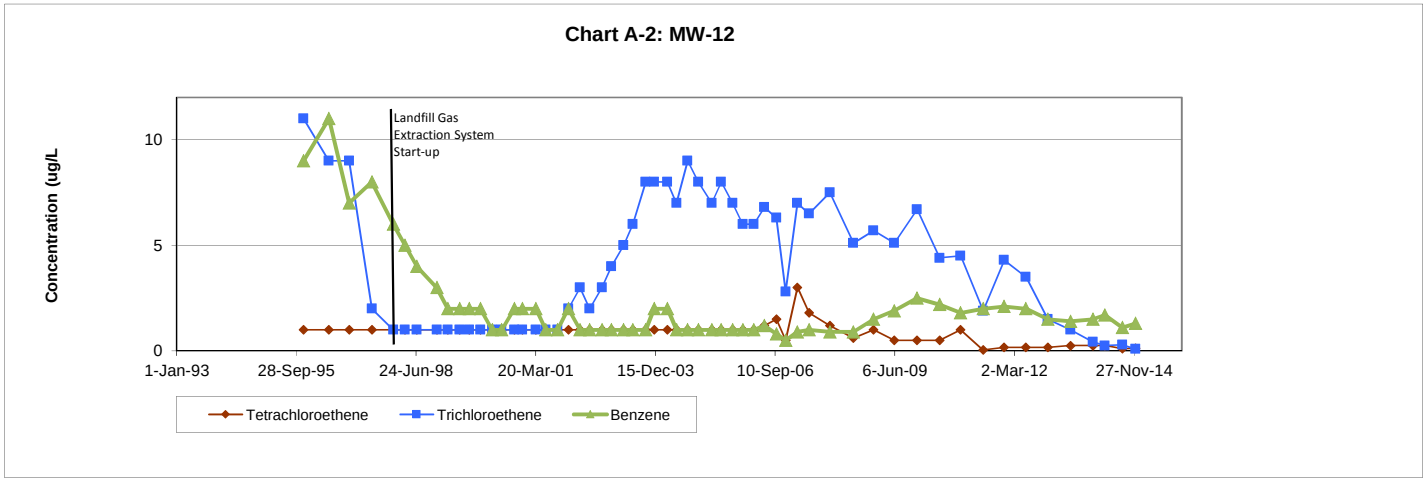


Chart A-2: MW-12
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
10
5
0
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

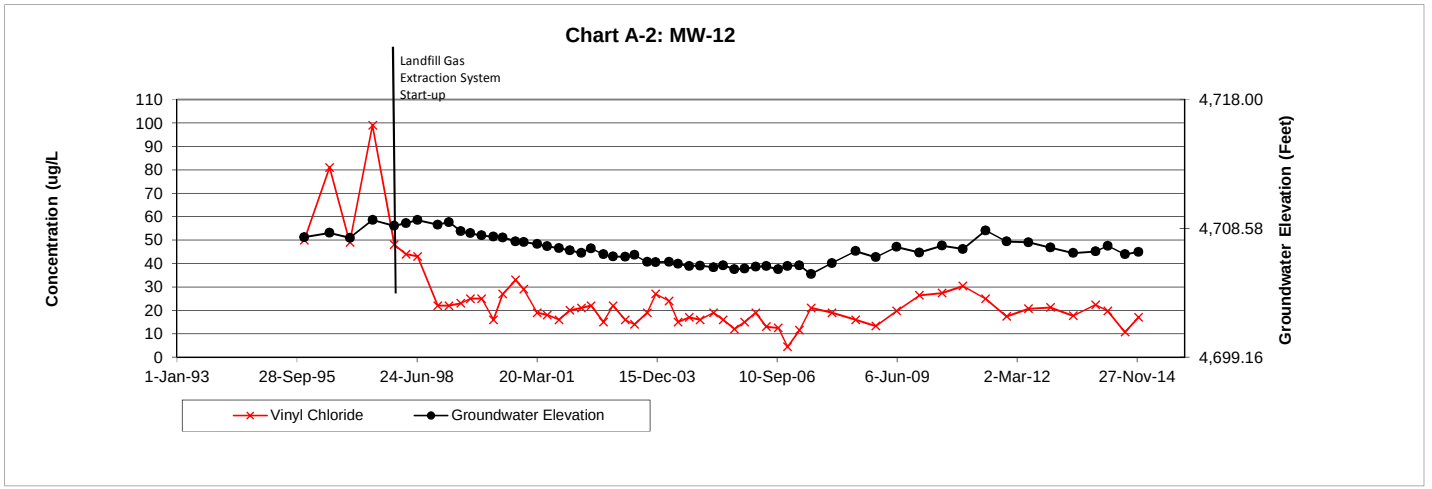


Chart A-2: MW-12
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
110
100
90
80
70
60
50
40
30
20
10
0
4,718.00
4,708.58
4,699.16
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

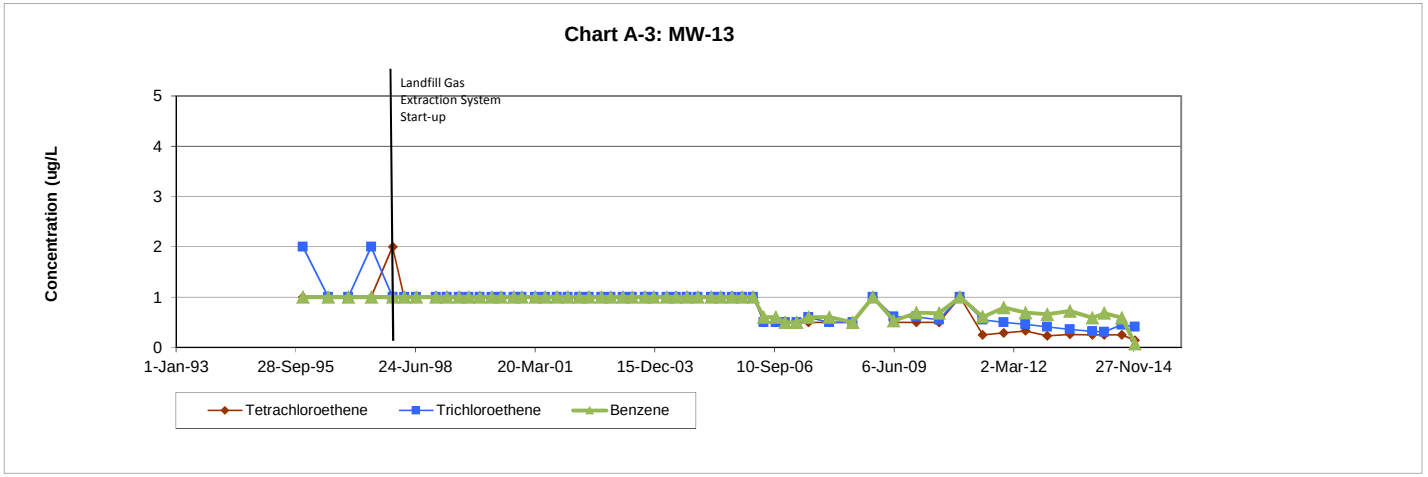


Chart A-3: MW-13
Concentration (ug/L)
Landfill Gas Extraction System Start-up
5
4
3
2
1
0
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

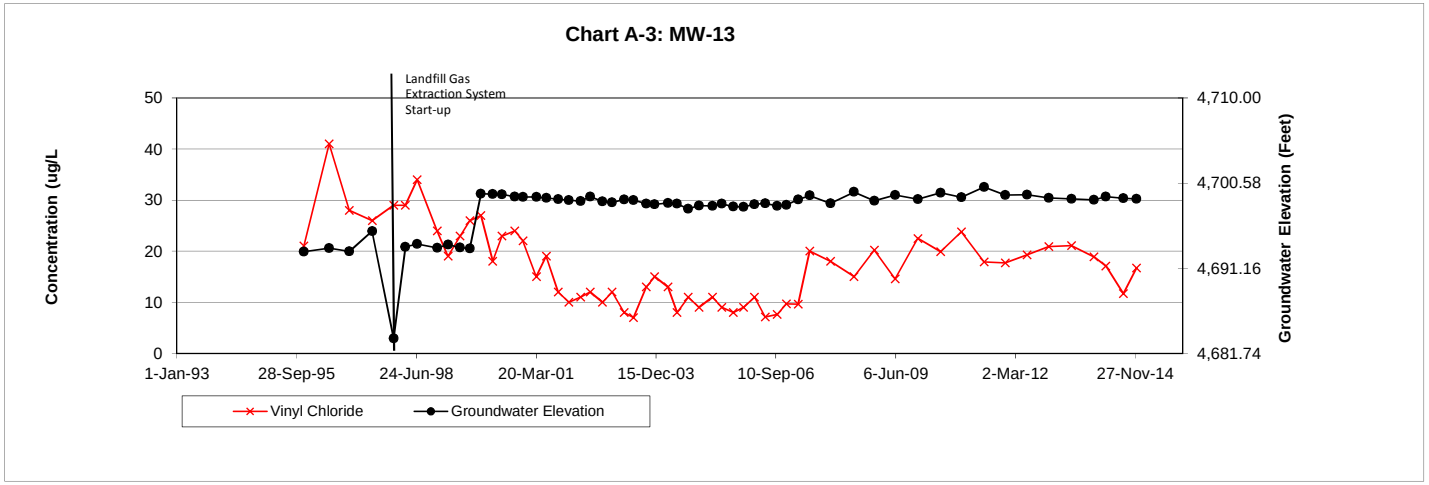


Chart A-3: MW-13
Concentration (ug/L)
Groundwater Elevation (Feet)
Landfill Gas Extraction System Start-up
50
40
30
20
10
0
4,710.00
4,700.58
4,691.16
4,681.74
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

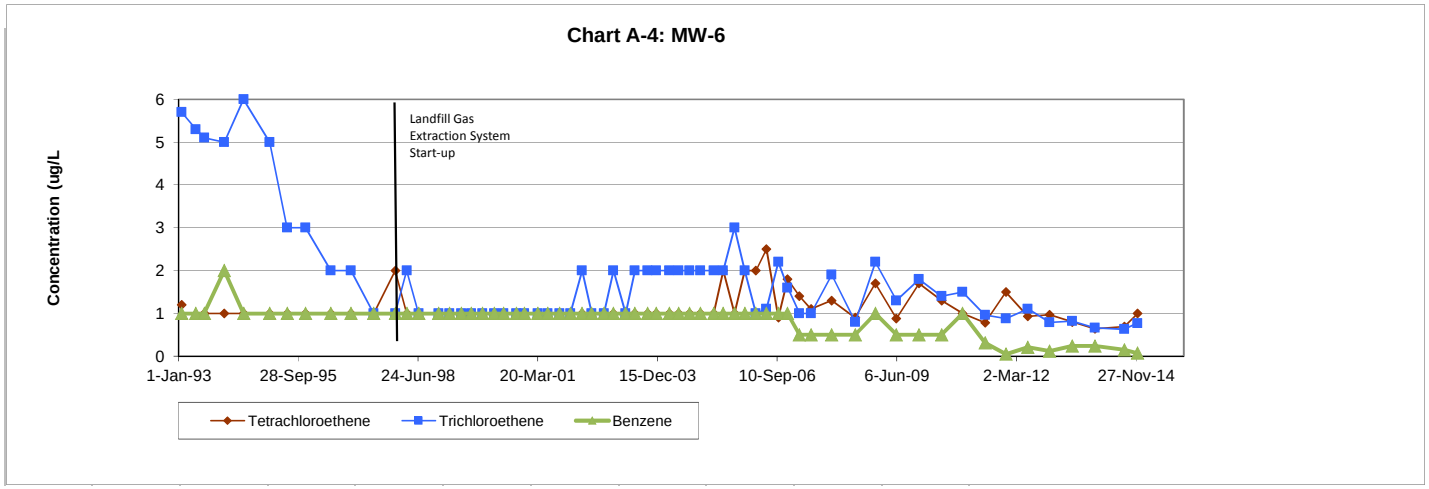


Chart A-4: MW-6
Concentration (ug/L)
6
5
4
3
2
1
0
Landfill Gas
Extraction System
Start-up
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

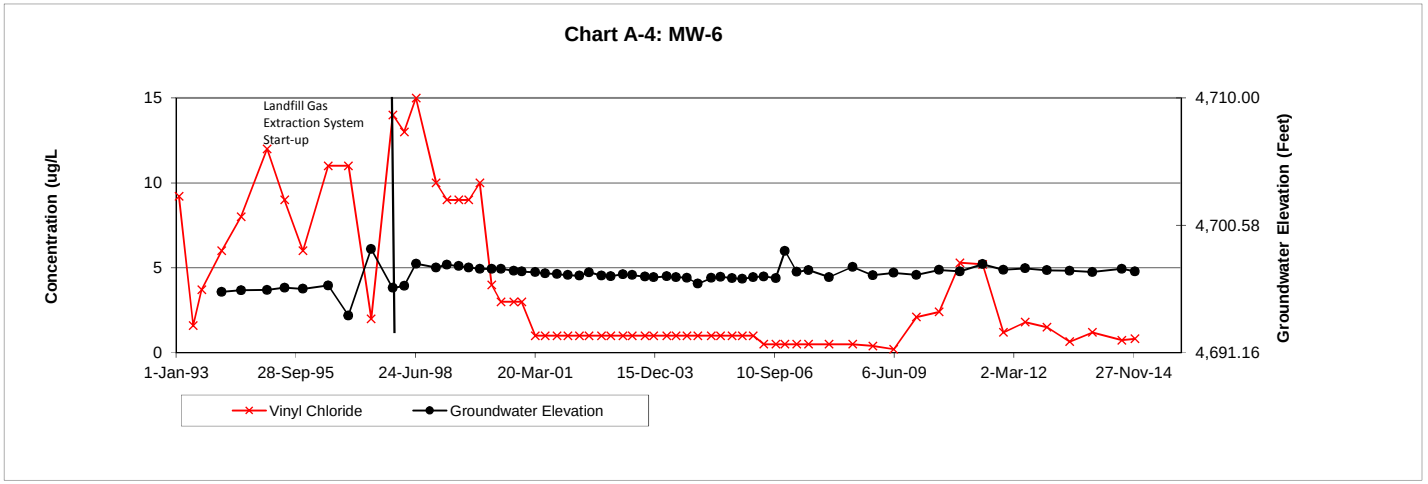


Chart A-4: MW-6
Concentration (ug/L)
15
10
5
0
Landfill Gas
Extraction System
Start-up
4,710.00
4,700.58
4,691.16
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

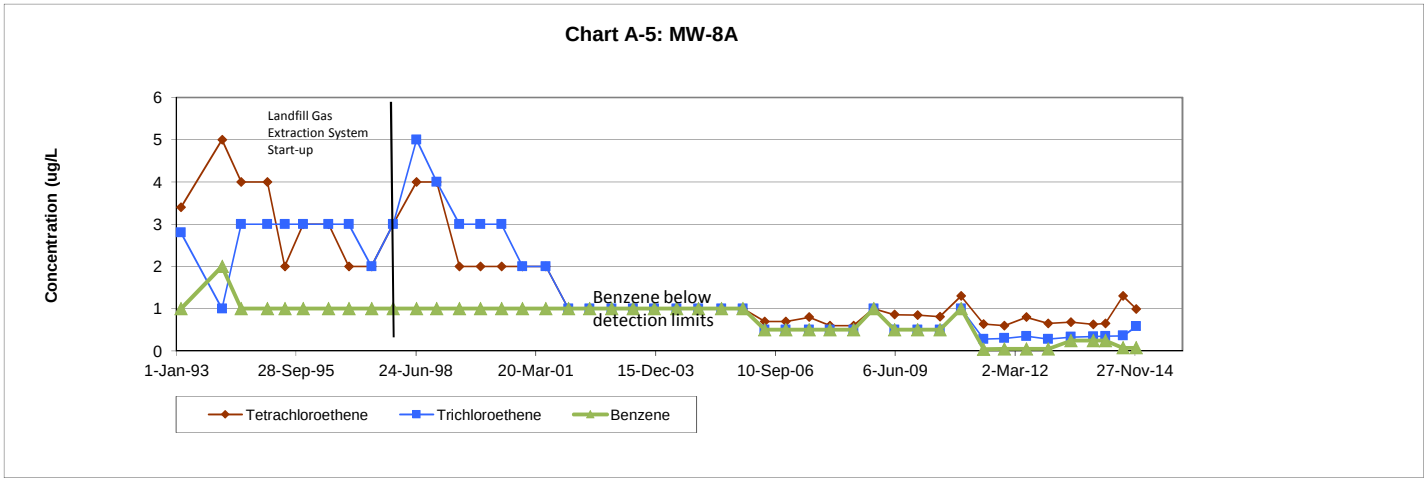


Chart A-5: MW-8A
Concentration (ug/L)
Landfill Gas Extraction System Start-up
Benzene below detection limits
0
1
2
3
4
5
6
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

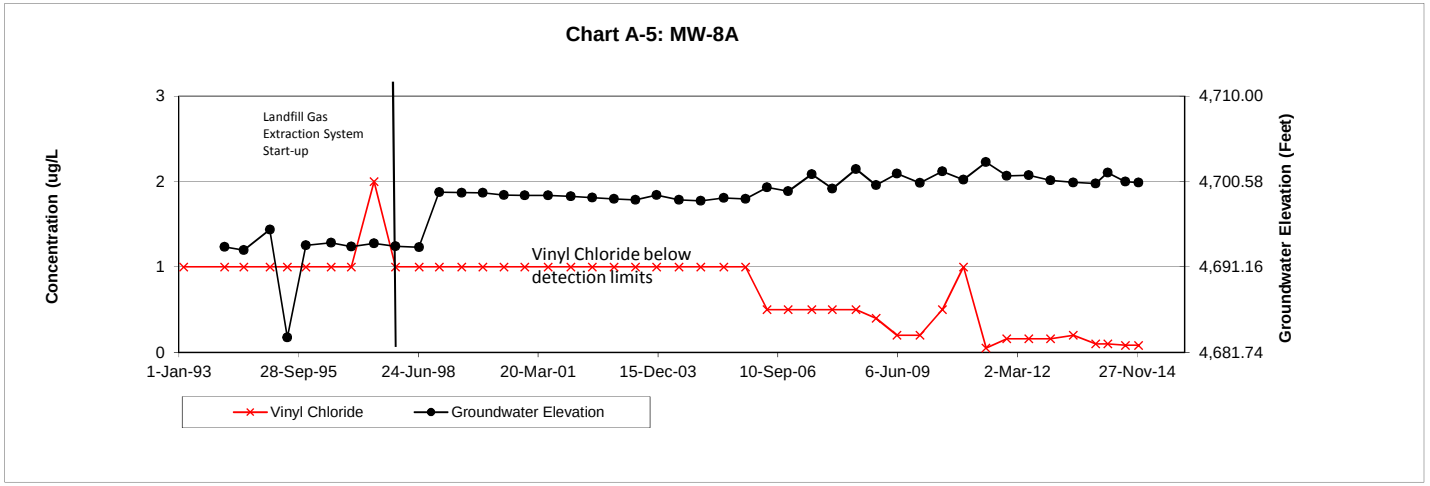


Chart A-5: MW-8A
Concentration (ug/L)
Groundwater Elevation (Feet)
Landfill Gas Extraction System Start-up
Vinyl Chloride below detection limits
0
1
2
3
4,681.74
4,691.16
4,700.58
4,710.00
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

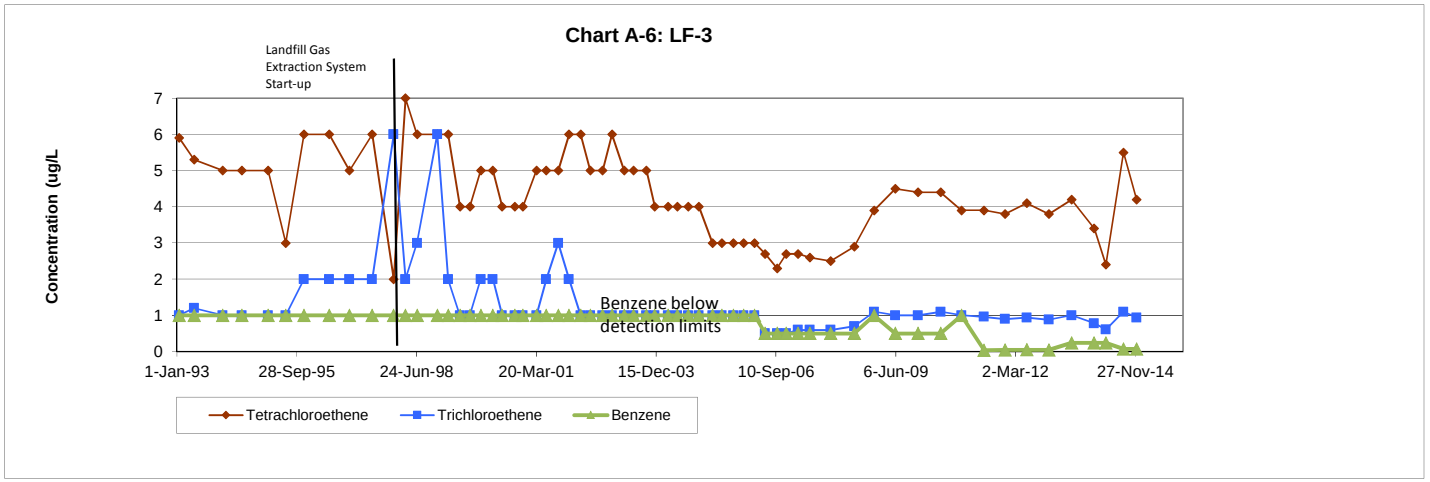


Chart A-6: LF-3
Landfill Gas Extraction System Start-up
Concentration (ug/L)
7
6
5
4
3
2
1
0
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Benzene below detection limits
Tetrachloroethene
Trichloroethene
Benzene

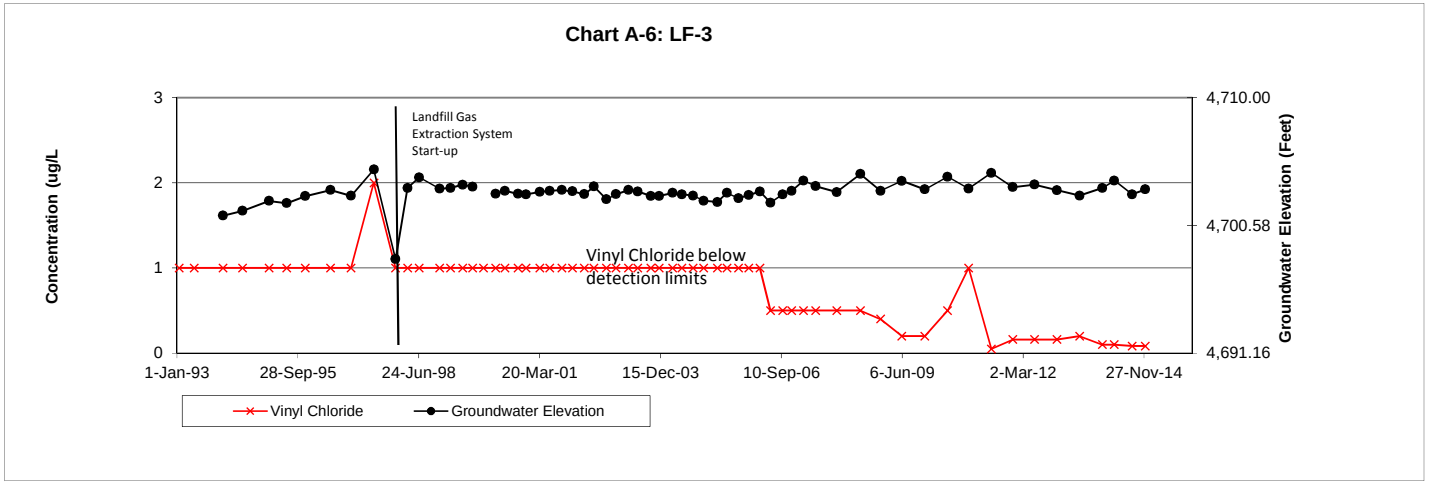


Chart A-6: LF-3
Concentration (ug/L)
Landfill Gas Extraction System Start-up
3
2
1
0
4,710.00
4,700.58
4,691.16
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride below detection limits
Vinyl Chloride
Groundwater Elevation

APPENDIX B

BORING/MONITORING WELL MW-27 LOG AND SAMPLING LOGS

PROJECT: NUMBER: 114-710303A Task 700
NAME: Bozeman Landfill

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'keefe Drilling
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL/BORING NO. MW-27
SHEET 1 OF ___
LOCATION: ~85' S of 802 Turnberry Ct. property boundary (SW corner) on Golf Course property

ELEVATION: TOP OF HOLE: ___ (ft)
GROUNDWATER: ___
DATE: STARTED: 1/14/15 COMPLETED: 1/14/15
TIME: STARTED: 1000 COMPLETED: 1330

Clear calm, ~4-10" snowpack, high ~35°F

DEPTH (ft)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
0.0					Used MiniRae 2000 PID			
5.0		Clayey Silt - firm, moist, organic matter dk brown, tr. scattered sand	SS	3 4 7 8	0.4			
10.0		Silt - very moist to wet 9-10' then moist, tan brown to tan gray, mottled w/ trace organic matter	SS	5 7 8 8	0.1			
15.0		Clayey Silt - brown gray, moist, firm @ 15.8 Change to Clayey Silt w/ scattered gravel (limestone) wet @ 19.5' (groundwater)	SS	4 5 14 38	0.1			
20.0 1130		@ 19.5': change to incr. sand and gravel - brown, firm, wet, w/ silt interval from 20.8 to ~22.0' Gravel intervals	SS	10 15 9 7	0.6			
25.0		24-24.5 - Silt w/ scattered gravel 24.5-25.5 - Gravel in silt, sand, w/ minor clay matrix, wet, dense, brown	SS	29 50 79	0.3			
28.0	TD	24-28' Driller reports intervals of gravel and silt TD of boring at 28'						
30.0								

CAL = CALIFORNIA
SS = SPLIT SPOON
ST = SHELBY TUBE
DB = DISTURBED BULK /BAG SAMPLE
CON = CONTINUOUS SAMPLE
CORE = CORE SAMPLE
CA = SAMPLE SUBMITTED FOR CHEMICAL ANALYSIS
"-" = NOT ANALYZED
NS = NO SHEEN
SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 28.0'

M:\T/3-10-94/WELL-MW.ENG

PROJECT: NUMBER: 114-710303A Task 700
NAME: Bozeman Landfill

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'Keefe w/ Mobile B-61 HSA
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL NO. MW-27
SHEET 1 OF 1
LOCATION: ~85' S of 802 Turnberry Ct. property boundary (SW corner) on Golf Course Property

DATE: HOLE STARTED: 1/14/15
COMPLETED: 1/14/15

ELEVATIONS

Top of Protective Casing

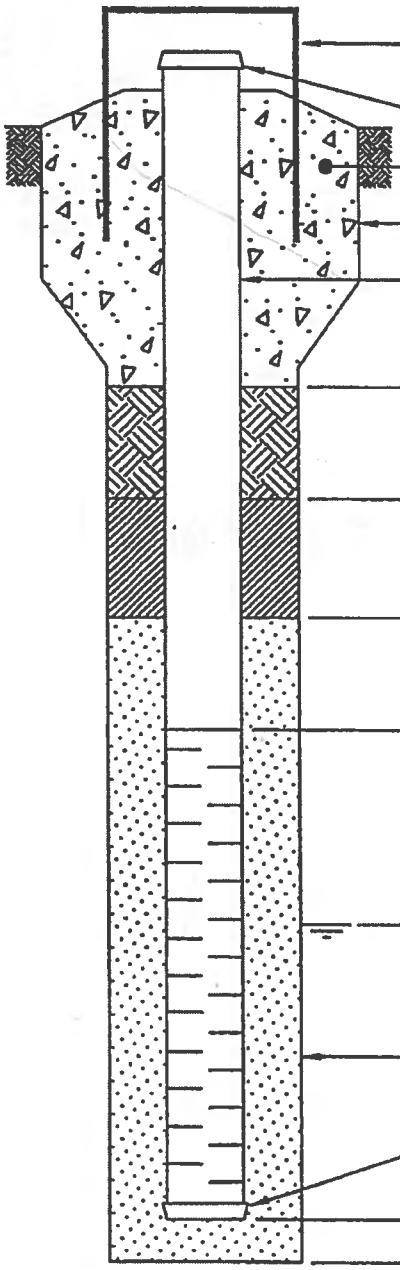
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen (27')

Bottom of Boring (28')



Protective Casing Type: Steel, bolt-down, flush mount
Water Tight PVC Cap Type: PVC Well Plug
Surface Seal Type: Concrete
Surface Seal Dia.: ~12"
PVC Casing Type: 2" diam., Sch 40
Depth to Top of Secondary Seal:
Secondary Seal Type:
Depth to Top of Bentonite Seal: ~1
Bentonite Seal Type: Bentonite Chips 3/8" (hydrated)
Depth to Top of Filter Pack: 15.0'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 17.6'
PVC Well Screen Type: 2" diam., Sch 40 0.01" Machined-Slotted PVC
Depth to Initial Static Water Level: 19.7' (Date 1/14/15)
Boring Diameter: 6"
PVC Cap Type: Threaded well point (Sch 40)
Depth to Bottom of PVC Cap: 27.0'
Depth to Bottom of Boring: 28.0'

NOT TO SCALE

NOTE: ALL DEPTHS ARE TO BE REFERENCED FROM GROUND SURFACE.

MW3-10-98/DRILL-CB.DWG

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 @ 1530 Station No. LF-2

Personnel: MF Pearson & S Jungwirth Weather: 40°s, Dry, little snow

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 14.17 = 5.43 ft. water in well

WELL EVACUATION

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

5.43 ft. water in well x _____ gal./ft * = one casing volume 3.55 gals. x 3 = purge volume 10.6 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 (S.U.)	SC (µS)	ORP (mV)	DO (mg/L)
	3.55	10.05	7.64	561	66.6	12.5
	7.1	10.06	7.49	562	76.1	10.5
	10.6	10.21	7.40	560	86.2	10.3
	11.0	10.26	7.34	561	97.0	~~10.01~~ Downhole
						9.95

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	WaterLine 451-556	12/10/14
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: 12/10/14 @ 1140 Station No. LF-3

Personnel: MFPearson & SJ Weather: 40's, Dry

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

Casing Dia. & Type: 2-inch PVC [ ] 4-inch PVC [X] 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 13.87 = 13.9 ft. water in well

WELL EVACUATION

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

13.9 ft. water in well x _____ gal./ft * = one casing volume 15.4 gals. x 3 = purge volume 46.3 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): Flow = 1 gal / 40 sec = 1.5 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1100	0	start Pumping					
1110	15	9.74	7.24	742	194.5	10.43	
1120	30	9.80	7.17	748	197.6	10.46	
1132	47	9.87	7.17	748	197.6	9.97	Flow-thru cell (in bucket)

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/10/14
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: 12/8/2014 @ 1000 Station No. MW-4

Personnel: MFP & SJ Weather: Calm, 30°F

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

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

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

Well Depth (ft. below measuring point): 38.0 - Depth to Water 20.76 = 17.24 ft. water in well

WELL EVACUATION

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

17.24 ft. water in well x _____ gal./ft * = one casing volume 11.3 gals. x 3 = purge volume 34.0 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 / 45 sec = 1.3 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
919	0	Start pumping					
938	11.3	9.36	6.59	1034	180.9	3.20	
947	22.6	9.36	6.61	1040	180.2	3.31	
956	33.9	9.44	6.93	1042	161.6	3.99	Flow-thru cell
1010	36.0	9.47	6.74	1043	175.9	3.44	(in bucket)
					← After sampling →		

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

WELL SAMPLING

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

Sample Type: Natural [✓] Duplicate [ ] 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	YSI - 556	12/08/2014
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/09/2014 @ 1630 Station No. MW-5

Personnel: MFP & SJ Weather: 40°s, Dry

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

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

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

Well Depth (ft. below measuring point): 160 - Depth to Water 112.95 = 47.05 ft. water in well

WELL EVACUATION

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

47.05 ft. water in well x _____ gal./ft * = one casing volume 7.67 gals. x 3 = purge volume 23 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/40 sec Flow = 1.3 gpm

Used new Hurricane Pump

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1557	0	Start Pumping				
1605	8	9.44	7.73	465	141.6	10.87
1609	16	9.50	7.58	465	144.3	10.53
1615	24	9.57	7.48	465	145.4	10.25
1618	Stop Pump					

↓ Flow-thru cell (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 [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [✓]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	Waterline 451-556	12/9/14
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: 12/9/14 @ 1130 Station No. MW-6

Personnel: MFP & SJ Weather: 40's, Dry

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

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

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

Well Depth (ft. below measuring point): 66.0 - Depth to Water 31.52 = 34.48 ft. water in well

WELL EVACUATION

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

_____ 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): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	5.6	10.51	7.43	677	185.3	5.44
	11.2	10.93	6.73	874	176.7	4.53
	17.0	10.82	6.68	942	182.3	3.44
	17.5	10.58	6.87	515	179.6	6.04 Downhole

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/9/14
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: MW-6B DTGW = 19.30'

For MW-6 ⇒ Next time use a pump!

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/9/14 0930 Station No. MW-7A

Personnel: MFP & SJ Weather: 30°s, Dry

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

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

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

Well Depth (ft. below measuring point): 65.90 - Depth to Water 56.91 = 8.99 ft. water in well

WELL EVACUATION

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

9.0 ft. water in well x _____ gal./ft * = one casing volume 1.5 gals. x 3 = purge volume 4.5 gals.

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

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	1.5	10.5	7.53	489	211.0	8.38
	3.0	10.37	6.82	591	221.4	6.06
	4.5	10.37	6.50	478	223.2	10.33
	Bailed dry at 4.5 gal, commence sampling					
	5.0	10.48	6.46	674	217.1	4.93 Downhole

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

WELL SAMPLING

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

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

Sample Collected	Parameters	Sample Container	Preservative
Yes [✓] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [✓] No [ ]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3 ← 2 raw samples collected for lab filtering & preservation
Yes [✓] No [ ]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

↓ Filtered ✓ on same day

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

Meter	Model No.	Calibration Date
Water level	Waterline 1731-556	12/9/14
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: MW-7B DTGW = 57.00'

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/8/14 @ 1450 Station No. MW-8A

Personnel: MFP & SJ Weather: 30°F, Calm

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

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

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

Well Depth (ft. below measuring point): 59.5' - Depth to Water 47.75 = 11.75 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.9 gals x 3 = purge volume 5.75 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	8.89	7.00	1147	100.8	11.10
	3.8	8.99	6.98	1161	113.2	9.74
	5.8	9.01	6.97	1164	121.7	9.85
		9.21	6.86	1179	128.7	7.74 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	431-556	12/8/14
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: MW-8B DTGW = 47.99'
MW-8C DTGW = 43.29'

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/8/14 @ 1100 Station No. MW-9A

Personnel: MFP & SJ Weather: 30°F, Calm

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

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

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

Well Depth (ft. below measuring point): 39.0 - Depth to Water 28.29 = 10.71 ft. water in well

WELL EVACUATION

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

10.71 ft. water in well x _____ gal./ft * = one casing volume 1.75 gals. x 3 = purge volume 5.2 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): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1030	1.75	9.45	6.91	1095	173.0	4.50
1051	3.50	9.14	6.85	1098	171.2	5.54
1056	5.20	9.47	6.94	1094	173.2	4.33
IN-WELL 1117	~ 6.00	9.53	7.14	1094	167.0	2.88 Downhole

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

WELL SAMPLING

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

Sample Type: Natural [✓] Duplicate [ ] 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	YSI-556	12/8/14
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: MW-9B DTGW = 28.52' Not sampled

MW-16 DTGW = 26.24' " "

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 @ 1300 Station No. MW-10

Personnel: MFP & SJ Weather: 30°F - 40°F Calm

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

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

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

Well Depth (ft. below measuring point): 14.5 - Depth to Water 1.95 = 12.6 ft. water in well

WELL EVACUATION

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

12.6 ft. water in well x _____ gal./ft * = one casing volume 2 gals. x 3 = purge volume 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
	2	7.63	7.19	1114	70.4	2.88
	4	7.55	6.72	1107	33.4	2.42
	6	7.60	6.70	1105	17.9	2.12
		7.55	6.75	1106	-5.6	0.86 Downhole

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	WaterLine	
pH	YSI-556	12/10/14
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: 1240 - Conducted a second DO calibration in saturated air

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/8/14 @1245 Station No. MW-11

Personnel: SJ MP Weather: CLOUDY, 30°F

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

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): 70.0 - Depth to Water 51.85 = 18.15 ft. water in well

WELL EVACUATION

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

18.15 ft. water in well x 0.163 gal./ft * = one casing volume 2.96 gals. x 3 = purge volume 8.88 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
1215	2.96	9.45	7.31	709	170.5	6.65
1230	5.92	9.65	7.21	706	174.3	6.47
1245	8.88	9.52	7.24	707	173.4	—
1255		9.70	7.16	708	176.2	5.61 Downhole

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

WELL SAMPLING

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

Sample Type: Natural [✓] Duplicate [ ] 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	YSI 556	12/08/2014
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: 12/08/2014 @ 1350 Station No. MW-12

Personnel: SJT MP Weather: Cloudy, 30°F

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

Casing Dia. & Type: 2-inch PVC [X] 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): 65.8 - Depth to Water 56.16 = 9.64 ft. water in well

WELL EVACUATION

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

9.64 ft. water in well x 0.163 gal./ft * = one casing volume 1.57 gals. x 3 = purge volume 4.71 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
1335	1.57	11.30	6.63	920	47.0	3.50
1341	3.14	11.49	6.50	933	34.7	2.22
1349	4.71	11.64	6.45	931	33.7	2.26
1358		12.02	6.34	934	30.6	0.83 DOWNHOLE

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

WELL SAMPLING

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

Sample Type: Natural [X] Duplicate [X] 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	YSI 5516	12/08/2014
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 SAMPLED AT 1400

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/9/14 @ 1020 Station No. MW-13

Personnel: MFP & SJ Weather: 35°F Calm

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

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

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

Well Depth (ft. below measuring point): 61.3 - Depth to Water 43.70 = 17.6 ft. water in well

WELL EVACUATION

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

17.6 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	11.11	6.71	1079	218.9	2.91
	5.8	11.44	6.56	1084	209.3	3.13
	8.7	11.33	6.52	1090	200.5	2.94
	~9.2	11.77	6.54	1084	182.6	1.57 DOWNHOLE

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/9/14
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: _____

Add H_2SO_4 to NO_2 + NO_3 bottle ✓

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/2014 @ 1020 Station No. MW-14

Personnel: MFP & SJ Weather: Calm, ~35°F

Well Locked? Yes [ ] No [✓] Note Any Problems With Condition of Well: Steel stickup cover pulled off but casing intact

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): 46.0 - Depth to Water 33.3 = 12.7 ft. water in well

WELL EVACUATION

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

12.7 ft. water in well x _____ gal./ft * = one casing volume 2 gals. x 3 = purge volume 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	
	2	9.52	7.15	1095	202.5	5.99	
	4	9.37	7.08	1074	205.5	7.07	
	6	9.36	7.10	1025	203.3	6.16	
	6.5	10.38	7.05	985	201.6	2.58	Downhole
		10.18					

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	YSI-556	12/10/14
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: – Need to filter sample for metals – ✓

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 @910 Station No. MW-15

Personnel: MFP & SJ Weather: 35°F, Calm

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

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

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

Well Depth (ft. below measuring point): 72.5 - Depth to Water 47.60 = 24.9 ft. water in well

WELL EVACUATION

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

24.9 ft. water in well x _____ gal./ft * = one casing volume 4.1 gals. x 3 = purge volume 12.3 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
	4.1	8.47	7.53	451	202.4	13.20
	8.2	7.94	7.11	459	207.1	13.00
	12.3	7.94	7.31	466	190.1	-
		8.16	7.14	466	196.7	12.83 Downhole
						DO suspect (incorrect?)

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	951-556	12/10/14
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: 12/11/14 Station No. MW-16

Personnel: MFP & SJ Weather: 30°, Calm

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

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

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

Well Depth (ft. below measuring point): 40.0 - Depth to Water 26.24 = _____ ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume ~~2.24~~ 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
	~~2.25~~					

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

FIELD PARAMETERS ONLY - Water Level

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH		
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [ ] No [ ]
Potable H_20:	Yes [ ] No [ ]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/9/14 @ 1240 Station No. MW-17

Personnel: MFP & SJ Weather: Calm, 35°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): 85.0 - Depth to Water 75.84 = 9.16 ft. water in well

WELL EVACUATION

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

9.16 ft. water in well x _____ gal./ft * = one casing volume 1.5 gals. x 3 = purge volume 4.5 gals.

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

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
	1.5	9.21	6.88	963	194.4	2.88	
	3.0	9.36	6.82	942	192.4	3.16	
	4.5	9.53	6.83	976	190.4	5.05	
	5.0	9.65	6.95	969	186.5	5.25	gently poured into cup

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 [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [-] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/9/14
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: 12/9/14 @ 1330 Station No. MW-18

Personnel: MFP & SJ Weather: Calm, 35°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): 59.1 - Depth to Water 47.42 = 11.7 ft. water in well

WELL EVACUATION

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

11.7 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	11.16	6.84	1628	93.0	2.03
	3.8	11.06	6.59	1708	28.9	1.30
	5.7	11.32	6.60	1738	22.4	1.52
		11.10	6.61	1619	14.0	0.63 POSSIBLE

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/9/14
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: 12/10/14 @ 1250 1150 Station No. MW-19

Personnel: MFP & SJ Weather: Calm, 40°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): 30.5 - Depth to Water 22.07 = 8.43 ft. water in well

WELL EVACUATION

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

8.43 ft. water in well x _____ gal./ft * = one casing volume 1.4 gals. x 3 = purge volume 4.1 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
	1.4	9.74	7.44	818	191.3	—
	2.8	9.97	7.37	817	197.1	—
	4.1	9.97	7.33	810	200.3	—
		9.97	7.27	804	203.9	12.77 Downhole

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	451-556	12/10/14
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: 12/9/14 @ 1440 Station No. MW-20

Personnel: MFP & SJ Weather: Calm, 30°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): 65.0 - Depth to Water 53.38 = 11.62 ft. water in well

WELL EVACUATION

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

11.62 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	9.52	7.26	1538	110.0	8.0	
	3.8	9.38	6.88	1531	120.7	5.38	
	5.7	9.47	6.92	1489	125.3	7.18	
		9.39	6.85	1604	131.0	4.77	DOWNHOLE

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 [ ] full list [✓] or reduced list [ ]	500 ml poly	HNO_3
Yes [ ] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	WaterLine	
pH	YSI-556	12/9/14
SC		
ORP		
DO		

Decontamination

Liquinox:	Yes [✓] No [ ]	Scrub:	Yes [ ] No [ ]
Potable H_20:	Yes [ ] No [✓]	Steam:	Yes [ ] No [ ]
DI water:	Yes [✓] No [ ]	Nitric Acid:	Yes [ ] No [ ]

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 @ 1610 Station No. MW-21

Personnel: MFP & SJ Weather: Calm, 35°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): 18.0 - Depth to Water 10.17 = 7.83 ft. water in well

WELL EVACUATION

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

7.83 ft. water in well x _____ gal./ft * = one casing volume 1.3 gals. x 3 = purge volume 3.9 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	
	1.3	9.68	7.66	448	98.7	6.13	
	2.6	9.70	7.50	450	100.1	5.04	
	3.9	9.91	7.42	452	102.7	5.42	
		10.10	7.38	443	108.8	3.53	Discontinue

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	YSI-556	12/10/14
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: 12/10/14 @ 1630 Station No. MW-22

Personnel: MFP & SJ Weather: Calm, 35°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): 17.0' - Depth to Water 4.83' = 12.17 ft. water in well

WELL EVACUATION

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

12.17 ft. water in well x _____ gal./ft * = one casing volume 2 gals. x 3 = purge volume 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
	2	9.06	7.21	759	127.7	5.53
	4	9.06	7.12	736	126.7	5.21
	6	9.51	7.13	717	127.4	5.72
		9.90	7.07	712	129.0	4.92 Downhole

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Waterline 431-556	12/10/14
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: 12/10/14@1700 Station No. MW-23

Personnel: MFP & SJ Weather: Calm, 30°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): 16.0' - Depth to Water 6.24 = 9.76 ft. water in well

WELL EVACUATION

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

9.8 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	8.70	7.36	504	129.6	–
	3.2	8.92	7.30	502	127.5	5.99
	4.8	8.79	7.25	501	127.6	5.31
		9.70	7.18	502	129.4	4.53 Downhole

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Water Line	
pH	451-556	12/10/14
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: 12/08/2014 @ 1730 Station No. MW-24

Personnel: ST MP Weather: Calm, 30°F

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

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): 80.5 - Depth to Water 74.90 = 5.6 ft. water in well

WELL EVACUATION

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

5.6 ft. water in well x 0.163 gal./ft * = one casing volume 0.9 gals. x 3 = purge volume 2.7 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
	0.9	8.46	7.54	666	142.7	11.71
	1.8	Bailed dry at 1.25 gal				
	2.7	8.74	7.38	657	148.6	11.41
		8.87	7.34	667	150.8	11.26

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	12/8/14
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: 12/8/14 @ 1600 Station No. MW-25

Personnel: MFD & SJ Weather: Calm, 30°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): 63.0 - Depth to Water 50.72 = 12.3 ft. water in well

WELL EVACUATION

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

12.3 ft. water in well x _____ gal./ft * = one casing volume 2 gals. x 3 = purge volume 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
	2	8.26	7.21	654	138.5	9.96
	4	8.49	6.98	632	138.9	10.16
	6	8.36	6.96	605	142.8	10.17
		8.74	7.08	571	143.0	9.04 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	YSI-556	12/8/14
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: 12/11/14 0930 Station No. MW-26

Personnel: MFP & SJ Weather: Calm, 35°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): 33.0 - Depth to Water 15.03 = 17.97 ft. water in well

WELL EVACUATION

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

17.97 ft. water in well x _____ gal./ft * = one casing volume 2.93 gals. x 3 = purge volume 8.81 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	9.25	7.32	814	214.3	4.11
	5.8	9.43	7.20	911	212.4	5.36
	8.7	9.36	7.19	809	211.2	5.06
		9.24	7.15	812	209.7	2.72 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 [X] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [X]	Metals: dissolved [ ] or total [ ] full list [ ] or reduced list [ ]	500 ml poly	HNO_3
Yes [ ] No [✓]	COD, Nitrate as N	250 ml poly	H_2SO_4
Yes [✓] No [ ]	pH, SC, sulfate, chloride	250 ml poly	
Yes [ ] No [✓]	Cyanide	500 ml poly	NaOH
Yes [ ] No [ ]			

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

Meter	Model No.	Calibration Date
Water level	Water Line 931-556	12/11/14
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: 12/8/14 @ 1030 Station No. Shop Well

Personnel: MFP Weather: Calm, ~30°F

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

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 [✓] 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 = 5 gal / 20 sec

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
931	0	Start Purge					
	885	Sampled					
1045		10.08	7.14	677	165.0	4.13	Flow-through Cell

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	12/8/14
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: Water Supply, well proximal to Landfill Shop

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 0130 Station No. McIlhattan Seep

Personnel: MFP & SJ Weather: Calm ~40°F

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

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): _____ - 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	10.12	7.02	1015	38.7	7.87	in flowing spring source

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	—	
pH	YSI-556	12/10/14
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: 12/10/14 @ 1440 Station No. Vet Well

Personnel: MFP & SJ Weather: Calm, ~33°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): _____ - 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): Flow = 2 gal / 37 sec = 3.24 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1355	0	Start Purge					
1440	146	9.75	7.88	519	74.8	9.98	Flow thru cell

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	—	
pH	451-556	12/10/14
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: Water Supply well

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 12/10/14 @ 1413 Station No. Snowfill Well

Personnel: MFP & SJ Weather: Calm, 35°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): 78.5 - Depth to Water NM 5/5/09 DTGW = 27' = _____ ft. water in well

WELL EVACUATION

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

~52 ft. water in well x _____ gal./ft * = one casing volume _____ gals. x 3 = purge volume ~76 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 1qt/3.5 sec = 4.3 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1403	0	Start purge					
1413	43	Sample water					
		9.04	7.51	542	54.8	10.10	↓ flow-through cell

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	—	
pH	YSI-556	12/10/14
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: Water Supply Well

MONTANA WELL LOG REPORT

This well log reports the activities of a licensed Montana well driller, serves as the official record of work done within the borehole and casing, and describes the amount of water encountered. This report is compiled electronically from the contents of the Ground Water Information Center (GWIC) database for this site. Acquiring water rights is the well owner's responsibility and is NOT accomplished by the filing of this report.

Other Options

Return to menu
Plot this site on a topographic map
View scanned well log (7/6/2009 12:24:34 PM)

Site Name: CITY OF BOZEMAN
GWIC Id: 250777

Section 1: Well Owner(s)
1) CITY OF BOZEMAN (MAIL)
24 N. ROUSE
BOZEMAN MT 59715 [05/05/2009]

Section 2: Location

Township	Range	Section	Quarter Sections
01S	06E	30	SW¼ NE¼ SW¼

County: GALLATIN
Geocode:

Latitude	Longitude	Geomethod	Datum
45.721483	111.036417	NAV-GPS	NAD83

Ground Surface Altitude: Method: Datum: Date:

Addition: Block: Lot:

Section 3: Proposed Use of Water
OTHER (1)

Section 4: Type of Work
Drilling Method: ROTARY
Status: NEW WELL

Section 5: Well Completion Date
Date well completed: Tuesday, May 05, 2009

Section 6: Well Construction Details

Borehole dimensions

From	To	Diameter
0	80	6

Casing

From	To	Diameter	Wall Thickness	Pressure Rating	Joint	Type
-1.5	78.5	6	0.25		WELDED	STEEL

Completion (Perf/Screen)

From	To	Diameter	# of Openings	Size of Openings	Description
78.5	80	6			OPEN BOTTOM

Annular Space (Seal/Grout/Packer)

From	To	Description	Cont. Fed?
0	0	BENTONITE	Y

Section 7: Well Test Data

Total Depth: 80
Static Water Level: 27
Water Temperature:

Air Test *

17 gpm with drill stem set at 75 feet for 1 hours.
Time of recovery 1 hours.
Recovery water level 27 feet.
Pumping water level _ feet.

** During the well test the discharge rate shall be as uniform as possible. This rate may or may not be the sustainable yield of the well. Sustainable yield does not include the reservoir of the well casing.*

Section 8: Remarks
SNOW FILL RECREATION AREA HEDVIGS TRAIL, MACILHATTAN ROAD.

Section 9: Well Log
Geologic Source
Unassigned

From	To	Description
0	3	TOPSOIL
3	73	CLAY AND GRAVEL
73	80	SAND AND GRAVEL

Driller Certification
All work performed and reported in this well log is in compliance with the Montana well construction standards. This report is true to the best of my knowledge.

Name: BERNARD WESTRA
Company: VAN DYKEN DRILLING INC
License No: WWC-380
Date Completed: 5/5/2009

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

December 24, 2014

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

RE: Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2014. 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,

Denise Jensen
denise.jensen@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

CERTIFICATIONS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
Colorado Asbestos #: 17119
A2LA Certification #: 3590.01
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
North Dakota Dept. Of Health #: R-209
NVLAP Certification #: 101292-0
Washington Department of Ecology #: C993

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE SUMMARY

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10291433001	**LF-2**	Water	12/10/14 15:30	12/12/14 09:45
10291433002	**LF-3**	Water	12/10/14 11:40	12/12/14 09:45
10291433003	**MW-4**	Water	12/08/14 10:00	12/12/14 09:45
10291433004	**MW-5**	Water	12/09/14 16:30	12/12/14 09:45
10291433005	**MW-6**	Water	12/09/14 11:30	12/12/14 09:45
10291433006	**MW-7A**	Water	12/09/14 09:30	12/12/14 09:45
10291433007	**MW-8A**	Water	12/08/14 14:50	12/12/14 09:45
10291433008	**MW-9A**	Water	12/08/14 11:00	12/12/14 09:45
10291433009	**MW-10**	Water	12/10/14 13:00	12/12/14 09:45
10291433010	**MW-11**	Water	12/08/14 12:45	12/12/14 09:45
10291433011	**MW-12**	Water	12/08/14 13:50	12/12/14 09:45
10291433012	**MW-13**	Water	12/09/14 10:20	12/12/14 09:45
10291433013	**MW-14**	Water	12/10/14 10:20	12/12/14 09:45
10291433014	**MW-15**	Water	12/10/14 09:10	12/12/14 09:45
10291433015	**MW-17**	Water	12/09/14 12:50	12/12/14 09:45
10291433016	**MW-18**	Water	12/09/14 13:30	12/12/14 09:45
10291433017	**MW-19**	Water	12/10/14 12:50	12/12/14 09:45
10291433018	**MW-20**	Water	12/09/14 14:40	12/12/14 09:45
10291433019	**MW-21**	Water	12/10/14 16:10	12/12/14 09:45
10291433020	**MW-22**	Water	12/10/14 16:30	12/12/14 09:45
10291433021	**MW-23**	Water	12/10/14 17:00	12/12/14 09:45
10291433022	**MW-24**	Water	12/08/14 17:30	12/12/14 09:45
10291433023	**MW-25**	Water	12/08/14 16:00	12/12/14 09:45
10291433024	**MW-26**	Water	12/11/14 09:30	12/12/14 09:45
10291433025	**SHOP WELL**	Water	12/08/14 10:30	12/12/14 09:45
10291433026	**MCILHATTAN SEEP**	Water	12/10/14 13:10	12/12/14 09:45
10291433027	**VALLEY VIEW VET WELL**	Water	12/10/14 14:40	12/12/14 09:45
10291433028	**DUP**	Water	12/08/14 14:00	12/12/14 09:45
10291433029	**TRIP BLANK**	Water	12/08/14 00:00	12/12/14 09:45
10291433030	**SNOWFILL WELL**	Water	12/10/14 14:13	12/12/14 09:45

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10291433001	**LF-2**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433002	**LF-3**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433003	**MW-4**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433004	**MW-5**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433005	**MW-6**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433006	**MW-7A**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433007	**MW-8A**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433008	**MW-9A**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433009	**MW-10**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433010	**MW-11**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433011	**MW-12**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433012	**MW-13**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433013	**MW-14**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433014	**MW-15**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433015	**MW-17**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433016	**MW-18**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433017	**MW-19**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	RLR	2	PASI-MT
10291433018	**MW-20**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	RLR	2	PASI-MT
10291433019	**MW-21**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	RLR	2	PASI-MT
10291433020	**MW-22**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	RLR	2	PASI-MT
10291433021	**MW-23**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433022	**MW-24**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433023	**MW-25**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433024	**MW-26**	EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
10291433025	**SHOP WELL**	EPA 8260B	SH2	61	PASI-M
10291433026	**MCILHATTAN SEEP**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433027	**VALLEY VIEW VET WELL**	EPA 6020	TT3	15	PASI-M
		EPA 8260B	SH2	61	PASI-M
10291433028	**DUP**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	CAC	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
10291433029	**TRIP BLANK**	EPA 8260B	SH2	61	PASI-M
10291433030	**SNOWFILL WELL**	EPA 6020	TT3	20	PASI-M
		EPA 8260B	SH2	61	PASI-M
		SM 2540C	CH2	1	PASI-MT
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 6020**
Description: 6020 MET ICPMS
Client: Tetra Tech, Inc. - MT
Date: December 24, 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.

QC Batch: MPRP/51329

B: Analyte was detected in the associated method blank.

- BLANK for HBN 333946 [MPRP/513 (Lab ID: 1867331)
  - Manganese

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: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

General Information:
19 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.

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

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

QC Batch: MPRP/51228

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291433002

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

- MS (Lab ID: 1864033)
  - Calcium, Dissolved
  - Magnesium, Dissolved
- MSD (Lab ID: 1864034)
  - Calcium, Dissolved

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

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

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

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

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

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

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

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

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

QC Batch: MSV/29759

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1864284)
  - Chloroethane

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

QC Batch: MSV/29758

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291433003

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

- MS (Lab ID: 1866212)
  - 1,1,1-Trichloroethane
  - 1,1,2,2-Tetrachloroethane
  - 1,1,2-Trichloroethane
  - 1,1-Dichloroethane
  - 1,1-Dichloroethene
  - 1,2,3-Trichloropropane
  - 1,2-Dibromoethane (EDB)
  - 1,2-Dichloroethane

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PROJECT NARRATIVE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

QC Batch: MSV/29758

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291433003

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

- 1,2-Dichloropropane
- 1,4-Dioxane (p-Dioxane)
- 2-Butanone (MEK)
- 2-Hexanone
- 2-Propanol
- 4-Methyl-2-pentanone (MIBK)
- Benzene
- Bromochloromethane
- Bromodichloromethane
- Bromoform
- Carbon disulfide
- Chloroform
- Dibromochloromethane
- Dibromomethane
- Methyl-tert-butyl ether
- Methylene Chloride
- Tetrahydrofuran
- Vinyl acetate
- cis-1,2-Dichloroethene
- cis-1,3-Dichloropropene
- trans-1,2-Dichloroethene
- trans-1,3-Dichloropropene
- trans-1,4-Dichloro-2-butene

QC Batch: MSV/29759

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291433004

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

- MS (Lab ID: 1866842)
  - 1,2-Dibromo-3-chloropropane
  - Vinyl chloride

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: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **SM 2540C**
Description: 2540C Total Dissolved Solids
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

General Information:
27 samples were analyzed for SM 2540C. 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: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

General Information:
27 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.

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/17837

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291304001,10291304007

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

- MS (Lab ID: 1869605)
  - Chloride
  - Sulfate
- MSD (Lab ID: 1869604)
  - Sulfate
- MSD (Lab ID: 1869606)
  - Chloride
  - Sulfate

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

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

Analyte Comments:

QC Batch: MT/17821

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

- MS (Lab ID: 1866436)
  - Sulfate
- MS (Lab ID: 1866438)
  - Chloride

QC Batch: MT/17843

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

- MS (Lab ID: 1870786)
  - Sulfate

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PROJECT NARRATIVE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: Tetra Tech, Inc. - MT
Date: December 24, 2014

General Information:
16 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.

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/17830

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10291433009,10291510001

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

- MS (Lab ID: 1867956)
  - Nitrogen, NO2 plus NO3

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: LF-2 **Lab ID: 10291433001** Collected: 12/10/14 15:30 Received: 12/12/14 09:45 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		12/16/14 01:32	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 01:32	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 01:32	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:32	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:32	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:32	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:32	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:32	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 01:32	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 01:32	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 01:32	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 01:32	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 01:32	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 01:32	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:32	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:32	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 01:32	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 01:32	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 01:32	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 01:32	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 01:32	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:32	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:32	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:32	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:32	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 01:32	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 01:32	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 01:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:32	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 01:32	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 01:32	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 01:32	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:32	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:32	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:32	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:32	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:32	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 01:32	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 01:32	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 01:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:32	79-34-5	
Tetrachloroethene	**0.98**	ug/L	0.50	0.12	1		12/16/14 01:32	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: LF-2 **Lab ID: 10291433001** Collected: 12/10/14 15:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 01:32	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:32	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:32	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 01:32	79-00-5	
Trichloroethene	**0.31J**	ug/L	0.40	0.084	1		12/16/14 01:32	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:32	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 01:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:32	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:32	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 01:32	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 01:32	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 01:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%.	75-125		1		12/16/14 01:32	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		12/16/14 01:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		12/16/14 01:32	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**323**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**9.6**	mg/L	3.0	1.5	3		12/18/14 06:07	16887-00-6	
Sulfate	**23.5**	mg/L	3.0	1.5	3		12/18/14 06:07	14808-79-8	
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**2.6**	mg/L	0.10	0.028	10		12/18/14 14:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: LF-3 **Lab ID: 10291433002** Collected: 12/10/14 11:40 Received: 12/12/14 09:45 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	**0.00051**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:14	7440-38-2	
Barium, Dissolved	**0.042**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:14	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:14	7440-43-9	
Calcium, Dissolved	**95.3**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:30	7440-70-2	M1
Chromium, Dissolved	**0.0046**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:14	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:14	7440-48-4	
Copper, Dissolved	**0.00051J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:14	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:14	7439-89-6	
Lead, Dissolved	**0.000067J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:14	7439-92-1	
Magnesium, Dissolved	**39.0**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:30	7439-95-4	M1
Manganese, Dissolved	**<0.00014**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:14	7439-96-5	
Nickel, Dissolved	**<0.00023**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:14	7440-02-0	
Potassium, Dissolved	**1.6**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:14	7440-09-7	
Selenium, Dissolved	**0.00078**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:14	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:14	7440-22-4	
Sodium, Dissolved	**9.3**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:14	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:14	7440-28-0	
Total Hardness by 2340B, Dissolved	**398**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:30		
Vanadium, Dissolved	**0.0025**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:14	7440-62-2	
Zinc, Dissolved	**0.0058**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:14	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 01:56	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 01:56	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 01:56	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:56	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:56	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:56	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:56	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:56	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 01:56	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 01:56	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 01:56	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 01:56	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 01:56	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 01:56	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:56	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:56	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:56	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 01:56	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 01:56	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 01:56	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:56	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 01:56	110-57-6	
Dichlorodifluoromethane	**1.4**	ug/L	1.0	0.50	1		12/16/14 01:56	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: LF-3 **Lab ID: 10291433002** Collected: 12/10/14 11:40 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:56	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:56	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:56	75-35-4	
cis-1,2-Dichloroethene	**3.4**	ug/L	0.50	0.11	1		12/16/14 01:56	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 01:56	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 01:56	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 01:56	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:56	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 01:56	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 01:56	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 01:56	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:56	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:56	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:56	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:56	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:56	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 01:56	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 01:56	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 01:56	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:56	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:56	79-34-5	
Tetrachloroethene	**4.2**	ug/L	0.50	0.12	1		12/16/14 01:56	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 01:56	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:56	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:56	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 01:56	79-00-5	
Trichloroethene	**0.94**	ug/L	0.40	0.084	1		12/16/14 01:56	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:56	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 01:56	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:56	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:56	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 01:56	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 01:56	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 01:56	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/16/14 01:56	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/16/14 01:56	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	75-125		1		12/16/14 01:56	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**433**	mg/L	20.5	10.3	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**25.8**	mg/L	2.0	1.0	2		12/18/14 08:13	16887-00-6	
Sulfate	**16.6**	mg/L	2.0	1.0	2		12/18/14 08:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: LF-3 **Lab ID: 10291433002** Collected: 12/10/14 11:40 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**3.6**	mg/L	0.10	0.028	10		12/18/14 14:27		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-4 **Lab ID: 10291433003** Collected: 12/08/14 10:00 Received: 12/12/14 09:45 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	0.00025	1	12/15/14 20:46	12/16/14 09:06	7440-38-2	
Barium, Dissolved	**0.083**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:06	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:06	7440-43-9	
Calcium, Dissolved	**147**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 09:59	7440-70-2	
Chromium, Dissolved	**0.00078**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:06	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:06	7440-48-4	
Copper, Dissolved	**0.00041J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:06	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:06	7439-89-6	
Lead, Dissolved	**0.000046J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:06	7439-92-1	
Magnesium, Dissolved	**47.7**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 09:59	7439-95-4	
Manganese, Dissolved	**<0.00014**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:06	7439-96-5	
Nickel, Dissolved	**0.00058**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:06	7440-02-0	
Potassium, Dissolved	**2.4**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:06	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:06	7782-49-2	
Silver, Dissolved	**0.00014J**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:06	7440-22-4	
Sodium, Dissolved	**22.2**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:06	7440-23-5	
Thallium, Dissolved	**0.000033J**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:06	7440-28-0	
Total Hardness by 2340B, Dissolved	**563**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 09:59		
Vanadium, Dissolved	**0.0030**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:06	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:06	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 23:23	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 23:23	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 23:23	71-43-2	M1
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/15/14 23:23	74-97-5	M1
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:23	75-27-4	M1
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:23	75-25-2	M1
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:23	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:23	78-93-3	M1
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/15/14 23:23	75-15-0	M1
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 23:23	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 23:23	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/15/14 23:23	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 23:23	67-66-3	M1
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 23:23	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:23	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:23	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:23	124-48-1	M1
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 23:23	106-93-4	M1
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 23:23	74-95-3	M1
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 23:23	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:23	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 23:23	110-57-6	M1
Dichlorodifluoromethane	**0.70J**	ug/L	1.0	0.50	1		12/15/14 23:23	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-4 **Lab ID: 10291433003** Collected: 12/08/14 10:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:23	75-34-3	M1
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:23	107-06-2	M1
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:23	75-35-4	M1
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:23	156-59-2	M1
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/15/14 23:23	156-60-5	M1
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 23:23	78-87-5	M1
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 23:23	10061-01-5	M1
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:23	10061-02-6	M1
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 23:23	123-91-1	M1
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 23:23	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 23:23	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:23	591-78-6	M1
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:23	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:23	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:23	75-09-2	M1
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:23	108-10-1	M1
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:23	1634-04-4	M1
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 23:23	67-63-0	M1
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 23:23	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 23:23	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:23	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:23	79-34-5	M1
Tetrachloroethene	**1.2**	ug/L	0.50	0.12	1		12/15/14 23:23	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 23:23	109-99-9	M1
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:23	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:23	71-55-6	M1
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/15/14 23:23	79-00-5	M1
Trichloroethene	**1.0**	ug/L	0.40	0.084	1		12/15/14 23:23	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/15/14 23:23	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 23:23	96-18-4	M1
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:23	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:23	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 23:23	108-05-4	M1
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/15/14 23:23	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/15/14 23:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%.	75-125		1		12/15/14 23:23	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		12/15/14 23:23	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/15/14 23:23	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**618**	mg/L	19.7	9.9	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**25.2**	mg/L	2.0	1.0	2		12/18/14 14:36	16887-00-6	
Sulfate	**17.9**	mg/L	2.0	1.0	2		12/18/14 14:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-4 **Lab ID: 10291433003** Collected: 12/08/14 10:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.050	0.014	5		12/18/14 16:44		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-5 **Lab ID: 10291433004** Collected: 12/09/14 16:30 Received: 12/12/14 09:45 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	**0.00072**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:09	7440-38-2	
Barium, Dissolved	**0.028**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:09	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:09	7440-43-9	
Calcium, Dissolved	**61.4**	mg/L	0.20	0.042	5	12/15/14 20:46	12/16/14 09:56	7440-70-2	
Chromium, Dissolved	**0.0026**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:09	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:09	7440-48-4	
Copper, Dissolved	**0.00036J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:09	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:09	7439-89-6	
Lead, Dissolved	**0.000066J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:09	7439-92-1	
Magnesium, Dissolved	**20.2**	mg/L	0.010	0.0028	1	12/15/14 20:46	12/16/14 09:09	7439-95-4	
Manganese, Dissolved	**0.00014J**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:09	7439-96-5	
Nickel, Dissolved	**<0.00023**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:09	7440-02-0	
Potassium, Dissolved	**0.87**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:09	7440-09-7	
Selenium, Dissolved	**0.00026J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:09	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:09	7440-22-4	
Sodium, Dissolved	**5.6**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:09	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:09	7440-28-0	
Total Hardness by 2340B, Dissolved	**236**	mg/L	0.36	0.18	5	12/15/14 20:46	12/16/14 09:56		
Vanadium, Dissolved	**0.0028**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:09	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:09	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 22:01	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 22:01	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 22:01	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 22:01	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:01	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:01	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:01	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:01	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/15/14 22:01	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 22:01	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 22:01	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/15/14 22:01	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 22:01	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 22:01	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:01	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:01	96-12-8	M1
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 22:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 22:01	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 22:01	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 22:01	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 22:01	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 22:01	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/15/14 22:01	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-5 **Lab ID: 10291433004** Collected: 12/09/14 16:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/15/14 22:01	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 22:01	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 22:01	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:01	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/15/14 22:01	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 22:01	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 22:01	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:01	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 22:01	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 22:01	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 22:01	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:01	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:01	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 22:01	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:01	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 22:01	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 22:01	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 22:01	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 22:01	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 22:01	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 22:01	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/15/14 22:01	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 22:01	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:01	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 22:01	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/15/14 22:01	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/15/14 22:01	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/15/14 22:01	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 22:01	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 22:01	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 22:01	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 22:01	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/15/14 22:01	75-01-4	M1
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/15/14 22:01	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		12/15/14 22:01	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		12/15/14 22:01	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		12/15/14 22:01	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**283**	mg/L	20.0	10.0	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**4.3**	mg/L	1.0	0.50	1		12/18/14 15:08	16887-00-6	
Sulfate	**8.3**	mg/L	1.0	0.50	1		12/18/14 15:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-5 **Lab ID: 10291433004** Collected: 12/09/14 16:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.2**	mg/L	0.10	0.028	10		12/18/14 14:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-6 **Lab ID: 10291433005** Collected: 12/09/14 11:30 Received: 12/12/14 09:45 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	**0.00049J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:12	7440-38-2	
Barium, Dissolved	**0.034**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:12	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:12	7440-43-9	
Calcium, Dissolved	**68.9**	mg/L	0.20	0.042	5	12/15/14 20:46	12/16/14 10:27	7440-70-2	
Chromium, Dissolved	**0.0023**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:12	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:12	7440-48-4	
Copper, Dissolved	**0.00050J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:12	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:12	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:12	7439-92-1	
Magnesium, Dissolved	**23.6**	mg/L	0.050	0.014	5	12/15/14 20:46	12/16/14 10:27	7439-95-4	
Manganese, Dissolved	**0.0017**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:12	7439-96-5	
Nickel, Dissolved	**0.00073**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:12	7440-02-0	
Potassium, Dissolved	**1.4**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:12	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:12	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:12	7440-22-4	
Sodium, Dissolved	**7.5**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:12	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:12	7440-28-0	
Total Hardness by 2340B, Dissolved	**269**	mg/L	0.36	0.18	5	12/15/14 20:46	12/16/14 10:27		
Vanadium, Dissolved	**0.0027**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:12	7440-62-2	
Zinc, Dissolved	**0.0034J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:12	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 22:24	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 22:24	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 22:24	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 22:24	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:24	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:24	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:24	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:24	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/15/14 22:24	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 22:24	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 22:24	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/15/14 22:24	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 22:24	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 22:24	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:24	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:24	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 22:24	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 22:24	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 22:24	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 22:24	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 22:24	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 22:24	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/15/14 22:24	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-6 **Lab ID: 10291433005** Collected: 12/09/14 11:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**1.3**	ug/L	0.50	0.087	1		12/15/14 22:24	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 22:24	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 22:24	75-35-4	
cis-1,2-Dichloroethene	**1.9**	ug/L	0.50	0.11	1		12/15/14 22:24	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/15/14 22:24	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 22:24	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 22:24	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:24	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 22:24	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 22:24	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 22:24	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:24	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:24	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 22:24	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 22:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 22:24	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 22:24	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 22:24	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 22:24	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 22:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 22:24	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 22:24	79-34-5	
Tetrachloroethene	**1.0**	ug/L	0.50	0.12	1		12/15/14 22:24	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 22:24	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 22:24	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 22:24	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/15/14 22:24	79-00-5	
Trichloroethene	**0.77**	ug/L	0.40	0.084	1		12/15/14 22:24	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/15/14 22:24	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 22:24	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 22:24	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 22:24	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 22:24	108-05-4	
Vinyl chloride	**0.82**	ug/L	0.20	0.082	1		12/15/14 22:24	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/15/14 22:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/15/14 22:24	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		12/15/14 22:24	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		12/15/14 22:24	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**421**	mg/L	20.5	10.3	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**12.7**	mg/L	2.0	1.0	2		12/18/14 15:39	16887-00-6	
Sulfate	**12.2**	mg/L	2.0	1.0	2		12/18/14 15:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-6 **Lab ID: 10291433005** Collected: 12/09/14 11:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.8**	mg/L	0.050	0.014	5		12/18/14 14:36		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-7A **Lab ID: 10291433006** Collected: 12/09/14 09:30 Received: 12/12/14 09:45 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	**0.00056**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:34	7440-38-2	
Barium, Dissolved	**0.060**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:34	7440-39-3	
Cadmium, Dissolved	**0.00021**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:34	7440-43-9	
Calcium, Dissolved	**88.4**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:44	7440-70-2	
Chromium, Dissolved	**0.00048J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:34	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:34	7440-48-4	
Copper, Dissolved	**0.0010**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:34	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:34	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:34	7439-92-1	
Magnesium, Dissolved	**31.0**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:44	7439-95-4	
Manganese, Dissolved	**0.0023**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:34	7439-96-5	
Nickel, Dissolved	**0.0012**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:34	7440-02-0	
Potassium, Dissolved	**1.4**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:34	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:34	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:34	7440-22-4	
Sodium, Dissolved	**8.6**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:34	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:34	7440-28-0	
Total Hardness by 2340B, Dissolved	**348**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:44		
Vanadium, Dissolved	**0.0021**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:34	7440-62-2	
Zinc, Dissolved	**0.0080**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:34	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 23:35	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 23:35	107-13-1	
Benzene	**0.37J**	ug/L	0.50	0.073	1		12/15/14 23:35	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:35	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:35	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:35	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:35	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:35	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/15/14 23:35	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 23:35	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 23:35	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/15/14 23:35	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 23:35	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 23:35	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:35	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:35	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:35	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 23:35	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 23:35	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 23:35	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:35	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 23:35	110-57-6	
Dichlorodifluoromethane	**2.0**	ug/L	1.0	0.50	1		12/15/14 23:35	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-7A **Lab ID: 10291433006** Collected: 12/09/14 09:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**4.7**	ug/L	0.50	0.087	1		12/15/14 23:35	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:35	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:35	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:35	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/15/14 23:35	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 23:35	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 23:35	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:35	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 23:35	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 23:35	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 23:35	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:35	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:35	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:35	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:35	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:35	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 23:35	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 23:35	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 23:35	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:35	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:35	79-34-5	
Tetrachloroethene	**7.0**	ug/L	0.50	0.12	1		12/15/14 23:35	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 23:35	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:35	108-88-3	
1,1,1-Trichloroethane	**0.78**	ug/L	0.50	0.17	1		12/15/14 23:35	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/15/14 23:35	79-00-5	
Trichloroethene	**1.7**	ug/L	0.40	0.084	1		12/15/14 23:35	79-01-6	
Trichlorofluoromethane	**1.1**	ug/L	0.50	0.12	1		12/15/14 23:35	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 23:35	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:35	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:35	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 23:35	108-05-4	
Vinyl chloride	**0.56**	ug/L	0.20	0.082	1		12/15/14 23:35	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/15/14 23:35	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		12/15/14 23:35	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/15/14 23:35	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/15/14 23:35	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**391**	mg/L	20.0	10.0	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**20.7**	mg/L	2.0	1.0	2		12/18/14 16:11	16887-00-6	
Sulfate	**22.7**	mg/L	2.0	1.0	2		12/18/14 16:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-7A **Lab ID: 10291433006** Collected: 12/09/14 09:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.7**	mg/L	0.10	0.028	10		12/18/14 14:37		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-8A **Lab ID: 10291433007** Collected: 12/08/14 14:50 Received: 12/12/14 09:45 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	**0.00074**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:37	7440-38-2	
Barium, Dissolved	**0.085**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:37	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:37	7440-43-9	
Calcium, Dissolved	**144**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:47	7440-70-2	
Chromium, Dissolved	**0.0048**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:37	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:37	7440-48-4	
Copper, Dissolved	**0.00099J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:37	7440-50-8	
Iron, Dissolved	**0.012J**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:37	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:37	7439-92-1	
Magnesium, Dissolved	**54.9**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:47	7439-95-4	
Manganese, Dissolved	**0.00042J**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:37	7439-96-5	
Nickel, Dissolved	**0.0024**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:37	7440-02-0	
Potassium, Dissolved	**2.2**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:37	7440-09-7	
Selenium, Dissolved	**0.00092**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:37	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:37	7440-22-4	
Sodium, Dissolved	**31.7**	mg/L	0.50	0.18	10	12/15/14 20:46	12/16/14 10:47	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:37	7440-28-0	
Total Hardness by 2340B, Dissolved	**585**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:47		
Vanadium, Dissolved	**0.0028**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:37	7440-62-2	
Zinc, Dissolved	**0.0044J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:37	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 23:46	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 23:46	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 23:46	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/15/14 23:46	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:46	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:46	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:46	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:46	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/15/14 23:46	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 23:46	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 23:46	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/15/14 23:46	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 23:46	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 23:46	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:46	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:46	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:46	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 23:46	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 23:46	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 23:46	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:46	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 23:46	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/15/14 23:46	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-8A **Lab ID: 10291433007** Collected: 12/08/14 14:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:46	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:46	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:46	75-35-4	
cis-1,2-Dichloroethene	**1.4**	ug/L	0.50	0.11	1		12/15/14 23:46	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/15/14 23:46	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 23:46	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 23:46	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:46	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 23:46	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 23:46	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 23:46	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:46	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:46	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:46	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:46	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:46	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 23:46	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 23:46	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 23:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:46	79-34-5	
Tetrachloroethene	**0.99**	ug/L	0.50	0.12	1		12/15/14 23:46	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 23:46	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:46	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:46	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/15/14 23:46	79-00-5	
Trichloroethene	**0.58**	ug/L	0.40	0.084	1		12/15/14 23:46	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/15/14 23:46	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 23:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:46	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:46	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 23:46	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/15/14 23:46	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/15/14 23:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		12/15/14 23:46	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		12/15/14 23:46	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		12/15/14 23:46	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**676**	mg/L	20.8	10.4	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**60.6**	mg/L	5.0	2.5	5		12/18/14 16:42	16887-00-6	
Sulfate	**38.8**	mg/L	5.0	2.5	5		12/18/14 16:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-8A **Lab ID: 10291433007** Collected: 12/08/14 14:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**7.6**	mg/L	0.20	0.055	20		12/18/14 14:39		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-9A **Lab ID: 10291433008** Collected: 12/08/14 11:00 Received: 12/12/14 09:45 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	**0.0011**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:40	7440-38-2	
Barium, Dissolved	**0.11**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:40	7440-39-3	
Cadmium, Dissolved	**0.00015**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:40	7440-43-9	
Calcium, Dissolved	**150**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:50	7440-70-2	
Chromium, Dissolved	**0.00087**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:40	7440-47-3	
Cobalt, Dissolved	**0.00061**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:40	7440-48-4	
Copper, Dissolved	**0.0040**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:40	7440-50-8	
Iron, Dissolved	**0.15**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:40	7439-89-6	
Lead, Dissolved	**0.0014**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:40	7439-92-1	
Magnesium, Dissolved	**48.0**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:50	7439-95-4	
Manganese, Dissolved	**0.050**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:40	7439-96-5	
Nickel, Dissolved	**0.0018**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:40	7440-02-0	
Potassium, Dissolved	**2.6**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:40	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:40	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:40	7440-22-4	
Sodium, Dissolved	**30.0**	mg/L	0.50	0.18	10	12/15/14 20:46	12/16/14 10:50	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:40	7440-28-0	
Total Hardness by 2340B, Dissolved	**571**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:50		
Vanadium, Dissolved	**0.0054**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:40	7440-62-2	
Zinc, Dissolved	**0.016**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:40	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 00:57	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 00:57	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 00:57	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 00:57	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:57	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:57	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:57	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:57	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 00:57	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 00:57	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 00:57	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 00:57	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 00:57	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 00:57	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:57	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:57	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 00:57	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 00:57	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 00:57	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 00:57	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 00:57	110-57-6	
Dichlorodifluoromethane	**1.0J**	ug/L	1.0	0.50	1		12/16/14 00:57	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-9A **Lab ID: 10291433008** Collected: 12/08/14 11:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**0.51**	ug/L	0.50	0.087	1		12/16/14 00:57	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 00:57	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:57	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:57	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 00:57	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 00:57	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 00:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:57	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 00:57	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 00:57	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 00:57	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:57	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:57	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 00:57	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:57	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 00:57	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 00:57	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 00:57	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 00:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 00:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:57	79-34-5	
Tetrachloroethene	**1.6**	ug/L	0.50	0.12	1		12/16/14 00:57	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 00:57	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:57	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:57	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 00:57	79-00-5	
Trichloroethene	**1.4**	ug/L	0.40	0.084	1		12/16/14 00:57	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/16/14 00:57	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 00:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 00:57	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 00:57	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 00:57	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/16/14 00:57	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 00:57	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		12/16/14 00:57	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		12/16/14 00:57	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	75-125		1		12/16/14 00:57	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**710**	mg/L	19.5	9.7	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**35.6**	mg/L	3.0	1.5	3		12/18/14 17:14	16887-00-6	
Sulfate	**15.8**	mg/L	3.0	1.5	3		12/18/14 17:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-9A **Lab ID: 10291433008** Collected: 12/08/14 11:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.050	0.014	5		12/18/14 16:49		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-10 **Lab ID: 10291433009** Collected: 12/10/14 13:00 Received: 12/12/14 09:45 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	**0.0033**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:43	7440-38-2	
Barium, Dissolved	**0.11**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:43	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:43	7440-43-9	
Calcium, Dissolved	**145**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:53	7440-70-2	
Chromium, Dissolved	**0.00033J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:43	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:43	7440-48-4	
Copper, Dissolved	**0.00099J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:43	7440-50-8	
Iron, Dissolved	**3.1**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:43	7439-89-6	
Lead, Dissolved	**0.00013**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:43	7439-92-1	
Magnesium, Dissolved	**46.9**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:53	7439-95-4	
Manganese, Dissolved	**0.11**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:43	7439-96-5	
Nickel, Dissolved	**0.0010**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:43	7440-02-0	
Potassium, Dissolved	**2.2**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:43	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:43	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:43	7440-22-4	
Sodium, Dissolved	**22.7**	mg/L	0.50	0.18	10	12/15/14 20:46	12/16/14 10:53	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:43	7440-28-0	
Total Hardness by 2340B, Dissolved	**556**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:53		
Vanadium, Dissolved	**0.00046J**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:43	7440-62-2	
Zinc, Dissolved	**0.0027J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:43	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 02:19	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 02:19	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 02:19	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:19	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:19	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:19	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:19	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:19	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 02:19	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 02:19	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 02:19	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 02:19	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 02:19	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 02:19	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:19	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:19	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 02:19	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 02:19	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 02:19	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:19	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 02:19	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 02:19	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-10 **Lab ID: 10291433009** Collected: 12/10/14 13:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:19	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:19	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:19	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:19	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 02:19	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 02:19	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 02:19	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:19	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 02:19	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 02:19	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 02:19	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:19	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:19	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:19	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:19	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:19	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 02:19	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 02:19	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 02:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:19	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:19	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 02:19	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:19	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:19	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 02:19	79-00-5	
Trichloroethene	**0.67**	ug/L	0.40	0.084	1		12/16/14 02:19	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:19	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 02:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:19	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:19	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 02:19	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 02:19	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 02:19	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		12/16/14 02:19	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		12/16/14 02:19	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125		1		12/16/14 02:19	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**670**	mg/L	19.0	9.5	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**53.6**	mg/L	5.0	2.5	5		12/18/14 18:17	16887-00-6	
Sulfate	**52.4**	mg/L	5.0	2.5	5		12/18/14 18:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-10 **Lab ID: 10291433009** Collected: 12/10/14 13:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**<0.0028**	mg/L	0.010	0.0028	1		12/18/14 14:42		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-11 **Lab ID: 10291433010** Collected: 12/08/14 12:45 Received: 12/12/14 09:45 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	0.00025	1	12/15/14 20:46	12/16/14 09:45	7440-38-2	
Barium, Dissolved	**0.065**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:45	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:45	7440-43-9	
Calcium, Dissolved	**93.5**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 10:56	7440-70-2	
Chromium, Dissolved	**0.00091**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:45	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:45	7440-48-4	
Copper, Dissolved	**0.00064J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:45	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:45	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:45	7439-92-1	
Magnesium, Dissolved	**34.0**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 10:56	7439-95-4	
Manganese, Dissolved	**0.00023J**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:45	7439-96-5	
Nickel, Dissolved	**0.00054**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:45	7440-02-0	
Potassium, Dissolved	**1.4**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:45	7440-09-7	
Selenium, Dissolved	**0.0033**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:45	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:45	7440-22-4	
Sodium, Dissolved	**7.8**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:45	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:45	7440-28-0	
Total Hardness by 2340B, Dissolved	**373**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 10:56		
Vanadium, Dissolved	**0.0024**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:45	7440-62-2	
Zinc, Dissolved	**0.0054**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:45	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 01:20	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 01:20	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 01:20	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 01:20	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:20	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:20	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:20	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:20	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 01:20	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 01:20	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 01:20	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 01:20	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 01:20	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 01:20	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:20	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:20	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:20	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 01:20	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 01:20	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 01:20	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:20	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 01:20	110-57-6	
Dichlorodifluoromethane	**7.5**	ug/L	1.0	0.50	1		12/16/14 01:20	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-11 **Lab ID: 10291433010** Collected: 12/08/14 12:45 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:20	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:20	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:20	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:20	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 01:20	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 01:20	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 01:20	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:20	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 01:20	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 01:20	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 01:20	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:20	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:20	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:20	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:20	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:20	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 01:20	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 01:20	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 01:20	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:20	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:20	79-34-5	
Tetrachloroethene	**0.37J**	ug/L	0.50	0.12	1		12/16/14 01:20	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 01:20	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:20	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:20	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 01:20	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 01:20	79-01-6	
Trichlorofluoromethane	**5.0**	ug/L	4.0	0.12	1		12/16/14 01:20	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 01:20	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:20	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:20	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 01:20	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/16/14 01:20	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 01:20	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		12/16/14 01:20	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		12/16/14 01:20	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		12/16/14 01:20	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**424**	mg/L	20.3	10.1	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**27.4**	mg/L	2.0	1.0	2		12/18/14 20:23	16887-00-6	
Sulfate	**37.4**	mg/L	2.0	1.0	2		12/18/14 20:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-11 **Lab ID: 10291433010** Collected: 12/08/14 12:45 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**7.6**	mg/L	0.20	0.055	20		12/18/14 18:01		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-12 **Lab ID: 10291433011** Collected: 12/08/14 13:50 Received: 12/12/14 09:45 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	**0.0051**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:48	7440-38-2	
Barium, Dissolved	**0.13**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:48	7440-39-3	
Cadmium, Dissolved	**0.000043J**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:48	7440-43-9	
Calcium, Dissolved	**144**	mg/L	0.80	0.17	20	12/15/14 20:46	12/16/14 10:58	7440-70-2	
Chromium, Dissolved	**0.00025J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:48	7440-47-3	
Cobalt, Dissolved	**0.0044**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:48	7440-48-4	
Copper, Dissolved	**0.00030J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:48	7440-50-8	
Iron, Dissolved	**4.2**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:48	7439-89-6	
Lead, Dissolved	**0.000085J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:48	7439-92-1	
Magnesium, Dissolved	**33.8**	mg/L	0.20	0.057	20	12/15/14 20:46	12/16/14 10:58	7439-95-4	
Manganese, Dissolved	**6.2**	mg/L	0.010	0.0027	20	12/15/14 20:46	12/16/14 10:58	7439-96-5	
Nickel, Dissolved	**0.0043**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:48	7440-02-0	
Potassium, Dissolved	**1.6**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:48	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:48	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:48	7440-22-4	
Sodium, Dissolved	**12.9**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:48	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:48	7440-28-0	
Total Hardness by 2340B, Dissolved	**498**	mg/L	1.4	0.71	20	12/15/14 20:46	12/16/14 10:58		
Vanadium, Dissolved	**<0.00021**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:48	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:48	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 01:44	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 01:44	107-13-1	
Benzene	**1.3**	ug/L	0.50	0.073	1		12/16/14 01:44	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 01:44	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:44	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:44	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:44	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:44	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 01:44	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 01:44	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 01:44	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 01:44	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 01:44	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 01:44	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:44	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:44	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:44	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 01:44	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 01:44	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 01:44	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:44	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 01:44	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 01:44	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-12 **Lab ID: 10291433011** Collected: 12/08/14 13:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**1.0**	ug/L	0.50	0.087	1		12/16/14 01:44	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:44	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:44	75-35-4	
cis-1,2-Dichloroethene	**5.5**	ug/L	0.50	0.11	1		12/16/14 01:44	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 01:44	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 01:44	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 01:44	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:44	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 01:44	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 01:44	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 01:44	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:44	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:44	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:44	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:44	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:44	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 01:44	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 01:44	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 01:44	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:44	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:44	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:44	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 01:44	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:44	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:44	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 01:44	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 01:44	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/16/14 01:44	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 01:44	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:44	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:44	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 01:44	108-05-4	
Vinyl chloride	**17.0**	ug/L	0.40	0.082	1		12/16/14 01:44	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 01:44	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		12/16/14 01:44	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		12/16/14 01:44	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		12/16/14 01:44	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**559**	mg/L	18.8	9.4	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**16.5**	mg/L	2.0	1.0	2		12/18/14 20:54	16887-00-6	
Sulfate	**11.9**	mg/L	2.0	1.0	2		12/18/14 20:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-12 **Lab ID: 10291433011** Collected: 12/08/14 13:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.0080J**	mg/L	0.010	0.0028	1		12/18/14 16:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-13 **Lab ID: 10291433012** Collected: 12/09/14 10:20 Received: 12/12/14 09:45 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	**0.00050J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:51	7440-38-2	
Barium, Dissolved	**0.10**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:51	7440-39-3	
Cadmium, Dissolved	**0.000076J**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:51	7440-43-9	
Calcium, Dissolved	**163**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 11:01	7440-70-2	
Chromium, Dissolved	**<0.00022**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:51	7440-47-3	
Cobalt, Dissolved	**0.00033J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:51	7440-48-4	
Copper, Dissolved	**0.00046J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:51	7440-50-8	
Iron, Dissolved	**0.020J**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:51	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:51	7439-92-1	
Magnesium, Dissolved	**50.8**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 11:01	7439-95-4	
Manganese, Dissolved	**1.1**	mg/L	0.0050	0.0014	10	12/15/14 20:46	12/16/14 11:01	7439-96-5	
Nickel, Dissolved	**0.0038**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:51	7440-02-0	
Potassium, Dissolved	**2.0**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:51	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:51	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:51	7440-22-4	
Sodium, Dissolved	**14.5**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:51	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:51	7440-28-0	
Total Hardness by 2340B, Dissolved	**617**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 11:01		
Vanadium, Dissolved	**0.0023**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:51	7440-62-2	
Zinc, Dissolved	**0.0035J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:51	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/15/14 23:58	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 23:58	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 23:58	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:58	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:58	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:58	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:58	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:58	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/15/14 23:58	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 23:58	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 23:58	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/15/14 23:58	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 23:58	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 23:58	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:58	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:58	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:58	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 23:58	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 23:58	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 23:58	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:58	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 23:58	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/15/14 23:58	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-13 **Lab ID: 10291433012** Collected: 12/09/14 10:20 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:58	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:58	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:58	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:58	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/15/14 23:58	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 23:58	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 23:58	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:58	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 23:58	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 23:58	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 23:58	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:58	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:58	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:58	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:58	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:58	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 23:58	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 23:58	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 23:58	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:58	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:58	79-34-5	
Tetrachloroethene	**0.14J**	ug/L	0.50	0.12	1		12/15/14 23:58	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 23:58	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:58	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:58	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/15/14 23:58	79-00-5	
Trichloroethene	**0.41**	ug/L	0.40	0.084	1		12/15/14 23:58	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:58	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 23:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:58	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:58	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 23:58	108-05-4	
Vinyl chloride	**16.7**	ug/L	0.20	0.082	1		12/15/14 23:58	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/15/14 23:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		12/15/14 23:58	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		12/15/14 23:58	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		12/15/14 23:58	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**647**	mg/L	19.7	9.9	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**24.7**	mg/L	2.0	1.0	2		12/18/14 21:26	16887-00-6	
Sulfate	**11.0**	mg/L	2.0	1.0	2		12/18/14 21:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-13 **Lab ID: 10291433012** Collected: 12/09/14 10:20 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.015**	mg/L	0.010	0.0028	1		12/18/14 16:59		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-14 **Lab ID: 10291433013** Collected: 12/10/14 10:20 Received: 12/12/14 09:45 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	**0.00053**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:54	7440-38-2	
Barium, Dissolved	**0.14**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 09:54	7440-39-3	
Cadmium, Dissolved	**0.000093**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 09:54	7440-43-9	
Calcium, Dissolved	**124**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 11:04	7440-70-2	
Chromium, Dissolved	**0.00042J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 09:54	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:54	7440-48-4	
Copper, Dissolved	**0.0014**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 09:54	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 09:54	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 09:54	7439-92-1	
Magnesium, Dissolved	**49.3**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 11:04	7439-95-4	
Manganese, Dissolved	**0.0032**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 09:54	7439-96-5	
Nickel, Dissolved	**0.00099**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 09:54	7440-02-0	
Potassium, Dissolved	**2.8**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 09:54	7440-09-7	
Selenium, Dissolved	**0.0010**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 09:54	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 09:54	7440-22-4	
Sodium, Dissolved	**15.5**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 09:54	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 09:54	7440-28-0	
Total Hardness by 2340B, Dissolved	**512**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 11:04		
Vanadium, Dissolved	**0.0025**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 09:54	7440-62-2	
Zinc, Dissolved	**0.0077**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 09:54	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 02:43	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 02:43	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 02:43	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:43	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:43	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:43	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:43	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:43	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 02:43	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 02:43	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 02:43	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 02:43	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 02:43	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 02:43	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:43	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:43	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 02:43	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 02:43	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 02:43	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:43	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 02:43	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 02:43	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-14 **Lab ID: 10291433013** Collected: 12/10/14 10:20 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:43	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:43	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:43	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:43	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 02:43	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 02:43	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 02:43	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:43	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 02:43	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 02:43	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 02:43	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:43	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:43	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:43	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:43	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:43	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 02:43	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 02:43	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 02:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:43	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:43	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 02:43	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:43	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:43	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 02:43	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 02:43	79-01-6	
Trichlorofluoromethane	**1.2**	ug/L	0.50	0.12	1		12/16/14 02:43	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 02:43	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:43	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:43	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 02:43	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 02:43	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 02:43	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%.	75-125		1		12/16/14 02:43	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		12/16/14 02:43	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	75-125		1		12/16/14 02:43	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**580**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**23.9**	mg/L	2.0	1.0	2		12/18/14 21:57	16887-00-6	
Sulfate	**49.0**	mg/L	2.0	1.0	2		12/18/14 21:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-15 **Lab ID: 10291433014** Collected: 12/10/14 09:10 Received: 12/12/14 09:45 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	**0.00037J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:08	7440-38-2	
Barium, Dissolved	**0.042**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:08	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:08	7440-43-9	
Calcium, Dissolved	**57.4**	mg/L	0.20	0.042	5	12/15/14 20:46	12/16/14 11:12	7440-70-2	
Chromium, Dissolved	**0.0022**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:08	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:08	7440-48-4	
Copper, Dissolved	**<0.00022**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:08	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:08	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:08	7439-92-1	
Magnesium, Dissolved	**23.1**	mg/L	0.050	0.014	5	12/15/14 20:46	12/16/14 11:12	7439-95-4	
Manganese, Dissolved	**0.00014J**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 10:08	7439-96-5	
Nickel, Dissolved	**<0.00023**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:08	7440-02-0	
Potassium, Dissolved	**1.1**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:08	7440-09-7	
Selenium, Dissolved	**0.00027J**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:08	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:08	7440-22-4	
Sodium, Dissolved	**3.8**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 10:08	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:08	7440-28-0	
Total Hardness by 2340B, Dissolved	**238**	mg/L	0.36	0.18	5	12/15/14 20:46	12/16/14 11:12		
Vanadium, Dissolved	**0.0016**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:08	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:08	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 03:06	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 03:06	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 03:06	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:06	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:06	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:06	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:06	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:06	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 03:06	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 03:06	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 03:06	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 03:06	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 03:06	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 03:06	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:06	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:06	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:06	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 03:06	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 03:06	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 03:06	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:06	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 03:06	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 03:06	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-15 **Lab ID: 10291433014** Collected: 12/10/14 09:10 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:06	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:06	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:06	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:06	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 03:06	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 03:06	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 03:06	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:06	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 03:06	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 03:06	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 03:06	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:06	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:06	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:06	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:06	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:06	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 03:06	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 03:06	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 03:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:06	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:06	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 03:06	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:06	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:06	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 03:06	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 03:06	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:06	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 03:06	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:06	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:06	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 03:06	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 03:06	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 03:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%.	75-125		1		12/16/14 03:06	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/16/14 03:06	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125		1		12/16/14 03:06	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**281**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**5.3**	mg/L	1.0	0.50	1		12/18/14 22:29	16887-00-6	
Sulfate	**12.9**	mg/L	1.0	0.50	1		12/18/14 22:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-15 **Lab ID: 10291433014** Collected: 12/10/14 09:10 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.7**	mg/L	0.10	0.028	10		12/18/14 17:01		

REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-17 **Lab ID: 10291433015** Collected: 12/09/14 12:50 Received: 12/12/14 09:45 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	**0.00054**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:11	7440-38-2	
Barium, Dissolved	**0.11**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:11	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:11	7440-43-9	
Calcium, Dissolved	**135**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 11:15	7440-70-2	
Chromium, Dissolved	**0.0011**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:11	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:11	7440-48-4	
Copper, Dissolved	**0.00080J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:11	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:11	7439-89-6	
Lead, Dissolved	**0.000077J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:11	7439-92-1	
Magnesium, Dissolved	**41.4**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 11:15	7439-95-4	
Manganese, Dissolved	**0.043**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 10:11	7439-96-5	
Nickel, Dissolved	**0.00052**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:11	7440-02-0	
Potassium, Dissolved	**1.9**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:11	7440-09-7	
Selenium, Dissolved	**0.0016**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:11	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:11	7440-22-4	
Sodium, Dissolved	**21.0**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 10:11	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:11	7440-28-0	
Total Hardness by 2340B, Dissolved	**508**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 11:15		
Vanadium, Dissolved	**0.0018**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:11	7440-62-2	
Zinc, Dissolved	**0.0029J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:11	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 00:22	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 00:22	107-13-1	
Benzene	**0.34J**	ug/L	0.50	0.073	1		12/16/14 00:22	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 00:22	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:22	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:22	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:22	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:22	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 00:22	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 00:22	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 00:22	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 00:22	75-00-3	L3
Chloroform	**0.23J**	ug/L	0.50	0.20	1		12/16/14 00:22	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 00:22	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:22	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:22	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:22	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 00:22	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 00:22	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 00:22	95-50-1	
1,4-Dichlorobenzene	**0.31J**	ug/L	0.50	0.25	1		12/16/14 00:22	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 00:22	110-57-6	
Dichlorodifluoromethane	**3.4**	ug/L	1.0	0.50	1		12/16/14 00:22	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-17 **Lab ID: 10291433015** Collected: 12/09/14 12:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 00:22	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 00:22	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:22	75-35-4	
cis-1,2-Dichloroethene	**33.0**	ug/L	0.50	0.11	1		12/16/14 00:22	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 00:22	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 00:22	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 00:22	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:22	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 00:22	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 00:22	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 00:22	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:22	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:22	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 00:22	98-82-8	
Methylene Chloride	**4.2**	ug/L	4.0	2.0	1		12/16/14 00:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:22	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 00:22	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 00:22	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 00:22	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 00:22	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 00:22	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:22	79-34-5	
Tetrachloroethene	**21.8**	ug/L	0.50	0.12	1		12/16/14 00:22	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 00:22	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:22	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:22	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 00:22	79-00-5	
Trichloroethene	**7.7**	ug/L	0.40	0.084	1		12/16/14 00:22	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 00:22	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 00:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 00:22	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 00:22	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 00:22	108-05-4	
Vinyl chloride	**1.5**	ug/L	0.20	0.082	1		12/16/14 00:22	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 00:22	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%.	75-125		1		12/16/14 00:22	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		12/16/14 00:22	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		12/16/14 00:22	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**645**	mg/L	19.2	9.6	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**30.8**	mg/L	2.0	1.0	2		12/18/14 23:00	16887-00-6	
Sulfate	**23.7**	mg/L	2.0	1.0	2		12/18/14 23:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-18 **Lab ID: 10291433016** Collected: 12/09/14 13:30 Received: 12/12/14 09:45 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	**0.0028**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:13	7440-38-2	
Barium, Dissolved	**0.17**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:13	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:13	7440-43-9	
Calcium, Dissolved	**252**	mg/L	0.80	0.17	20	12/15/14 20:46	12/16/14 11:18	7440-70-2	
Chromium, Dissolved	**0.00034J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:13	7440-47-3	
Cobalt, Dissolved	**0.0063**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:13	7440-48-4	
Copper, Dissolved	**0.00043J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:13	7440-50-8	
Iron, Dissolved	**2.1**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:13	7439-89-6	
Lead, Dissolved	**0.000070J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:13	7439-92-1	
Magnesium, Dissolved	**91.1**	mg/L	0.20	0.057	20	12/15/14 20:46	12/16/14 11:18	7439-95-4	
Manganese, Dissolved	**3.0**	mg/L	0.010	0.0027	20	12/15/14 20:46	12/16/14 11:18	7439-96-5	
Nickel, Dissolved	**0.0089**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:13	7440-02-0	
Potassium, Dissolved	**2.5**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:13	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:13	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:13	7440-22-4	
Sodium, Dissolved	**17.4**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 10:13	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:13	7440-28-0	
Total Hardness by 2340B, Dissolved	**1000**	mg/L	1.4	0.71	20	12/15/14 20:46	12/16/14 11:18		
Vanadium, Dissolved	**0.0016**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:13	7440-62-2	
Zinc, Dissolved	**0.0042J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:13	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**20.5**	ug/L	20.0	10.0	1		12/16/14 00:45	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 00:45	107-13-1	
Benzene	**1.3**	ug/L	0.50	0.073	1		12/16/14 00:45	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 00:45	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:45	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:45	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:45	74-83-9	
2-Butanone (MEK)	**10.5**	ug/L	5.0	2.5	1		12/16/14 00:45	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 00:45	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 00:45	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 00:45	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 00:45	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 00:45	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 00:45	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:45	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:45	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:45	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 00:45	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 00:45	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 00:45	95-50-1	
1,4-Dichlorobenzene	**1.4**	ug/L	0.50	0.25	1		12/16/14 00:45	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 00:45	110-57-6	
Dichlorodifluoromethane	**1.6**	ug/L	1.0	0.50	1		12/16/14 00:45	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-18 **Lab ID: 10291433016** Collected: 12/09/14 13:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 00:45	75-34-3	
1,2-Dichloroethane	**0.47J**	ug/L	0.50	0.10	1		12/16/14 00:45	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:45	75-35-4	
cis-1,2-Dichloroethene	**17.1**	ug/L	0.50	0.11	1		12/16/14 00:45	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 00:45	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 00:45	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 00:45	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 00:45	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 00:45	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 00:45	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 00:45	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:45	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:45	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 00:45	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 00:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 00:45	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 00:45	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 00:45	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 00:45	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 00:45	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 00:45	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 00:45	79-34-5	
Tetrachloroethene	**0.51**	ug/L	0.50	0.12	1		12/16/14 00:45	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 00:45	109-99-9	
Toluene	**0.26J**	ug/L	0.50	0.11	1		12/16/14 00:45	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 00:45	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 00:45	79-00-5	
Trichloroethene	**0.50**	ug/L	0.40	0.084	1		12/16/14 00:45	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 00:45	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 00:45	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 00:45	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 00:45	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 00:45	108-05-4	
Vinyl chloride	**3.9**	ug/L	0.20	0.082	1		12/16/14 00:45	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 00:45	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		12/16/14 00:45	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		12/16/14 00:45	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	75-125		1		12/16/14 00:45	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**1070**	mg/L	20.0	10.0	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**13.4**	mg/L	1.0	0.50	1		12/19/14 09:16	16887-00-6	
Sulfate	**<0.50**	mg/L	1.0	0.50	1		12/19/14 09:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-19 **Lab ID: 10291433017** Collected: 12/10/14 12:50 Received: 12/12/14 09:45 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		12/16/14 03:29	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 03:29	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 03:29	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:29	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:29	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:29	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:29	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:29	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 03:29	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 03:29	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 03:29	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 03:29	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 03:29	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 03:29	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:29	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:29	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 03:29	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 03:29	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 03:29	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:29	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 03:29	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 03:29	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:29	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:29	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:29	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:29	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 03:29	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 03:29	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 03:29	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:29	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 03:29	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 03:29	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 03:29	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:29	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:29	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:29	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:29	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:29	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 03:29	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 03:29	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 03:29	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:29	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:29	79-34-5	
Tetrachloroethene	**1.1**	ug/L	0.50	0.12	1		12/16/14 03:29	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-19 **Lab ID: 10291433017** Collected: 12/10/14 12:50 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 03:29	109-99-9	
Toluene	**0.47J**	ug/L	0.50	0.11	1		12/16/14 03:29	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:29	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 03:29	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 03:29	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:29	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 03:29	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:29	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:29	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 03:29	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 03:29	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 03:29	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%.	75-125		1		12/16/14 03:29	17060-07-0	
Toluene-d8 (S)	95	%.	75-125		1		12/16/14 03:29	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		12/16/14 03:29	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**592**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**24.7**	mg/L	5.0	2.5	5		12/23/14 02:27	16887-00-6	
Sulfate	**38.2**	mg/L	5.0	2.5	5		12/23/14 02:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-20 **Lab ID: 10291433018** Collected: 12/09/14 14:40 Received: 12/12/14 09:45 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	**0.00056**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:16	7440-38-2	
Barium, Dissolved	**0.15**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:16	7440-39-3	
Cadmium, Dissolved	**0.00020**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:16	7440-43-9	
Calcium, Dissolved	**190**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 11:21	7440-70-2	
Chromium, Dissolved	**0.0078**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:16	7440-47-3	
Cobalt, Dissolved	**0.00097**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:16	7440-48-4	
Copper, Dissolved	**0.0031**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:16	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:16	7439-89-6	
Lead, Dissolved	**0.000056J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:16	7439-92-1	
Magnesium, Dissolved	**74.5**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 11:21	7439-95-4	
Manganese, Dissolved	**1.3**	mg/L	0.0050	0.0014	10	12/15/14 20:46	12/16/14 11:21	7439-96-5	
Nickel, Dissolved	**0.0068**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:16	7440-02-0	
Potassium, Dissolved	**3.9**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:16	7440-09-7	
Selenium, Dissolved	**0.0049**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:16	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:16	7440-22-4	
Sodium, Dissolved	**26.5**	mg/L	0.50	0.18	10	12/15/14 20:46	12/16/14 11:21	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:16	7440-28-0	
Total Hardness by 2340B, Dissolved	**781**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 11:21		
Vanadium, Dissolved	**0.0014**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:16	7440-62-2	
Zinc, Dissolved	**0.0061**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:16	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 01:08	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 01:08	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 01:08	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:08	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:08	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:08	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:08	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:08	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 01:08	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 01:08	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 01:08	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 01:08	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 01:08	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 01:08	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:08	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:08	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:08	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 01:08	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 01:08	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 01:08	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:08	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 01:08	110-57-6	
Dichlorodifluoromethane	**1.5**	ug/L	1.0	0.50	1		12/16/14 01:08	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-20 **Lab ID: 10291433018** Collected: 12/09/14 14:40 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:08	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:08	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:08	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	0.50	0.11	1		12/16/14 01:08	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 01:08	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 01:08	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 01:08	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:08	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 01:08	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 01:08	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 01:08	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:08	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:08	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 01:08	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 01:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 01:08	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:08	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 01:08	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 01:08	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 01:08	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 01:08	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 01:08	79-34-5	
Tetrachloroethene	**13.8**	ug/L	0.50	0.12	1		12/16/14 01:08	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 01:08	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 01:08	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 01:08	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 01:08	79-00-5	
Trichloroethene	**0.91**	ug/L	0.40	0.084	1		12/16/14 01:08	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 01:08	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 01:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 01:08	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 01:08	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 01:08	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 01:08	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 01:08	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%.	75-125		1		12/16/14 01:08	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/16/14 01:08	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		12/16/14 01:08	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**963**	mg/L	19.7	9.9	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**73.5**	mg/L	20.0	10.0	20		12/23/14 02:59	16887-00-6	
Sulfate	**79.5**	mg/L	20.0	10.0	20		12/23/14 02:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-21 **Lab ID: 10291433019** Collected: 12/10/14 16:10 Received: 12/12/14 09:45 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		12/16/14 03:53	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 03:53	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 03:53	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:53	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:53	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:53	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:53	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:53	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 03:53	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 03:53	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 03:53	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 03:53	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 03:53	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 03:53	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:53	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:53	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 03:53	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 03:53	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 03:53	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:53	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 03:53	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 03:53	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:53	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:53	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:53	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:53	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 03:53	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 03:53	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 03:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:53	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 03:53	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 03:53	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 03:53	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:53	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:53	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:53	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:53	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:53	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 03:53	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 03:53	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 03:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:53	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:53	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:53	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-21 **Lab ID: 10291433019** Collected: 12/10/14 16:10 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 03:53	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:53	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:53	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 03:53	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 03:53	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:53	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 03:53	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:53	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:53	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 03:53	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 03:53	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 03:53	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%.	75-125		1		12/16/14 03:53	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/16/14 03:53	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125		1		12/16/14 03:53	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**263**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**4.6**	mg/L	2.0	1.0	2		12/23/14 03:30	16887-00-6	
Sulfate	**15.6**	mg/L	2.0	1.0	2		12/23/14 03:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-22 **Lab ID: 10291433020** Collected: 12/10/14 16:30 Received: 12/12/14 09:45 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		12/16/14 04:16	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 04:16	107-13-1	
Benzene	**0.32J**	ug/L	0.50	0.073	1		12/16/14 04:16	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 04:16	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:16	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:16	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:16	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:16	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 04:16	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 04:16	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 04:16	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 04:16	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 04:16	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 04:16	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:16	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:16	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 04:16	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 04:16	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 04:16	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 04:16	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 04:16	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 04:16	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 04:16	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 04:16	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 04:16	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 04:16	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:16	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 04:16	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 04:16	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 04:16	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 04:16	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 04:16	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 04:16	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:16	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:16	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 04:16	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:16	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:16	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 04:16	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 04:16	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 04:16	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 04:16	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 04:16	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-22 **Lab ID: 10291433020** Collected: 12/10/14 16:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 04:16	109-99-9	
Toluene	**0.46J**	ug/L	0.50	0.11	1		12/16/14 04:16	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 04:16	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 04:16	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 04:16	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:16	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 04:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 04:16	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 04:16	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 04:16	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 04:16	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 04:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%.	75-125		1		12/16/14 04:16	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/16/14 04:16	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125		1		12/16/14 04:16	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**483**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**13.4**	mg/L	10.0	5.0	10		12/23/14 04:02	16887-00-6	
Sulfate	**35.7**	mg/L	10.0	5.0	10		12/23/14 04:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-23 **Lab ID: 10291433021** Collected: 12/10/14 17:00 Received: 12/12/14 09:45 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		12/16/14 04:40	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 04:40	107-13-1	
Benzene	**0.33J**	ug/L	0.50	0.073	1		12/16/14 04:40	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 04:40	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:40	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:40	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:40	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:40	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 04:40	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 04:40	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 04:40	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 04:40	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 04:40	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 04:40	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:40	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:40	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 04:40	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 04:40	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 04:40	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 04:40	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 04:40	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 04:40	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 04:40	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 04:40	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 04:40	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 04:40	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:40	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 04:40	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 04:40	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 04:40	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 04:40	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 04:40	123-91-1	
Ethylbenzene	**0.17J**	ug/L	0.50	0.096	1		12/16/14 04:40	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 04:40	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:40	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:40	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 04:40	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 04:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 04:40	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:40	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 04:40	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 04:40	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 04:40	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 04:40	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 04:40	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:40	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-23 **Lab ID: 10291433021** Collected: 12/10/14 17:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 04:40	109-99-9	
Toluene	**0.45J**	ug/L	0.50	0.11	1		12/16/14 04:40	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 04:40	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 04:40	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 04:40	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 04:40	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 04:40	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 04:40	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 04:40	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 04:40	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 04:40	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 04:40	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%.	75-125		1		12/16/14 04:40	17060-07-0	
Toluene-d8 (S)	94	%.	75-125		1		12/16/14 04:40	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125		1		12/16/14 04:40	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**296**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**3.4**	mg/L	1.0	0.50	1		12/23/14 12:41	16887-00-6	
Sulfate	**13.3**	mg/L	1.0	0.50	1		12/23/14 12:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-24 **Lab ID: 10291433022** Collected: 12/08/14 17:30 Received: 12/12/14 09:45 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		12/16/14 02:07	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 02:07	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 02:07	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 02:07	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:07	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:07	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:07	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:07	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 02:07	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 02:07	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 02:07	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 02:07	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 02:07	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 02:07	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:07	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:07	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:07	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 02:07	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 02:07	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 02:07	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:07	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 02:07	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 02:07	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:07	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:07	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:07	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:07	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 02:07	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 02:07	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 02:07	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:07	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 02:07	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 02:07	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 02:07	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:07	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:07	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:07	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:07	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:07	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 02:07	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 02:07	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 02:07	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:07	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:07	79-34-5	
Tetrachloroethene	**1.7**	ug/L	0.50	0.12	1		12/16/14 02:07	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-24 **Lab ID: 10291433022** Collected: 12/08/14 17:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 02:07	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:07	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:07	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 02:07	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 02:07	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/16/14 02:07	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 02:07	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:07	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:07	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 02:07	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/16/14 02:07	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 02:07	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		12/16/14 02:07	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		12/16/14 02:07	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	75-125		1		12/16/14 02:07	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**504**	mg/L	20.8	10.4	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**37.2**	mg/L	2.0	1.0	2		12/23/14 13:44	16887-00-6	
Sulfate	**19.3**	mg/L	2.0	1.0	2		12/23/14 13:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-25 **Lab ID: 10291433023** Collected: 12/08/14 16:00 Received: 12/12/14 09:45 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		12/16/14 02:31	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 02:31	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 02:31	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 02:31	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:31	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:31	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:31	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:31	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 02:31	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 02:31	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 02:31	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 02:31	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 02:31	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 02:31	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:31	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:31	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:31	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 02:31	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 02:31	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 02:31	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:31	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 02:31	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 02:31	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:31	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:31	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:31	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:31	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 02:31	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 02:31	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 02:31	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:31	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 02:31	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 02:31	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 02:31	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:31	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:31	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:31	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:31	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:31	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 02:31	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 02:31	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 02:31	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:31	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:31	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:31	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-25 **Lab ID: 10291433023** Collected: 12/08/14 16:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 02:31	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:31	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:31	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 02:31	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 02:31	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/16/14 02:31	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 02:31	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:31	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:31	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 02:31	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/16/14 02:31	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 02:31	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%.	75-125		1		12/16/14 02:31	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		12/16/14 02:31	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125		1		12/16/14 02:31	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**458**	mg/L	20.3	10.1	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**19.2**	mg/L	2.0	1.0	2		12/23/14 14:47	16887-00-6	
Sulfate	**12.5**	mg/L	2.0	1.0	2		12/23/14 14:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-26 **Lab ID: 10291433024** Collected: 12/11/14 09:30 Received: 12/12/14 09:45 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		12/16/14 05:03	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 05:03	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 05:03	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:03	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:03	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:03	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:03	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:03	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 05:03	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 05:03	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 05:03	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 05:03	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 05:03	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 05:03	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:03	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:03	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:03	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 05:03	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 05:03	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 05:03	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:03	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 05:03	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 05:03	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:03	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:03	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:03	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:03	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 05:03	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 05:03	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 05:03	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:03	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 05:03	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 05:03	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 05:03	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:03	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:03	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:03	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:03	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:03	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 05:03	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 05:03	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 05:03	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:03	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:03	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MW-26 **Lab ID: 10291433024** Collected: 12/11/14 09:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 05:03	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:03	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:03	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 05:03	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 05:03	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:03	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 05:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:03	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:03	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 05:03	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 05:03	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 05:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%.	75-125		1		12/16/14 05:03	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		12/16/14 05:03	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	75-125		1		12/16/14 05:03	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**488**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**52.1**	mg/L	5.0	2.5	5		12/23/14 15:18	16887-00-6	
Sulfate	**33.8**	mg/L	5.0	2.5	5		12/23/14 15:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: SHOP WELL **Lab ID: 10291433025** Collected: 12/08/14 10:30 Received: 12/12/14 09:45 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		12/16/14 02:54	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 02:54	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 02:54	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 02:54	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:54	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:54	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:54	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:54	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 02:54	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 02:54	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 02:54	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 02:54	75-00-3	
Chloroform	**0.25J**	ug/L	0.50	0.20	1		12/16/14 02:54	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 02:54	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:54	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:54	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 02:54	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 02:54	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 02:54	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:54	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 02:54	110-57-6	
Dichlorodifluoromethane	**3.6**	ug/L	1.0	0.50	1		12/16/14 02:54	75-71-8	
1,1-Dichloroethane	**2.2**	ug/L	0.50	0.087	1		12/16/14 02:54	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:54	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:54	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:54	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 02:54	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 02:54	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 02:54	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:54	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 02:54	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 02:54	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 02:54	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:54	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:54	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 02:54	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 02:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 02:54	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 02:54	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 02:54	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 02:54	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 02:54	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 02:54	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 02:54	79-34-5	
Tetrachloroethene	**7.2**	ug/L	0.50	0.12	1		12/16/14 02:54	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: SHOP WELL **Lab ID: 10291433025** Collected: 12/08/14 10:30 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 02:54	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 02:54	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 02:54	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 02:54	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 02:54	79-01-6	
Trichlorofluoromethane	**1.5J**	ug/L	4.0	0.12	1		12/16/14 02:54	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 02:54	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 02:54	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 02:54	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 02:54	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/16/14 02:54	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 02:54	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%.	75-125		1		12/16/14 02:54	17060-07-0	
Toluene-d8 (S)	95	%.	75-125		1		12/16/14 02:54	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125		1		12/16/14 02:54	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MCILHATTAN SEEP **Lab ID: 10291433026** Collected: 12/10/14 13:10 Received: 12/12/14 09:45 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	**0.00086**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:19	7440-38-2	
Barium, Dissolved	**0.056**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:19	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:19	7440-43-9	
Calcium, Dissolved	**132**	mg/L	0.40	0.084	10	12/15/14 20:46	12/16/14 11:24	7440-70-2	
Chromium, Dissolved	**0.0029**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:19	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:19	7440-48-4	
Copper, Dissolved	**0.00085J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:19	7440-50-8	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:19	7439-89-6	
Lead, Dissolved	**<0.000046**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:19	7439-92-1	
Magnesium, Dissolved	**46.2**	mg/L	0.10	0.028	10	12/15/14 20:46	12/16/14 11:24	7439-95-4	
Manganese, Dissolved	**0.00064**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 10:19	7439-96-5	
Nickel, Dissolved	**0.00075**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:19	7440-02-0	
Potassium, Dissolved	**2.6**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:19	7440-09-7	
Selenium, Dissolved	**0.0022**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:19	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:19	7440-22-4	
Sodium, Dissolved	**24.1**	mg/L	0.50	0.18	10	12/15/14 20:46	12/16/14 11:24	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:19	7440-28-0	
Total Hardness by 2340B, Dissolved	**519**	mg/L	0.71	0.36	10	12/15/14 20:46	12/16/14 11:24		
Vanadium, Dissolved	**0.0034**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:19	7440-62-2	
Zinc, Dissolved	**<0.0025**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:19	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 05:26	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 05:26	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 05:26	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:26	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:26	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:26	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:26	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:26	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 05:26	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 05:26	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 05:26	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 05:26	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 05:26	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 05:26	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:26	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:26	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:26	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 05:26	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 05:26	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 05:26	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:26	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 05:26	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 05:26	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MCILHATTAN SEEP **Lab ID: 10291433026** Collected: 12/10/14 13:10 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:26	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:26	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:26	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:26	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 05:26	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 05:26	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 05:26	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:26	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 05:26	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 05:26	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 05:26	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:26	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:26	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:26	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:26	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:26	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 05:26	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 05:26	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 05:26	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:26	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:26	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:26	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 05:26	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:26	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:26	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 05:26	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 05:26	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:26	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 05:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:26	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:26	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 05:26	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 05:26	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 05:26	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%.	75-125		1		12/16/14 05:26	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		12/16/14 05:26	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125		1		12/16/14 05:26	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**583**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**41.1**	mg/L	5.0	2.5	5		12/23/14 15:50	16887-00-6	
Sulfate	**54.4**	mg/L	5.0	2.5	5		12/23/14 15:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: MCILHATTAN SEEP **Lab ID: 10291433026** Collected: 12/10/14 13:10 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.7**	mg/L	0.20	0.055	20		12/18/14 17:02		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: VALLEY VIEW VET WELL **Lab ID: 10291433027** Collected: 12/10/14 14:40 Received: 12/12/14 09:45 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	**0.00066**	mg/L	0.00050	0.00025	1	12/17/14 17:16	12/18/14 08:55	7440-38-2	
Barium	**<0.00014**	mg/L	0.00030	0.00014	1	12/17/14 17:16	12/18/14 08:55	7440-39-3	
Cadmium	**<0.000033**	mg/L	0.000080	0.000033	1	12/17/14 17:16	12/18/14 08:55	7440-43-9	
Chromium	**0.0011**	mg/L	0.00050	0.00022	1	12/17/14 17:16	12/18/14 08:55	7440-47-3	
Cobalt	**<0.00025**	mg/L	0.00050	0.00025	1	12/17/14 17:16	12/18/14 08:55	7440-48-4	
Copper	**0.0037**	mg/L	0.0010	0.00022	1	12/17/14 17:16	12/18/14 08:55	7440-50-8	
Iron	**<0.0080**	mg/L	0.050	0.0080	1	12/17/14 17:16	12/18/14 08:55	7439-89-6	
Lead	**0.000067J**	mg/L	0.00010	0.000046	1	12/17/14 17:16	12/18/14 08:55	7439-92-1	
Manganese	**0.00016J**	mg/L	0.00050	0.00014	1	12/17/14 17:16	12/18/14 08:55	7439-96-5	B
Nickel	**<0.00023**	mg/L	0.00050	0.00023	1	12/17/14 17:16	12/18/14 08:55	7440-02-0	
Selenium	**0.00083**	mg/L	0.00050	0.00025	1	12/17/14 17:16	12/18/14 08:55	7782-49-2	
Silver	**0.00012J**	mg/L	0.00050	0.000056	1	12/17/14 17:16	12/18/14 08:55	7440-22-4	
Thallium	**0.000026J**	mg/L	0.00010	0.000025	1	12/17/14 17:16	12/18/14 08:55	7440-28-0	
Vanadium	**0.0041**	mg/L	0.0010	0.00021	1	12/17/14 17:16	12/18/14 08:55	7440-62-2	
Zinc	**0.016**	mg/L	0.0050	0.0025	1	12/17/14 17:16	12/18/14 08:55	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 05:50	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 05:50	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 05:50	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:50	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:50	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:50	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:50	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:50	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 05:50	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 05:50	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 05:50	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 05:50	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 05:50	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 05:50	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:50	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:50	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:50	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 05:50	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 05:50	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 05:50	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:50	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 05:50	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 05:50	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:50	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:50	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:50	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:50	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 05:50	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 05:50	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: VALLEY VIEW VET WELL **Lab ID: 10291433027** Collected: 12/10/14 14:40 Received: 12/12/14 09:45 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	**<0.093**	ug/L	0.50	0.093	1		12/16/14 05:50	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:50	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 05:50	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 05:50	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 05:50	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:50	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:50	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 05:50	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 05:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 05:50	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:50	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 05:50	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 05:50	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 05:50	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 05:50	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 05:50	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:50	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 05:50	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 05:50	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 05:50	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 05:50	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 05:50	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 05:50	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 05:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 05:50	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 05:50	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 05:50	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 05:50	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 05:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%.	75-125		1		12/16/14 05:50	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/16/14 05:50	2037-26-5	
4-Bromofluorobenzene (S)	88	%.	75-125		1		12/16/14 05:50	460-00-4	

REPORT OF LABORATORY ANALYSIS

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150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: DUP **Lab ID: 10291433028** Collected: 12/08/14 14:00 Received: 12/12/14 09:45 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	**0.0051**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:22	7440-38-2	
Barium, Dissolved	**0.13**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:22	7440-39-3	
Cadmium, Dissolved	**0.000047J**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:22	7440-43-9	
Calcium, Dissolved	**142**	mg/L	0.80	0.17	20	12/15/14 20:46	12/16/14 11:27	7440-70-2	
Chromium, Dissolved	**0.00026J**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:22	7440-47-3	
Cobalt, Dissolved	**0.0044**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:22	7440-48-4	
Copper, Dissolved	**0.00070J**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:22	7440-50-8	
Iron, Dissolved	**4.2**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:22	7439-89-6	
Lead, Dissolved	**0.000094J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:22	7439-92-1	
Magnesium, Dissolved	**33.4**	mg/L	0.20	0.057	20	12/15/14 20:46	12/16/14 11:27	7439-95-4	
Manganese, Dissolved	**6.2**	mg/L	0.010	0.0027	20	12/15/14 20:46	12/16/14 11:27	7439-96-5	
Nickel, Dissolved	**0.0048**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:22	7440-02-0	
Potassium, Dissolved	**1.6**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:22	7440-09-7	
Selenium, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:22	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:22	7440-22-4	
Sodium, Dissolved	**12.6**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 10:22	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:22	7440-28-0	
Total Hardness by 2340B, Dissolved	**492**	mg/L	1.4	0.71	20	12/15/14 20:46	12/16/14 11:27		
Vanadium, Dissolved	**<0.00021**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:22	7440-62-2	
Zinc, Dissolved	**0.0029J**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:22	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 03:18	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 03:18	107-13-1	
Benzene	**1.4**	ug/L	0.50	0.073	1		12/16/14 03:18	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/16/14 03:18	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:18	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:18	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:18	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:18	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/16/14 03:18	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 03:18	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 03:18	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/16/14 03:18	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 03:18	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 03:18	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:18	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:18	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:18	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 03:18	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 03:18	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 03:18	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:18	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 03:18	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 03:18	75-71-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: DUP **Lab ID: 10291433028** Collected: 12/08/14 14:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**0.91**	ug/L	0.50	0.087	1		12/16/14 03:18	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:18	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:18	75-35-4	
cis-1,2-Dichloroethene	**5.3**	ug/L	0.50	0.11	1		12/16/14 03:18	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/16/14 03:18	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 03:18	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 03:18	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:18	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 03:18	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 03:18	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 03:18	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:18	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:18	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 03:18	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 03:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 03:18	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:18	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 03:18	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 03:18	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 03:18	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 03:18	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 03:18	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 03:18	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 03:18	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 03:18	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 03:18	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/16/14 03:18	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 03:18	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/16/14 03:18	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 03:18	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 03:18	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 03:18	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 03:18	108-05-4	
Vinyl chloride	**15.3**	ug/L	0.40	0.082	1		12/16/14 03:18	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/16/14 03:18	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%.	75-125		1		12/16/14 03:18	17060-07-0	
Toluene-d8 (S)	92	%.	75-125		1		12/16/14 03:18	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125		1		12/16/14 03:18	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**553**	mg/L	19.5	9.7	1		12/12/14 16:45		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**16.9**	mg/L	5.0	2.5	5		12/23/14 16:21	16887-00-6	
Sulfate	**12.9**	mg/L	5.0	2.5	5		12/23/14 16:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: DUP **Lab ID: 10291433028** Collected: 12/08/14 14:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.020**	mg/L	0.010	0.0028	1		12/18/14 17:59		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: TRIP BLANK **Lab ID: 10291433029** Collected: 12/08/14 00:00 Received: 12/12/14 09:45 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		12/15/14 23:00	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/15/14 23:00	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/15/14 23:00	71-43-2	
Bromochloromethane	**<0.16**	ug/L	4.0	0.16	1		12/15/14 23:00	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:00	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:00	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:00	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:00	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		12/15/14 23:00	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/15/14 23:00	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/15/14 23:00	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		12/15/14 23:00	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/15/14 23:00	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/15/14 23:00	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:00	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:00	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:00	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/15/14 23:00	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/15/14 23:00	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/15/14 23:00	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:00	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/15/14 23:00	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/15/14 23:00	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:00	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:00	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:00	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:00	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	4.0	0.15	1		12/15/14 23:00	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/15/14 23:00	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/15/14 23:00	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:00	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/15/14 23:00	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/15/14 23:00	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/15/14 23:00	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:00	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:00	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/15/14 23:00	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/15/14 23:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/15/14 23:00	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:00	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/15/14 23:00	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/15/14 23:00	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/15/14 23:00	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/15/14 23:00	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/15/14 23:00	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/15/14 23:00	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: TRIP BLANK **Lab ID: 10291433029** Collected: 12/08/14 00:00 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/15/14 23:00	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/15/14 23:00	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/15/14 23:00	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	4.0	0.14	1		12/15/14 23:00	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/15/14 23:00	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	4.0	0.12	1		12/15/14 23:00	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/15/14 23:00	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/15/14 23:00	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/15/14 23:00	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/15/14 23:00	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.40	0.082	1		12/15/14 23:00	75-01-4	
Xylene (Total)	**<0.21**	ug/L	2.0	0.21	1		12/15/14 23:00	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		12/15/14 23:00	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		12/15/14 23:00	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		12/15/14 23:00	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: SNOWFILL WELL **Lab ID: 10291433030** Collected: 12/10/14 14:13 Received: 12/12/14 09:45 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	**0.00066**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:24	7440-38-2	
Barium, Dissolved	**0.035**	mg/L	0.010	0.00014	1	12/15/14 20:46	12/16/14 10:24	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	12/15/14 20:46	12/16/14 10:24	7440-43-9	
Calcium, Dissolved	**71.9**	mg/L	0.20	0.042	5	12/15/14 20:46	12/16/14 11:30	7440-70-2	
Chromium, Dissolved	**0.0011**	mg/L	0.00050	0.00022	1	12/15/14 20:46	12/16/14 10:24	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:24	7440-48-4	
Copper, Dissolved	**0.0064**	mg/L	0.0010	0.00022	1	12/15/14 20:46	12/16/14 10:24	7440-50-8	
Iron, Dissolved	**0.012J**	mg/L	0.050	0.0080	1	12/15/14 20:46	12/16/14 10:24	7439-89-6	
Lead, Dissolved	**0.000099J**	mg/L	0.00010	0.000046	1	12/15/14 20:46	12/16/14 10:24	7439-92-1	
Magnesium, Dissolved	**21.6**	mg/L	0.010	0.0028	1	12/15/14 20:46	12/16/14 10:24	7439-95-4	
Manganese, Dissolved	**0.0028**	mg/L	0.00050	0.00014	1	12/15/14 20:46	12/16/14 10:24	7439-96-5	
Nickel, Dissolved	**0.00062**	mg/L	0.00050	0.00023	1	12/15/14 20:46	12/16/14 10:24	7440-02-0	
Potassium, Dissolved	**1.5**	mg/L	0.050	0.0083	1	12/15/14 20:46	12/16/14 10:24	7440-09-7	
Selenium, Dissolved	**0.0010**	mg/L	0.00050	0.00025	1	12/15/14 20:46	12/16/14 10:24	7782-49-2	
Silver, Dissolved	**<0.000056**	mg/L	0.00050	0.000056	1	12/15/14 20:46	12/16/14 10:24	7440-22-4	
Sodium, Dissolved	**9.2**	mg/L	0.050	0.018	1	12/15/14 20:46	12/16/14 10:24	7440-23-5	
Thallium, Dissolved	**<0.000025**	mg/L	0.00010	0.000025	1	12/15/14 20:46	12/16/14 10:24	7440-28-0	
Total Hardness by 2340B, Dissolved	**268**	mg/L	0.36	0.18	5	12/15/14 20:46	12/16/14 11:30		
Vanadium, Dissolved	**0.0034**	mg/L	0.0010	0.00021	1	12/15/14 20:46	12/16/14 10:24	7440-62-2	
Zinc, Dissolved	**0.030**	mg/L	0.0050	0.0025	1	12/15/14 20:46	12/16/14 10:24	7440-66-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/16/14 06:13	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		12/16/14 06:13	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		12/16/14 06:13	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 06:13	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		12/16/14 06:13	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/16/14 06:13	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 06:13	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 06:13	78-93-3	
Carbon disulfide	**<0.18**	ug/L	4.0	0.18	1		12/16/14 06:13	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/16/14 06:13	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		12/16/14 06:13	108-90-7	
Chloroethane	**<0.27**	ug/L	4.0	0.27	1		12/16/14 06:13	75-00-3	L3
Chloroform	**<0.20**	ug/L	0.50	0.20	1		12/16/14 06:13	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		12/16/14 06:13	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/16/14 06:13	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 06:13	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 06:13	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		12/16/14 06:13	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		12/16/14 06:13	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		12/16/14 06:13	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 06:13	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		12/16/14 06:13	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		12/16/14 06:13	75-71-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: SNOWFILL WELL **Lab ID: 10291433030** Collected: 12/10/14 14:13 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		12/16/14 06:13	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 06:13	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		12/16/14 06:13	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 06:13	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		12/16/14 06:13	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		12/16/14 06:13	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		12/16/14 06:13	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 06:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		12/16/14 06:13	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		12/16/14 06:13	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		12/16/14 06:13	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		12/16/14 06:13	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		12/16/14 06:13	74-88-4	
Isopropylbenzene (Cumene)	**<0.087**	ug/L	0.50	0.087	1		12/16/14 06:13	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		12/16/14 06:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		12/16/14 06:13	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		12/16/14 06:13	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		12/16/14 06:13	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		12/16/14 06:13	103-65-1	
Styrene	**<0.069**	ug/L	0.50	0.069	1		12/16/14 06:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		12/16/14 06:13	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		12/16/14 06:13	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		12/16/14 06:13	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		12/16/14 06:13	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		12/16/14 06:13	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		12/16/14 06:13	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		12/16/14 06:13	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		12/16/14 06:13	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		12/16/14 06:13	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		12/16/14 06:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		12/16/14 06:13	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		12/16/14 06:13	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		12/16/14 06:13	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		12/16/14 06:13	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		12/16/14 06:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%.	75-125		1		12/16/14 06:13	17060-07-0	
Toluene-d8 (S)	96	%.	75-125		1		12/16/14 06:13	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	75-125		1		12/16/14 06:13	460-00-4	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**297**	mg/L	20.0	10.0	1		12/15/14 15:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**19.3**	mg/L	10.0	5.0	10		12/23/14 17:56	16887-00-6	
Sulfate	**21.7**	mg/L	10.0	5.0	10		12/23/14 17:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Sample: SNOWFILL WELL **Lab ID: 10291433030** Collected: 12/10/14 14:13 Received: 12/12/14 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.2**	mg/L	0.20	0.055	20		12/18/14 16:54		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MPRP/51329 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET
Associated Lab Samples: 10291433027

METHOD BLANK: 1867331 Matrix: Water
Associated Lab Samples: 10291433027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.00025	0.00050	12/18/14 08:50	
Barium	mg/L	<0.00014	0.00030	12/18/14 08:50	
Cadmium	mg/L	<0.000033	0.000080	12/18/14 08:50	
Chromium	mg/L	<0.00022	0.00050	12/18/14 08:50	
Cobalt	mg/L	<0.00025	0.00050	12/18/14 08:50	
Copper	mg/L	<0.00022	0.0010	12/18/14 08:50	
Iron	mg/L	<0.0080	0.050	12/18/14 08:50	
Lead	mg/L	<0.000046	0.00010	12/18/14 08:50	
Manganese	mg/L	0.0016	0.00050	12/18/14 08:50	
Nickel	mg/L	<0.00023	0.00050	12/18/14 08:50	
Selenium	mg/L	<0.00025	0.00050	12/18/14 08:50	
Silver	mg/L	<0.000056	0.00050	12/18/14 08:50	
Thallium	mg/L	<0.000025	0.00010	12/18/14 08:50	
Vanadium	mg/L	<0.00021	0.0010	12/18/14 08:50	
Zinc	mg/L	<0.0025	0.0050	12/18/14 08:50	

LABORATORY CONTROL SAMPLE: 1867332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.08	0.082	102	80-120	
Barium	mg/L	.08	0.087	109	80-120	
Cadmium	mg/L	.08	0.082	103	80-120	
Chromium	mg/L	.08	0.086	107	80-120	
Cobalt	mg/L	.08	0.089	112	80-120	
Copper	mg/L	.08	0.088	111	80-120	
Iron	mg/L	1	1.1	108	80-120	
Lead	mg/L	.08	0.083	104	80-120	
Manganese	mg/L	.08	0.084	105	80-120	
Nickel	mg/L	.08	0.084	105	80-120	
Selenium	mg/L	.08	0.078	98	80-120	
Silver	mg/L	.08	0.091	113	80-120	
Thallium	mg/L	.08	0.089	112	80-120	
Vanadium	mg/L	.08	0.084	105	80-120	
Zinc	mg/L	.08	0.085	107	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1867333 1867334

Parameter	Units	10291433027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.00066	.08	.08	0.081	0.082	101	101	75-125	0	20	
Barium	mg/L	<0.00014	.08	.08	0.080	0.081	99	102	75-125	2	20	
Cadmium	mg/L	<0.000033	.08	.08	0.080	0.081	100	101	75-125	1	20	
Chromium	mg/L	0.0011	.08	.08	0.083	0.084	102	103	75-125	1	20	
Cobalt	mg/L	<0.00025	.08	.08	0.082	0.083	102	103	75-125	1	20	
Copper	mg/L	0.0037	.08	.08	0.089	0.089	106	107	75-125	1	20	
Iron	mg/L	<0.0080	1	1	1.1	1.1	107	108	75-125	1	20	
Lead	mg/L	0.000067J	.08	.08	0.077	0.078	96	98	75-125	2	20	
Manganese	mg/L	0.00016J	.08	.08	0.081	0.082	101	102	75-125	1	20	
Nickel	mg/L	<0.00023	.08	.08	0.081	0.081	101	101	75-125	1	20	
Selenium	mg/L	0.00083	.08	.08	0.080	0.080	99	99	75-125	0	20	
Silver	mg/L	0.00012J	.08	.08	0.079	0.081	98	101	75-125	3	20	
Thallium	mg/L	0.000026J	.08	.08	0.082	0.083	103	104	75-125	1	20	
Vanadium	mg/L	0.0041	.08	.08	0.086	0.087	102	103	75-125	1	20	
Zinc	mg/L	0.016	.08	.08	0.10	0.10	104	107	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MPRP/51228
QC Batch Method: EPA 3020
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016, 10291433018, 10291433026, 10291433028, 10291433030

METHOD BLANK: 1864031
Matrix: Water
Associated Lab Samples: 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016, 10291433018, 10291433026, 10291433028, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.00025	0.00050	12/16/14 09:00	
Barium, Dissolved	mg/L	0.00023J	0.010	12/16/14 09:00	
Cadmium, Dissolved	mg/L	<0.000033	0.000080	12/16/14 09:00	
Calcium, Dissolved	mg/L	<0.0084	0.040	12/16/14 09:00	
Chromium, Dissolved	mg/L	<0.00022	0.00050	12/16/14 09:00	
Cobalt, Dissolved	mg/L	<0.00025	0.00050	12/16/14 09:00	
Copper, Dissolved	mg/L	<0.00022	0.0010	12/16/14 09:00	
Iron, Dissolved	mg/L	<0.0080	0.050	12/16/14 09:00	
Lead, Dissolved	mg/L	<0.000046	0.00010	12/16/14 09:00	
Magnesium, Dissolved	mg/L	<0.0028	0.010	12/16/14 09:00	
Manganese, Dissolved	mg/L	<0.00014	0.00050	12/16/14 09:00	
Nickel, Dissolved	mg/L	<0.00023	0.00050	12/16/14 09:00	
Potassium, Dissolved	mg/L	<0.0083	0.050	12/16/14 09:00	
Selenium, Dissolved	mg/L	<0.00025	0.00050	12/16/14 09:00	
Silver, Dissolved	mg/L	<0.000056	0.00050	12/16/14 09:00	
Sodium, Dissolved	mg/L	<0.018	0.050	12/16/14 09:00	
Thallium, Dissolved	mg/L	<0.000025	0.00010	12/16/14 09:00	
Vanadium, Dissolved	mg/L	<0.00021	0.0010	12/16/14 09:00	
Zinc, Dissolved	mg/L	<0.0025	0.0050	12/16/14 09:00	

LABORATORY CONTROL SAMPLE: 1864032

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	0.086	107	80-120	
Cadmium, Dissolved	mg/L	.08	0.080	99	80-120	
Calcium, Dissolved	mg/L	1	1.0	103	80-120	
Chromium, Dissolved	mg/L	.08	0.082	102	80-120	
Cobalt, Dissolved	mg/L	.08	0.086	108	80-120	
Copper, Dissolved	mg/L	.08	0.084	105	80-120	
Iron, Dissolved	mg/L	1	1.1	111	80-120	
Lead, Dissolved	mg/L	.08	0.086	108	80-120	
Magnesium, Dissolved	mg/L	1	1.0	105	80-120	
Manganese, Dissolved	mg/L	.08	0.079	99	80-120	
Nickel, Dissolved	mg/L	.08	0.081	101	80-120	
Potassium, Dissolved	mg/L	1	0.99	99	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

LABORATORY CONTROL SAMPLE: 1864032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Selenium, Dissolved	mg/L	.08	0.080	100	80-120	
Silver, Dissolved	mg/L	.08	0.089	112	80-120	
Sodium, Dissolved	mg/L	1	1.1	111	80-120	
Thallium, Dissolved	mg/L	.08	0.088	110	80-120	
Vanadium, Dissolved	mg/L	.08	0.079	99	80-120	
Zinc, Dissolved	mg/L	.08	0.085	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1864033 1864034

Parameter	Units	10291433002 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	0.00051	.08	.08	0.078	0.079	97	98	75-125	1	20	
Barium, Dissolved	mg/L	0.042	.08	.08	0.12	0.12	92	94	75-125	1	20	
Cadmium, Dissolved	mg/L	<0.000033	.08	.08	0.076	0.075	94	94	75-125	1	20	
Calcium, Dissolved	mg/L	95.3	1	1	94.0	95.8	-122	54	75-125	2	20	M1
Chromium, Dissolved	mg/L	0.0046	.08	.08	0.082	0.083	97	97	75-125	0	20	
Cobalt, Dissolved	mg/L	<0.00025	.08	.08	0.075	0.075	94	94	75-125	1	20	
Copper, Dissolved	mg/L	0.00051J	.08	.08	0.079	0.079	98	98	75-125	0	20	
Iron, Dissolved	mg/L	<0.0080	1	1	1.1	1.1	105	106	75-125	1	20	
Lead, Dissolved	mg/L	0.000067J	.08	.08	0.077	0.077	96	97	75-125	0	20	
Magnesium, Dissolved	mg/L	39.0	1	1	39.5	39.9	52	93	75-125	1	20	M1
Manganese, Dissolved	mg/L	<0.00014	.08	.08	0.075	0.075	94	93	75-125	0	20	
Nickel, Dissolved	mg/L	<0.00023	.08	.08	0.075	0.075	94	94	75-125	0	20	
Potassium, Dissolved	mg/L	1.6	1	1	2.3	2.4	77	81	75-125	2	20	
Selenium, Dissolved	mg/L	0.00078	.08	.08	0.078	0.080	97	98	75-125	2	20	
Silver, Dissolved	mg/L	<0.000056	.08	.08	0.078	0.079	98	99	75-125	2	20	
Sodium, Dissolved	mg/L	9.3	1	1	10.1	10.4	85	110	75-125	2	20	
Thallium, Dissolved	mg/L	<0.000025	.08	.08	0.077	0.077	96	97	75-125	0	20	
Vanadium, Dissolved	mg/L	0.0025	.08	.08	0.079	0.079	96	96	75-125	0	20	
Zinc, Dissolved	mg/L	0.0058	.08	.08	0.084	0.084	98	98	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MSV/29758 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10291433003, 10291433007, 10291433008, 10291433010, 10291433011, 10291433022, 10291433023, 10291433025, 10291433028, 10291433029

METHOD BLANK: 1864280 Matrix: Water
Associated Lab Samples: 10291433003, 10291433007, 10291433008, 10291433010, 10291433011, 10291433022, 10291433023, 10291433025, 10291433028, 10291433029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	0.50	12/15/14 20:39	
1,1,1-Trichloroethane	ug/L	<0.17	0.50	12/15/14 20:39	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	0.50	12/15/14 20:39	
1,1,2-Trichloroethane	ug/L	<0.14	4.0	12/15/14 20:39	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	1.0	12/15/14 20:39	
1,1-Dichloroethane	ug/L	<0.087	0.50	12/15/14 20:39	
1,1-Dichloroethene	ug/L	<0.17	0.50	12/15/14 20:39	
1,2,3-Trichloropropane	ug/L	<1.2	4.0	12/15/14 20:39	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	12/15/14 20:39	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	12/15/14 20:39	
1,2-Dibromoethane (EDB)	ug/L	<0.097	0.50	12/15/14 20:39	
1,2-Dichlorobenzene	ug/L	<0.082	0.50	12/15/14 20:39	
1,2-Dichloroethane	ug/L	<0.10	0.50	12/15/14 20:39	
1,2-Dichloropropane	ug/L	<0.10	4.0	12/15/14 20:39	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	12/15/14 20:39	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	200	12/15/14 20:39	
2-Butanone (MEK)	ug/L	<2.5	5.0	12/15/14 20:39	
2-Hexanone	ug/L	<2.5	5.0	12/15/14 20:39	
2-Propanol	ug/L	<50.0	100	12/15/14 20:39	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	12/15/14 20:39	
Acetone	ug/L	<10.0	20.0	12/15/14 20:39	
Acrylonitrile	ug/L	<1.0	10.0	12/15/14 20:39	
Benzene	ug/L	<0.073	0.50	12/15/14 20:39	
Bromochloromethane	ug/L	<0.16	4.0	12/15/14 20:39	
Bromodichloromethane	ug/L	<0.11	0.50	12/15/14 20:39	
Bromoform	ug/L	<2.0	4.0	12/15/14 20:39	
Bromomethane	ug/L	<2.0	4.0	12/15/14 20:39	
Carbon disulfide	ug/L	<0.18	1.0	12/15/14 20:39	
Carbon tetrachloride	ug/L	<0.17	1.0	12/15/14 20:39	
Chlorobenzene	ug/L	<0.066	0.50	12/15/14 20:39	
Chloroethane	ug/L	<0.27	1.0	12/15/14 20:39	
Chloroform	ug/L	<0.20	0.50	12/15/14 20:39	
Chloromethane	ug/L	<0.34	4.0	12/15/14 20:39	
cis-1,2-Dichloroethene	ug/L	<0.11	0.50	12/15/14 20:39	
cis-1,3-Dichloropropene	ug/L	<0.093	0.50	12/15/14 20:39	
Cyclohexane	ug/L	<2.5	5.0	12/15/14 20:39	
Dibromochloromethane	ug/L	<0.086	0.50	12/15/14 20:39	
Dibromomethane	ug/L	<0.18	0.50	12/15/14 20:39	
Dichlorodifluoromethane	ug/L	<0.50	1.0	12/15/14 20:39	
Ethylbenzene	ug/L	<0.096	0.50	12/15/14 20:39	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

METHOD BLANK: 1864280 Matrix: Water

Associated Lab Samples: 10291433003, 10291433007, 10291433008, 10291433010, 10291433011, 10291433022, 10291433023, 10291433025, 10291433028, 10291433029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iodomethane	ug/L	<2.0	4.0	12/15/14 20:39	
Isopropylbenzene (Cumene)	ug/L	<0.087	0.50	12/15/14 20:39	
Methyl-tert-butyl ether	ug/L	<0.12	0.50	12/15/14 20:39	
Methylene Chloride	ug/L	<2.0	4.0	12/15/14 20:39	
n-Hexane	ug/L	<5.0	10.0	12/15/14 20:39	
n-Propylbenzene	ug/L	<0.077	0.50	12/15/14 20:39	
Styrene	ug/L	<0.069	0.50	12/15/14 20:39	
Tetrachloroethene	ug/L	<0.12	0.50	12/15/14 20:39	
Tetrahydrofuran	ug/L	<0.98	10.0	12/15/14 20:39	
Toluene	ug/L	<0.11	0.50	12/15/14 20:39	
trans-1,2-Dichloroethene	ug/L	<0.15	4.0	12/15/14 20:39	
trans-1,3-Dichloropropene	ug/L	<0.11	0.50	12/15/14 20:39	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	10.0	12/15/14 20:39	
Trichloroethene	ug/L	<0.084	0.40	12/15/14 20:39	
Trichlorofluoromethane	ug/L	<0.12	4.0	12/15/14 20:39	
Vinyl acetate	ug/L	<0.13	10.0	12/15/14 20:39	
Vinyl chloride	ug/L	<0.082	0.40	12/15/14 20:39	
Xylene (Total)	ug/L	<0.21	2.0	12/15/14 20:39	
1,2-Dichloroethane-d4 (S)	%.	98	75-125	12/15/14 20:39	
4-Bromofluorobenzene (S)	%.	104	75-125	12/15/14 20:39	
Toluene-d8 (S)	%.	99	75-125	12/15/14 20:39	

LABORATORY CONTROL SAMPLE: 1864281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	18.8	94	75-125	
1,1,1-Trichloroethane	ug/L	20	19.4	97	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	74-125	
1,1,2-Trichloroethane	ug/L	20	18.9	94	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	23.0	115	56-133	
1,1-Dichloroethane	ug/L	20	17.6	88	75-125	
1,1-Dichloroethene	ug/L	20	23.9	119	70-125	
1,2,3-Trichloropropane	ug/L	20	20.4	102	75-125	
1,2,4-Trimethylbenzene	ug/L	20	18.5	92	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	43.0	86	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	20	18.3	91	75-125	
1,2-Dichloroethane	ug/L	20	19.4	97	75-125	
1,2-Dichloropropane	ug/L	20	18.8	94	75-125	
1,4-Dichlorobenzene	ug/L	20	17.8	89	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	357	89	73-128	
2-Butanone (MEK)	ug/L	100	97.8	98	64-126	
2-Hexanone	ug/L	100	102	102	69-127	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

LABORATORY CONTROL SAMPLE: 1864281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/L	200	184	92	57-132	
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.0	99	71-125	
Acetone	ug/L	100	88.9	89	66-131	
Acrylonitrile	ug/L	200	189	94	68-127	
Benzene	ug/L	20	19.9	99	75-125	
Bromochloromethane	ug/L	20	22.4	112	75-125	
Bromodichloromethane	ug/L	20	18.9	95	75-125	
Bromoform	ug/L	20	19.7	99	70-125	
Bromomethane	ug/L	20	21.1	105	30-150	
Carbon disulfide	ug/L	20	21.3	107	60-125	
Carbon tetrachloride	ug/L	20	20.3	102	68-129	
Chlorobenzene	ug/L	20	19.8	99	75-125	
Chloroethane	ug/L	20	16.2	81	68-133	
Chloroform	ug/L	20	19.2	96	75-125	
Chloromethane	ug/L	20	16.7	84	57-140	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	
Cyclohexane	ug/L	100	107	107	57-127	
Dibromochloromethane	ug/L	20	20.1	100	75-125	
Dibromomethane	ug/L	20	19.6	98	75-125	
Dichlorodifluoromethane	ug/L	20	18.8	94	50-134	
Ethylbenzene	ug/L	20	19.2	96	75-125	
Iodomethane	ug/L	20	18.7	93	30-150	
Isopropylbenzene (Cumene)	ug/L	20	19.8	99	73-125	
Methyl-tert-butyl ether	ug/L	20	17.5	88	75-125	
Methylene Chloride	ug/L	20	19.3	96	75-125	
n-Hexane	ug/L	50	49.8	100	30-150	
n-Propylbenzene	ug/L	20	19.6	98	72-125	
Styrene	ug/L	20	19.5	97	75-125	
Tetrachloroethene	ug/L	20	20.4	102	71-125	
Tetrahydrofuran	ug/L	200	187	93	70-125	
Toluene	ug/L	20	18.8	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	73-125	
trans-1,3-Dichloropropene	ug/L	20	18.4	92	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	49.7	99	63-127	
Trichloroethene	ug/L	20	19.1	96	75-125	
Trichlorofluoromethane	ug/L	20	20.2	101	70-128	
Vinyl acetate	ug/L	20	20.3	101	59-131	
Vinyl chloride	ug/L	20	18.5	92	70-130	
Xylene (Total)	ug/L	60	57.0	95	75-125	
1,2-Dichloroethane-d4 (S)	%.			100	75-125	
4-Bromofluorobenzene (S)	%.			101	75-125	
Toluene-d8 (S)	%.			101	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

MATRIX SPIKE SAMPLE: 1866212

Parameter	Units	10291433003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	20	24.6	123	74-131	
1,1,1-Trichloroethane	ug/L	<0.17	20	29.3	147	73-139	M1
1,1,2,2-Tetrachloroethane	ug/L	<0.086	20	28.4	142	72-125	M1
1,1,2-Trichloroethane	ug/L	<0.14	20	27.5	138	75-125	M1
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	20	29.2	146	68-150	
1,1-Dichloroethane	ug/L	<0.087	20	28.4	142	73-132	M1
1,1-Dichloroethene	ug/L	<0.17	20	30.7	153	71-142	M1
1,2,3-Trichloropropane	ug/L	<1.2	20	27.4	137	74-125	M1
1,2,4-Trimethylbenzene	ug/L	<0.25	20	22.2	111	72-136	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	60.6	121	66-127	
1,2-Dibromoethane (EDB)	ug/L	<0.097	20	28.3	141	75-125	M1
1,2-Dichlorobenzene	ug/L	<0.082	20	24.8	124	75-125	
1,2-Dichloroethane	ug/L	<0.10	20	30.4	152	68-128	M1
1,2-Dichloropropane	ug/L	<0.10	20	27.1	135	74-131	M1
1,4-Dichlorobenzene	ug/L	<0.25	20	22.0	110	73-125	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	400	565	141	64-137	M1
2-Butanone (MEK)	ug/L	<2.5	100	146	146	56-140	M1
2-Hexanone	ug/L	<2.5	100	147	147	63-132	M1
2-Propanol	ug/L	<50.0	200	323	161	30-150	M1
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	142	142	69-128	M1
Acetone	ug/L	<10.0	100	137	137	57-143	
Acrylonitrile	ug/L	<1.0	200	275	137	50-149	
Benzene	ug/L	<0.073	20	28.2	141	75-129	M1
Bromochloromethane	ug/L	<0.16	20	30.1	150	75-126	M1
Bromodichloromethane	ug/L	<0.11	20	28.2	141	75-128	M1
Bromoform	ug/L	<2.0	20	28.4	142	66-130	M1
Bromomethane	ug/L	<2.0	20	28.5	142	30-150	
Carbon disulfide	ug/L	<0.18	20	30.0	150	56-140	M1
Carbon tetrachloride	ug/L	<0.17	20	28.3	142	69-148	
Chlorobenzene	ug/L	<0.066	20	24.8	124	75-125	
Chloroethane	ug/L	<0.27	20	26.7	133	71-143	
Chloroform	ug/L	<0.20	20	29.2	146	75-126	M1
Chloromethane	ug/L	<0.34	20	26.8	134	55-150	
cis-1,2-Dichloroethene	ug/L	<0.11	20	29.2	146	75-130	M1
cis-1,3-Dichloropropene	ug/L	<0.093	20	26.3	132	72-129	M1
Cyclohexane	ug/L	<2.5	100	126	126	56-150	
Dibromochloromethane	ug/L	<0.086	20	29.0	145	73-129	M1
Dibromomethane	ug/L	<0.18	20	27.8	139	75-125	M1
Dichlorodifluoromethane	ug/L	0.70J	20	27.6	135	70-150	
Ethylbenzene	ug/L	<0.096	20	23.9	120	75-128	
Iodomethane	ug/L	<2.0	20	28.4	142	30-150	
Isopropylbenzene (Cumene)	ug/L	<0.087	20	22.6	113	75-131	
Methyl-tert-butyl ether	ug/L	<0.12	20	27.1	136	74-128	M1
Methylene Chloride	ug/L	<2.0	20	28.2	141	69-125	M1
n-Hexane	ug/L	<5.0	50	54.3	109	30-150	
n-Propylbenzene	ug/L	<0.077	20	22.2	111	72-131	
Styrene	ug/L	<0.069	20	25.3	126	75-128	

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REPORT OF LABORATORY ANALYSIS

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(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

MATRIX SPIKE SAMPLE: 1866212

Parameter	Units	10291433003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	1.2	20	26.3	126	68-140	
Tetrahydrofuran	ug/L	<0.98	200	265	132	65-131	M1
Toluene	ug/L	<0.11	20	25.0	125	75-129	
trans-1,2-Dichloroethene	ug/L	<0.15	20	29.3	146	70-136	M1
trans-1,3-Dichloropropene	ug/L	<0.11	20	26.3	131	71-125	M1
trans-1,4-Dichloro-2-butene	ug/L	<0.37	50	70.7	141	57-136	M1
Trichloroethene	ug/L	1.0	20	27.6	133	72-135	
Trichlorofluoromethane	ug/L	<0.12	20	29.4	147	75-150	
Vinyl acetate	ug/L	<0.13	20	28.0	140	55-132	M1
Vinyl chloride	ug/L	<0.082	20	27.4	137	73-150	
Xylene (Total)	ug/L	<0.21	60	73.3	122	75-129	
1,2-Dichloroethane-d4 (S)	%.				103	75-125	
4-Bromofluorobenzene (S)	%.				99	75-125	
Toluene-d8 (S)	%.				94	75-125	

SAMPLE DUPLICATE: 1866214

Parameter	Units	10291433007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	<0.10		30	
1,1,1-Trichloroethane	ug/L	<0.17	<0.17		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	<0.086		30	
1,1,2-Trichloroethane	ug/L	<0.14	<0.14		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	<0.16		30	
1,1-Dichloroethane	ug/L	<0.087	<0.087		30	
1,1-Dichloroethene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<1.2	<1.2		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	<0.097	<0.097		30	
1,2-Dichlorobenzene	ug/L	<0.082	<0.082		30	
1,2-Dichloroethane	ug/L	<0.10	<0.10		30	
1,2-Dichloropropane	ug/L	<0.10	<0.10		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	<28.7		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
2-Propanol	ug/L	<50.0	<50.0		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Acrylonitrile	ug/L	<1.0	<1.0		30	
Benzene	ug/L	<0.073	<0.073		30	
Bromochloromethane	ug/L	<0.16	<0.16		30	
Bromodichloromethane	ug/L	<0.11	<0.11		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	

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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

SAMPLE DUPLICATE: 1866214

Parameter	Units	10291433007 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/L	<0.18	<0.18		30	
Carbon tetrachloride	ug/L	<0.17	<0.17		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.27	<0.27		30	
Chloroform	ug/L	<0.20	<0.20		30	
Chloromethane	ug/L	<0.34	<0.34		30	
cis-1,2-Dichloroethene	ug/L	1.4	1.1	28	30	
cis-1,3-Dichloropropene	ug/L	<0.093	<0.093		30	
Cyclohexane	ug/L	<2.5	<2.5		30	
Dibromochloromethane	ug/L	<0.086	<0.086		30	
Dibromomethane	ug/L	<0.18	<0.18		30	
Dichlorodifluoromethane	ug/L	<0.50	<0.50		30	
Ethylbenzene	ug/L	<0.096	<0.096		30	
Iodomethane	ug/L	<2.0	<2.0		30	
Isopropylbenzene (Cumene)	ug/L	<0.087	<0.087		30	
Methyl-tert-butyl ether	ug/L	<0.12	<0.12		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Hexane	ug/L	<5.0	<5.0		30	
n-Propylbenzene	ug/L	<0.077	<0.077		30	
Styrene	ug/L	<0.069	<0.069		30	
Tetrachloroethene	ug/L	0.99	0.96	3	30	
Tetrahydrofuran	ug/L	<0.98	<0.98		30	
Toluene	ug/L	<0.11	<0.11		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.11	<0.11		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	<0.37		30	
Trichloroethene	ug/L	0.58	0.57	2	30	
Trichlorofluoromethane	ug/L	<0.12	<0.12		30	
Vinyl acetate	ug/L	<0.13	<0.13		30	
Vinyl chloride	ug/L	<0.082	<0.082		30	
Xylene (Total)	ug/L	<0.21	<0.21		30	
1,2-Dichloroethane-d4 (S)	%.	102	98	4		
4-Bromofluorobenzene (S)	%.	97	102	5		
Toluene-d8 (S)	%.	102	101	1		

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REPORT OF LABORATORY ANALYSIS

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Billings, MT 59101
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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MSV/29759 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10291433001, 10291433002, 10291433004, 10291433005, 10291433006, 10291433009, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016, 10291433017, 10291433018, 10291433019, 10291433020, 10291433021, 10291433024, 10291433026, 10291433027, 10291433030

METHOD BLANK: 1864283 Matrix: Water
Associated Lab Samples: 10291433001, 10291433002, 10291433004, 10291433005, 10291433006, 10291433009, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016, 10291433017, 10291433018, 10291433019, 10291433020, 10291433021, 10291433024, 10291433026, 10291433027, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	0.50	12/15/14 21:37	
1,1,1-Trichloroethane	ug/L	<0.17	0.50	12/15/14 21:37	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	0.50	12/15/14 21:37	
1,1,2-Trichloroethane	ug/L	<0.14	0.50	12/15/14 21:37	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	1.0	12/15/14 21:37	
1,1-Dichloroethane	ug/L	<0.087	0.50	12/15/14 21:37	
1,1-Dichloroethene	ug/L	<0.17	0.50	12/15/14 21:37	
1,2,3-Trichloropropane	ug/L	<1.2	4.0	12/15/14 21:37	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	12/15/14 21:37	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	12/15/14 21:37	
1,2-Dibromoethane (EDB)	ug/L	<0.097	0.50	12/15/14 21:37	
1,2-Dichlorobenzene	ug/L	<0.082	0.50	12/15/14 21:37	
1,2-Dichloroethane	ug/L	<0.10	0.50	12/15/14 21:37	
1,2-Dichloropropane	ug/L	<0.10	4.0	12/15/14 21:37	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	12/15/14 21:37	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	200	12/15/14 21:37	
2-Butanone (MEK)	ug/L	<2.5	5.0	12/15/14 21:37	
2-Hexanone	ug/L	<2.5	5.0	12/15/14 21:37	
2-Propanol	ug/L	<50.0	100	12/15/14 21:37	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	12/15/14 21:37	
Acetone	ug/L	<10.0	20.0	12/15/14 21:37	
Acrylonitrile	ug/L	<1.0	10.0	12/15/14 21:37	
Benzene	ug/L	<0.073	0.50	12/15/14 21:37	
Bromochloromethane	ug/L	<0.16	1.0	12/15/14 21:37	
Bromodichloromethane	ug/L	<0.11	0.50	12/15/14 21:37	
Bromoform	ug/L	<2.0	4.0	12/15/14 21:37	
Bromomethane	ug/L	<2.0	4.0	12/15/14 21:37	
Carbon disulfide	ug/L	<0.18	4.0	12/15/14 21:37	
Carbon tetrachloride	ug/L	<0.17	1.0	12/15/14 21:37	
Chlorobenzene	ug/L	<0.066	0.50	12/15/14 21:37	
Chloroethane	ug/L	<0.27	4.0	12/15/14 21:37	
Chloroform	ug/L	<0.20	0.50	12/15/14 21:37	
Chloromethane	ug/L	<0.34	4.0	12/15/14 21:37	
cis-1,2-Dichloroethene	ug/L	<0.11	0.50	12/15/14 21:37	
cis-1,3-Dichloropropene	ug/L	<0.093	0.50	12/15/14 21:37	
Cyclohexane	ug/L	<2.5	5.0	12/15/14 21:37	
Dibromochloromethane	ug/L	<0.086	0.50	12/15/14 21:37	
Dibromomethane	ug/L	<0.18	0.50	12/15/14 21:37	

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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

METHOD BLANK: 1864283 Matrix: Water

Associated Lab Samples: 10291433001, 10291433002, 10291433004, 10291433005, 10291433006, 10291433009, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016, 10291433017, 10291433018, 10291433019, 10291433020, 10291433021, 10291433024, 10291433026, 10291433027, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.50	1.0	12/15/14 21:37	
Ethylbenzene	ug/L	<0.096	0.50	12/15/14 21:37	
Iodomethane	ug/L	<2.0	4.0	12/15/14 21:37	
Isopropylbenzene (Cumene)	ug/L	<0.087	0.50	12/15/14 21:37	
Methyl-tert-butyl ether	ug/L	<0.12	0.50	12/15/14 21:37	
Methylene Chloride	ug/L	<2.0	4.0	12/15/14 21:37	
n-Hexane	ug/L	<5.0	10.0	12/15/14 21:37	
n-Propylbenzene	ug/L	<0.077	0.50	12/15/14 21:37	
Styrene	ug/L	<0.069	0.50	12/15/14 21:37	
Tetrachloroethene	ug/L	<0.12	0.50	12/15/14 21:37	
Tetrahydrofuran	ug/L	<0.98	10.0	12/15/14 21:37	
Toluene	ug/L	<0.11	0.50	12/15/14 21:37	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	12/15/14 21:37	
trans-1,3-Dichloropropene	ug/L	<0.11	0.50	12/15/14 21:37	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	10.0	12/15/14 21:37	
Trichloroethene	ug/L	<0.084	0.40	12/15/14 21:37	
Trichlorofluoromethane	ug/L	<0.12	0.50	12/15/14 21:37	
Vinyl acetate	ug/L	<0.13	10.0	12/15/14 21:37	
Vinyl chloride	ug/L	<0.082	0.20	12/15/14 21:37	
Xylene (Total)	ug/L	<0.21	1.5	12/15/14 21:37	
1,2-Dichloroethane-d4 (S)	%.	103	75-125	12/15/14 21:37	
4-Bromofluorobenzene (S)	%.	94	75-125	12/15/14 21:37	
Toluene-d8 (S)	%.	104	75-125	12/15/14 21:37	

LABORATORY CONTROL SAMPLE: 1864284

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	20.2	101	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	101	74-125	
1,1,2-Trichloroethane	ug/L	20	20.2	101	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.4	107	56-133	
1,1-Dichloroethane	ug/L	20	20.0	100	75-125	
1,1-Dichloroethene	ug/L	20	21.5	108	70-125	
1,2,3-Trichloropropane	ug/L	20	22.1	111	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	39.0	78	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	20	20.4	102	75-125	
1,2-Dichloroethane	ug/L	20	20.8	104	75-125	
1,2-Dichloropropane	ug/L	20	17.1	85	75-125	
1,4-Dichlorobenzene	ug/L	20	20.3	102	75-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

LABORATORY CONTROL SAMPLE: 1864284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	400	377	94	73-128	
2-Butanone (MEK)	ug/L	100	104	104	64-126	
2-Hexanone	ug/L	100	93.9	94	69-127	
2-Propanol	ug/L	200	217	108	57-132	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.6	99	71-125	
Acetone	ug/L	100	103	103	66-131	
Acrylonitrile	ug/L	200	194	97	68-127	
Benzene	ug/L	20	20.5	103	75-125	
Bromochloromethane	ug/L	20	20.4	102	75-125	
Bromodichloromethane	ug/L	20	19.5	97	75-125	
Bromoform	ug/L	20	22.0	110	70-125	
Bromomethane	ug/L	20	21.0	105	30-150	
Carbon disulfide	ug/L	20	18.3	92	60-125	
Carbon tetrachloride	ug/L	20	21.3	107	68-129	
Chlorobenzene	ug/L	20	19.9	100	75-125	
Chloroethane	ug/L	20	27.6	138	68-133	L0
Chloroform	ug/L	20	21.0	105	75-125	
Chloromethane	ug/L	20	18.1	91	57-140	
cis-1,2-Dichloroethene	ug/L	20	21.5	107	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.0	100	75-125	
Cyclohexane	ug/L	100	113	113	57-127	
Dibromochloromethane	ug/L	20	21.7	108	75-125	
Dibromomethane	ug/L	20	22.0	110	75-125	
Dichlorodifluoromethane	ug/L	20	20.8	104	50-134	
Ethylbenzene	ug/L	20	20.5	102	75-125	
Iodomethane	ug/L	20	15.9	80	30-150	
Isopropylbenzene (Cumene)	ug/L	20	20.7	104	73-125	
Methyl-tert-butyl ether	ug/L	20	19.1	95	75-125	
Methylene Chloride	ug/L	20	15.5	77	75-125	
n-Hexane	ug/L	50	48.3	97	30-150	
n-Propylbenzene	ug/L	20	20.8	104	72-125	
Styrene	ug/L	20	20.1	101	75-125	
Tetrachloroethene	ug/L	20	20.1	100	71-125	
Tetrahydrofuran	ug/L	200	187	93	70-125	
Toluene	ug/L	20	19.5	97	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.1	101	73-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	50.8	102	63-127	
Trichloroethene	ug/L	20	19.7	98	75-125	
Trichlorofluoromethane	ug/L	20	23.1	115	70-128	
Vinyl acetate	ug/L	20	21.3	107	59-131	
Vinyl chloride	ug/L	20	16.9	84	70-130	
Xylene (Total)	ug/L	60	60.9	102	75-125	
1,2-Dichloroethane-d4 (S)	%.			104	75-125	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			100	75-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

MATRIX SPIKE SAMPLE: 1866842

Parameter	Units	10291433004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	20	20.9	105	74-131	
1,1,1-Trichloroethane	ug/L	<0.17	20	23.9	119	73-139	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	20	20.1	101	72-125	
1,1,2-Trichloroethane	ug/L	<0.14	20	18.8	94	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	20	25.7	129	68-150	
1,1-Dichloroethane	ug/L	<0.087	20	23.2	116	73-132	
1,1-Dichloroethene	ug/L	<0.17	20	26.1	131	71-142	
1,2,3-Trichloropropane	ug/L	<1.2	20	19.4	97	74-125	
1,2,4-Trimethylbenzene	ug/L	<0.25	20	17.1	86	72-136	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	32.7	65	66-127	M1
1,2-Dibromoethane (EDB)	ug/L	<0.097	20	19.4	97	75-125	
1,2-Dichlorobenzene	ug/L	<0.082	20	17.1	86	75-125	
1,2-Dichloroethane	ug/L	<0.10	20	22.1	110	68-128	
1,2-Dichloropropane	ug/L	<0.10	20	18.5	92	74-131	
1,4-Dichlorobenzene	ug/L	<0.25	20	17.1	85	73-125	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	400	339	85	64-137	
2-Butanone (MEK)	ug/L	<2.5	100	102	102	56-140	
2-Hexanone	ug/L	<2.5	100	93.5	94	63-132	
2-Propanol	ug/L	<50.0	200	221	110	30-150	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	96.6	97	69-128	
Acetone	ug/L	<10.0	100	107	107	57-143	
Acrylonitrile	ug/L	<1.0	200	192	96	50-149	
Benzene	ug/L	<0.073	20	23.5	118	75-129	
Bromochloromethane	ug/L	<0.16	20	15.7	79	75-126	
Bromodichloromethane	ug/L	<0.11	20	20.5	103	75-128	
Bromoform	ug/L	<2.0	20	20.1	100	66-130	
Bromomethane	ug/L	<2.0	20	17.9	90	30-150	
Carbon disulfide	ug/L	<0.18	20	21.7	109	56-140	
Carbon tetrachloride	ug/L	<0.17	20	25.4	127	69-148	
Chlorobenzene	ug/L	<0.066	20	20.7	103	75-125	
Chloroethane	ug/L	<0.27	20	21.3	106	71-143	
Chloroform	ug/L	<0.20	20	24.0	120	75-126	
Chloromethane	ug/L	<0.34	20	16.6	83	55-150	
cis-1,2-Dichloroethene	ug/L	<0.11	20	22.6	113	75-130	
cis-1,3-Dichloropropene	ug/L	<0.093	20	19.7	99	72-129	
Cyclohexane	ug/L	<2.5	100	125	125	56-150	
Dibromochloromethane	ug/L	<0.086	20	19.0	95	73-129	
Dibromomethane	ug/L	<0.18	20	20.2	101	75-125	
Dichlorodifluoromethane	ug/L	<0.50	20	16.2	81	70-150	
Ethylbenzene	ug/L	<0.096	20	20.3	102	75-128	
Iodomethane	ug/L	<2.0	20	16.1	80	30-150	
Isopropylbenzene (Cumene)	ug/L	<0.087	20	19.7	99	75-131	
Methyl-tert-butyl ether	ug/L	<0.12	20	19.9	99	74-128	
Methylene Chloride	ug/L	<2.0	20	16.4	82	69-125	
n-Hexane	ug/L	<5.0	50	57.1	114	30-150	
n-Propylbenzene	ug/L	<0.077	20	19.3	97	72-131	
Styrene	ug/L	<0.069	20	18.8	94	75-128	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

MATRIX SPIKE SAMPLE: 1866842

Parameter	Units	10291433004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	<0.12	20	20.8	104	68-140	
Tetrahydrofuran	ug/L	<0.98	200	186	93	65-131	
Toluene	ug/L	<0.11	20	21.0	105	75-129	
trans-1,2-Dichloroethene	ug/L	<0.15	20	23.7	118	70-136	
trans-1,3-Dichloropropene	ug/L	<0.11	20	20.2	101	71-125	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	50	48.8	98	57-136	
Trichloroethene	ug/L	<0.084	20	23.8	119	72-135	
Trichlorofluoromethane	ug/L	<0.12	20	17.9	89	75-150	
Vinyl acetate	ug/L	<0.13	20	19.8	99	55-132	
Vinyl chloride	ug/L	<0.082	20	14.9	74	73-150	M1
Xylene (Total)	ug/L	<0.21	60	59.5	99	75-129	
1,2-Dichloroethane-d4 (S)	%.				108	75-125	
4-Bromofluorobenzene (S)	%.				95	75-125	
Toluene-d8 (S)	%.				100	75-125	

SAMPLE DUPLICATE: 1866841

Parameter	Units	10291433005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	<0.10		30	
1,1,1-Trichloroethane	ug/L	<0.17	<0.17		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	<0.086		30	
1,1,2-Trichloroethane	ug/L	<0.14	<0.14		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	<0.16		30	
1,1-Dichloroethane	ug/L	1.3	1.2	9	30	
1,1-Dichloroethene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<1.2	<1.2		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	<0.097	<0.097		30	
1,2-Dichlorobenzene	ug/L	<0.082	<0.082		30	
1,2-Dichloroethane	ug/L	<0.10	<0.10		30	
1,2-Dichloropropane	ug/L	<0.10	<0.10		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	<28.7		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
2-Propanol	ug/L	<50.0	<50.0		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Acrylonitrile	ug/L	<1.0	<1.0		30	
Benzene	ug/L	<0.073	<0.073		30	
Bromochloromethane	ug/L	<0.16	<0.16		30	
Bromodichloromethane	ug/L	<0.11	<0.11		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

SAMPLE DUPLICATE: 1866841

Parameter	Units	10291433005 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/L	<0.18	<0.18		30	
Carbon tetrachloride	ug/L	<0.17	<0.17		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.27	<0.27		30	
Chloroform	ug/L	<0.20	<0.20		30	
Chloromethane	ug/L	<0.34	<0.34		30	
cis-1,2-Dichloroethene	ug/L	1.9	1.9	3	30	
cis-1,3-Dichloropropene	ug/L	<0.093	<0.093		30	
Cyclohexane	ug/L	<2.5	<2.5		30	
Dibromochloromethane	ug/L	<0.086	<0.086		30	
Dibromomethane	ug/L	<0.18	<0.18		30	
Dichlorodifluoromethane	ug/L	<0.50	<0.50		30	
Ethylbenzene	ug/L	<0.096	<0.096		30	
Iodomethane	ug/L	<2.0	<2.0		30	
Isopropylbenzene (Cumene)	ug/L	<0.087	<0.087		30	
Methyl-tert-butyl ether	ug/L	<0.12	<0.12		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Hexane	ug/L	<5.0	<5.0		30	
n-Propylbenzene	ug/L	<0.077	<0.077		30	
Styrene	ug/L	<0.069	<0.069		30	
Tetrachloroethene	ug/L	1.0	0.92	9	30	
Tetrahydrofuran	ug/L	<0.98	<0.98		30	
Toluene	ug/L	<0.11	<0.11		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.11	<0.11		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	<0.37		30	
Trichloroethene	ug/L	0.77	0.78	0	30	
Trichlorofluoromethane	ug/L	<0.12	<0.12		30	
Vinyl acetate	ug/L	<0.13	<0.13		30	
Vinyl chloride	ug/L	0.82	0.86	4	30	
Xylene (Total)	ug/L	<0.21	<0.21		30	
1,2-Dichloroethane-d4 (S)	%.	105	105	0		
4-Bromofluorobenzene (S)	%.	97	93	4		
Toluene-d8 (S)	%.	101	101	0		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17771 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433015, 10291433016, 10291433018, 10291433022, 10291433023, 10291433028

METHOD BLANK: 1863975 Matrix: Water
Associated Lab Samples: 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433015, 10291433016, 10291433018, 10291433022, 10291433023, 10291433028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	10.7J	20.0	12/12/14 16:45	

LABORATORY CONTROL SAMPLE: 1863976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1010	953	94	80-120	

SAMPLE DUPLICATE: 1863977

Parameter	Units	10291433022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	504	490	3	10	

SAMPLE DUPLICATE: 1863978

Parameter	Units	10291433016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1070	1040	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17798 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 10291433001, 10291433013, 10291433014, 10291433017, 10291433019, 10291433020, 10291433021, 10291433024, 10291433026, 10291433030

METHOD BLANK: 1865334 Matrix: Water
Associated Lab Samples: 10291433001, 10291433013, 10291433014, 10291433017, 10291433019, 10291433020, 10291433021, 10291433024, 10291433026, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	20.0	12/15/14 15:30	

LABORATORY CONTROL SAMPLE: 1865335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	945	95	80-120	

SAMPLE DUPLICATE: 1865336

Parameter	Units	10291432001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	52.0	<10.0		10	

SAMPLE DUPLICATE: 1865337

Parameter	Units	10291433024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	488	483	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17821 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10291433001, 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016

METHOD BLANK: 1866434 Matrix: Water
Associated Lab Samples: 10291433001, 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433013, 10291433014, 10291433015, 10291433016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	12/18/14 01:55	
Sulfate	mg/L	<0.50	1.0	12/18/14 01:55	

LABORATORY CONTROL SAMPLE: 1866435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.3	93	90-110	
Sulfate	mg/L	10	9.4	94	90-110	

MATRIX SPIKE SAMPLE: 1866436

Parameter	Units	10291494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	64600 ug/L	500	524	92	90-110	
Sulfate	mg/L	1050000 ug/L	500	1540	99	90-110	E

MATRIX SPIKE SAMPLE: 1866438

Parameter	Units	10291433008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	35.6	30	66.4	103	90-110	E
Sulfate	mg/L	15.8	30	44.4	96	90-110	

SAMPLE DUPLICATE: 1867345

Parameter	Units	10291433001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	9.6	9.5	1	20	
Sulfate	mg/L	23.5	23.2	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

SAMPLE DUPLICATE: 1867346

Parameter	Units	10291433009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	53.6	52.1	3	20	
Sulfate	mg/L	52.4	51.0	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17837 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10291433017, 10291433018, 10291433019, 10291433020

METHOD BLANK: 1869601 Matrix: Water
Associated Lab Samples: 10291433017, 10291433018, 10291433019, 10291433020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	12/22/14 12:16	
Sulfate	mg/L	<0.50	1.0	12/22/14 12:16	

LABORATORY CONTROL SAMPLE: 1869602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.2	92	90-110	
Sulfate	mg/L	10	9.4	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1869603 1869604

Parameter	Units	10291304001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.3	20	20	22.5	24.1	96	104	90-110	7	20	
Sulfate	mg/L	27.0	20	20	46.9	50.5	100	118	90-110	8	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1869605 1869606

Parameter	Units	10291304007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.8	30	30	28.0	27.3	81	78	90-110	2	20	M1
Sulfate	mg/L	27.7	30	30	53.0	52.5	85	83	90-110	1	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17843 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10291433021, 10291433022, 10291433023, 10291433024, 10291433026, 10291433028, 10291433030

METHOD BLANK: 1870773 Matrix: Water
Associated Lab Samples: 10291433021, 10291433022, 10291433023, 10291433024, 10291433026, 10291433028, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	12/23/14 11:38	
Sulfate	mg/L	<0.50	1.0	12/23/14 11:38	

LABORATORY CONTROL SAMPLE: 1870774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.2	92	90-110	
Sulfate	mg/L	10	9.4	94	90-110	

MATRIX SPIKE SAMPLE: 1870775

Parameter	Units	10291433021 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3.4	10	13.2	98	90-110	
Sulfate	mg/L	13.3	10	23.1	98	90-110	

MATRIX SPIKE SAMPLE: 1870786

Parameter	Units	10291746009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	293	1500	1750	97	90-110	
Sulfate	mg/L	3200	1500	4580	92	90-110	E

SAMPLE DUPLICATE: 1870776

Parameter	Units	10291433022 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	37.2	37.5	1	20	
Sulfate	mg/L	19.3	19.5	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

QC Batch: MT/17830 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10291433001, 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433014, 10291433026, 10291433028, 10291433030

METHOD BLANK: 1867949 Matrix: Water
Associated Lab Samples: 10291433001, 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433014, 10291433026, 10291433028, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0028	0.010	12/18/14 14:19	

METHOD BLANK: 1867951 Matrix: Water
Associated Lab Samples: 10291433001, 10291433002, 10291433003, 10291433004, 10291433005, 10291433006, 10291433007, 10291433008, 10291433009, 10291433010, 10291433011, 10291433012, 10291433014, 10291433026, 10291433028, 10291433030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0028	0.010	12/18/14 14:22	

LABORATORY CONTROL SAMPLE: 1867950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.31	93	90-110	

LABORATORY CONTROL SAMPLE: 1867952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	97	90-110	

MATRIX SPIKE SAMPLE: 1867954

Parameter	Units	10291433009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0028	.33	0.32	96	90-110	

MATRIX SPIKE SAMPLE: 1867956

Parameter	Units	10291510001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.80	.33	1.1	89	90-110	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

SAMPLE DUPLICATE: 1867953

Parameter	Units	10291433001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.6	2.7	4	20	

SAMPLE DUPLICATE: 1867955

Parameter	Units	10291433010 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	7.6	6.9	10	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALIFIERS

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

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.

PQL - Practical Quantitation 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.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis
PASI-MT	Pace Analytical Services - Montana

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
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Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10291433027	**VALLEY VIEW VET WELL**	EPA 3020	MPRP/51329	EPA 6020	ICPM/22803
10291433002	**LF-3**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433003	**MW-4**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433004	**MW-5**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433005	**MW-6**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433006	**MW-7A**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433007	**MW-8A**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433008	**MW-9A**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433009	**MW-10**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433010	**MW-11**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433011	**MW-12**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433012	**MW-13**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433013	**MW-14**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433014	**MW-15**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433015	**MW-17**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433016	**MW-18**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433018	**MW-20**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433026	**MCILHATTAN SEEP**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433028	**DUP**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433030	**SNOWFILL WELL**	EPA 3020	MPRP/51228	EPA 6020	ICPM/22777
10291433001	**LF-2**	EPA 8260B	MSV/29759		
10291433002	**LF-3**	EPA 8260B	MSV/29759		
10291433003	**MW-4**	EPA 8260B	MSV/29758		
10291433004	**MW-5**	EPA 8260B	MSV/29759		
10291433005	**MW-6**	EPA 8260B	MSV/29759		
10291433006	**MW-7A**	EPA 8260B	MSV/29759		
10291433007	**MW-8A**	EPA 8260B	MSV/29758		
10291433008	**MW-9A**	EPA 8260B	MSV/29758		
10291433009	**MW-10**	EPA 8260B	MSV/29759		
10291433010	**MW-11**	EPA 8260B	MSV/29758		
10291433011	**MW-12**	EPA 8260B	MSV/29758		
10291433012	**MW-13**	EPA 8260B	MSV/29759		
10291433013	**MW-14**	EPA 8260B	MSV/29759		
10291433014	**MW-15**	EPA 8260B	MSV/29759		
10291433015	**MW-17**	EPA 8260B	MSV/29759		
10291433016	**MW-18**	EPA 8260B	MSV/29759		
10291433017	**MW-19**	EPA 8260B	MSV/29759		
10291433018	**MW-20**	EPA 8260B	MSV/29759		
10291433019	**MW-21**	EPA 8260B	MSV/29759		
10291433020	**MW-22**	EPA 8260B	MSV/29759		
10291433021	**MW-23**	EPA 8260B	MSV/29759		
10291433022	**MW-24**	EPA 8260B	MSV/29758		
10291433023	**MW-25**	EPA 8260B	MSV/29758		
10291433024	**MW-26**	EPA 8260B	MSV/29759		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10291433025	SHOP WELL	EPA 8260B	MSV/29758		
10291433026	MCILHATTAN SEEP	EPA 8260B	MSV/29759		
10291433027	VALLEY VIEW VET WELL	EPA 8260B	MSV/29759		
10291433028	DUP	EPA 8260B	MSV/29758		
10291433029	TRIP BLANK	EPA 8260B	MSV/29758		
10291433030	SNOWFILL WELL	EPA 8260B	MSV/29759		
10291433001	LF-2	SM 2540C	MT/17798		
10291433002	LF-3	SM 2540C	MT/17771		
10291433003	MW-4	SM 2540C	MT/17771		
10291433004	MW-5	SM 2540C	MT/17771		
10291433005	MW-6	SM 2540C	MT/17771		
10291433006	MW-7A	SM 2540C	MT/17771		
10291433007	MW-8A	SM 2540C	MT/17771		
10291433008	MW-9A	SM 2540C	MT/17771		
10291433009	MW-10	SM 2540C	MT/17771		
10291433010	MW-11	SM 2540C	MT/17771		
10291433011	MW-12	SM 2540C	MT/17771		
10291433012	MW-13	SM 2540C	MT/17771		
10291433013	MW-14	SM 2540C	MT/17798		
10291433014	MW-15	SM 2540C	MT/17798		
10291433015	MW-17	SM 2540C	MT/17771		
10291433016	MW-18	SM 2540C	MT/17771		
10291433017	MW-19	SM 2540C	MT/17798		
10291433018	MW-20	SM 2540C	MT/17771		
10291433019	MW-21	SM 2540C	MT/17798		
10291433020	MW-22	SM 2540C	MT/17798		
10291433021	MW-23	SM 2540C	MT/17798		
10291433022	MW-24	SM 2540C	MT/17771		
10291433023	MW-25	SM 2540C	MT/17771		
10291433024	MW-26	SM 2540C	MT/17798		
10291433026	MCILHATTAN SEEP	SM 2540C	MT/17798		
10291433028	DUP	SM 2540C	MT/17771		
10291433030	SNOWFILL WELL	SM 2540C	MT/17798		
10291433001	LF-2	EPA 300.0	MT/17821		
10291433002	LF-3	EPA 300.0	MT/17821		
10291433003	MW-4	EPA 300.0	MT/17821		
10291433004	MW-5	EPA 300.0	MT/17821		
10291433005	MW-6	EPA 300.0	MT/17821		
10291433006	MW-7A	EPA 300.0	MT/17821		
10291433007	MW-8A	EPA 300.0	MT/17821		
10291433008	MW-9A	EPA 300.0	MT/17821		

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326.200 Bozeman Landfil
Pace Project No.: 10291433

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10291433009	**MW-10**	EPA 300.0	MT/17821		
10291433010	**MW-11**	EPA 300.0	MT/17821		
10291433011	**MW-12**	EPA 300.0	MT/17821		
10291433012	**MW-13**	EPA 300.0	MT/17821		
10291433013	**MW-14**	EPA 300.0	MT/17821		
10291433014	**MW-15**	EPA 300.0	MT/17821		
10291433015	**MW-17**	EPA 300.0	MT/17821		
10291433016	**MW-18**	EPA 300.0	MT/17821		
10291433017	**MW-19**	EPA 300.0	MT/17837		
10291433018	**MW-20**	EPA 300.0	MT/17837		
10291433019	**MW-21**	EPA 300.0	MT/17837		
10291433020	**MW-22**	EPA 300.0	MT/17837		
10291433021	**MW-23**	EPA 300.0	MT/17843		
10291433022	**MW-24**	EPA 300.0	MT/17843		
10291433023	**MW-25**	EPA 300.0	MT/17843		
10291433024	**MW-26**	EPA 300.0	MT/17843		
10291433026	**MCILHATTAN SEEP**	EPA 300.0	MT/17843		
10291433028	**DUP**	EPA 300.0	MT/17843		
10291433030	**SNOWFILL WELL**	EPA 300.0	MT/17843		
10291433001	**LF-2**	EPA 353.2	MT/17830		
10291433002	**LF-3**	EPA 353.2	MT/17830		
10291433003	**MW-4**	EPA 353.2	MT/17830		
10291433004	**MW-5**	EPA 353.2	MT/17830		
10291433005	**MW-6**	EPA 353.2	MT/17830		
10291433006	**MW-7A**	EPA 353.2	MT/17830		
10291433007	**MW-8A**	EPA 353.2	MT/17830		
10291433008	**MW-9A**	EPA 353.2	MT/17830		
10291433009	**MW-10**	EPA 353.2	MT/17830		
10291433010	**MW-11**	EPA 353.2	MT/17830		
10291433011	**MW-12**	EPA 353.2	MT/17830		
10291433012	**MW-13**	EPA 353.2	MT/17830		
10291433014	**MW-15**	EPA 353.2	MT/17830		
10291433026	**MCILHATTAN SEEP**	EPA 353.2	MT/17830		
10291433028	**DUP**	EPA 353.2	MT/17830		
10291433030	**SNOWFILL WELL**	EPA 353.2	MT/17830		

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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.

1840424

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TetraTech	Report To:	Attention: Debbie.Lloyd@tetratech.com
Address: 851 Bridger Dr. Ste 6 Bozeman MT 59715	Copy To:	Company Name: TetraTech
Email To: mark.pearson@tetratech.com	Purchase Order No.:	Address:
Phone: 582-8780 Fax:	Project Name: Bozeman Landfill	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 114-710326.200	Pace Project Manager: Denise Jensen
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	LF-2	WT	G	12/10	1530				5												001
2	LF-3			↓	1140				6												002
3	MW-4			12/8	1000				6												003
4	MW-5			12/9	1630				7												004
5	MW-6			↓	1130				6												005
6	MW-7A			↓	930				6												006
7	MW-8A			12/8	1450				6												007
8	MW-9A			12/8	1100				6												008
9	MW-10			12/10	1300				6												009
10	MW-11			12/8	1245				6												010
11	MW-12			↓	1350				6												011
12	MW-13			12/9	1020				6												012

See Table 2

1029143

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 TetraTech	12/11/14		UPS - Bozeman	12/11/14		0.3	Y	Y	Y
	UPS			Redmond - Pace	12/12/14	0945	0.6	Y	Y	Y
							0.6	Y	Y	Y
							0.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark Pearson

SIGNATURE of SAMPLER: Mark Pearson DATE Signed (MM/DD/YY): 12/11/14

*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
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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.

184425

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Tetra Tech	Report To:	Attention:
Address:	Copy To:	Company Name: See Page 1
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Bozeman Landfill	Pace Project Manager:
Requested Due Date/TAT:	Project Number: 114-710376.200	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	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				2014																	
1	MW-14	WT	G	12/10	1020				5										See Table 1		10291483 013
2	MW-15			↓	910				6												014
3	MW-17			12/9	~~1240~~	1250			6												015
4	MW-18			↓	1330				6												016
5	MW-19			12/10	1250				4												017
6	MW-20			12/9	1440				6												018
7	MW-21			12/10	1610				4												019
8	MW-22				1630				4												020
9	MW-23			↓	1700				4												021
10	MW-24			12/8	1730				4												022
11	MW-25			↓	1600				4												023
12	MW-26			12/11	930				4												024

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 / Tetra Tech	12/11/14		UPS-Bozeman	12/11/14		0.5	Y	Y	Y
	UPS			Mwaeden-Pace	12/12/14	0945	0.6	Y	Y	Y
							0.6	Y	Y	Y
							0.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark Pearson

SIGNATURE of SAMPLER: Mark Pearson

DATE Signed (MM/DD/YY): 12/11/14

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.

1840426

Section A Required Client Information:

Company: Tetra Tech
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name: Bozeman Landfill
Project Number: 114-710326.200

Section C Invoice Information:

Attention:
Company Name: See Page 1
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER
Site Location STATE: MT

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX 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	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Shop Well	WT	G	12/8	1030				3											025
2	McElhattan Seep			12/10	1310				6									See		026
3	Valley View Vet Well			"	1440				5									Table		027
4	DUP			12/8	1400				6									1		028
5	Trip Blank			9/29	—				2											029
6	Snowfill Well			12/10	1413				6											030
7																				
8																				
9																				
10																				
11																				
12																				

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

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 Gleason Tetra Tech	12/11/14		UPS Bozeman	12/11/14		0.3	Y	Y	Y
	UPS			Mike Brown - Pace	12/12/14	0945	0.6	Y	Y	Y
							0.6	Y	Y	Y
							0.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Mark Gleason
SIGNATURE of SAMPLER: Mark Gleason
DATE Signed (MM/DD/YY): 12/11/14

*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.

TABLE 1
Schedule of Field Measurements and Laboratory Analysis --December 2014
Bozeman Landfill, Bozeman Montana

Well or Sampling Site	Monitoring Frequency	December 2014								
		Field pH, SC, DO & ORP	~~Laboratory pH & SC~~	VOCs	Inorganics					
					'Partial List' Ba, Fe, Mn (dissolved)	'Full List' Metals (dissolved)	Cations	Anions Sulfate Chloride	TDS & Total Hardness	N as NO2+NO3
LF- 2	Semi-annual monitoring	1		1			1	1	1	1
LF- 3	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 3	No mon. requirement. Last event in 2001									
MW- 4	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 5	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 6	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 6B	Four monitoring events completed									
MW- 7A	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 7B	DEQ requests next monitoring in 2015									
MW- 8A	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 8B	DEQ requests next monitoring in 2015									
MW- 8C	Four monitoring events completed									
MW- 9A	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 9B	DEQ requests next monitoring in 2015									
MW- 10	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 11	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 12	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 13	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 14	Annual mon in Dec 2014	1		1		1	1	1	1	
MW- 15	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 16	Four monitoring events completed									
MW- 17	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 18	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 19	Last quarterly monitoring event	1		1			1	1	1	
MW- 20	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 21	Last quarterly monitoring event	1		1			1	1	1	
MW- 22	Last quarterly monitoring event	1		1			1	1	1	
MW- 23	Last quarterly monitoring event	1		1			1	1	1	
MW- 24	Last quarterly monitoring event	1		1			1	1	1	
MW- 25	Last quarterly monitoring event	1		1			1	1	1	
MW- 26	Last quarterly monitoring event	1		1			1	1	1	
PMW- 27	Semi-annual monitoring	1		1		1	1	1	1	
PMW- 28	Semi-annual monitoring	1		1		1	1	1	1	1
Shop/Office Well	Semi-annual monitoring	1		1						
McIlhattan Seep	Semi-annual monitoring	1		1		1	1	1	1	1
Valley View Vet We	Semi-annual monitoring	1		1		1 (1)				
Field Duplicate	Semi-annual monitoring	1		1		1	1	1	1	1
Trip Blank	Semi-annual monitoring			1						
	Total Number of Samples	4		31	0	21	28	28	28	16

Notes :

VOCs : Volatile organic compounds

Ba, Fe, Mn : Barium, Iron, Manganese

(1) : Total recoverable analysis of metals

'Full List' : Analysis of 15 metals (reported as dissolved concentrations) including:

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

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 14Jul2014 Page 1 of 1
	Document No.: F-MT-C-184-rev.04	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #: WO#: 10291433

Courier: ☐Fed Ex ☑UPS ☐USPS ☐Client
H-RS ☐Commercial ☐Pace ☐Other:

Tracking Number: Doo attached

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: ☑B88A0140728348 ☐NA Type of Ice: ☒Wet ☐Blue ☐None ☐Samples on ice, cooling process has begun

Cooler Temp Read: 0.3, 0.6, 0.6, 0.0 Date and Initials of Person Examining Contents: MW 12/12/14

Cooler Temp Corrected: 0.3, 0.6, 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.	
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?	☑Yes	☐No	☐N/A	13. 20/20 ☒HNO_3 14/16 ☒H_2SO_4 ☐NaOH ☐HCl Sample #	
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑Yes	☐No	☐N/A		
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☑Yes	☐No		Initial when completed: MW	Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐Yes	☐No	☐N/A	14.	
Trip Blank Present?	☑Yes	☐No	☐N/A	15.	
Trip Blank Custody Seals Present?	☑Yes	☐No	☐N/A		
Pace Trip Blank Lot # (If purchased): 092414B4P					

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 12-12-14

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: SCUR Exceptions Form	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: F-MN-L-220-Rev.00	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
RLS 1ZV03 00V 84 4289 9625	0.3 mw20, mw4, Seep Sill, Seep well mw25, mw22, mw14, LF2	
1ZV03 00V 84 4210 4036	0.6, mw15, mw8A, mw24, mw26, LF3, mw12,	
1ZV03 00V 84 4268 4811	0.6 mw10, Seep, Vet, mw18, mw13	mw14, mw21,
1ZV03 00V 84 4183 4044	0.0, mw5, Dup, mw11, mw7A, mw9A mw25, mw4	

Pace Analytical	Document Name: MT to MN Sample Transfer Form	Revised Date: 01May2014 Page: 1 of 1
	Document Number: F-MT-C-179-rev.06	Issuing Authority: Pace Minnesota Quality Office

Shipping (circle):	UPS (Fed Ex)
Tracking #:	6021 2786 2421 / 2400
Client:	Tetratech Bozeman
Due Date:	26-Dec-2014
Pace WO:	10291433
Project Manager:	Denise Jensen

MT to MN Sample Transfer Condition Upon Receipt Form

ANALYSIS REQUESTED

Method Number & Description	Container Type	# of Bottles	Lab ID's	Preservative Yes or No	Verify Arrival Date & Initials
Tests					
8260 VOCs	voa vials	89	10291433	HCl	MA 12-13-14
6020 metals	250 ml poly	20	10291433	Nitric	"

REPORTING REQUIREMENTS/ADDITIONAL COMMENTS

MINNESOTA SAMPLE RECEIPT INFORMATION

IR Gun (circle): **80512447, B88A912167504, 72337080** Correction Factor: true		Sample Matrix:	WT
Cooler Temp Read (°C): 2.4, 5.3	Cooler Temp Corrected (°C): 2.4, 5.3	Filtred volume rec'd for dissolved tests:	Yes __ No__ NA X
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 X No__ NA __
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. __ Dry Wt.__
Containers Intact:	Yes X No__	Reporting Units:	

CUSTODY TRANSFER

Relinquished by/Affiliation	Date	Time	Accepted By Affiliation	Date	Time
Nathan/Pace	12/12/14	1600	PACE	12-13-14	940

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ **Date:** _____

Comments/Resolution: _____

Project Manager Review: Corey Sparks **Date:** 12-15-14

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

February 02, 2015

Well MW-27 Analytical Results

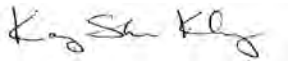
Mark Pearson
Tetra Tech, Inc. - MT
851 Bridger Dr. Suite 6
Bozeman, MT 59715

RE: Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2015. 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,



Kang Khang
kang.khang@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

CERTIFICATIONS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
Colorado Asbestos #: 17119
A2LA Certification #: 3590.01
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
North Dakota Dept. Of Health #: R-209
NVLAP Certification #: 101292-0
Washington Department of Ecology #: C993

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: PA014572014-4
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE SUMMARY

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10294384001	**MW-27**	Water	01/16/15 12:00	01/17/15 10:40
10294384002	**TRIP BLANK**	Water		01/17/15 10:40

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

SAMPLE ANALYTE COUNT

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10294384001	**MW-27**	EPA 6020	TT3	20	PASI-M
		EPA 7470	WBS	1	PASI-M
		EPA 8260B	SH2	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 353.2	CH2	1	PASI-MT
		EPA 906.0	JC2	1	PASI-PA
10294384002	**TRIP BLANK**	EPA 8260B	SH2	61	PASI-M

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Date: February 02, 2015

MW-27 (Lab ID: 10294384001)

- The tritium was received in a nitric preserved sample container.

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

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.

QC Batch: MPRP/52035

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10294384001

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

- MS (Lab ID: 1888675)
  - Calcium, Dissolved
  - Magnesium, Dissolved
  - Sodium, Dissolved
- MSD (Lab ID: 1888676)
  - Sodium, Dissolved

Additional Comments:

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 7470**
Description: 7470 Mercury, Dissolved
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

General Information:
1 sample was analyzed for EPA 7470. 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 7470A 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.

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.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

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

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
- MW-27 (Lab ID: 10294384001)
- TRIP BLANK (Lab ID: 10294384002)

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.

QC Batch: MSV/30161

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
- LCS (Lab ID: 1884863)
  - 2-Hexanone
  - Iodomethane

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

QC Batch: MSV/30161

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10293854003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
- MS (Lab ID: 1884864)
  - Iodomethane
- MSD (Lab ID: 1884865)
  - Iodomethane

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

QC Batch: MSV/30161

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10293854003

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

- MS (Lab ID: 1884864)
  - Bromomethane
- MSD (Lab ID: 1884865)
  - Acetone
  - Tetrahydrofuran
  - cis-1,2-Dichloroethene
  - n-Hexane

Additional Comments:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

General Information:
1 sample was 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.

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

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

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

Additional Comments:

Analyte Comments:

QC Batch: MT/17989

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

- MS (Lab ID: 1884239)
  - Sulfate
- MS (Lab ID: 1884241)
  - Sulfate

- MS (Lab ID: 1884241)
  - Sulfate

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

General Information:
1 sample was 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.

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/18024

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10294429001,10294644002

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

- MS (Lab ID: 1886849)
  - Nitrogen, NO2 plus NO3

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

- MS (Lab ID: 1886956)
  - 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: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: Tetra Tech, Inc. - MT
Date: February 02, 2015

General Information:
1 sample was analyzed for EPA 906.0. 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.

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:

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

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: MW-27 **Lab ID: 10294384001** Collected: 01/16/15 12:00 Received: 01/17/15 10:40 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	**0.00056**	mg/L	0.00050	0.00025	1	01/27/15 10:55	01/27/15 12:06	7440-38-2	
Barium, Dissolved	**0.055**	mg/L	0.010	0.00014	1	01/27/15 10:55	01/27/15 12:06	7440-39-3	
Cadmium, Dissolved	**<0.000033**	mg/L	0.000080	0.000033	1	01/27/15 10:55	01/27/15 12:06	7440-43-9	
Calcium, Dissolved	**86.9**	mg/L	0.40	0.084	10	01/27/15 10:55	01/27/15 12:20	7440-70-2	M1
Chromium, Dissolved	**0.0049**	mg/L	0.00050	0.00022	1	01/27/15 10:55	01/27/15 12:06	7440-47-3	
Cobalt, Dissolved	**<0.00025**	mg/L	0.00050	0.00025	1	01/27/15 10:55	01/27/15 12:06	7440-48-4	
Copper, Dissolved	**0.00060J**	mg/L	0.0010	0.00022	1	01/27/15 10:55	01/27/15 12:06	7440-50-8	
Iron, Dissolved	**0.075**	mg/L	0.050	0.0080	1	01/27/15 10:55	01/27/15 12:06	7439-89-6	
Lead, Dissolved	**0.000075J**	mg/L	0.00010	0.000046	1	01/27/15 10:55	01/27/15 12:06	7439-92-1	
Magnesium, Dissolved	**37.4**	mg/L	0.10	0.028	10	01/27/15 10:55	01/27/15 12:20	7439-95-4	M1
Manganese, Dissolved	**0.0084**	mg/L	0.00050	0.00014	1	01/27/15 10:55	01/27/15 12:06	7439-96-5	
Nickel, Dissolved	**0.00056**	mg/L	0.00050	0.00023	1	01/27/15 10:55	01/27/15 12:06	7440-02-0	
Potassium, Dissolved	**2.2**	mg/L	0.050	0.0083	1	01/27/15 10:55	01/27/15 12:06	7440-09-7	
Selenium, Dissolved	**0.0026**	mg/L	0.00050	0.00025	1	01/27/15 10:55	01/27/15 12:06	7782-49-2	
Silver, Dissolved	**0.00010J**	mg/L	0.00050	0.000056	1	01/27/15 10:55	01/27/15 12:06	7440-22-4	
Sodium, Dissolved	**11.6**	mg/L	0.050	0.018	1	01/27/15 10:55	01/27/15 12:06	7440-23-5	M1
Thallium, Dissolved	**0.000046J**	mg/L	0.00010	0.000025	1	01/27/15 10:55	01/27/15 12:06	7440-28-0	
Total Hardness by 2340B, Dissolved	**371**	mg/L	0.71	0.36	10	01/27/15 10:55	01/27/15 12:20		
Vanadium, Dissolved	**0.0018**	mg/L	0.0010	0.00021	1	01/27/15 10:55	01/27/15 12:06	7440-62-2	
Zinc, Dissolved	**0.0049J**	mg/L	0.0050	0.0025	1	01/27/15 10:55	01/27/15 12:06	7440-66-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470A								
Mercury, Dissolved	**<0.000026**	mg/L	0.00020	0.000026	1	01/25/15 12:50	01/26/15 20:31	7439-97-6	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		01/21/15 16:09	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		01/21/15 16:09	107-13-1	
Benzene	**0.083J**	ug/L	0.50	0.073	1		01/21/15 16:09	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		01/21/15 16:09	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		01/21/15 16:09	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		01/21/15 16:09	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		01/21/15 16:09	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		01/21/15 16:09	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		01/21/15 16:09	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		01/21/15 16:09	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		01/21/15 16:09	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		01/21/15 16:09	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		01/21/15 16:09	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		01/21/15 16:09	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		01/21/15 16:09	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		01/21/15 16:09	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		01/21/15 16:09	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		01/21/15 16:09	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		01/21/15 16:09	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		01/21/15 16:09	95-50-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: MW-27 **Lab ID: 10294384001** Collected: 01/16/15 12:00 Received: 01/17/15 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		01/21/15 16:09	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		01/21/15 16:09	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		01/21/15 16:09	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		01/21/15 16:09	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		01/21/15 16:09	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		01/21/15 16:09	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 16:09	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		01/21/15 16:09	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		01/21/15 16:09	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		01/21/15 16:09	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 16:09	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		01/21/15 16:09	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		01/21/15 16:09	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		01/21/15 16:09	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		01/21/15 16:09	591-78-6	L2
Iodomethane	**<2.0**	ug/L	10.0	2.0	1		01/21/15 16:09	74-88-4	L3
Isopropylbenzene (Cumene)	**<0.087**	ug/L	1.0	0.087	1		01/21/15 16:09	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		01/21/15 16:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		01/21/15 16:09	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		01/21/15 16:09	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		01/21/15 16:09	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		01/21/15 16:09	103-65-1	
Styrene	**<0.069**	ug/L	4.0	0.069	1		01/21/15 16:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		01/21/15 16:09	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		01/21/15 16:09	79-34-5	
Tetrachloroethene	**1.2**	ug/L	0.50	0.12	1		01/21/15 16:09	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		01/21/15 16:09	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 16:09	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		01/21/15 16:09	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		01/21/15 16:09	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		01/21/15 16:09	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		01/21/15 16:09	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		01/21/15 16:09	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		01/21/15 16:09	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	1.0	0.25	1		01/21/15 16:09	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		01/21/15 16:09	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		01/21/15 16:09	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		01/21/15 16:09	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%.	75-125		1		01/21/15 16:09	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		01/21/15 16:09	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		01/21/15 16:09	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**36.5**	mg/L	10.0	5.0	10		01/21/15 02:39	16887-00-6	
Sulfate	**38.3**	mg/L	10.0	5.0	10		01/21/15 02:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: MW-27 **Lab ID: 10294384001** Collected: 01/16/15 12:00 Received: 01/17/15 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**7.7**	mg/L	0.20	0.055	20		01/23/15 15:45		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: TRIP BLANK **Lab ID: 10294384002** Collected: Received: 01/17/15 10:40 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		01/21/15 15:45	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		01/21/15 15:45	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		01/21/15 15:45	71-43-2	
Bromochloromethane	**<0.16**	ug/L	1.0	0.16	1		01/21/15 15:45	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		01/21/15 15:45	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		01/21/15 15:45	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		01/21/15 15:45	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		01/21/15 15:45	78-93-3	
Carbon disulfide	**<0.18**	ug/L	1.0	0.18	1		01/21/15 15:45	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		01/21/15 15:45	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		01/21/15 15:45	108-90-7	
Chloroethane	**<0.27**	ug/L	1.0	0.27	1		01/21/15 15:45	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		01/21/15 15:45	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		01/21/15 15:45	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		01/21/15 15:45	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		01/21/15 15:45	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		01/21/15 15:45	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		01/21/15 15:45	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		01/21/15 15:45	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		01/21/15 15:45	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		01/21/15 15:45	106-46-7	
trans-1,4-Dichloro-2-butene	**<0.37**	ug/L	10.0	0.37	1		01/21/15 15:45	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		01/21/15 15:45	75-71-8	
1,1-Dichloroethane	**<0.087**	ug/L	0.50	0.087	1		01/21/15 15:45	75-34-3	
1,2-Dichloroethane	**<0.10**	ug/L	0.50	0.10	1		01/21/15 15:45	107-06-2	
1,1-Dichloroethene	**<0.17**	ug/L	0.50	0.17	1		01/21/15 15:45	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 15:45	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		01/21/15 15:45	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		01/21/15 15:45	78-87-5	
cis-1,3-Dichloropropene	**<0.093**	ug/L	0.50	0.093	1		01/21/15 15:45	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 15:45	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		01/21/15 15:45	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		01/21/15 15:45	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		01/21/15 15:45	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		01/21/15 15:45	591-78-6	L2
Iodomethane	**<2.0**	ug/L	10.0	2.0	1		01/21/15 15:45	74-88-4	L3
Isopropylbenzene (Cumene)	**<0.087**	ug/L	1.0	0.087	1		01/21/15 15:45	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		01/21/15 15:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		01/21/15 15:45	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/L	0.50	0.12	1		01/21/15 15:45	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		01/21/15 15:45	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		01/21/15 15:45	103-65-1	
Styrene	**<0.069**	ug/L	4.0	0.069	1		01/21/15 15:45	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		01/21/15 15:45	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.086**	ug/L	0.50	0.086	1		01/21/15 15:45	79-34-5	
Tetrachloroethene	**<0.12**	ug/L	0.50	0.12	1		01/21/15 15:45	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: TRIP BLANK **Lab ID: 10294384002** Collected: Received: 01/17/15 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		01/21/15 15:45	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		01/21/15 15:45	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		01/21/15 15:45	71-55-6	
1,1,2-Trichloroethane	**<0.14**	ug/L	0.50	0.14	1		01/21/15 15:45	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		01/21/15 15:45	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		01/21/15 15:45	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		01/21/15 15:45	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		01/21/15 15:45	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	1.0	0.25	1		01/21/15 15:45	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		01/21/15 15:45	108-05-4	
Vinyl chloride	**<0.082**	ug/L	0.20	0.082	1		01/21/15 15:45	75-01-4	
Xylene (Total)	**<0.21**	ug/L	1.5	0.21	1		01/21/15 15:45	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%.	75-125		1		01/21/15 15:45	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		01/21/15 15:45	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		01/21/15 15:45	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: MERP/12625
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 10294384001

METHOD BLANK: 1887610 Matrix: Water
Associated Lab Samples: 10294384001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	0.000039J	0.00020	01/26/15 20:26	

LABORATORY CONTROL SAMPLE: 1887611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0045	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1887612 1887613

Parameter	Units	10294384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	<0.000026	.005	.005	0.0050	0.0051	99	101	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: MPRP/52035
QC Batch Method: EPA 3020
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10294384001

METHOD BLANK: 1888673 Matrix: Water
Associated Lab Samples: 10294384001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	<0.00025	0.00050	01/27/15 12:00	
Barium, Dissolved	mg/L	<0.00014	0.010	01/27/15 12:00	
Cadmium, Dissolved	mg/L	<0.000033	0.000080	01/27/15 12:00	
Calcium, Dissolved	mg/L	<0.0084	0.040	01/27/15 12:00	
Chromium, Dissolved	mg/L	<0.00022	0.00050	01/27/15 12:00	
Cobalt, Dissolved	mg/L	<0.00025	0.00050	01/27/15 12:00	
Copper, Dissolved	mg/L	<0.00022	0.0010	01/27/15 12:00	
Iron, Dissolved	mg/L	<0.0080	0.050	01/27/15 12:00	
Lead, Dissolved	mg/L	<0.000046	0.00010	01/27/15 12:00	
Magnesium, Dissolved	mg/L	<0.0028	0.010	01/27/15 12:00	
Manganese, Dissolved	mg/L	<0.00014	0.00050	01/27/15 12:00	
Nickel, Dissolved	mg/L	<0.00023	0.00050	01/27/15 12:00	
Potassium, Dissolved	mg/L	<0.0083	0.050	01/27/15 12:00	
Selenium, Dissolved	mg/L	<0.00025	0.00050	01/27/15 12:00	
Silver, Dissolved	mg/L	<0.000056	0.00050	01/27/15 12:00	
Sodium, Dissolved	mg/L	<0.018	0.050	01/27/15 12:00	
Thallium, Dissolved	mg/L	<0.000025	0.00010	01/27/15 12:00	
Vanadium, Dissolved	mg/L	<0.00021	0.0010	01/27/15 12:00	
Zinc, Dissolved	mg/L	<0.0025	0.0050	01/27/15 12:00	

LABORATORY CONTROL SAMPLE: 1888674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	.08	0.083	104	80-120	
Barium, Dissolved	mg/L	.08	0.080	100	80-120	
Cadmium, Dissolved	mg/L	.08	0.084	105	80-120	
Calcium, Dissolved	mg/L	1	1.0	103	80-120	
Chromium, Dissolved	mg/L	.08	0.086	108	80-120	
Cobalt, Dissolved	mg/L	.08	0.087	108	80-120	
Copper, Dissolved	mg/L	.08	0.085	106	80-120	
Iron, Dissolved	mg/L	1	1.1	107	80-120	
Lead, Dissolved	mg/L	.08	0.084	105	80-120	
Magnesium, Dissolved	mg/L	1	1.1	107	80-120	
Manganese, Dissolved	mg/L	.08	0.085	106	80-120	
Nickel, Dissolved	mg/L	.08	0.088	110	80-120	
Potassium, Dissolved	mg/L	1	1.1	105	80-120	
Selenium, Dissolved	mg/L	.08	0.085	106	80-120	
Silver, Dissolved	mg/L	.08	0.087	109	80-120	
Sodium, Dissolved	mg/L	1	1.1	110	80-120	
Thallium, Dissolved	mg/L	.08	0.085	106	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

LABORATORY CONTROL SAMPLE: 1888674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium, Dissolved	mg/L	.08	0.085	106	80-120	
Zinc, Dissolved	mg/L	.08	0.087	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1888675 1888676

Parameter	Units	10294384001 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	0.00056	.08	.08	0.081	0.080	100	99	75-125	1	20	
Barium, Dissolved	mg/L	0.055	.08	.08	0.13	0.13	100	98	75-125	1	20	
Cadmium, Dissolved	mg/L	<0.000033	.08	.08	0.083	0.081	103	102	75-125	2	20	
Calcium, Dissolved	mg/L	86.9	1	1	87.5	87.9	64	100	75-125	0	20	M1
Chromium, Dissolved	mg/L	0.0049	.08	.08	0.090	0.088	106	104	75-125	2	20	
Cobalt, Dissolved	mg/L	<0.00025	.08	.08	0.084	0.082	105	103	75-125	2	20	
Copper, Dissolved	mg/L	0.00060J	.08	.08	0.081	0.080	101	99	75-125	1	20	
Iron, Dissolved	mg/L	0.075	1	1	1.1	1.1	105	104	75-125	1	20	
Lead, Dissolved	mg/L	0.000075J	.08	.08	0.081	0.080	101	100	75-125	1	20	
Magnesium, Dissolved	mg/L	37.4	1	1	38.0	38.3	59	88	75-125	1	20	M1
Manganese, Dissolved	mg/L	0.0084	.08	.08	0.090	0.090	102	101	75-125	1	20	
Nickel, Dissolved	mg/L	0.00056	.08	.08	0.084	0.083	104	103	75-125	1	20	
Potassium, Dissolved	mg/L	2.2	1	1	3.2	3.2	107	108	75-125	0	20	
Selenium, Dissolved	mg/L	0.0026	.08	.08	0.086	0.088	104	107	75-125	3	20	
Silver, Dissolved	mg/L	0.00010J	.08	.08	0.085	0.085	106	106	75-125	1	20	
Sodium, Dissolved	mg/L	11.6	1	1	12.9	13.0	130	143	75-125	1	20	M1
Thallium, Dissolved	mg/L	0.000046J	.08	.08	0.080	0.080	100	100	75-125	1	20	
Vanadium, Dissolved	mg/L	0.0018	.08	.08	0.087	0.085	106	104	75-125	2	20	
Zinc, Dissolved	mg/L	0.0049J	.08	.08	0.087	0.086	102	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: MSV/30161
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10294384001, 10294384002

METHOD BLANK: 1884862
Matrix: Water
Associated Lab Samples: 10294384001, 10294384002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	0.50	01/21/15 12:13	
1,1,1-Trichloroethane	ug/L	<0.17	0.50	01/21/15 12:13	
1,1,2,2-Tetrachloroethane	ug/L	<0.086	0.50	01/21/15 12:13	
1,1,2-Trichloroethane	ug/L	<0.14	0.50	01/21/15 12:13	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	1.0	01/21/15 12:13	
1,1-Dichloroethane	ug/L	<0.087	0.50	01/21/15 12:13	
1,1-Dichloroethene	ug/L	<0.17	0.50	01/21/15 12:13	
1,2,3-Trichloropropane	ug/L	<1.2	4.0	01/21/15 12:13	
1,2,4-Trimethylbenzene	ug/L	<0.25	1.0	01/21/15 12:13	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	01/21/15 12:13	
1,2-Dibromoethane (EDB)	ug/L	<0.097	0.50	01/21/15 12:13	
1,2-Dichlorobenzene	ug/L	<0.082	0.50	01/21/15 12:13	
1,2-Dichloroethane	ug/L	<0.10	0.50	01/21/15 12:13	
1,2-Dichloropropane	ug/L	<0.10	4.0	01/21/15 12:13	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	01/21/15 12:13	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	200	01/21/15 12:13	
2-Butanone (MEK)	ug/L	<2.5	5.0	01/21/15 12:13	
2-Hexanone	ug/L	<2.5	5.0	01/21/15 12:13	
2-Propanol	ug/L	<50.0	100	01/21/15 12:13	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	01/21/15 12:13	
Acetone	ug/L	<10.0	20.0	01/21/15 12:13	
Acrylonitrile	ug/L	<1.0	10.0	01/21/15 12:13	
Benzene	ug/L	<0.073	0.50	01/21/15 12:13	
Bromochloromethane	ug/L	<0.16	1.0	01/21/15 12:13	
Bromodichloromethane	ug/L	<0.11	0.50	01/21/15 12:13	
Bromoform	ug/L	<2.0	4.0	01/21/15 12:13	
Bromomethane	ug/L	<2.0	4.0	01/21/15 12:13	
Carbon disulfide	ug/L	<0.18	1.0	01/21/15 12:13	
Carbon tetrachloride	ug/L	<0.17	1.0	01/21/15 12:13	
Chlorobenzene	ug/L	<0.066	0.50	01/21/15 12:13	
Chloroethane	ug/L	<0.27	1.0	01/21/15 12:13	
Chloroform	ug/L	<0.20	0.50	01/21/15 12:13	
Chloromethane	ug/L	<0.34	4.0	01/21/15 12:13	
cis-1,2-Dichloroethene	ug/L	<0.11	0.50	01/21/15 12:13	
cis-1,3-Dichloropropene	ug/L	<0.093	0.50	01/21/15 12:13	
Cyclohexane	ug/L	<2.5	5.0	01/21/15 12:13	
Dibromochloromethane	ug/L	<0.086	0.50	01/21/15 12:13	
Dibromomethane	ug/L	<0.18	0.50	01/21/15 12:13	
Dichlorodifluoromethane	ug/L	<0.50	1.0	01/21/15 12:13	
Ethylbenzene	ug/L	<0.096	0.50	01/21/15 12:13	
Iodomethane	ug/L	<2.0	10.0	01/21/15 12:13	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

METHOD BLANK: 1884862 Matrix: Water
Associated Lab Samples: 10294384001, 10294384002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.087	1.0	01/21/15 12:13	
Methyl-tert-butyl ether	ug/L	<0.12	0.50	01/21/15 12:13	
Methylene Chloride	ug/L	<2.0	4.0	01/21/15 12:13	
n-Hexane	ug/L	<5.0	10.0	01/21/15 12:13	
n-Propylbenzene	ug/L	<0.077	0.50	01/21/15 12:13	
Styrene	ug/L	<0.069	4.0	01/21/15 12:13	
Tetrachloroethene	ug/L	<0.12	0.50	01/21/15 12:13	
Tetrahydrofuran	ug/L	<0.98	10.0	01/21/15 12:13	
Toluene	ug/L	<0.11	0.50	01/21/15 12:13	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	01/21/15 12:13	
trans-1,3-Dichloropropene	ug/L	<0.11	0.50	01/21/15 12:13	
trans-1,4-Dichloro-2-butene	ug/L	<0.37	10.0	01/21/15 12:13	
Trichloroethene	ug/L	<0.084	0.40	01/21/15 12:13	
Trichlorofluoromethane	ug/L	<0.12	0.50	01/21/15 12:13	
Vinyl acetate	ug/L	<0.13	10.0	01/21/15 12:13	
Vinyl chloride	ug/L	<0.082	0.20	01/21/15 12:13	
Xylene (Total)	ug/L	<0.21	1.5	01/21/15 12:13	
1,2-Dichloroethane-d4 (S)	%.	91	75-125	01/21/15 12:13	
4-Bromofluorobenzene (S)	%.	106	75-125	01/21/15 12:13	
Toluene-d8 (S)	%.	99	75-125	01/21/15 12:13	

LABORATORY CONTROL SAMPLE: 1884863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.4	102	75-125	
1,1,1-Trichloroethane	ug/L	20	18.6	93	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	16.5	82	75-125	
1,1,2-Trichloroethane	ug/L	20	19.4	97	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.2	96	60-135	
1,1-Dichloroethane	ug/L	20	17.5	87	69-125	
1,1-Dichloroethene	ug/L	20	19.1	96	68-125	
1,2,3-Trichloropropane	ug/L	20	16.8	84	75-125	
1,2,4-Trimethylbenzene	ug/L	20	18.4	92	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	40.6	81	65-145	
1,2-Dibromoethane (EDB)	ug/L	20	20.2	101	75-125	
1,2-Dichlorobenzene	ug/L	20	19.5	98	75-125	
1,2-Dichloroethane	ug/L	20	16.7	83	73-125	
1,2-Dichloropropane	ug/L	20	19.0	95	75-125	
1,4-Dichlorobenzene	ug/L	20	18.3	91	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	439	110	75-125	
2-Butanone (MEK)	ug/L	100	64.9	65	63-130	
2-Hexanone	ug/L	100	68.1	68	69-133	L0
2-Propanol	ug/L	200	177	89	64-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	73.4	73	71-126	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

LABORATORY CONTROL SAMPLE: 1884863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	114	114	69-131	
Acrylonitrile	ug/L	200	156	78	66-125	
Benzene	ug/L	20	19.7	99	42-143	
Bromochloromethane	ug/L	20	21.8	109	75-125	
Bromodichloromethane	ug/L	20	20.4	102	75-125	
Bromoform	ug/L	20	19.2	96	70-125	
Bromomethane	ug/L	20	27.6	138	30-150	
Carbon disulfide	ug/L	20	19.9	99	55-132	
Carbon tetrachloride	ug/L	20	20.8	104	75-126	
Chlorobenzene	ug/L	20	21.4	107	75-125	
Chloroethane	ug/L	20	17.6	88	65-134	
Chloroform	ug/L	20	19.9	100	75-125	
Chloromethane	ug/L	20	18.0	90	35-150	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	72-125	
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	
Cyclohexane	ug/L	100	95.7	96	63-131	
Dibromochloromethane	ug/L	20	19.9	99	75-125	
Dibromomethane	ug/L	20	20.2	101	75-125	
Dichlorodifluoromethane	ug/L	20	15.3	76	50-134	
Ethylbenzene	ug/L	20	18.9	95	75-125	
Iodomethane	ug/L	20	30.6	153	32-137	L0
Isopropylbenzene (Cumene)	ug/L	20	18.5	93	75-125	
Methyl-tert-butyl ether	ug/L	20	17.9	89	73-125	
Methylene Chloride	ug/L	20	19.4	97	73-125	
n-Hexane	ug/L	50	65.6	131	37-157	
n-Propylbenzene	ug/L	20	19.5	98	72-126	
Styrene	ug/L	20	17.7	89	75-125	
Tetrachloroethene	ug/L	20	20.4	102	74-125	
Tetrahydrofuran	ug/L	200	232	116	62-133	
Toluene	ug/L	20	21.2	106	74-125	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	69-125	
trans-1,3-Dichloropropene	ug/L	20	19.0	95	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	41.5	83	62-133	
Trichloroethene	ug/L	20	20.4	102	75-125	
Trichlorofluoromethane	ug/L	20	16.6	83	74-127	
Vinyl acetate	ug/L	20	16.5	82	59-127	
Vinyl chloride	ug/L	20	15.4	77	66-132	
Xylene (Total)	ug/L	60	56.0	93	75-125	
1,2-Dichloroethane-d4 (S)	%.			90	75-125	
4-Bromofluorobenzene (S)	%.			98	75-125	
Toluene-d8 (S)	%.			98	75-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1884864 1884865

Parameter	Units	10293854003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	50	50	59.2	62.2	118	124	68-141	5	30	
1,1,1-Trichloroethane	ug/L	ND	50	50	56.4	59.9	113	120	52-150	6	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	45.7	51.5	91	103	61-143	12	30	
1,1,2-Trichloroethane	ug/L	ND	50	50	56.9	60.4	114	121	65-140	6	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	50.2	57.6	100	115	51-150	14	30	
1,1-Dichloroethane	ug/L	124	50	50	174	174	100	100	49-150	0	30	
1,1-Dichloroethene	ug/L	32.6	50	50	90.6	87.4	116	110	40-150	4	30	
1,2,3-Trichloropropane	ug/L	ND	50	50	48.4	52.5	97	105	65-141	8	30	
1,2,4-Trimethylbenzene	ug/L	ND	50	50	44.5	52.0	89	104	47-149	16	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	125	125	107	111	86	89	53-150	4	30	
1,2-Dibromoethane (EDB)	ug/L	ND	50	50	54.2	58.0	108	116	65-137	7	30	
1,2-Dichlorobenzene	ug/L	ND	50	50	48.8	56.2	98	112	66-133	14	30	
1,2-Dichloroethane	ug/L	ND	50	50	50.3	54.5	101	109	54-138	8	30	
1,2-Dichloropropane	ug/L	ND	50	50	55.4	59.3	111	119	59-142	7	30	
1,4-Dichlorobenzene	ug/L	ND	50	50	45.9	54.1	92	108	65-129	16	30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	1000	1000	1230	1240	123	124	64-131	1	30	
2-Butanone (MEK)	ug/L	ND	250	250	173	183	69	73	39-150	6	30	
2-Hexanone	ug/L	ND	250	250	191	205	77	82	62-145	7	30	
2-Propanol	ug/L	ND	500	500	443J	568	89	114	30-150		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	250	250	201	221	80	88	59-143	9	30	
Acetone	ug/L	ND	250	250	302	377	121	151	52-150	22	30	M1
Acrylonitrile	ug/L	ND	500	500	438	454	88	91	63-126	4	30	
Benzene	ug/L	ND	50	50	52.7	55.3	105	110	30-150	5	30	
Bromochloromethane	ug/L	ND	50	50	63.7	68.0	127	136	62-140	7	30	
Bromodichloromethane	ug/L	ND	50	50	55.5	57.6	111	115	62-143	4	30	
Bromoform	ug/L	ND	50	50	49.1	56.8	98	114	59-136	15	30	
Bromomethane	ug/L	ND	100	100	164	145	164	145	30-150	12	30	M1
Carbon disulfide	ug/L	ND	50	50	57.6	60.3	115	121	35-150	5	30	
Carbon tetrachloride	ug/L	ND	50	50	59.0	62.3	118	125	51-150	5	30	
Chlorobenzene	ug/L	ND	50	50	58.0	64.8	116	130	65-133	11	30	
Chloroethane	ug/L	16.2	100	100	126	101	110	85	48-150	22	30	
Chloroform	ug/L	ND	50	50	57.0	59.2	114	118	54-149	4	30	
Chloromethane	ug/L	ND	100	100	98.8	78.0	99	78	30-150	24	30	
cis-1,2-Dichloroethene	ug/L	672	50	50	710	682	76	20	49-150	4	30	M1
cis-1,3-Dichloropropene	ug/L	ND	50	50	53.3	57.1	107	114	64-130	7	30	
Cyclohexane	ug/L	ND	250	250	238	260	95	104	50-150	9	30	
Dibromochloromethane	ug/L	ND	50	50	56.3	60.9	113	122	68-138	8	30	
Dibromomethane	ug/L	ND	50	50	59.9	64.6	120	129	67-134	8	30	
Dichlorodifluoromethane	ug/L	ND	100	100	79.5	68.2	79	68	39-150	15	30	
Ethylbenzene	ug/L	ND	50	50	52.5	59.9	105	120	55-139	13	30	
Iodomethane	ug/L	ND	50	50	110	110	220	221	32-135	1	30	M0
Isopropylbenzene (Cumene)	ug/L	ND	50	50	48.4	52.1	97	104	61-146	7	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	48.7	53.7	97	107	50-144	10	30	
Methylene Chloride	ug/L	ND	50	50	57.4	61.2	115	122	54-136	6	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
(406)254-7226

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1884864 1884865

Parameter	Units	10293854003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
n-Hexane	ug/L	ND	125	125	171	216	137	173	30-150	23	30	M1
n-Propylbenzene	ug/L	ND	50	50	49.5	56.7	99	113	59-142	14	30	
Styrene	ug/L	ND	50	50	47.0	53.6	94	107	68-134	13	30	
Tetrachloroethene	ug/L	ND	50	50	53.7	62.5	107	125	44-150	15	30	
Tetrahydrofuran	ug/L	ND	500	500	705	769	141	154	59-145	9	30	M1
Toluene	ug/L	ND	50	50	58.9	64.5	117	128	52-148	9	30	
trans-1,2-Dichloroethene	ug/L	18.6	50	50	74.9	76.8	113	116	45-150	2	30	
trans-1,3-Dichloropropene	ug/L	ND	50	50	53.3	56.2	107	112	68-132	5	30	
trans-1,4-Dichloro-2-butene	ug/L	ND	125	125	107	118	86	95	49-135	10	30	
Trichloroethene	ug/L	ND	50	50	61.6	65.0	123	130	52-150	5	30	
Trichlorofluoromethane	ug/L	ND	100	100	95.7	80.0	96	80	50-150	18	30	
Vinyl acetate	ug/L	ND	50	50	44.4J	46.4J	89	93	41-130		30	
Vinyl chloride	ug/L	2.9	100	100	100	79.2	97	76	43-150	24	30	
Xylene (Total)	ug/L	ND	150	150	153	167	102	111	54-144	9	30	
1,2-Dichloroethane-d4 (S)	%.						87	87	75-125			
4-Bromofluorobenzene (S)	%.						97	95	75-125			
Toluene-d8 (S)	%.						99	100	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: MT/17989 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10294384001

METHOD BLANK: 1884237 Matrix: Water
Associated Lab Samples: 10294384001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	01/20/15 21:56	
Sulfate	mg/L	<0.50	1.0	01/20/15 21:56	

LABORATORY CONTROL SAMPLE: 1884238

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.8	98	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE SAMPLE: 1884239

Parameter	Units	10294184001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	2.0	10	11.7	98	90-110	
Sulfate	mg/L	20.0	10	30.9	108	90-110	E

MATRIX SPIKE SAMPLE: 1884241

Parameter	Units	10294240010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	14.3	10	24.4	101	90-110	
Sulfate	mg/L	635	250	899	106	90-110	E

SAMPLE DUPLICATE: 1884240

Parameter	Units	10294240001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	13.3	13.3	0	20	
Sulfate	mg/L	643	643	0	20	

SAMPLE DUPLICATE: 1884242

Parameter	Units	10294214001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	9230 ug/L	9.3	0	20	
Sulfate	mg/L	245000 ug/L	214	13	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: MT/18024 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10294384001

METHOD BLANK: 1886844 Matrix: Water
Associated Lab Samples: 10294384001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0028	0.010	01/23/15 14:54	

METHOD BLANK: 1886846 Matrix: Water
Associated Lab Samples: 10294384001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0028	0.010	01/23/15 14:57	

LABORATORY CONTROL SAMPLE: 1886845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	97	90-110	

LABORATORY CONTROL SAMPLE: 1886847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	98	90-110	

MATRIX SPIKE SAMPLE: 1886849

Parameter	Units	10294644002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.18	.33	0.55	112	90-110	M1

MATRIX SPIKE SAMPLE: 1886956

Parameter	Units	10294429001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	3.1	.33	3.2	57	90-110	M2

SAMPLE DUPLICATE: 1886848

Parameter	Units	10294643001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	16.4	14.8	10	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

SAMPLE DUPLICATE: 1886955

Parameter	Units	10294240007 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.010	<0.0028		20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Sample: MW-27 **Lab ID: 10294384001** Collected: 01/16/15 12:00 Received: 01/17/15 10:40 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-87.0 ± 133 (244) C:NA T:NA**	pCi/L	01/29/15 18:12	10028-17-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

QC Batch: RADC/23186 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 10294384001

METHOD BLANK: 848146 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Tritium	-109 ± 121 (223) C:NA T:NA	pCi/L	01/29/15 16:10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALIFIERS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

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.

PQL - Practical Quantitation 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.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis
PASI-MT	Pace Analytical Services - Montana
PASI-PA	Pace Analytical Services - Greensburg

SAMPLE QUALIFIERS

Sample: 10294384001

[1]	The tritium was received in a nitric preserved sample container.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, Inc.
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QUALIFIERS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

ANALYTE QUALIFIERS

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

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10294384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10294384001	**MW-27**	EPA 3020	MPRP/52035	EPA 6020	ICPM/23068
10294384001	**MW-27**	EPA 7470A	MERP/12625	EPA 7470	MERC/14634
10294384001	**MW-27**	EPA 8260B	MSV/30161		
10294384002	**TRIP BLANK**	EPA 8260B	MSV/30161		
10294384001	**MW-27**	EPA 300.0	MT/17989		
10294384001	**MW-27**	EPA 353.2	MT/18024		
10294384001	**MW-27**	EPA 906.0	RADC/23186		

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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 1

1840427

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Tetra Tech	Report To:	Attention: Deb Lloyd
Address: 851 Bridger Dr Ste 6	Copy To: →	Company Name: TE
		Address: Helena
Email To: Mark.Pearson@tetratech.com	Purchase Order No.:	Pace Quote Reference:
Phone: 582-8780 Fax:	Project Name: Bozeman Landfill	Pace Project Manager:
Requested Due Date/TAT:	Project Number: 114-T03D3A.700	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Requested Analysis Filtered (Y/N)

Section D Required Client Information

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

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: WI's SVOC Custom	Metals - full list	ND3 + NO3	Tritium	Ca_1SO_4 Hardness	Cations	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-27			1/15	1200				9									✓	✓	✓	✓	✓	✓		-001
2	Trip Blank			9/29/14					2									✓							-002
3																									
4																				See Attached					
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

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)
1 cooler	Mark Pearson	1/15/15	1300	FedEx Colorado	1/15/15	1300				
	FedEx			Wilson/Pace	11/17/15	1040	3.1	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark Pearson

SIGNATURE of SAMPLER: Mark Pearson DATE Signed (MM/DD/YY): 1/15/15

*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.

F-ALL-Q-020rev.07, 15-May-2007

TABLE 1

Schedule of Field Measurements and Laboratory Analysis - December 2014

Bozeman Landfill, Bozeman Montana

Well or Sampling Site	Monitoring Frequency	December 2014								
		Field pH, SC, DO & ORP	Laboratory pH & SC Tritium	VOCs	Inorganics 'Partial List' Ba, Fe, Mn (dissolved)	'Full List' Metals (dissolved)	Cations	Anions Sulfate Chloride	TDS & Total Hardness	N as NO2+NO3
MW-27			X			X	X	X	X	X
LF- 2	Semi-annual monitoring	1		1			1	1	1	1
LF- 3	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 3	No mon. requirement. Last event in 2001									
MW- 4	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 5	Semi-annual monitoring	1	X	1		1	1	1	1	1
MW- 6	Semi-annual monitoring	1	X	1		1	1	1	1	1
MW- 6B	Four monitoring events completed									
MW- 7A	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 7B	DEQ requests next monitoring in 2015									
MW- 8A	Semi-annual monitoring	1	X	1		1	1	1	1	1
MW- 8B	DEQ requests next monitoring in 2015									
MW- 8C	Four monitoring events completed									
MW- 9A	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 9B	DEQ requests next monitoring in 2015									
MW- 10	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 11	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 12	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 13	Semi-annual monitoring	1		1		1	1	1	1	1
MW- 14	Annual mon in Dec 2014	1		1		1	1	1	1	
MW- 15	Semi-annual monitoring	1	X	1		1	1	1	1	1
MW- 16	Four monitoring events completed									
MW- 17	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 18	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 19	Last quarterly monitoring event	1		1			1	1	1	
MW- 20	Last quarterly monitoring event	1		1		1	1	1	1	
MW- 21	Last quarterly monitoring event	1		1			1	1	1	
MW- 22	Last quarterly monitoring event	1		1			1	1	1	
MW- 23	Last quarterly monitoring event	1		1			1	1	1	
MW- 24	Last quarterly monitoring event	1		1			1	1	1	
MW- 25	Last quarterly monitoring event	1		1			1	1	1	
MW- 26	Last quarterly monitoring event	1		1			1	1	1	
PMW- 27	Semi-annual monitoring	1		1		1	1	1	1	
PMW- 28	Semi-annual monitoring	1		1		1	1	1	1	1
Shop/Office Well	Semi-annual monitoring	1		1						
Mcilhattan Seep	Semi-annual monitoring	1		1		1	1	1	1	1
Valley View Vet We	Semi-annual monitoring	1		1		1 (1)				
Field Duplicate	Semi-annual monitoring	1		1		1	1	1	1	1
Trip Blank	Semi-annual monitoring			1						
	Total Number of Samples	4		31	0	21	28	28	26	16

Notes :

VOCs : Volatile organic compounds

Ba, Fe, Mn : Barium, Iron, Manganese

'Full List' : Analysis of 15 metals (reported as dissolved concentrations) including:

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

(1) : Total recoverable analysis of metals

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 14Jul2014 Page 1 of 1
	Document No.: F-MT-C-184-rev.04	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt **Client Name:** T.T. Boeman **Project #:** WO#: 10294384

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: 7726 1086 9240

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

Packing Material: [X] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other: Temp Blank? [X] Yes [ ] No

Thermometer Used: [X] B88A0140728348 [ ] NA Type of Ice: [X] Wet [ ] Blue [ ] None [ ] Samples on ice, cooling process has begun

Cooler Temp Read: 3.1 Date and Initials of Person Examining Contents: 1/7 MH

Cooler Temp Corrected: 3.1 Biological Tissue Frozen? [ ] Yes [X] No

Temp should be above freezing to 6°C

				Comments:
Chain of Custody Present?	[X] Yes	[ ] No	[ ] N/A	1.
Chain of Custody Filled Out?	[X] Yes	[ ] No	[ ] N/A	2.
Chain of Custody Relinquished?	[X] Yes	[ ] No	[ ] N/A	3.
Sampler Name and Signature on COC?	[X] Yes	[ ] No	[ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No	[ ] N/A	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes	[X] No	[ ] N/A	6.
Rush Turn Around Time Requested?	[ ] Yes	[X] No	[ ] N/A	7.
Sufficient Volume?	[X] Yes	[ ] No	[ ] N/A	8.
Correct Containers Used?	[X] Yes	[ ] No	[ ] N/A	9.
-Pace Containers Used?	[X] Yes	[ ] No	[ ] N/A	
Containers Intact?	[X] Yes	[ ] No	[ ] N/A	10.
Filtered Volume Received for Dissolved Tests?	[ ] Yes	[X] No	[ ] N/A	11.
Sample Labels Match COC?	[X] Yes	[ ] No	[ ] N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked?	[X] Yes	[ ] No	[ ] N/A	13. 3/3 [X] HNO_3 1/1 [X] H_2SO_4 [ ] NaOH [ ] HCl Sample # 001
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	[X] Yes	[ ] No	[ ] N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	[X] Yes	[ ] No		Initial when completed: MH Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	[ ] Yes	[X] No	[ ] N/A	14.
Trip Blank Present?	[X] Yes	[ ] No	[ ] N/A	15.
Trip Blank Custody Seals Present?	[X] Yes	[ ] No	[ ] N/A	
Pace Trip Blank Lot # (if purchased): 0192914-3BUF				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 1/20/15

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: 01May2014 Page: 1 of 1
	Document Number: F-MT-C-179-rev.06	Issuing Authority: Pace Minnesota Quality Office

Shipping (circle):	UPS Fed Ex
Tracking #:	6821 2786 4230
Client:	TetraTech Bozeman
Due Date:	30-Jan-2015
Pace WO:	10294384
Project Manager:	Kang Khang

MT to MN Sample Transfer Condition Upon Receipt Form

ANALYSIS REQUESTED					
Method Number & Description	**Container Type**	**# of Bottles**	**Lab ID's**	**Preservative Yes or No**	**Verify Arrival Date & Initials**
Tests					
8260 VOCs	40ml vials	3	001	HCL	RH 1/21/15
TB	40ml vials	2	002	HCL	RH 1/21/15
Diss. Metals	250ml P	1	001	HNO3	RH 1/21/15

REPORTING REQUIREMENTS/ADDITIONAL COMMENTS

MINNESOTA SAMPLE RECEIPT INFORMATION			
IR Gun (circle): **80512447, B88A912167504, 72337080** Correction Factor: +0.1		Sample Matrix:	WT
Cooler Temp Read (°C): 1.6	Cooler Temp Corrected (°C): 1.7	Filtred volume rec'd for dissolved tests:	Yes ✓ No__ NA__
Arrived on Ice:	Yes ✓ No__	Samples pH have been checked:	Yes ✓ No__ NA__
Custody Seal Present:	Yes ✓ No__	Trip Blank Present:	Yes ✓ No__ NA__
Short Hold Time Requested < 72 Hours:	Yes__ No ✓	Trip Blank Custody Seals Present:	Yes__ No__ NA ✓
Rush TAT Requested:	Yes__ No ✓	Pace Trip Blank Lot #:	N A
Sufficient Sample Volume:	Yes ✓ No__	Sample Composites Required:	Yes__ No ✓ NA__
Samples Arrived within Hold Time:	Yes ✓ No__	Report Samples:	Wet Wt.__ Dry Wt.__
Containers Intact:	Yes ✓ No__	Reporting Units:	

CUSTODY TRANSFER					
Relinquished by/Affiliation	**Date**	**Time**	**Accepted By Affiliation**	**Date**	**Time**
Nathan/Pace	1/20/15	1686	Pace	1/21/15	945

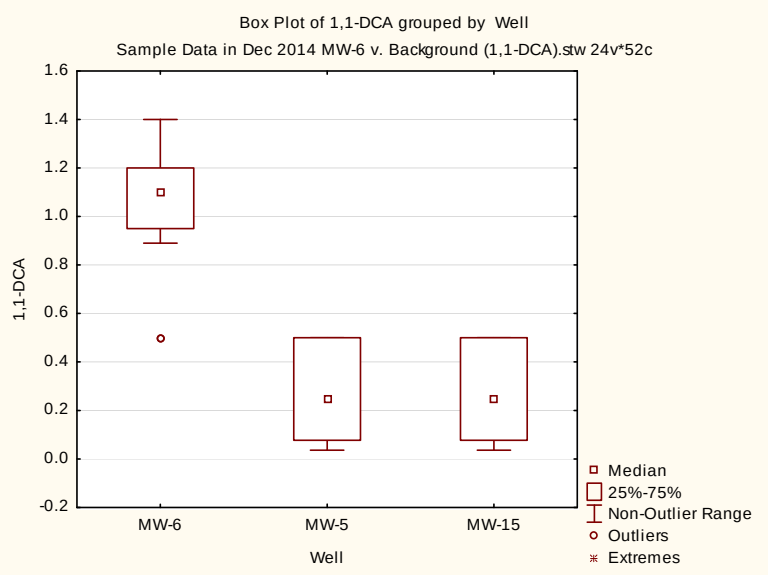
CLIENT NOTIFICATION/RESOLUTION
Person Contacted: _____ **Date:** _____
Comments/Resolution: _____

Project Manager Review: _____ **Date:** 1-21-15

APPENDIX D

STATISTICAL EVALUATION DATA AND WORKSHEETS

MW-6 v. Background
1,1-Dichloroethane

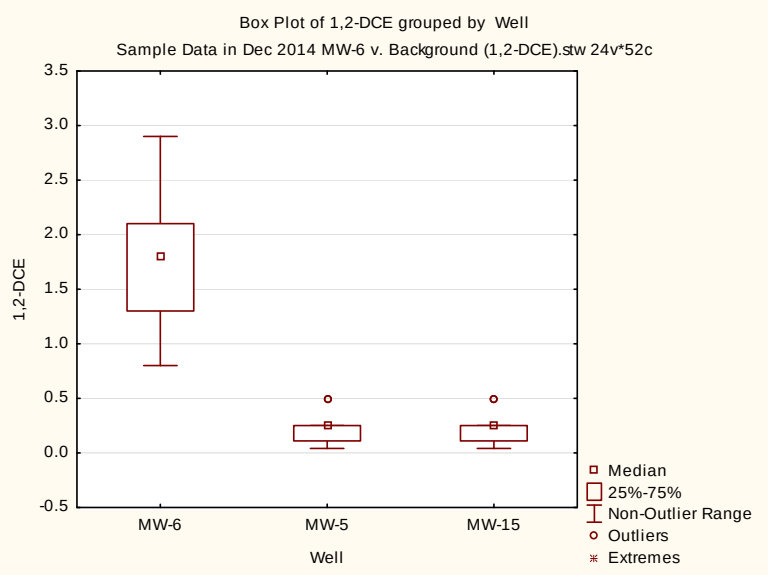


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (1,1-DCA).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (1,1-DCA)	18	1.043333	1.100000	0.500000	1.400000	0.243069
MW-5 (1,1-DCA)	17	0.253412	0.250000	0.036000	0.500000	0.200902
MW-15 (1,1-DCA)	17	0.253412	0.250000	0.036000	0.500000	0.200902

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	471.0000	159.0000	6.000000	4.835221	0.000001	4.878457	0.000001	18	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	471.0000	159.0000	6.000000	4.835221	0.000001	4.878457	0.000001	18	17	0.000000

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

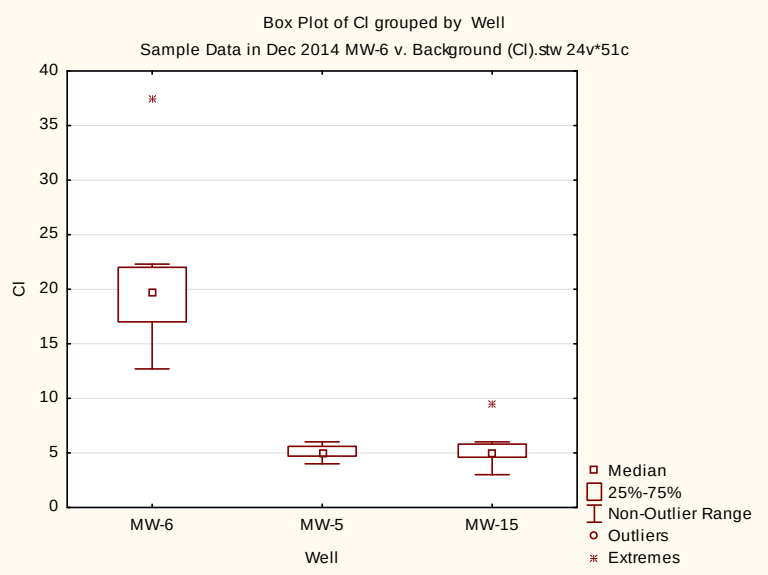


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (1,2-DCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (1,2-DCE)	18	1.700000	1.800000	0.800000	2.900000	0.591111
MW-5 (1,2-DCE)	17	0.197941	0.250000	0.040000	0.500000	0.143539
MW-15 (1,2-DCE)	17	0.197941	0.250000	0.040000	0.500000	0.143539

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	477.0000	153.0000	0.00	5.033250	0.000000	5.067792	0.000000	18	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	477.0000	153.0000	0.00	5.033250	0.000000	5.067792	0.000000	18	17	0.000000

MW-6 v. Background
Chloride

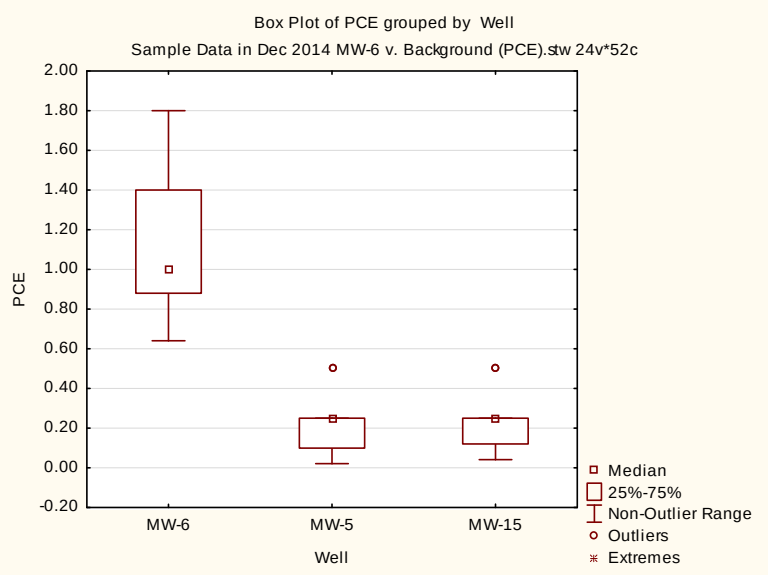


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (Cl).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (Cl)	17	19.65294	19.70000	12.70000	37.40000	5.532757
MW-5 (Cl)	17	5.10588	5.00000	4.00000	6.00000	0.571698
MW-15 (Cl)	17	5.14706	5.00000	3.00000	9.50000	1.382081

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	442.0000	153.0000	0.00	4.959869	0.000001	4.967084	0.000001	17	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	442.0000	153.0000	0.00	4.959869	0.000001	4.964422	0.000001	17	17	0.000000

MW-6 v. Background
Tetrachloroethene (PCE)

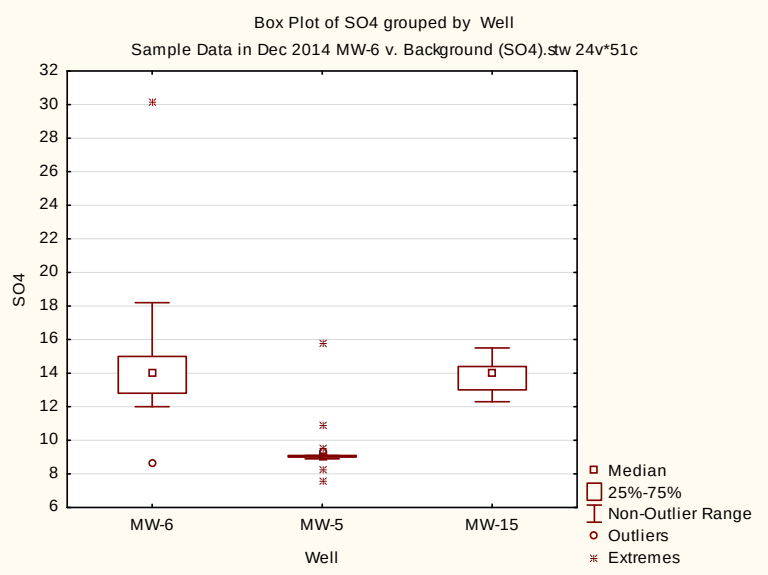


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (PCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (PCE)	18	1.132778	1.000000	0.640000	1.800000	0.363558
MW-5 (PCE)	17	0.204971	0.250000	0.020500	0.500000	0.136845
MW-15 (PCE)	17	0.206176	0.250000	0.041000	0.500000	0.135199

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-6 v. Background (PCE).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
PCE	477.0000	153.0000	0.00	5.033250	0.000000	5.054889	0.000000	18	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-6 v. Background (PCE).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
PCE	477.0000	153.0000	0.00	5.033250	0.000000	5.056318	0.000000	18	17	0.000000

MW-6 v. Background
Sulfate

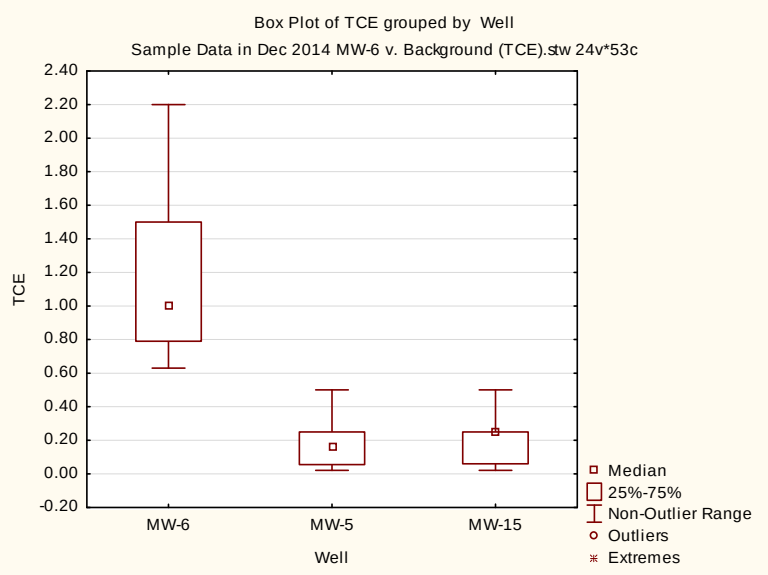


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (SO4).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (SO4)	17	14.76000	14.00000	8.62000	30.10000	4.485638
MW-5 (SO4)	17	9.43529	9.00000	7.60000	15.80000	1.758174
MW-15 (SO4)	17	13.94118	14.00000	12.30000	15.50000	0.948063

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	415.0000	180.0000	27.00000	4.029893	0.000056	4.049117	0.000051	17	17	0.000012

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	292.5000	302.5000	139.5000	-0.154996	0.876825	-0.155699	0.876270	17	17	0.865064

MW-6 v. Background
Trichloroethene

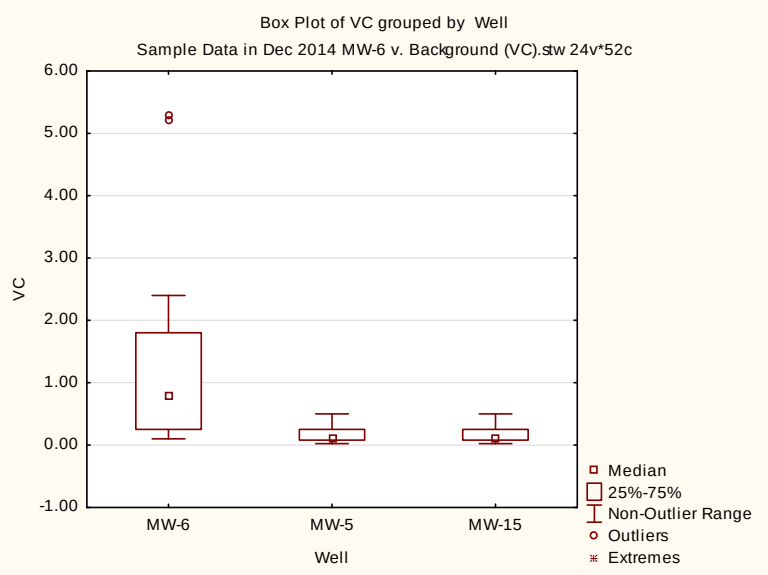


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (TCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (TCE)	18	1.162778	1.000000	0.630000	2.200000	0.470779
MW-5 (TCE)	17	0.189618	0.250000	0.020500	0.500000	0.149389
MW-15 (TCE)	17	0.189618	0.250000	0.020500	0.500000	0.149389

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	495.0000	171.0000	0.00	5.109634	0.000000	5.130808	0.000000	18	18	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	495.0000	171.0000	0.00	5.109634	0.000000	5.130808	0.000000	18	18	0.000000

MW-6 v. Background
Vinyl Chloride

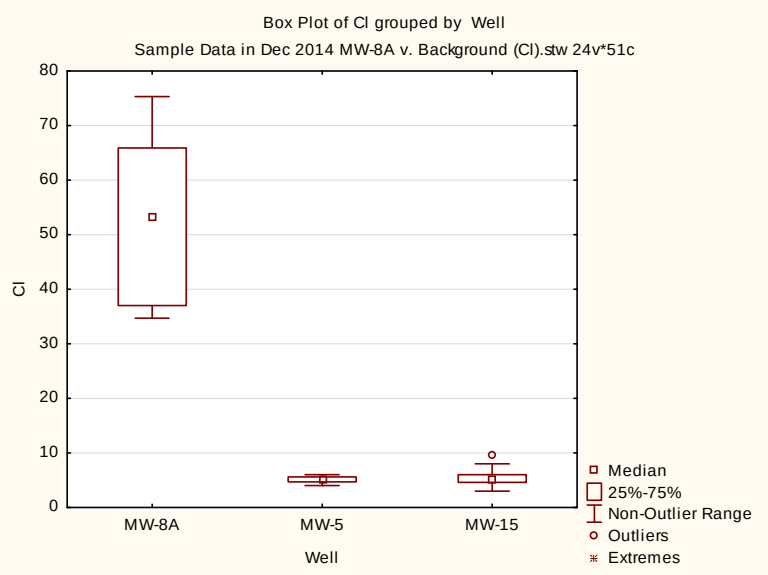


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. Background (VC).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-6 (VC)	18	1.358889	0.780000	0.100000	5.300000	1.579959
MW-5 (VC)	17	0.160500	0.100000	0.024500	0.500000	0.119980
MW-15 (VC)	17	0.160500	0.100000	0.024500	0.500000	0.119980

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	444.5000	185.5000	32.50000	3.960590	0.000075	4.011190	0.000060	18	17	0.000018

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	444.5000	185.5000	32.50000	3.960590	0.000075	4.011190	0.000060	18	17	0.000018

MW-8A v. Background
Chloride

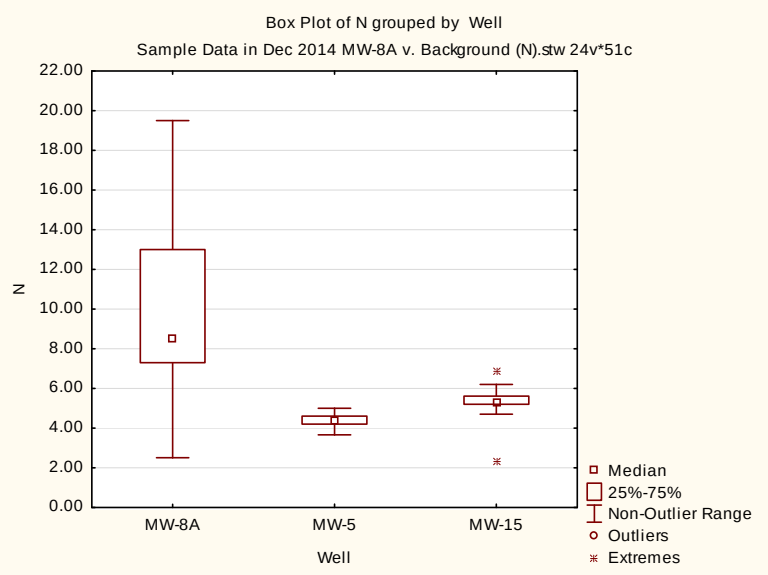


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (Cl).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (Cl)	17	51.90000	53.20000	34.70000	75.30000	14.64787
MW-5 (Cl)	17	5.10588	5.00000	4.00000	6.00000	0.57170
MW-15 (Cl)	17	5.51176	5.00000	3.00000	9.50000	1.66654

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	442.0000	153.0000	0.00	4.959869	0.000001	4.965562	0.000001	17	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	442.0000	153.0000	0.00	4.959869	0.000001	4.961764	0.000001	17	17	0.000000

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

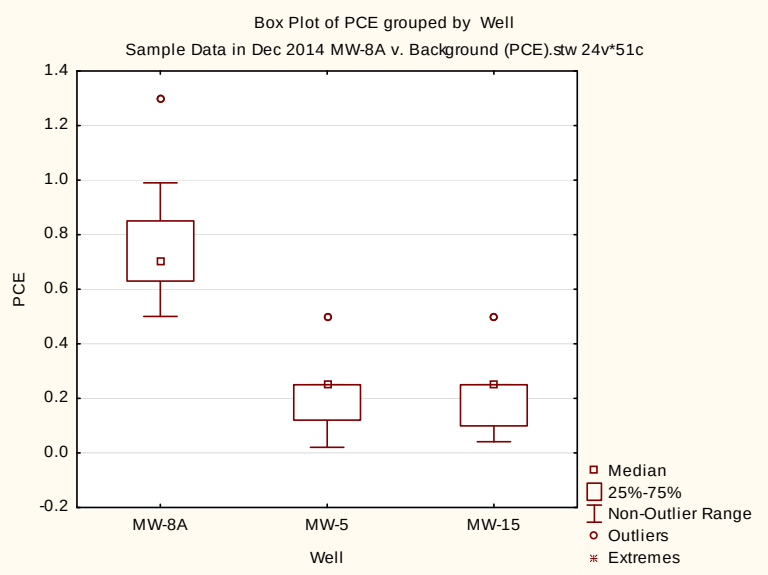


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (N).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (N)	17	9.902353	8.500000	2.510000	19.50000	5.043117
MW-5 (N)	17	4.415294	4.400000	3.660000	5.00000	0.309256
MW-15 (N)	17	5.273529	5.300000	2.280000	6.90000	0.918021

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	397.5000	197.5000	44.50000	3.427131	0.000610	3.430015	0.000604	17	17	0.000297

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	378.0000	217.0000	64.00000	2.755483	0.005861	2.760760	0.005767	17	17	0.004792

MW-8A v. Background
Tetrachloroethene (PCE)

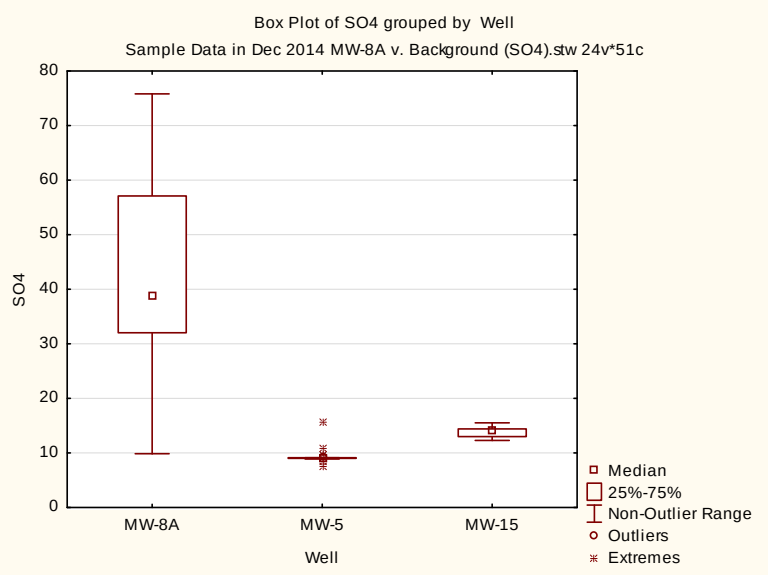


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (PCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (PCE)	17	0.782941	0.700000	0.500000	1.300000	0.230319
MW-5 (PCE)	17	0.204971	0.250000	0.020500	0.500000	0.136845
MW-15 (PCE)	17	0.206176	0.250000	0.041000	0.500000	0.135199

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	441.0000	154.0000	1.000000	4.925425	0.000001	4.950831	0.000001	17	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	441.0000	154.0000	1.000000	4.925425	0.000001	4.951977	0.000001	17	17	0.000000

MW-8A v. Background
Sulfate

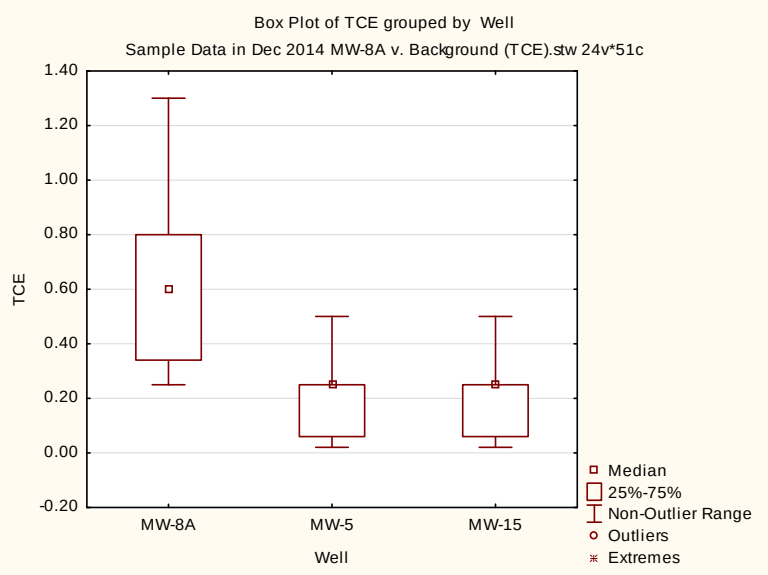


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (SO4).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (SO4)	17	44.27353	38.80000	9.85000	75.80000	17.97900
MW-5 (SO4)	17	9.43529	9.00000	7.60000	15.80000	1.75817
MW-15 (SO4)	17	13.94118	14.00000	12.30000	15.50000	0.94806

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-8A v. Background (SO4).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
SO4	440.0000	155.0000	2.000000	4.890982	0.000001	4.912798	0.000001	17	17	0.000000

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-8A v. Background (SO4).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
SO4	425.0000	170.0000	17.00000	4.374329	0.000012	4.378344	0.000012	17	17	0.000001

MW-8A v. Background
Trichloroethene (TCE)

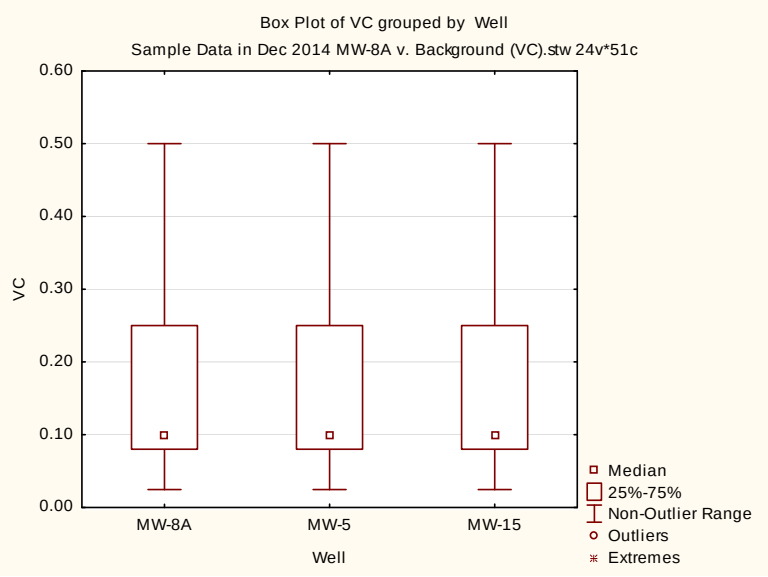


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (TCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (TCE)	17	0.594118	0.600000	0.250000	1.300000	0.278232
MW-5 (TCE)	17	0.190206	0.250000	0.020500	0.500000	0.148866
MW-15 (TCE)	17	0.190206	0.250000	0.020500	0.500000	0.148866

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	425.5000	169.5000	16.50000	4.391550	0.000011	4.422402	0.000010	17	17	0.000001

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 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	425.5000	169.5000	16.50000	4.391550	0.000011	4.422402	0.000010	17	17	0.000001

MW-8A v. Background
Vinyl Chloride

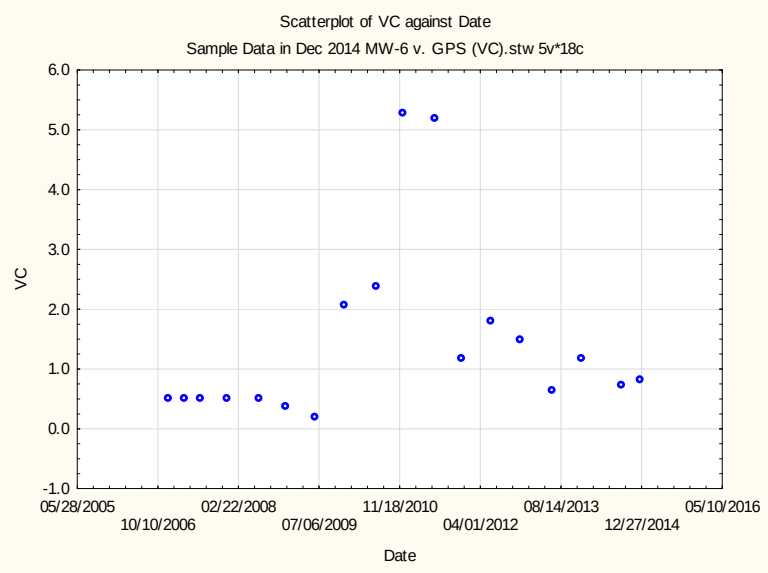


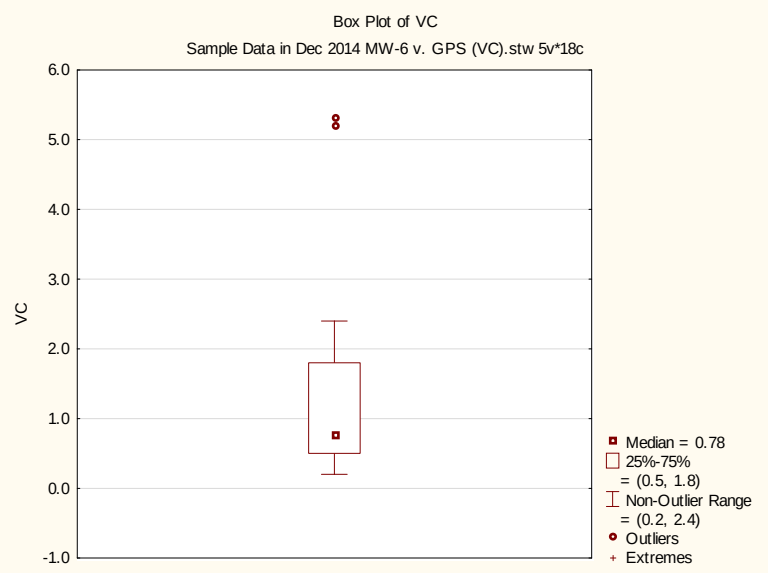
Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. Background (VC).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
MW-8A (VC)	17	0.160500	0.100000	0.024500	0.500000	0.119980
MW-5 (VC)	17	0.160500	0.100000	0.024500	0.500000	0.119980
MW-15 (VC)	17	0.160500	0.100000	0.024500	0.500000	0.119980

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-8A v. Background (VC).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
VC	296.0000	299.0000	143.0000	-0.034444	0.972523	-0.035043	0.972045	17	17	0.972891

	Mann-Whitney U Test (w/ continuity correction) (Sample Data in Dec 2014 MW-8A v. Background (VC).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
VC	296.0000	299.0000	143.0000	-0.034444	0.972523	-0.035043	0.972045	17	17	0.972891

MW-6 v. GPS
Vinyl Chloride

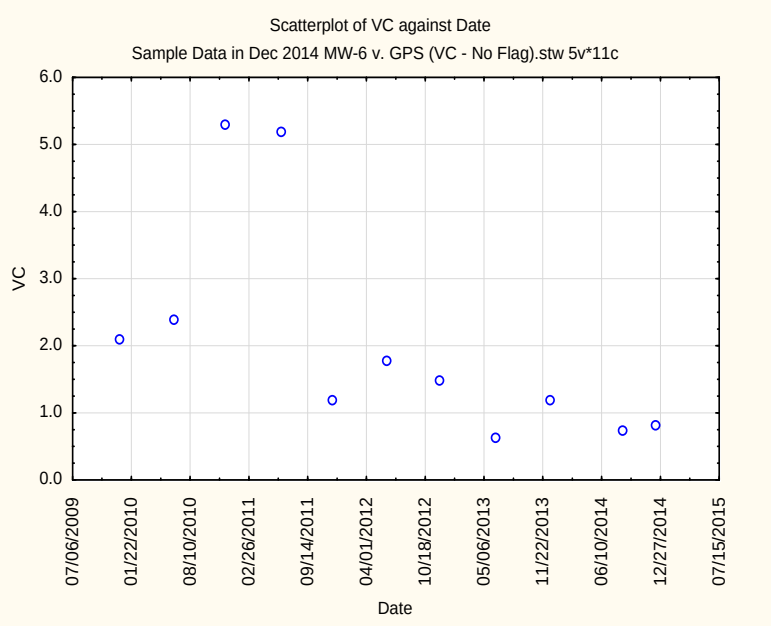


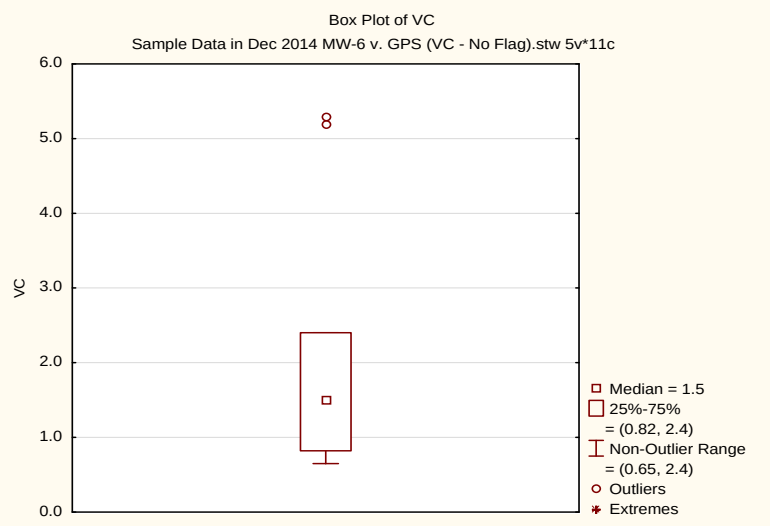


	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	18	1.445000	0.780000	0.200000	5.300000	1.518088

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-6 v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	18	39.00000	2.025092	0.042859

MW-6 v GPS
Vinyl Chloride - No Flag

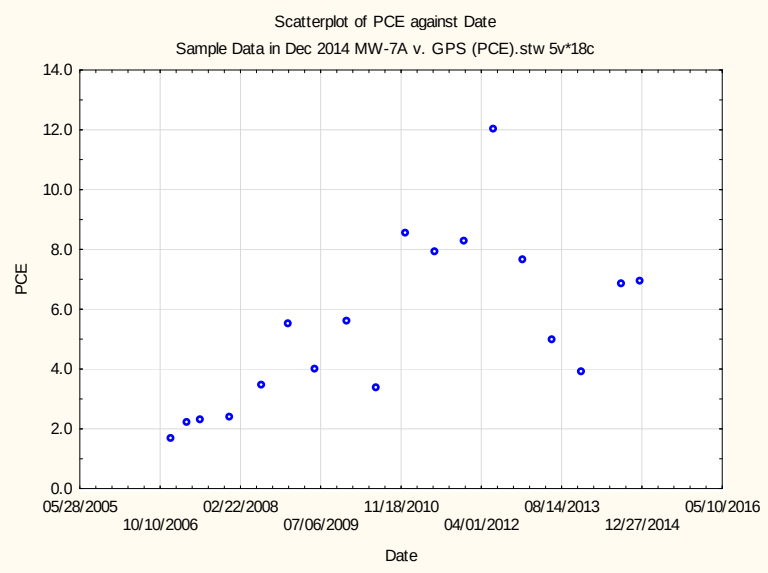


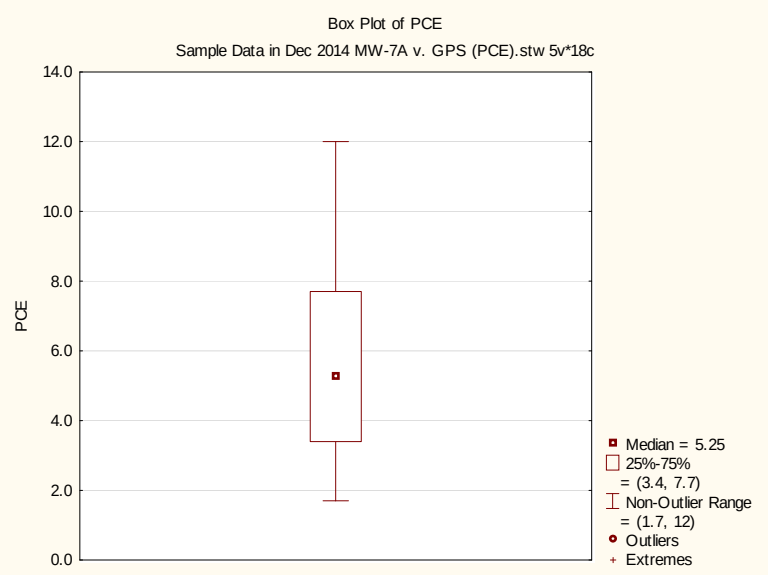


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-6 v. GPS (VC - No Flag).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	11	2.082727	1.500000	0.650000	5.300000	1.661241

Pair of Variables	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-6 v. GPS (VC - No Flag).stw) Marked tests are significant at p <.01000			
	Valid N	T	Z	p-value
VC & GPS	11	25.00000	0.711287	0.476907

MW-7A v. GPS
Tetrachloroethene (PCE)

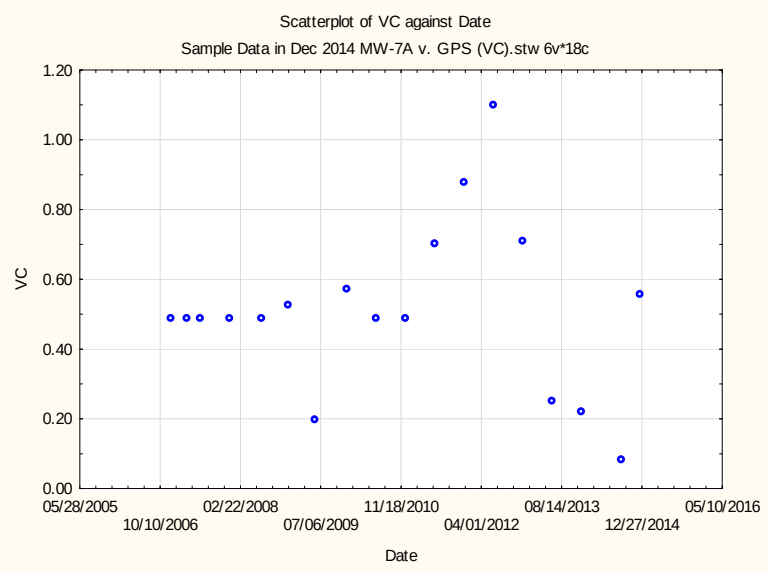


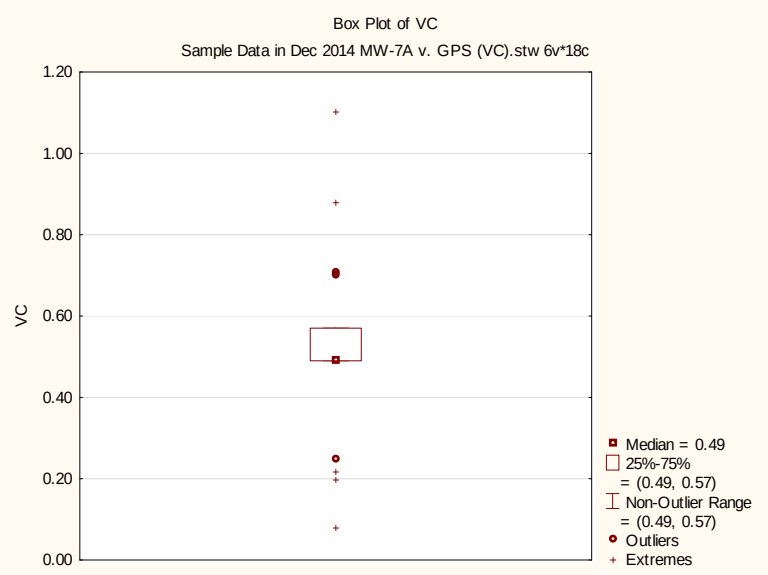


	Descriptive Statistics (Sample Data in Dec 2014 MW-7A v. GPS (PCE).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
PCE	18	5.438889	5.250000	1.700000	12.00000	2.798138

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-7A v. GPS (PCE).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
PCE & GPS	17	63.50000	0.615395	0.538294

MW-7A v. GPS
Vinyl Chloride

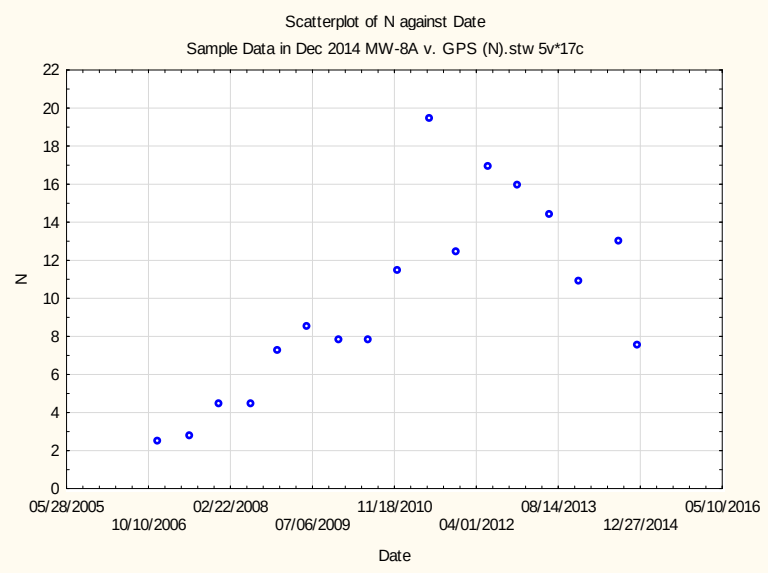


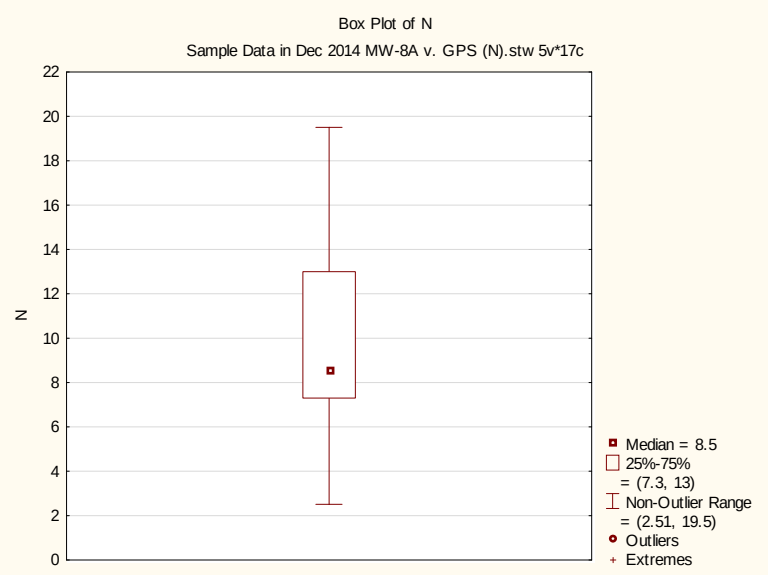


	Descriptive Statistics (Sample Data in Dec 2014 MW-7A v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	18	0.512889	0.490000	0.082000	1.100000	0.242685

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-7A v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	18	0.00	3.723555	0.000196

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

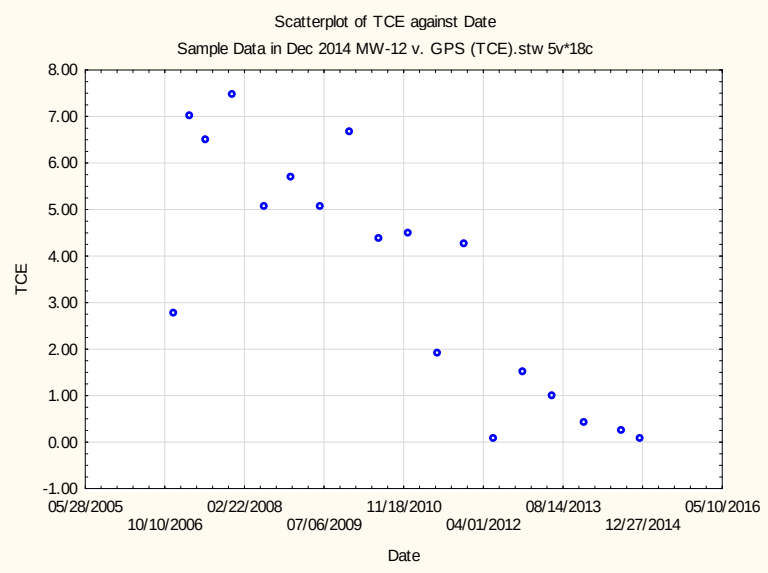


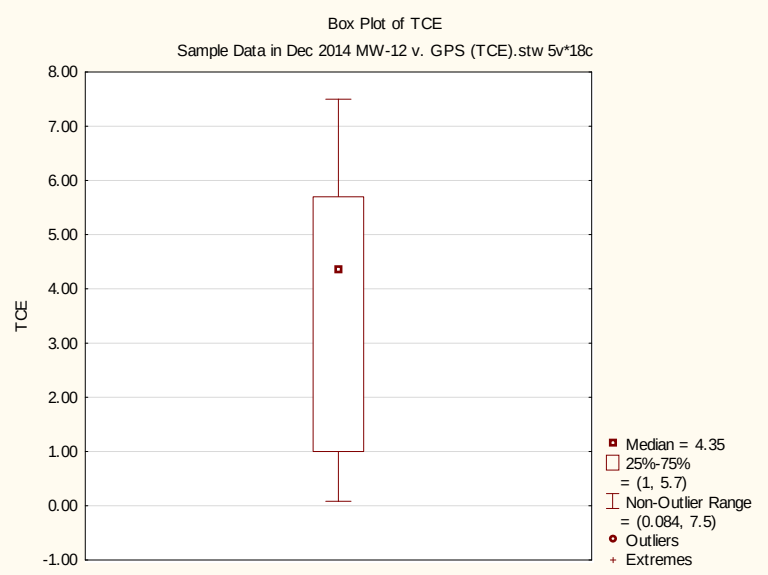


	Descriptive Statistics (Sample Data in Dec 2014 MW-8A v. GPS (N).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
N	17	9.902353	8.500000	2.510000	19.50000	5.043117

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-8A v. GPS (N).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
N & GPS	17	73.50000	0.142014	0.887069

MW-12 v. GPS
Trichloroethene (TCE)

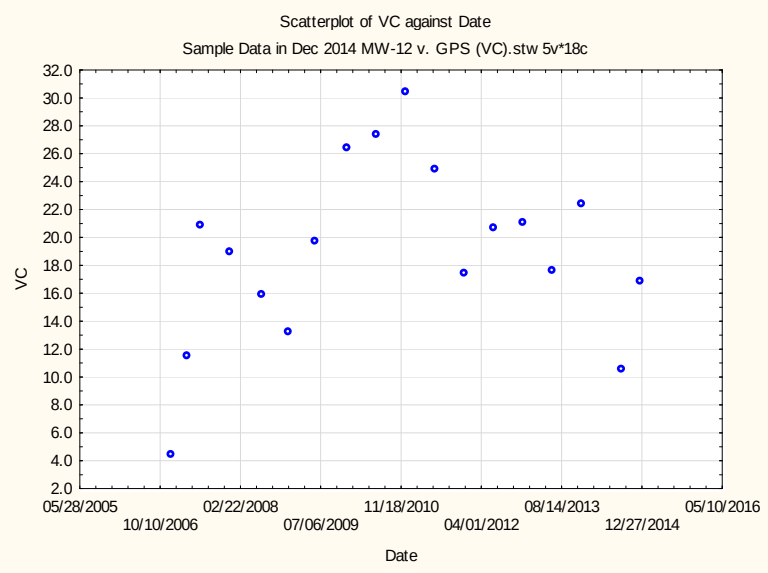


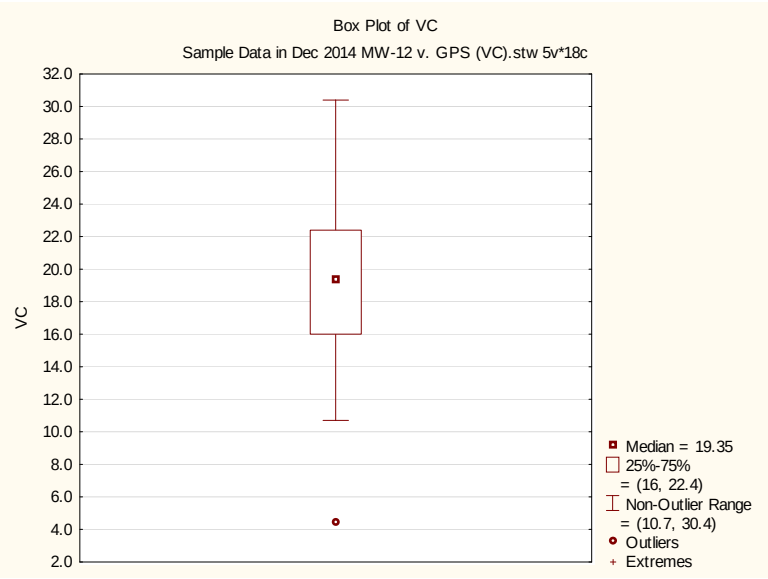


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-12 v. GPS (TCE).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
TCE	18	3.605778	4.350000	0.084000	7.500000	2.611628

Pair of Variables	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-12 v. GPS (TCE).stw) Marked tests are significant at p <.01000			
	Valid N	T	Z	p-value
TCE & GPS	18	43.50000	1.829115	0.067383

MW-12 v. GPS
Vinyl Chloride

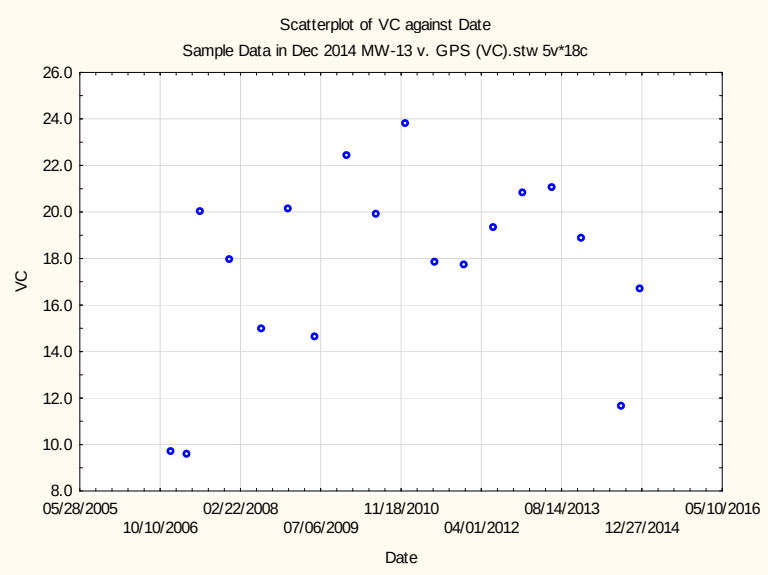


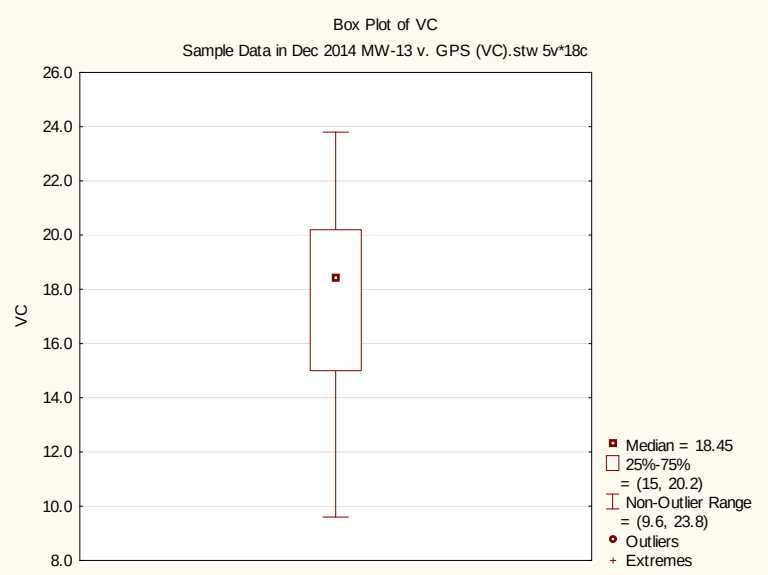


Variable	Descriptive Statistics (Sample Data in Dec 2014 MW-12 v. GPS (VC).stw)					
	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	18	18.95000	19.35000	4.400000	30.40000	6.425432

Pair of Variables	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-12 v. GPS (VC).stw) Marked tests are significant at p <.01000			
	Valid N	T	Z	p-value
VC & GPS	18	0.00	3.723555	0.000196

MW-13 v. GPS
Vinyl Chloride





	Descriptive Statistics (Sample Data in Dec 2014 MW-13 v. GPS (VC).stw)					
Variable	Valid N	Mean	Median	Minimum	Maximum	Std.Dev.
VC	18	17.63889	18.45000	9.600000	23.80000	4.101670

	Wilcoxon Matched Pairs Test (Sample Data in Dec 2014 MW-13 v. GPS (VC).stw) Marked tests are significant at p <.01000			
Pair of Variables	Valid N	T	Z	p-value
VC & GPS	18	0.00	3.723555	0.000196