TETRA TECH, INC.

July 17, 2014

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

RE: Report of Monitoring Well Installation and Groundwater Monitoring Activities – March through May 2014
Bozeman Landfill, Bozeman, Montana

Dear Mr. Collins:

Please find the attached report of Monitoring Well Installation and Groundwater Monitoring Activities for March through May 2014. This report was prepared in response to your letters of August 30 and November 5. 2013 and January 16, 2014. Please contact me with any questions or comments to this report.

Sincerely,

Mark F. Pearson
Project Manager/Hydrogeologist

Enclosure: Report of Monitoring Well Installation and Groundwater Monitoring Activities – March through May 2014

Cc with attachments: Dr. Craig Woolard, PE, City of Bozeman (5 copies)

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DRAFT
REPORT OF MONITORING WELL INSTALLATION AND GROUNDWATER MONITORING ACTIVITIES MARCH THROUGH MAY 2014

BOZEMAN LANDFILL
BOZEMAN, MONTANA

Prepared for:

Mr. Craig Woolard, PhD, P.E.
City of Bozeman
PO Box 1230
Bozeman MT 59771-1230

Prepared by:

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Bozeman, MT 59715

Tetra Tech Project No. 114-710303

July 17, 2014

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1.0 INTRODUCTION

Tetra Tech installed additional monitoring wells and conducted groundwater monitoring activities during March through May 2014 at the Bozeman Landfill and site vicinity (**Figure 1**). This work was conducted in response to DEQ letters dated August 30 and November 5. 2013 and January 16, 2014. These activities consisted of the drilling and installation of groundwater monitoring wells, groundwater monitoring in March, and a re-sampling of selected wells in May. Tetra Tech personnel conducted the program in accordance with a Task Order, Work Plan for Groundwater Investigation dated January 31, 2014 and the *Groundwater Sampling and Analysis Plan* dated October 28, 2010.

Ten additional groundwater monitoring wells were drilled and completed in the vicinity of the Bozeman Landfill property. Monitoring activities included the measurement of water levels and field parameters, purging and sampling of wells and a surface water spring (McIlhattan Seep), and submitting the samples for laboratory analysis. Monitoring sites are shown in **Figure 2**. An initial monitoring/sampling event was conducted in March 2014, following installation of nine groundwater monitoring wells. A second monitoring/sampling event was conducted in May 2014, to confirm concentrations of VOCs detected in the March 2014 event and to collect samples from wells completed after the March 2014 event.

1.1 METHODS

This section describes methods used to install the additional monitoring wells and monitor groundwater at the Bozeman Landfill. Results of the monitoring activities are presented in Section 2.0. Figures presenting the site location, monitoring sites, and other site aspects are attached. Data tables are also attached. Graphs of groundwater data over time are contained in **Appendix A**. Groundwater sampling logs are contained in **Appendix B** and laboratory analytical reports are contained in **Appendix C**.

1.1.1 Drilling and Installation of Monitoring Wells

Per the Work Plan developed by the City for DEQ, ten additional wells were drilled and completed in February through April 2014. These were named MW-17 through MW-26. All of these wells were drilled and completed using a Mobile B-61 Hollowstem Auger drilling rig with exception to wells MW-24 and MW-26 which were drilled and completed using a Foremost DR-24 dual air rotary drilling rig. Drilling began February 24 and occurred over several intervals until being completed on April 23, 2014. Access problems caused by thawing soils and difficult drilling conditions halted the drilling on several occasions and resulted in the use of two drilling rigs having three separate mobilizations. All wells were completed with 2-inch diameter, Schedule 40 PVC well casing and machine-slotted well casing. Slot size was mostly 0.01-inch. Only well MW-21 utilized 0.02-inch slotted casing. Filter pack consisted of size #10-20 silica sand and the grout/well seal consisted of hydrated bentonite chips. Surface completions consist of both steel stickup and steel covers at grade secured with concrete grout. A summary of well specifications is provided in **Table 1**. Well logs are contained in **Appendix B**.

1.1.2 Water Level and Field Parameter Measurements

Depth to groundwater was measured in monitoring wells during the March 25 – 28 and May 1 - 2 monitoring events. The ten new monitoring wells were surveyed by Great West Engineering to establish the location and elevation of each well. Previously, site surveying was completed to a

local datum for surface contours, design of the lined cell, covers, landfill gas extraction systems, roads and all monitoring points. The new survey established elevations relative to the Montana State Plane coordinate system. Hence, historic monitoring well elevations and water level elevations presented in previous reports will vary from those presented in this report.

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**.

1.1.3 Groundwater Sampling

The groundwater monitoring events occurred between March 25 and 28 (21 wells and stations sampled) and between May 1 – 2, 2014 (10 wells sampled). The May event was for the purpose of re-sampling the new groundwater monitoring wells to confirm results from the initial sampling event and to sample wells MW-18 and MW-25, which had not been drilled prior to the March monitoring event.

In addition to the collection of groundwater samples, water level measurements and field parameters were collected from 26 monitoring wells and one spring. Wells sampled, field measurements, and analyses are summarized in **Table 2**. Locations of wells and other sampling stations are shown in **Figure 2**.

In the March monitoring event, 19 of the 26 monitoring wells and stations were analyzed for volatile organic compounds (VOCs) in accordance with method 8260B MSV Low Level. In addition, the Method 8260 list of constituents was increased from 48 to 58 to include all of the constituents analyzed for the indoor air monitoring project. 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 2320B (alkalinity). Samples were also collected for analysis of tritium in accordance with EPA method 906.0.

In the May monitoring event, the new wells were analyzed for VOCs. Wells MW-18 and MW-25 were sampled for the first time. Analysis of samples collected from wells MW-18 and MW-25 included VOCs in accordance with method 8260B MSV Low Level and inorganic constituents in accordance with EPA method 6020 MET ICPMS (metals and cations), method 300.0 IC (anions), and SM 2320B (alkalinity). A sample collected from well MW-18 was analyzed for tritium in accordance with EPA method 906.0. 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 each 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) plus dichlorodifluoromethane. Duplicate samples were collected during each monitoring event. In March, the duplicate sample (DUP-1) was collected from well MW-22 at the same time the natural sample was being collected. In May, the duplicate sample (DUP) was collected from well MW-20 at the same time the natural sample was being collected. Duplicate samples were analyzed for the same constituents as the corresponding natural sample.

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

- Monitoring wells were purged using either dedicated submersible pump(s) 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 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.

The March and April 2014 monitoring events field parameter measurements and laboratory analytical results have been entered into Tetra Tech's database for the project.

2.0 DATA PRESENTATION AND ANALYSIS

Data collected at the Bozeman Landfill during the March and May 2014 monitoring events 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 over time and groundwater elevation are presented in **Appendix A**. Boring/monitoring well logs, groundwater sampling logs, chain-of-custody documents, and laboratory analytical reports for the monitoring events are contained in **Appendices B** and **C**, respectively.

2.1 NEW MONITORING WELLS

Ten additional wells were drilled and completed between February and April 2014. These include wells MW-17 through MW-26. The locations of these wells are shown in **Figure 2**. The purpose of these additional wells is to provide groundwater quality information in the vicinity of the southeast area corner of the landfill, as well as shallow groundwater near well LF-3 and in the Bridger Creek Phase II neighborhood along Augusta Drive. Information from these wells will be used in a subsequent investigation to refine the conceptual model understanding the migration of VOCs from the landfill.

The monitoring wells were designed to be screened across the first 'significant' intercept to groundwater. Marginally wet zones were noted at shallow locations during the drilling; however, if they did not produce water such that there was an accumulation in the borehole, no well screen was installed for that interval. Several boreholes were allowed to stand open for several hours or overnight so that the accumulation of groundwater could be observed before a well completion interval was selected. Hence, drilling was conducted to a maximum depth of 87 feet in well MW-17 and as shallow as 17 feet in wells MW-22 and MW-23. Static depth to groundwater was measured between 75.62 feet (well MW-17) and 3.11 feet (well MW-22) during the March and May monitoring events.

Drilling of the wells occurred in what is considered to be two hydrogeologic areas at the site. Drilling of wells MW-17 through MW-20, MW-24, and MW-25 occurred in areas where subsurface conditions are anticipated to be similar to the Bozeman Landfill. This area is interpreted to be Tertiary-age unconsolidated sediments deposited by coalescing alluvial fans that form the western flank of the Bridger Mountains (Maxim 1995). The sediments intercepted include sedimentary formations of dominantly sandy to clayey silt or silty clay that in some borings show minor gravels scattered through the section. In other cases there are gravelly intervals in a silt, clay, and/or fine sand matrix interbedded with the finer grained sediments. Groundwater is primarily encountered in the intervals that contain gravel.

A second hydrogeologic area is unconsolidated alluvial sediments of the Bridger Creek and East Gallatin River valleys. Wells MW-21 through MW-23 were drilled in this area. Well MW-26 was also drilled near the boundary or transition between the alluvial fan deposits and the stream alluvium. Sediments include silt and clay with underlying sand and gravel. Groundwater is also shallower in this area. Depth to groundwater in wells MW-21 through MW-23 was between 3.1 and 7.6 feet and in well MW-26 it was 14.1 feet in early May 2014.

Two stratigraphic cross-sections across the southern part of the site are presented on **Figure 3** to provide an idealized representation of the occurrence of the silt/clay and gravelly sediments across the site. The surficial silt/clay sediments can be correlated across the section. Deeper sections of silt/clay sediments appear to be discontinuous between borings. Lithologic

descriptions for each borehole indicated that gravelly sediments appear to have continuity across the section. Groundwater is primarily encountered in the gravelly intervals.

2.2 GROUNDWATER OCCURRENCE AND MOVEMENT

Data collected at the Bozeman Landfill during the March and May 2014 monitoring events are summarized in this section.

Site Depth to Groundwater and Seasonal Variation

During the March monitoring event, depth to first interception of groundwater ranged between approximately 1.4 feet below ground surface (bgs) in well MW-10 near the western margin of the site, 13.3 feet bgs in wells LF-2 and LF-3, 55.7 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, since the year 2000, has been an average of 0.9 foot in well MW-10; 0.7 and 0.4 foot in wells LF-2 and LF-3, respectively; 0.3 foot in wells MW-11 and MW-12; and 0.9 foot in well MW-5. **Chart 1** (in **Appendix A**) presents the change in groundwater levels through time in three monitoring wells across the site.

Site Groundwater Flow Direction and Hydraulic Gradient

The March 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* shifting to a west-southwest flow between the *Lined Closed Cell* and well MW-10, at the western margin of the site. Groundwater contours are presented in **Figure 4**.

Groundwater gradients beneath the *Unlined Closed Cell* are a consistent 5.6% between wells MW-15 and MW-12. The groundwater gradient decreases between wells MW-12, LF-2, and into the north portion of Bridger Creek Phase 2 subdivision to approximately 1.8%. The groundwater gradient between wells MW-20 and MW-22 (and the south portion of Bridger Creek Phase 2 subdivision) is approximately 1.55%. The groundwater gradient between wells MW-25 and MW-21 is approximately 1.72%.

2.3 GROUNDWATER QUALITY

A discussion of the March and May 2014 results for analyses of inorganic constituents and VOCs is presented in the following sections. The Groundwater Protection Standard (GWPS) is the concentration of constituents in site upgradient wells MW-5 and MW-15 and/or equal to the United States Environmental Protection Agency (U.S. EPA) Maximum Contaminant Level (MCL). The Montana Human Health Standard (HHS) cited in Circular DEQ-7 Montana Numeric Water Quality Standards (DEQ 2012) is also representative of the GWPS, as in the case of vinyl chloride.

2.3.1 Organic Groundwater Quality

The VOC analysis (8260B MSV Low Level method) includes the analysis of 58 constituents (**Appendix C**). Eighteen VOC constituents were detected during the March and May 2014 monitoring event and included constituents typically detected in previous monitoring events at the site. VOC analytical results are summarized in **Table 4**. Wells or sampling stations with exceedances to GWPS and/or Montana HHS include the following:

- MW-12 and MW-13 - vinyl chloride up to 19.7 micrograms per liter (µg/L)
- MW-17 – methylene chloride 5 µg/L, tetrachloroethene 15.9 µg/L, trichloroethene 5.9 µg/L, and vinyl chloride 1.5 µg/L
- MW-20 - tetrachloroethene 10.6 µg/L

Evaluation of VOC results from the new wells indicates that concentrations are similar to historic observations at the site; however, impacted groundwater extends farther east and southeast than previously thought. The tetrachloroethene result in MW-20 represents an exceedance of the GWPS off of the landfill permit boundary.

Benzene is observed in a few wells on the landfill property and in MW-20 just off of the landfill property, at concentrations well below regulatory standards. Low concentrations were also observed in MW-22 and MW-23 in the Phase II neighborhood. Wells LF-2, LF-3 and MW-19, which are in the Phase III neighborhood and between the landfill and the Phase II neighborhood, reported no detection for benzene in May and only an estimated concentration of 0.24 µg/l in MW-19 in March. Hence, there does not appear to be a connection between the observation of benzene in the Phase II neighborhood and the isolated, low concentrations observed downgradient of the landfill.

Exceedances to the GWPS and/or Montana HHS are highlighted in **Table 4**. **Figures 5** through **8** present the locations of detections of benzene, tetrachloroethene, trichloroethene, and vinyl chloride for both the March and May 2014 sampling events. In order to provide an understanding of the distribution of VOCs in groundwater across the site, data from the December 2013 monitoring event is also included on **Figures 5** through **8** for wells that were not sampled in March of May 2014. A historical summary of selected VOC constituents is presented in **Table 5**. The GWPS for methylene chloride, tetrachloroethene, and trichloroethene is 5 µg/L. The U.S. EPA GWPS for vinyl chloride is 2 µg/L. However, the Montana HHS for vinyl chloride is 0.2 µg/L (DEQ 2012).

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.

2.3.2 Inorganic Groundwater Quality

In addition to VOCs, several inorganic constituents were analyzed and include chloride, sulfate, selected cations (including iron), and alkalinity. Monitoring stations where inorganic constituents were higher than the analytical practical quantitation limit (PQL) or of note are listed below:

- Iron concentrations in the new monitoring wells were less than 0.05 milligrams per liter (mg/L) except for well MW-18 with a concentration of 0.74 mg/L. Wells MW-15, MW-12, and MW-10 were also sampled for iron. Well MW-15 was below the analytical minimum detection limit (MDL) of 0.008 mg/L. Wells MW-12 and MW-10 had iron concentrations of 4.7 and 3.6 mg/L. Wells MW-12 and MW-10 have the highest iron concentrations (generally above 2 mg/L).

- Chloride concentrations in the new monitoring wells ranged between 5.2 and 103 mg/L. Wells MW-8A, MW-10, MW-18, and MW-20 had chloride concentrations greater than 68 mg/L. Background chloride concentrations appear to range between 4.2 and 29.8 mg/L.

- Sulfate concentrations in the new monitoring wells ranged between 13.6 and 81.3 mg/L. Wells MW-8A, MW-10, and MW-20 had sulfate concentrations over 50 mg/L. Background sulfate concentrations appear to range between 13.5 and 29.3 mg/L.

- Total alkalinity concentrations in the new monitoring wells ranged between 188 and 762 mg/L. Review of the March and June monitoring results indicates that background alkalinity concentrations appear to be less than 300 mg/L.

- Tritium can be an indicator of landfill leachate contributions to groundwater with mean concentrations in the range of 33,000 to 99,000 pCi/L as reported in landfills in New York, New Jersey and California (http://www.hydroqual.com/publications/rdm_07_01_p.pdf). The EPA's Maximum Contaminant Level for tritium is 20,000 pCi/L. Tritium was used in paints applied to road signs, in gaseous tritium lighting devices used in some emergency exit signs, compasses, watches, and even novelty items, such as "glow stick" key chains. It is not typically found at elevated levels in natural environments, hence, it can be an effective indicator of leachate impacts to groundwater. At the Bozeman Landfill site, tritium concentrations in groundwater ranged between -146 $\pm$ 124 (234) pCi/L to 87.7 $\pm$ 127 (213) pCi/L. The highest reported concentration in the Bozeman landfill wells is well below what would be indicative of significant leachate impacts to groundwater. In some cases, negative values are listed. Negative numbers can occur because the net tritium count rate is, in principle the difference between the count rate of the sample and that of a tritium-free sample (background count or blank sample). Given a set of "unknown" samples with no tritium, the distribution of net results should become symmetrical around zero. Except for use in statistical treatment of sets of the data, negative values should be considered as zero (http://www.rsmas.miami.edu/groups/tritium/analytical-services/results/tritium/).

3.0 DATA VALIDATION

This section describes the data validation process used to determine the adequacy and quality of March and May 2014 laboratory analytical data at the Bozeman Landfill. The objective of data validation is to identify any unreliable or invalid laboratory measurements and qualify that data for interpretive use. These validations were performed according to guidelines prepared by the U.S. EPA (1994a and 1994b).

3.1 FIELD QA/QC

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

Field Duplicates

A duplicate sample (labeled "Dup-1") was collected from well MW-22 during the March 2014 monitoring event. A duplicate sample (labeled "Dup") was collected from well MW-20 during the May 2014 monitoring event. These duplicates were shipped with the other natural samples with each shipment to Pace Analytical Services, Inc., in Billings, Montana for analysis of VOCs and inorganic constituents. A trip blank also accompanied the groundwater samples collected in March and May 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 blank was analyzed for VOCs.

Field duplicate results aid in the assessment of sampling and analytical precision. Analytical results for the natural and duplicate samples collected from wells MW-20 and MW-22 were evaluated using the following criteria:

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

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

RPDs are calculated by dividing the difference between the two reported values for a given constituent by the average of the two reported values. Analytical results of constituents where the RPD was greater than 20 percent are considered estimated concentrations. Analytical results between the natural and duplicate samples collected from well MW-22 had no 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 MDL, then results for this constituent are considered estimated. Benzene concentrations in the natural and duplicate samples collected from well MW-20 (in May 2014) had an AVD greater than the MDL. Therefore, the benzene concentration of 0.69 µg/L in the natural sample collected from well MW-20 was flagged as estimated.

Trip Blanks

All trip blank results were evaluated using the following criteria:

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

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

    - Acetone
    - 2-butanone
    - Methylene chloride

Analytical results of the trip blank sample were reviewed to determine if any constituent was measured in the sample at detectable concentrations. Acetone was detected in an estimated concentration of 10.4 µg/L and methylene chloride was detected at 4.8 µg/L in the March 2014 trip blank. No constituents were detected in the May 2014 trip blank.

Acetone was detected in well MW-20 in March but was already flagged as estimated due to the concentration being between the MDL and PQL. Methylene chloride was detected in well MW-17 in March at a concentration of 5 µg/L and is therefore, flagged as estimated. Methylene chloride was again detected in the re-sampling of well MW-17 during May.

3.2 LABORATORY QA/QC

Pace Analytical received groundwater samples collected from the City of Bozeman Landfill on March 29 and May 6, 2014. Chain-of-custody documents accompanied the samples from collection to receipt at the laboratory. All samples were properly preserved and all samples were analyzed within the respective holding time for each analyte (unless otherwise noted on the report via a qualifier). The lab personnel at Pace Analytical reviewed calibration standards, calibration verification, laboratory controls, laboratory duplicates, and laboratory spikes on a daily basis.

Review of all other laboratory quality assurance indicators showed all inorganic and organic analyses were in compliance with published QA/QC criteria and within the laboratory precision and accuracy guidelines. 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.

With regard to the VOCs' method 8260 analysis, the laboratory report listed several constituents that may be biased low or high due to calibration outside Pace's limits. However, none of these constituents listed in the laboratory report were detected in the sampled wells or stations.

4.0 SUMMARY

The following summarizes data, calculations, and interpretations resulting from the February and March well installations and March and May 2014 groundwater monitoring events at the Bozeman Landfill:

- Ten additional wells were drilled and completed between February and March 2014 and were screened across the first 'significant' intercept to groundwater. Drilling was conducted to a maximum depth of 87 feet in well MW-17 and as shallow as 17 feet in wells MW-22 and MW-23. Static depth to groundwater was measured between 75.62 feet (well MW-17) and 3.11 feet (well MW-22) during the March and May monitoring events. Lithologic descriptions for each borehole indicated that gravelly sediments appear to have continuity across the section. Groundwater is primarily encountered in the gravelly intervals.

- During the March monitoring event, the range in depth to first interception of groundwater was between approximately 1.4 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 March 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.

- Eighteen VOC constituents were detected during the March and May 2014 monitoring events and included constituents typically detected in previous groundwater monitoring events at the site. Wells or sampling stations with exceedances to GWPS and/or Montana HHS include wells MW-12 and MW-13 with vinyl chloride to 19.7 µg/L; well MW-17 with methylene chloride 5 µg/L, tetrachloroethene 15.9 µg/L, trichloroethene 5.9 µg/L, and vinyl chloride 1.5 µg/L; and well MW-20 with tetrachloroethene 10.6 µg/L.

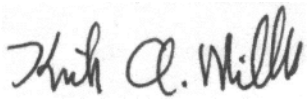
- Evaluation of VOC results from the new wells indicates that concentrations are similar to historic observations at the site; however, impacted groundwater extends farther east and southeast than previously thought. The tetrachloroethene result in MW-20 represents an exceedance of the GWPS off of the landfill permit boundary.

- Benzene is observed in a few wells on the landfill property and in MW-20 just off of the landfill property, at concentrations well below regulatory standards. Low concentrations were also observed in MW-22 and MW-23 in the Phase II neighborhood. Wells LF-2, LF-3 and MW-19, which are in the Phase III neighborhood, and between the landfill and the Phase II neighborhood, reported no detection of benzene in May and only an estimated concentration in MW-19 in March. Hence, there does not appear to be a connection between the observation of benzene in the Phase II neighborhood and the isolated, low concentrations observed near the landfill.

Prepared by:

Mark F. Pearson
Project Hydrogeologist

Reviewed by:



Kirk A. Miller
Senior Project Manager

5.0 REFERENCES

DEQ, 2012. Circular DEQ-7 Montana Numeric Water Quality Standards. October.

Maxim, 1995. *Corrective Measures Assessment, City of Bozeman Sanitary Landfill, Bozeman, Montana*. August.

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

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

ONLINE REFERENCES

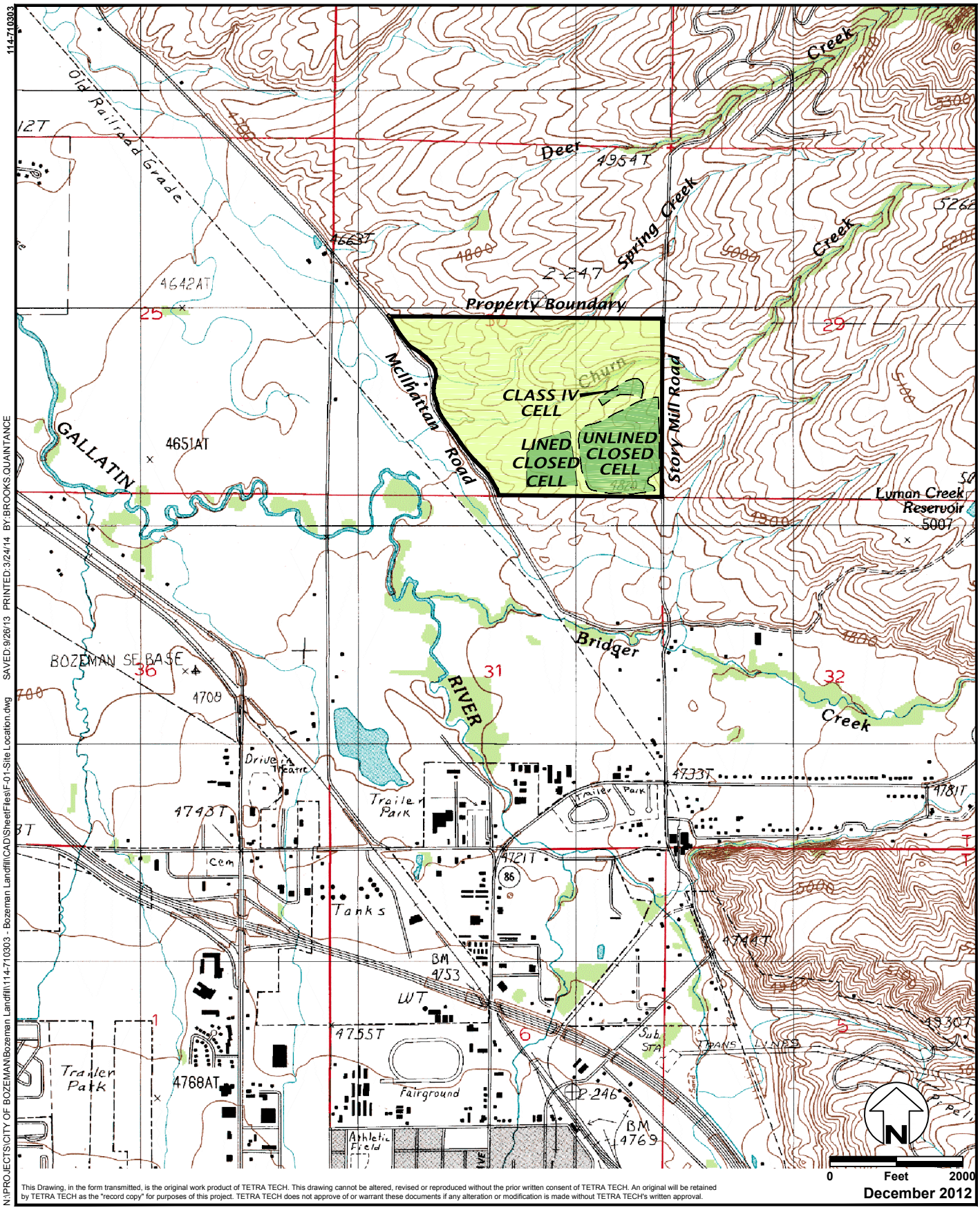
U.S. EPA Groundwater Protection Standard for Vinyl Chloride:
http://water.epa.gov/drink/contaminants/index.cfm#List

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

Hydroqual, Inc. Manhattan College and Columbia University, A Study of Tritium In Municipal Solid Waste Leachate and Gas: http://www.hydroqual.com/publications/rdm_07_01_p.pdf

University of Miami Rosenstiel School of Marine and Atmospheric Science
Negative Values in Very Low Tritium Values: http://www.rsmas.miami.edu/groups/tritium/analytical-services/results/tritium/

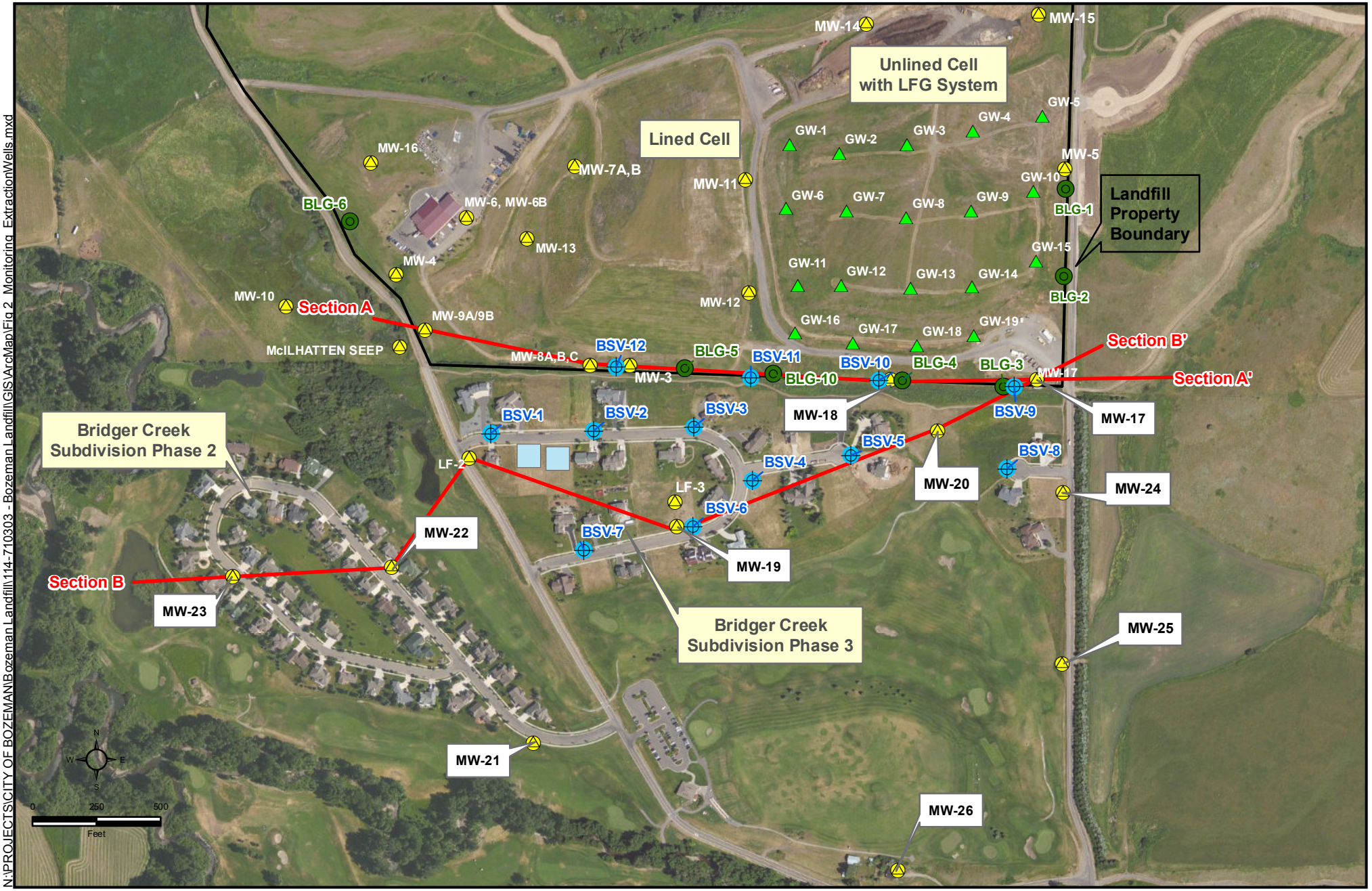
FIGURES



From USGS 7.5' Bozeman Quad (1987)

114-710326.400

Site Location Map
Bozeman Sanitary Landfill
Bozeman, Montana
FIGURE 1



Soil Gas Probe

Groundwater Monitoring Well (Wells labelled in white box callouts were drilled/installed in February and March 2014)

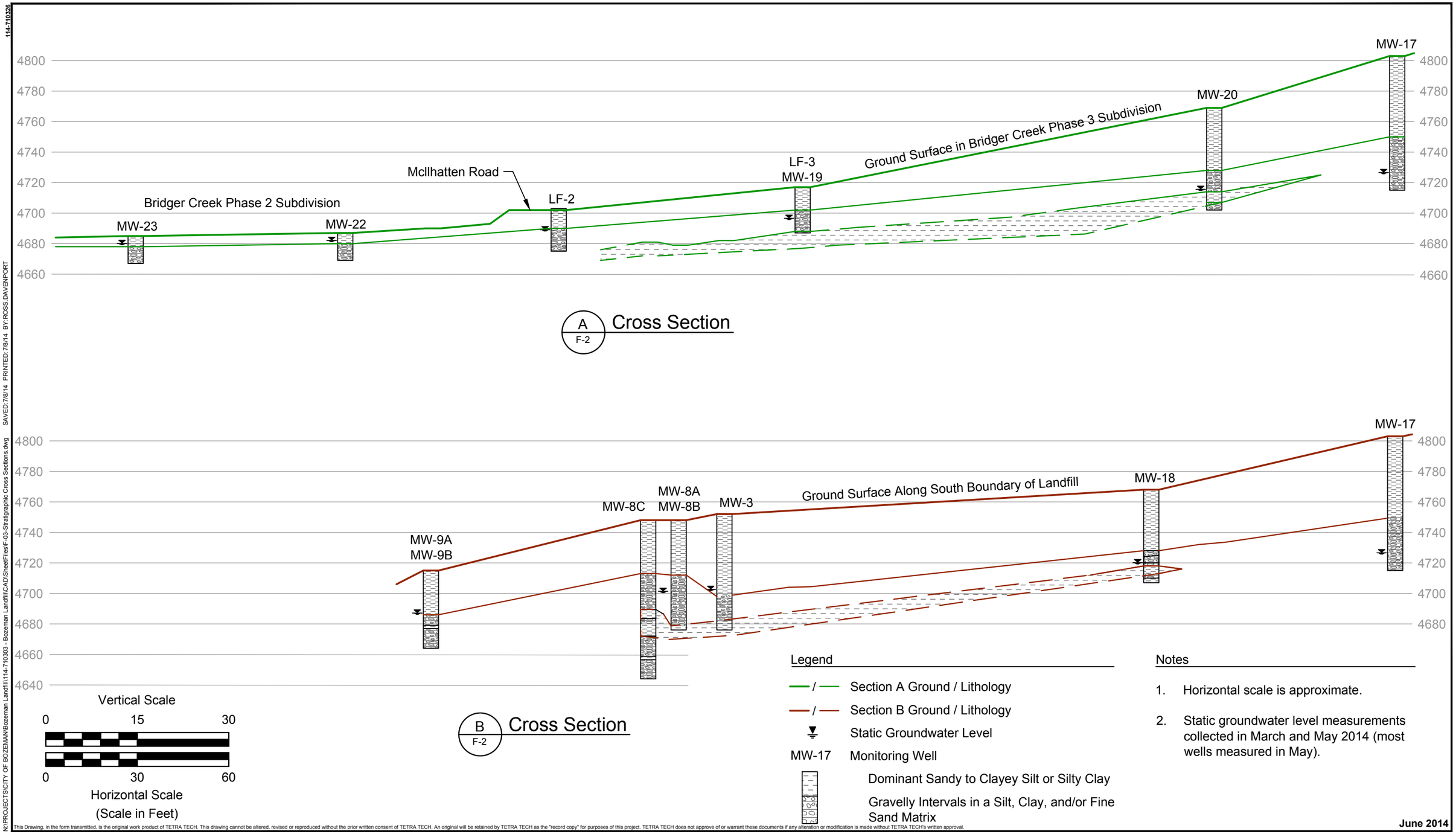
Methane Monitoring Well

Landfill Gas Extraction Well

Stratigraphic Cross Section Line (shown in Figure 3)

New Residential Construction

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



June 2014

Stratigraphic Cross Sections
Bozeman Landfill
Bozeman, Montana

FIGURE 3

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\2014 March\F-04 Groundwater Contour Map.mxd

114-710326.700

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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

March 2014 - Groundwater Contour Map
Bozeman Landfill
Bozeman, Montana
FIGURE 4

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\2014 March\F-05 Concentrations of Benzene.mxd

114-710326.700

N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
( ): December 2013 Benzene Concentration
March 2014/May 2014 Benzene Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
1.7: Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Benzene in March/May 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 5

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\2014 March\F-06 Concentrations of Tetrachloroethene.mxd

114-710326.700

N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
( ): December 2013 Tetrachloroethene Concentration
March 2014/May 2014 Tetrachloroethene Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
0.87: Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
Bolded concentrations of constituent indicate exceedance of groundwater protection standard (5 µg/L)

Concentrations of Tetrachloroethene in March/May 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 6

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\2014 March\F-07 Concentrations of Trichloroethene.mxd

114-710326.700

N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
( ): December 2013 Trichloroethene Concentration
March 2014/May 2014 trichloroethene Concentratrion
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
0.87: Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Trichloroethene in March/May 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 7

N:\PROJECTS\CITY OF BOZEMAN\Bozeman Landfill\114-710303 - Bozeman Landfill\GIS\ArcMap\2014 March\F-08 Concentrations of Vinyl Chloride.mxd

114-710326.700

N
W E
S

0 300 600
Feet

Datum: NAD83 StatePlane Montana

NOTE:
All well locations are approximate
( ): December 2013 Vinyl Chloride Concentration
March 2014/May 2014 Vinyl Chloride Concentration
J: Indicates Estimated Concentration (less than analytical practical quantitation limit)
3.3: Concentration in micrograms per liter
ND: Not Detected Above Minimum Detection Limit
Bolded concentrations of constituent indicate exceedance of groundwater protection standard

Concentrations of Vinyl Chloride in March/May 2014
Bozeman Landfill
Bozeman, Montana
FIGURE 8

TABLES

TABLE 1
SUMMARY OF ADDITIONAL MONITORING WELL SPECIFICATIONS
BOZEMAN LANDFILL, BOZEMAN, MONTANA

MONITORING WELL	MEASURING POINT ELEVATION	GROUND SURFACE ELEVATION	LENGTH OF SCREEN	Depth below Ground Surface				FIRST INTERCEPT TO WATER (1)	STATIC DEPTH TO WATER (2)	GROUND WATER ELEVATION	SCREEN THICKNESS SATURATED INTERVAL
				DEPTH TO TOP OF SCREEN	DEPTH TO BOTTOM OF SCREEN	DEPTH TO TOP OF FILTER PACK	WELL TOTAL DEPTH				
MW- 17	4,810.03	4,808.40	15	70.0	85.0	67.7	87.0	--	75.62	4734.41	9.4
MW- 18	4,772.36	4,772.62	20	39.0	59.0	38.0	61.0	49.5	47.22	4725.14	11.8
MW- 19	4,724.94	4,725.44	15	13.0	28.0	12.0	30.5	22.0	21.36	4703.58	6.6
MW- 20	4,778.01	4,778.45	15	50.0	65.0	48.0	67.0	60.0	52.98	4725.03	12.0
MW- 21	4,704.56	4,704.83	10	7.5	17.5	6.5	18.0	11.3	7.63	4696.93	9.9
MW- 22	4,693.62	4,693.94	10	6.0	16.0	5.5	17.0	8.0	3.11	4690.51	12.9
MW- 23	4,689.79	4,690.14	10	6.0	16.0	5.5	17.0	8.5	4.62	4685.17	11.4
MW- 24	4,804.52	4,804.89	20	60.5	80.5	58.5	80.5	74.5	74.33	4730.19	6.2
MW- 25	4,775.45	4,775.57	15	48.0	63.0	46.5	64.0	49.5	50.22	4725.23	12.8
MW- 26	4,732.82	4,732.96	20	13.0	33.0	12.0	38.0	35+	14.08	4718.74	18.9

Notes : All measurement units in feet
Elevations in feet above mean sea level
Ground surface elevation is adjacent to monitoring station

-- : Not applicable due to observation of shallower perched groundwater intervals
(1) : Measured during drilling of well
(2) : Depth to groundwater measured in March or May 2014

TABLE 2
Schedule of Field Measurements and Laboratory Analysis - March and May 2014
Bozeman Landfill, Bozeman, Montana

Well or Sampling Site	Monitoring Date (in 2014)	Depth to Groundwater	Field pH, SC, DO & ORP	VOCs Method 8260	Inorganics		
					Fe, Mg (dissolved)	Tritium (dissolved)	Cations Anions
LF-2	March 2014	X	X	X	--	--	--
LF-3	March 2014	X	X	X	--	--	--
MW-4	March 2014	X	X	X	--	--	X
MW-5	March 2014	X	--	--	--	--	--
MW-6	March 2014	X	X	--	--	--	X
MW-6B	March 2014	--	--	--	--	--	X
MW-7A	NS	--	--	--	--	--	--
MW-7B	NS	--	--	--	--	--	--
MW-8A	March 2014	X	X	X	--	--	X
MW-8B	NS	--	--	--	--	--	--
MW-8C	March 2014	--	--	--	--	--	X
MW-9A	March 2014	X	X	--	--	--	--
MW-9B	NS	--	--	--	--	--	--
MW-10	March 2014	X	X	X	X	X	X
MW-11	March 2014	X	--	--	--	--	--
MW-12	March 2014	X	X	X	X	X	X
MW-13	March 2014	X	X	X	--	--	--
MW-14	March 2014	X	--	--	--	--	--
MW-15	March 2014	X	X	X	X	X	X
MW-16	March 2014	X	--	--	--	--	X
MW-17	March, May 2014	X	X	X	X	X	X
MW-18	May 2014	X	X	X	X	X	X
MW-19	March, May 2014	X	X	X	X	X	X
MW-20	March, May 2014	X	X	X	X	X	X
MW-21	March, May 2014	X	X	X	X	X	X
MW-22	March, May 2014	X	X	X	X	X	X
MW-23	March, May 2014	X	X	X	X	X	X
MW-24	March, May 2014	X	X	X	X	X	X
MW-25	May 2014	X	X	X	X	--	X
MW-26	March, May 2014	X	X	X	X	X	X
Shop/Office Well	NS	--	--	--	--	--	--
McIlhatten Seep	March 2014	--	--	X	--	--	--
Valley View Vet Well	NS	--	--	--	--	--	--

NOTE:

NS Not Sampled

TABLE 3
Groundwater Levels
Bozeman Landfill, Bozeman Montana

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4702.71		4717.10		4,751.89		4,710.90		4,882.37		4738.68		4,727.23	
MP elev change	6/4/2014	4709.50	6/4/2014	4723.59	6/4/2014	4759.77	6/4/2014	4717.87	6/4/2014	4888.98	6/30/1998 6/4/2014	4728.69 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

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

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

N.M. Not measured

----- Not calculated

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

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

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4755.51		4755.52		4748.22		4747.98		4747.63		4715.27		4715.50	
MP elev change	7/6/2011	4757.87	7/6/2011	4757.95			7/3/2012	4748.47						
	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.	-----

MP elev change : Measuring point elevation change

DTW : Depth to water below measuring point (feet)

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

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

N.M. Not measured

----- Not calculated

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

	MEASURING POINT ELEVATION (in feet above mean sea level)													
	4675.01		4778.15		4763.02		4748.73		4797.94		4845.00		4717.33	
MP elev change	6/4/2014	4681.43	6/4/2014	4785.49	6/4/2014	4772.15	6/30/1998 6/4/2014	4742.54 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

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

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	
Well No.	MW-24		MW-25		MW-26	
DATE	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

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 4.

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

N.M. Not measured

----- Not calculated

TABLE 4
Summary of VOC Detections
March and May 2014 Groundwater Monitoring
Bozeman Landfill, Bozeman, Montana

Monitoring Station	LF-2	LF-3	MW-4	MW-8A	MW-10	MW-12	MW-13	MW-15	MclIhattan Seep	MW-17	MW-17	MW-18	MW-19	MW-19	MW-20	MW-20	MW-20	MW-21	MW-21	MW-22	MW-22	MW-22	MW-23	MW-23	MW-24	MW-24	MW-25	MW-26	MW-26	Trip B	Trip B
Sample Date	Mar 2014	Mar 2014	Mar 2014	Mar 2014	Mar 2014	Mar 2014	Mar 2014	Mar 2014 ND	Mar 2014	Mar 2014	May 2014 Re-Sample	May 2014	Mar 2014	May 2014 Re-Sample	Mar 2014	May 2014 Re-Sample	May 2014 DUP Re-Sample	Mar 2014 ND	May 2014 ND Re-Sample	Mar 2014	May 2014 DUP-1	May 2014 Re-Sample	Mar 2014	May 2014 Re-Sample	Mar 2014	May 2014 Re-Sample	May 2014 ND	Mar 2014 ND	May 2014 ND Re-Sample	Mar 2014	May 2014 ND Re-Sample
Analyte																														
1112Tetrachloroethane																														
111Trichloroethane																														
1122Tetrachloroethane																														
112Trichloroethane																														
112Trichlorotrifluoroethane																														
11Dichloroethane			0.45J			1.2	1.5			0.57	0.74	0.56																		
11Dichloroethene																														
123Trichloropropane																														
124Trimethylbenzene													0.59	0.27J						0.26J				0.39J						
12Dibromo3chloropropane																														
12DibromoethaneEDB																														
12Dichlorobenzene																														
12Dichloroethane												0.16J																		
12Dichloropropane						0.23J	0.26J			0.35J	0.19J	0.49J																		
14Dichlorobenzene						0.34J	0.58					0.99																		
14DioxanepDioxane																														
2ButanoneMEK																														
2Hexanone																														
2Propanol																														
4Methyl2pentanoneMIBK																														
Acetone															13.6J														10.4J	
Acrylonitrile																														
Benzene						1.7	0.68			0.38J	0.079J	0.66	0.24J			0.69J	0.44J			0.33J	0.30J		0.24J	0.20J						
Bromochloromethane																														
Bromodichloromethane																														
Bromoform																														
Bromomethane																														
Carbondisulfide																														
Carbontetrachloride																														
Chloride																														
Chlorobenzene																														
Chloroethane			0.76J				1.9																							
Chloroform																														
Chloromethane																														
cis12Dichloroethene	0.37J	2.0	0.53	0.95		3.9	1.1			24.5	27.6	18.5			0.32J	0.15J														
cis13Dichloropropene																														
Cyclohexane													3.2J							3.1J	3.0J		3.0J						
Dibromochloromethane																														
Dibromomethane																														
Dichlorodifluoromethane		1.2	1.3						0.83J	2.9	2.0				1															
Ethylbenzene													0.27J	0.18J										0.35J						
Iodomethane																														
IsopropylbenzeneCumene																														
MethyleneChloride										**5.0J**	**5.1**																		4.8	
Methyltertbutylether																														
nHexane																														
nPropylbenzene																														
Styrene																														
Tetrachloroethene	0.89	2.4	1.0	0.65					1.2	**15.9**	**16.0**	0.87	0.77	0.80	**10.6**	**9.4**	**9.4**								0.30J	0.36J				
Tetrahydrofuran												9.8J																		
Toluene						0.43J							1.2	0.90	0.30J	0.22J	0.15J			0.48J	0.47J	0.52	0.6	0.97						
trans12Dichloroethene																														
trans13Dichloropropene																														
trans14Dichloro2butene																														
Trichloroethene	0.16J	0.61	0.86	0.35J	0.33J	0.25J	0.31J		0.4	**5.9**	**5.8**	0.38J			0.34J	0.33J	0.22J													
Trichlorofluoromethane																														
Vinylacetate																														
Vinylchloride						**19.7**	**17.1**			**1.5**	**2.3**	**3.3**																		
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.

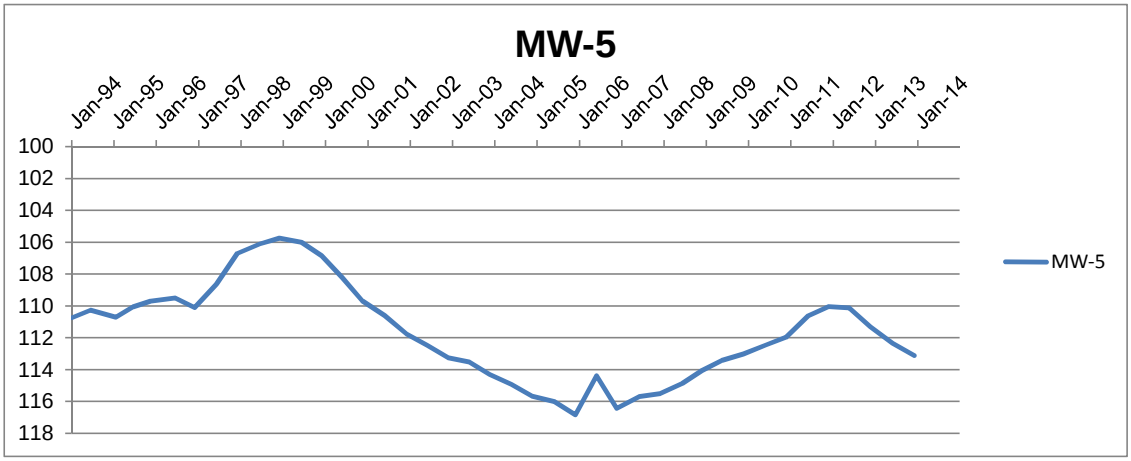
ND or blank field - Analyte or Analyte(s) Not Detected DUP and DUP-1 - Field Duplicates Collected

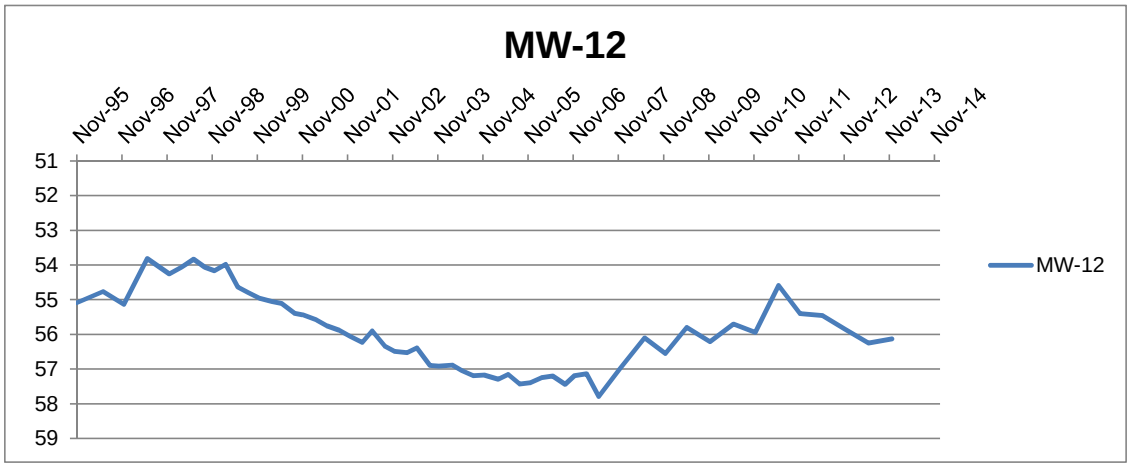
J - Estimated Concentration (less than analytical practical quantitation limit or PQL)

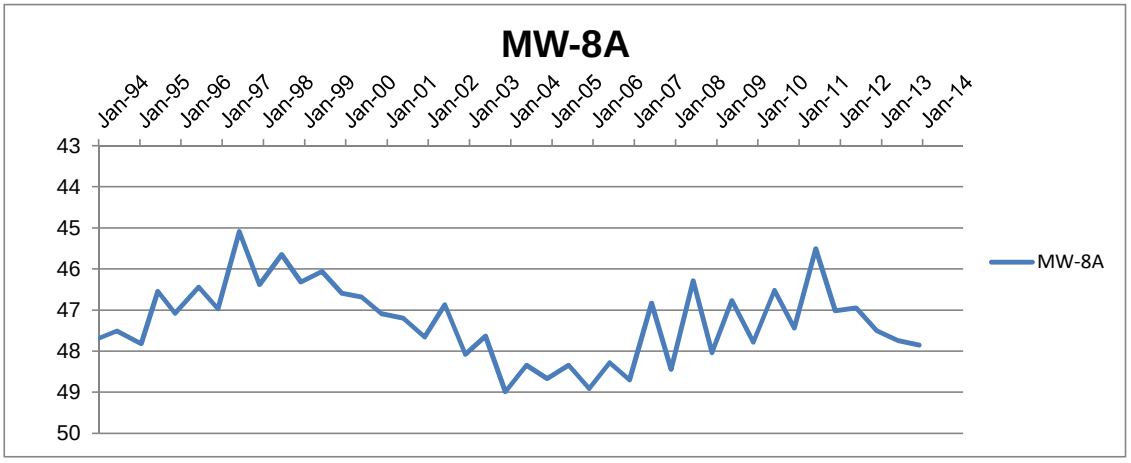
Well MW-20 May 2014 natural sample benzene result of 0.69 µg/L flagged as estimated due to exceedance in Relative Percent Difference with duplicate sample

APPENDIX A

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

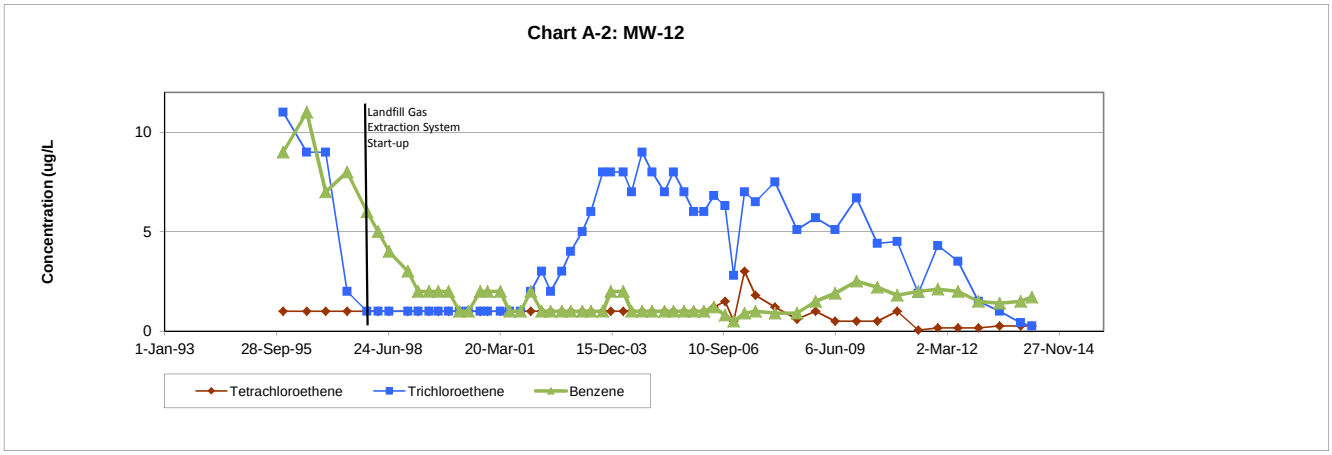


Chart A-2: MW-12
Concentration (ug/L
10
5
0
Landfill Gas
Extraction System
Start-up
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

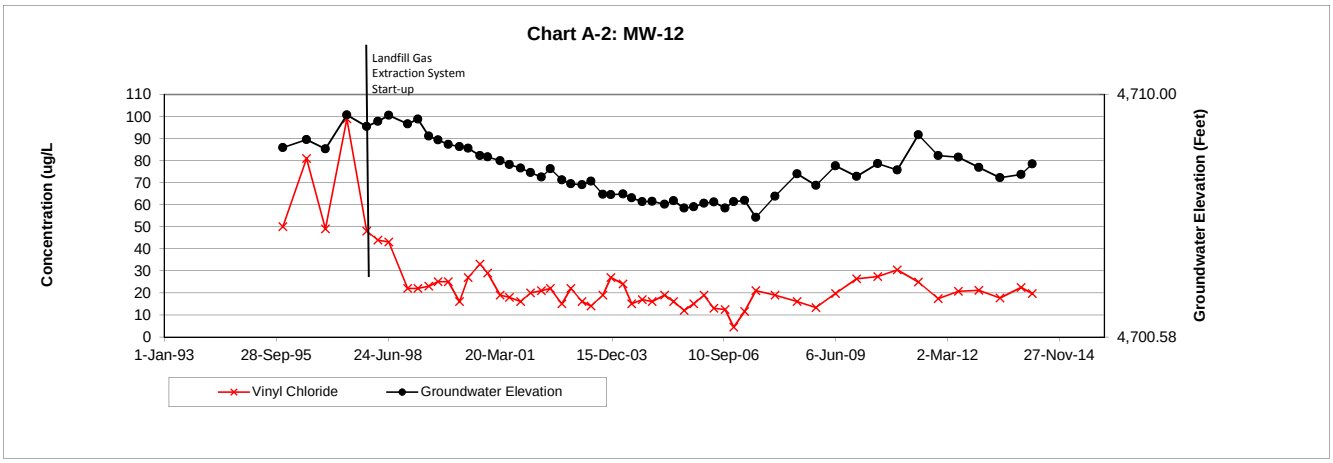


Chart A-2: MW-12
Concentration (ug/L
110
100
90
80
70
60
50
40
30
20
10
0
Landfill Gas
Extraction System
Start-up
4,710.00
4,700.58
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

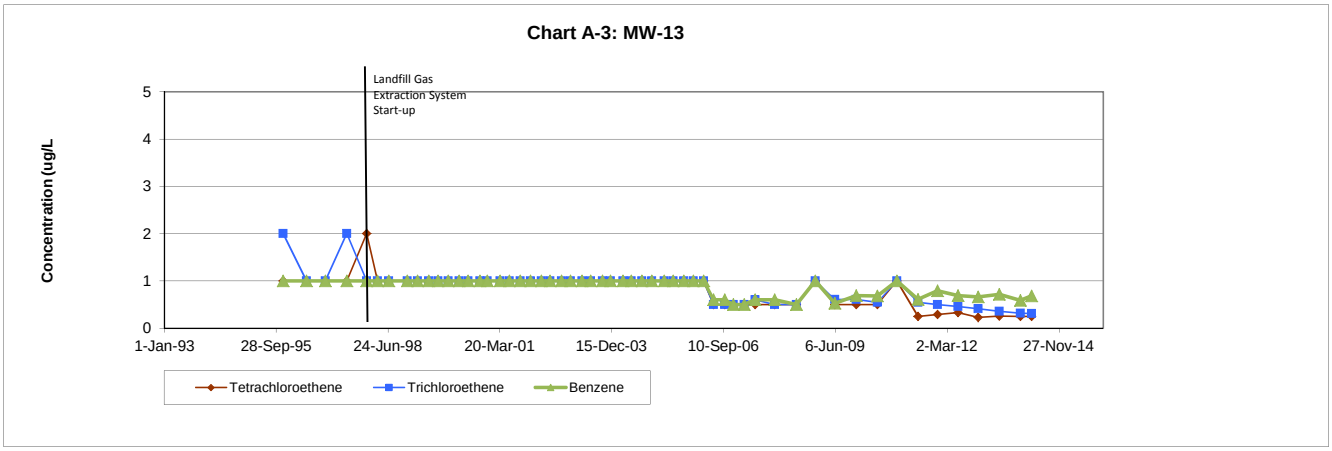


Chart A-3: MW-13
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
5
4
3
2
1
0
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

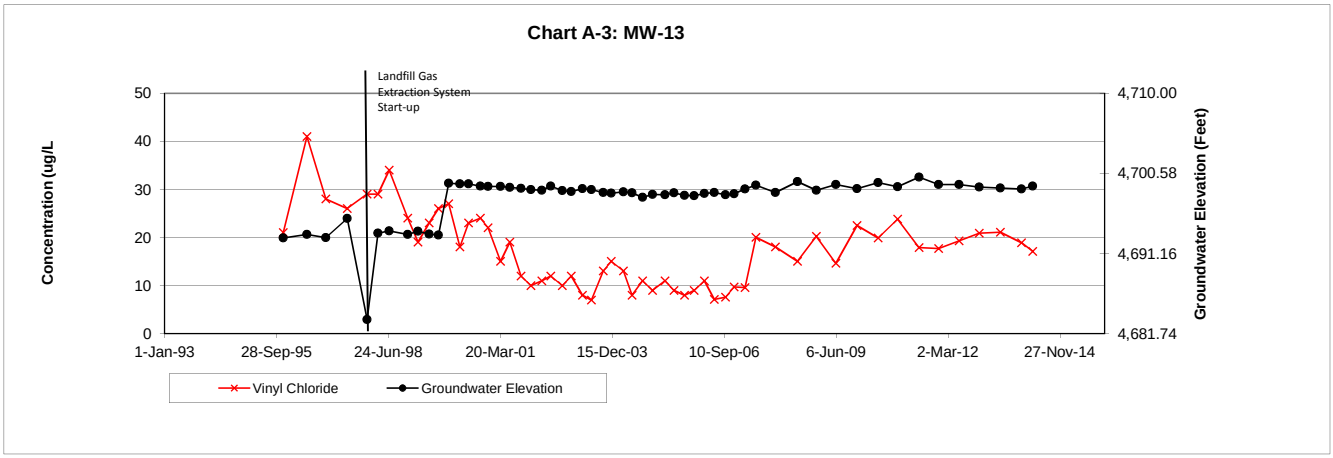


Chart A-3: MW-13
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
50
40
30
20
10
0
4,710.00
4,700.58
4,691.16
4,681.74
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

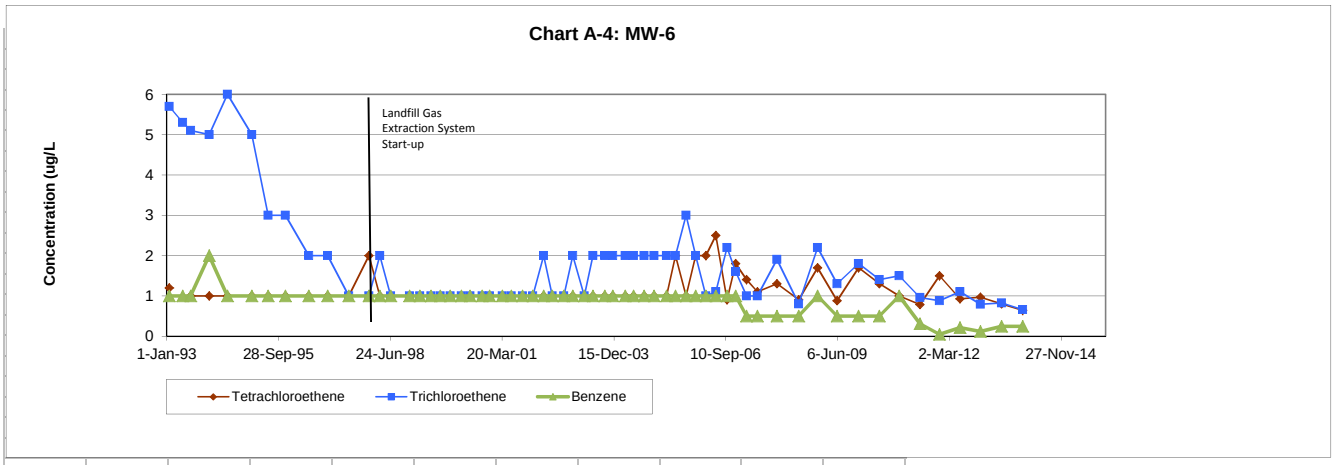


Chart A-4: MW-6
Concentration (ug/L
6
5
4
3
2
1
0
Landfill Gas
Extraction System
Start-up
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

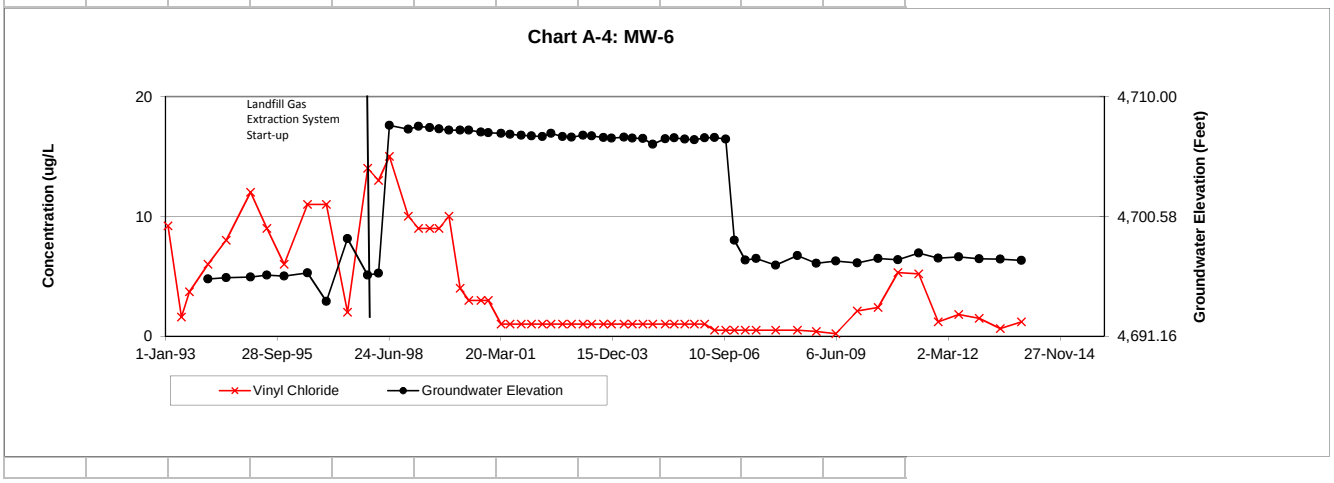


Chart A-4: MW-6
Concentration (ug/L
20
10
0
Landfill Gas
Extraction System
Start-up
4,710.00
4,700.58
4,691.16
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

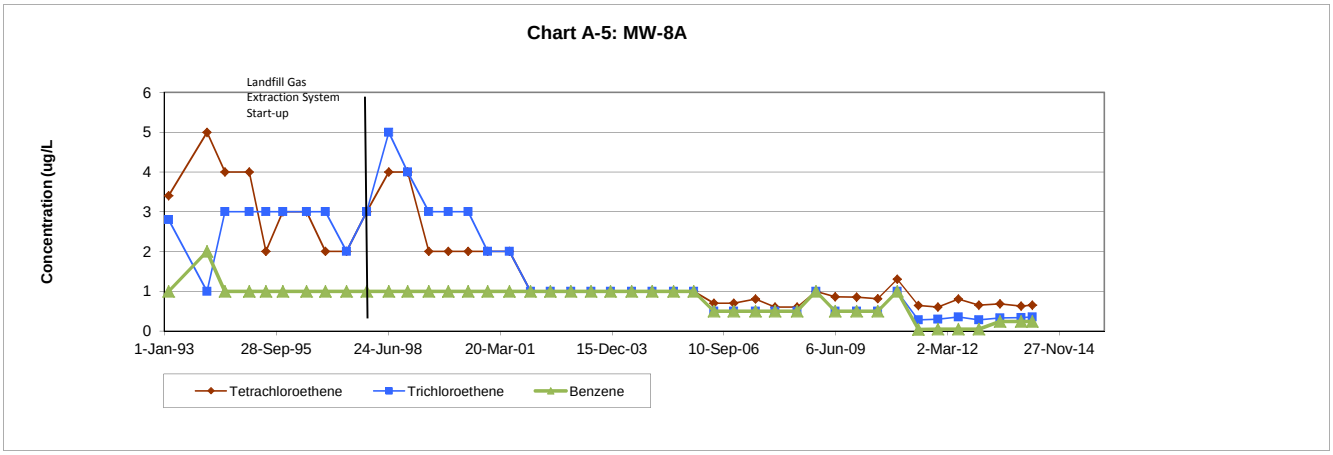


Chart A-5: MW-8A
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
6
5
4
3
2
1
0
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

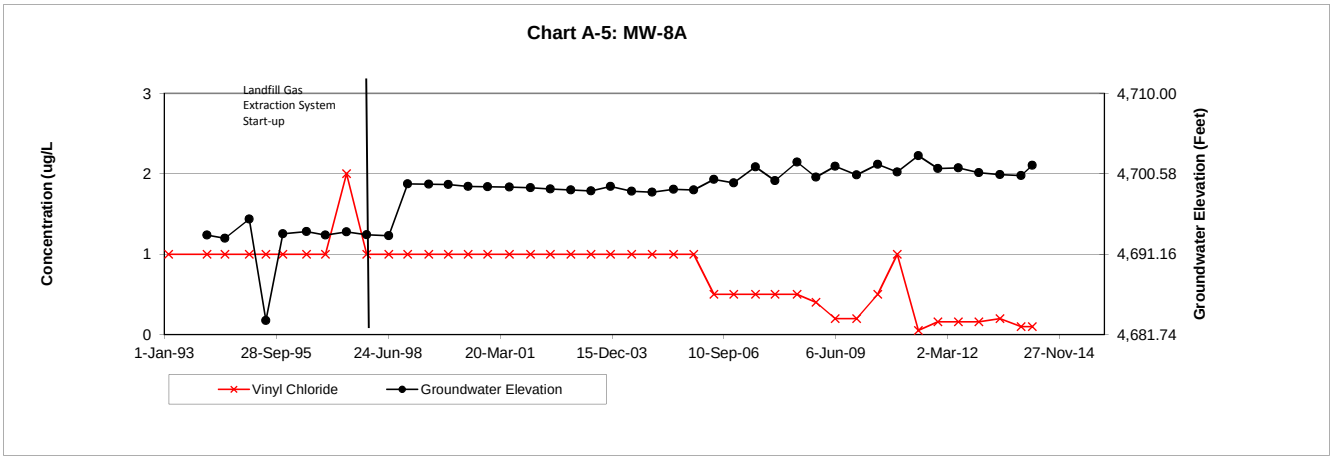


Chart A-5: MW-8A
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
3
2
1
0
4,710.00
4,700.58
4,691.16
4,681.74
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

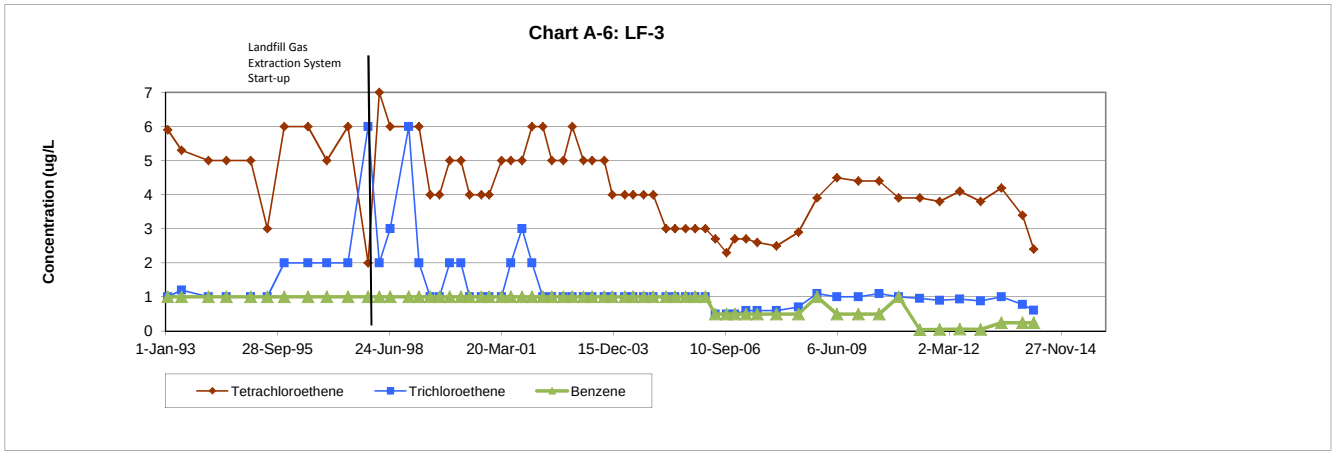


Chart A-6: LF-3
Landfill Gas
Extraction System
Start-up
Concentration (ug/L
0
1
2
3
4
5
6
7
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Tetrachloroethene
Trichloroethene
Benzene

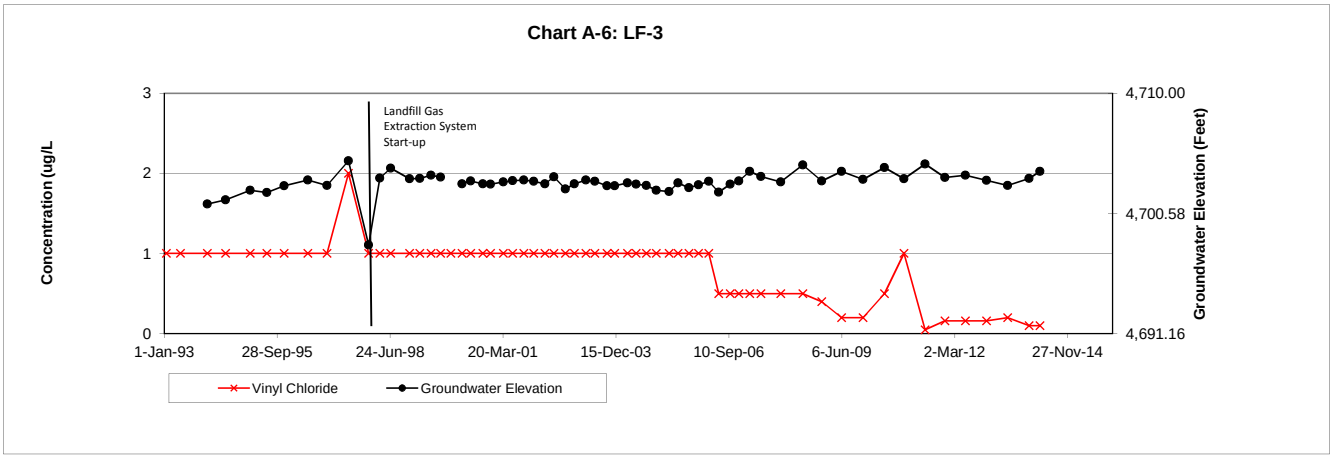


Chart A-6: LF-3
Concentration (ug/L
Landfill Gas
Extraction System
Start-up
0
1
2
3
4,691.16
4,700.58
4,710.00
Groundwater Elevation (Feet)
1-Jan-93
28-Sep-95
24-Jun-98
20-Mar-01
15-Dec-03
10-Sep-06
6-Jun-09
2-Mar-12
27-Nov-14
Vinyl Chloride
Groundwater Elevation

APPENDIX B

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

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

MONITORING WELL/BORING NO. MW-17
SHEET 1 OF 3
LOCATION: Near NW corner of metal bldg, that is near SE corner of landfill

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 2/24/14 COMPLETED: 2/27/14
TIME: STARTED: 1145 COMPLETED:

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		Infer Fill to 4' depth			Time			
		Dark brown silt - firm, dense				NM	None Detected	None Detected
		Gravel starting at 2', looks like pit-run						
		moist Gravel ending at 4'		13				
		Green-brown clayey silt - firm, NR	SSS	12 16	1220 0%			
5.0		moist						
		Dark green-brown sandy silt, - moist, firm (ML)		3 3 4	1242 40%			
10.0			3 3 4					
		Same as above		3 4				
			SSS	4	50%			
15.0								
		← Slightly wet at/above clay interval			1330			
		Change to green-brown silty clay - dense, very moist to ~ 18.0' Then change to		9				
		sandy silt-tan-brown, dense, moist	SSS	15 16	50%			
20.0								
		Dark-brown, dense Silt - moist (ML)		6				
		← Slightly wet	SSS	6 7	50%			
25.0		← Clayey Silt w/ incr. moisture						
		Green-brown Silt - dense, moist, whitish streaks		13	1345			
		Gravel at tip of spoon	SSS	14 16	50%			
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
SSS = Small Split Spoon
NR = No Recovery

DEPTH TO BOTTOM OF BORING 87.0'

MAXIM

1/3-10-98/DRIL-MW.DVG

PROJECT: NUMBER: 114-710303A
NAME: Bozeman Landfill
DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY:
LOGGED BY: MFP
REMARKS: 2/25/14 @730 Check for water in hole and no water measured.

MONITORING WELL/BORING NO. MW-17
SHEET 2 OF 3
LOCATION: See Sheet 1

ELEVATION: TOP OF HOLE: (ft) GROUNDWATER:
DATE: STARTED: COMPLETED:
TIME: STARTED: COMPLETED:

49 150/5

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
30.0		Slightly wet Clay interval - moist, dense (CL)					None Detected	
		Sandy Silt/very fine grained Sand - moist, dense, trace carbon 'specks' (ML)	SS	7 11 14	60%			
35.0		'Rust' layers or tops of depositional intervals Sandy Silt to Silty, fn.gr. Sand - dense, very moist w/ some sl. wetness on spoon	SS	9 9 14	1445 70%			
40.0		Dark gray-green, small scattered gravel up to 1/8", 1" gravel at end of spoon Cont'd dense. sandy Silt to Silty Sand - green-brown, moist, 2 gravel intervals	SS	10 10 14	1570 70%			
45.0		both w/ silty matrix in spoon (MH) Suspect wet interval - wetting 48.5-50' Spoon						
		Sandy Silt then gravel w/ silt, matrix (at 49') - dense, moist, but sl. wet from	SS	39 40 41	1610 60%			
50.0		above, slow drilling due to dense material Cont'd Gravel w/ Sandy Silt matrix & slow drilling						
		Scattered Gravel and Silt Sandy Silt - brown, dense, moist (ML)	SS	16 23 42	1750 100%		Quit for the day (2/24)	
55.0					740 Start			
		During Drilling - obs. Silt and gravel, moist Gravel with Silt & Sand matrix - dense,	SS	36 70 70	1000 60%		Slow advance	
60.0		moist, light brown & gray brown (GM)						

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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 87.0'

MAXIM

73-10-98/DRIL-MW.DWG

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

DRILL TYPE: SOIL: /
ROCK:
DRILLED BY:
LOGGED BY: MFP
REMARKS:

MONITORING WELL/BORING NO. MW-17
SHEET 3 OF 3
LOCATION: See Sheet 1

ELEVATION: TOP OF HOLE:
(ft) GROUNDWATER:
DATE: STARTED: COMPLETED:
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
60.0		Gravel with Silt & Fn. Sand Matrix Sandy Silt to Clayey Silt interbeds					None Detected	
65.0		Gravel with Silt & Fn Sand Matrix - dense, very moist, brown-gray (GM)	SS	49 150/5	1230 60%			
70.0		As above w/ Sandy Silt or Clayey Silt Interbeds, very moist to wet in places (in the spoon) Angular Gravel, brown & gray, dense (GM & ML)	SS	35 41 76	1430 75%	Left overnight at 72' No GW measured		
▽ 2/27/14								
75.0		Gravel as above - dense, moist brown & gray Angular to Subrounded clasts of both an igneous volcanic rock & limestone	SS	78 100/2	1100 30%	2/26/14 @ 1500 WL measured in auger is 77.5'		
▽ 2/26/14								
80.0		Gravel w/ Sandy/Clayey Silt - dense, very moist to wet, bigger gravel, brown (GM)	SS	250/8	1420 35%			
85.0		Gravel w/ Sandy Silt - dense, brown, very moist to wet	SS	200/7	1550 25%	75% Sucking Sand		
					2/27/14 @ 715 GWL = 72.5' Measured thru augers			
	TD	Augered to 87' to allow for potential cave-in at start of well completion						
90.0								

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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 87.0'

MAXIM

1/3-10-98/DRIL-HW.DWG

PROJECT: NUMBER: 114-710303A
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-17
SHEET 1 OF 1
LOCATION: Near NW corner of metal bldg. that is near SE corner of Bozeman Landfill

DATE: HOLE STARTED: 2/24/14
COMPLETED: 2/27/14

ELEVATIONS

Top of Protective Casing

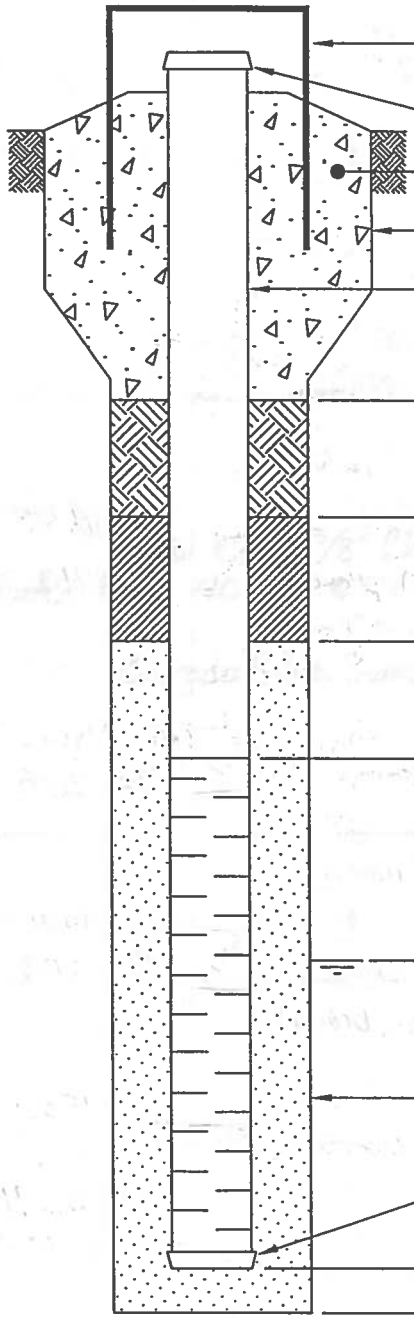
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen 85.0

Bottom of Boring 87.0'



Protective Casing Type: Steel Stickup, Locking
Water Tight PVC Cap Type: PVC well plug
Surface Seal Type: Concrete
Surface Seal Dia.: ~12"
PVC Casing Type: 2" diameter, Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 0' (to Surface)
Bentonite Seal Type: Kwik Plug 3/8" Chips Hydrated from 40' to 67.7'
Depth to Top of Filter Pack: 67.7'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 70.0'
PVC Well Screen Type: 2" diameter, Sch 40, 0.01" Machined-slotted PVC
Depth to Initial Static Water Level:
(Date)
Boring Diameter: 6"
PVC Cap Type: Threaded Well Point (Sch 40)
Depth to Bottom of PVC Cap: 85.0
Depth to Bottom of Boring: 87.0'

NOT TO SCALE

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

MAXIM

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

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

MONITORING WELL/BORING NO. MW-18b Abandoned
SHEET 1 OF 1
LOCATION: GW well just W of BLG-4, 69' W of BLG-4 and 20' N of fence

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 4/22/14 COMPLETED: 4/22/14
TIME: STARTED: 745 COMPLETED: 1010

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		Garbage Dark brown, clayey silt to 2.5', organics			Recovery			
		Brown clayey silt						
▽		Water (Landfill leachate?) at 3.5'						
5.0		Dense clayey silt, dark brown, moist ~~in water. Garbage at spoon tip~~	SS	35	40%			
10.0		Continued garbage & clayey silt through 11'	SS	70	Garbage 30% No Sample			
15.0		Continued garbage - wood mostly, some plastic	SS	20 14 11 14	Garbage 15% No Sample			
20.0		Garbage to ~20.5' then gray, wet, silt underlying. Continued wet, especially at this interval	SS	7 7 7 5	20%			
TD		Decide to pullout, relocate MW-18 and fill borehole w/ bentonite chips						
25.0								
30.0								

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CORE = CORE SAMPLE
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"-" = NOT ANALYZED
NS = NO SHEEN
SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 21.0'

MAXIM

1/3-10-98/DRIL-MW.DWG

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

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

MONITORING WELL/BORING NO. MW-18
SHEET 1 OF 2
LOCATION: 23' W of BLG-4 & 20' N of fence

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 4/22/14 COMPLETED: 4/22/14
TIME: STARTED: 1200 COMPLETED: _____

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
0.0				Blows	Recovery	1200	None Detected	
5.0		Silt w/ minor clay - moist, lt. brown	SS	3 5 5 6	15%			
		Minor refuse obs. at 6' w/ LFG odor						
10.0		Sandy Silt - lt. brown, moist.	SS	3 3 4 3	20%			
15.0		As above	SS	4 4 4 4	40%			
		Clayey Silt, change to incr. clay content				1230		
20.0		Clayey Silt - moist, dense, firm, brown	SS	4 6 8 11	70%			
25.0		Clayey Silt - moist to very moist, firm, dense	SS	4 6 8 13	70%	1246		
		> Very moist zone w/ trace fn sand or qtz xls						
30.0		Sandy Silt/Silty Sand - v.fn.gr. sand, dense, moist, lt. brown	SS	4 4 4 4	65%	1254		

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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 61.0'

MAXIM

T/3-10-98/DRIL-MW.DWG

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

MONITORING WELL/BORING NO. MW-18
SHEET 2 OF 2
LOCATION:

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 4/23/14 COMPLETED:
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
30.0					Recovery	Time	None Detected	
35.0		Clayey Silt w/ v.fn.gr. sand - v. moist, lt. brown, dense	SS S	4 4 3 4	100%	1304		
40.0		v. moist sandy silt w/ clay, firm, dense, lt. brown w/ gravel at base (last 6")	SS S	45 37 66	80%	1320		
		Tan-gray Gravel in silty, fn.gr. Sand matrix, sl. moist						
45.0		As above	SS	38 78 100/5	75%	1340		
▽ 4/23/14		to 49.2'						
		Sandy Silt w/ scattered gravel - Driller obs. of change						
50.0		Sandy Silt - wet, light brown, dense wet on spoon at 49.5'	SSS	14 12 17 22	100%	1355		
		Continued wet Sandy Silt, lt. brown, dense						
55.0		At 54.7' ~~possible~~ gradation change into gravel. Gravelly material to 57.5' then change to Silty material	SS	25 20/3	60%	1430		
		In Spoon - Clayey Silt grading downward to Silty Clay w/ scattered gravel - dense, wet, lt. brown	SS S	10 12 17 17	90%	1500		
60.0								
61.0'	TD							

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CORE = CORE SAMPLE
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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 61.0'

MAXIM

1/3-10-98/DRIL-HW.DWG

PROJECT: NUMBER: 114-710303A
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-18
SHEET 1 OF 1
LOCATION: 23' W of BLG-4 & 20' N of Fence

DATE: HOLE STARTED: 4/22/14
COMPLETED: 4/22/14

ELEVATIONS

Top of Protective Casing

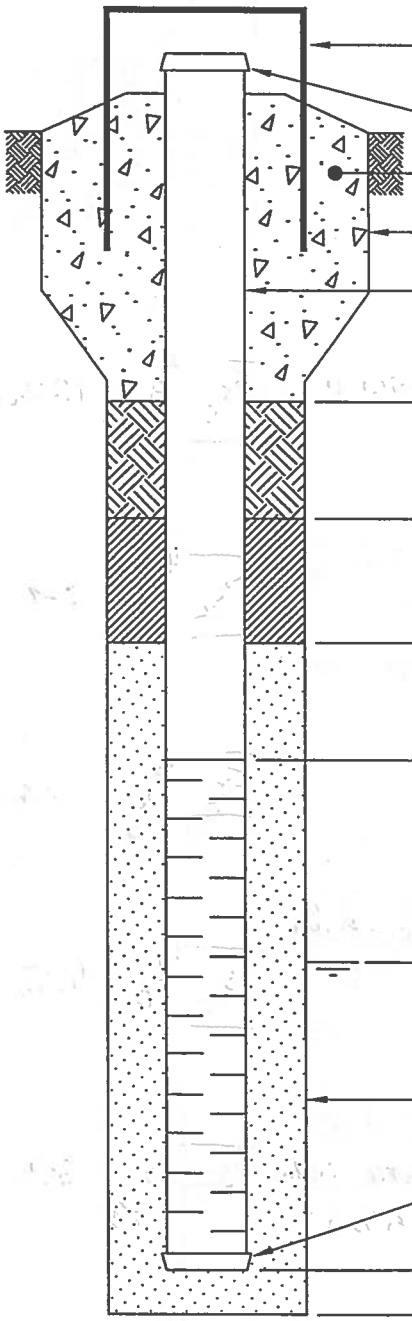
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



NOT TO SCALE

Protective Casing Type: Steel, bolt-down, flush mount
Water Tight PVC Cap Type: PVC Well Plug
Surface Seal Type: Concrete
Surface Seal Dia.: ~12-16"
PVC Casing Type: 2" diam, Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal:
Bentonite Seal Type: Enviroplug Medium Chips (Hyrated from 15' to 38')
Depth to Top of Filter Pack: 38.0'
Filter Pack Type: Colorado Silica Sand, #10-20
Depth to Top of Well Screen: 39.0'
PVC Well Screen Type: 2" diam, Sch 40 0.01" Machine-Slotted PVC
Depth to Initial Static Water Level: 47.23' (Date 4/23/14)
Boring Diameter: 6"
PVC Cap Type: Threaded well point (Sch 40)
Depth to Bottom of PVC Cap: 59.0'
Depth to Bottom of Boring: 61.0' (including spoon)

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

MAXIM

1/3-10-98/DRIL-1D.DWG

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

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

MONITORING WELL/BORING NO. MW-19
SHEET 1 OF 1
LOCATION: ~150' S of well LF-3 on St. Andrews Dr.

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 3/3/14 COMPLETED: 3/3/14
TIME: STARTED: 1320 COMPLETED: _____

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							None	None
5.0		Silt - dense, moist, dk. brown, tr. organic matter along partings, clayey	SS	6 5 6	1340 40%	14 ppm	Slow incr. From 1.4 ppm	
10.0		Cont'd drilling through Silt - minor clay component, moist through 10.5', trace scattered gravel, chalk-textured precipitate obs. through spoon sample, dense	SS	3 5 6	1355 60%	6.7 ppm		
15.0		Silt - as above to 14.7' then change to Gravel w/ fn. gr. Sand - sl. moist, tan-gray	SS	8 23 74	1410 60%	8.4 ppm		
20.0		Gravel w/ Silt & Gravel w/ fn. gr. Sand - moist, dense, brown to tan-gray	SS	24 87 40	1430 60%	3.7 ppm		
3/5/14 1514		Driller reports formation 'softening' about 22' (a possible indication of intercepting water)					@1514 measure GW @ 22.7' in augers	
25.0		Gravel w/ fn. gr. Sand and minor Silt - loose due to saturation, brown & tan, wet	SS	14 21 31	1450 70%	4.4 ppm		
30.0		27-29.2 Transition to Sandy Silt - brown, dense moist at 29.4' on down	SS	12 12 20	1550 75%	NM		
30.5'	TD	30.5'						

1745 MW finish

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HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 30.0'

MAXIM

3-10-98/DRIL-HN.DWG

PROJECT: NUMBER: 114-710303A
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-19
SHEET 1 OF 1
LOCATION: ~150' south of well MF-3 on St. Andrews Dr.

DATE: HOLE STARTED: 3/3/14
COMPLETED: 3/3/14

ELEVATIONS

Top of Protective Casing

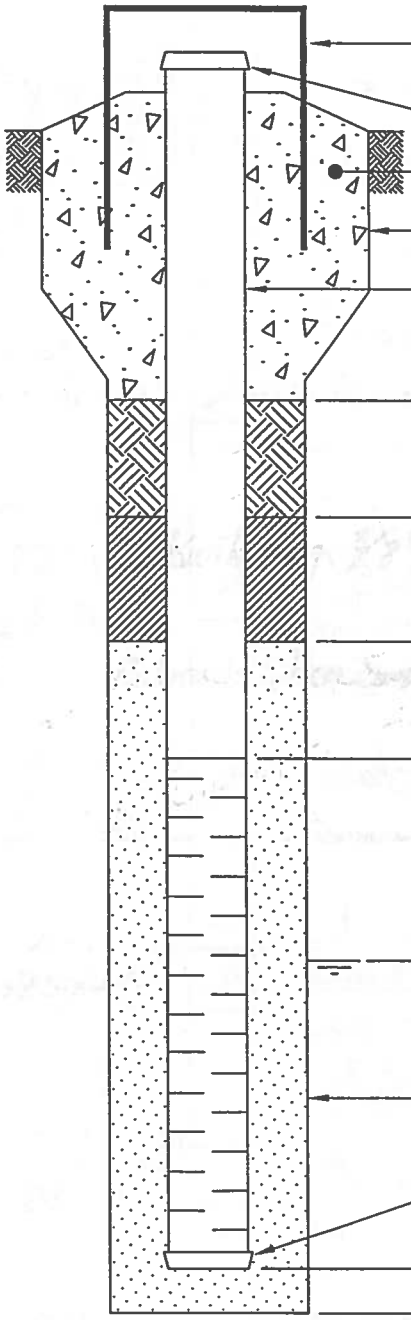
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



NOT TO SCALE

Protective Casing Type: Steel, bolt-down, flush mount
Water Tight PVC Cap Type: PVC w/ll Plug
Surface Seal Type: Concrete
Surface Seal Dia.: ~12"
PVC Casing Type: 2" diam., Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 1.2
Bentonite Seal Type: Kwik Plug 3/8" Chips
Depth to Top of Filter Pack: 12'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 13'
PVC Well Screen Type: 2" diameter, Sch 40 0.01" Machine-slotted PVC
Depth to Initial Static Water Level: 22.11 (Date 3/5/14)
Boring Diameter: 6"
PVC Cap Type: Threaded w/ll Pl. (Sch 40)
Depth to Bottom of PVC Cap: 28'
Depth to Bottom of Boring: 30' (w/spoon to 30.5')

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

MAXIM

3-10-98/DRIL-1B.DWG

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

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

MONITORING WELL/BORING NO. MW-20
SHEET 1 OF 3
LOCATION: Well location in City parkland betw. Caddie & Turnberry Cts.

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 3/4/14 COMPLETED: 3/5/14
TIME: STARTED: 915 COMPLETED:

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		Topsoil to ~2'				All of the measurements are a 'slow response'		
		Silt - tan brown, moist, dendritic chalk-colored precipitate along partings (MH)	SS	4 5 5	935 70%	3.4 ppm	None Detected	
5.0								
		Silt - tan-brown to brown, moist, sandy silt intervals, scattered gravel	SS	11 11 11	955 70%	0.7 ppm		
10.0		Driller says - out of gravelly interval at 13'						
		Sandy Silt & Silty Sand - lt. brown, moist, small gravel-scattered to intervals of crse. gr. sand w/ silt	SS	7 7 7	1020 40%	1.5 ppm		
15.0								
		Sandy Silt - brown, moist, decr. small gravel	SS	3 4 5	1035 50%	3.5 ppm		
20.0								
		Sandy Silt - intervals of fn. gr. sand (1-2"), moist, brown	SS	6 6 8	1045 70%	2 ppm		
25.0								
		Sandy Silt - lt. brown, moist, dense	SS	4 4 5	1100 50%	3 ppm max 7.2 ppm after 5 min.		
30.0								

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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 67.0'

MAXIM TECHNOLOGIES INC

7/3-10-98/DRIL-HW.DWG

PROJECT: NUMBER: 114-7103034
NAME: Bozeman Landfill

MONITORING WELL/BORING NO. MW2-20
SHEET 2 OF 3
LOCATION:

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 3/4/14 COMPLETED: 3/5/14
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
30.0		Sandy Silt w/ intervals of Silty Sand - moist, lt. brown, dense, scattered small gravel (ML)	SS	9 11 14	1120 60%	8.0 ppm slow incr.		None Detected
35.0		Very moist to wet interval above dense gravel Sandy Silt w/ clay - lt. brown, firm, v. moist to wet	SS	58 32	1140 75%	~~2.8~~ ppm slow incr. 4.7 ppm		
40.0		Gravel w/ Silty Sand at 40.3' - moist						
45.0		Gravel w/ Sandy Silt/Silty Sand - dense, sl. moist, green-gray to brown-gray (GM)	SS	55 54 83	1155 70%	5.7 ~~4.6~~ ppm slow incr.		
50.0		As above - dense, sl. moist, gray (GM)	SS	109 91	1235 60%	0.8 ppm		
In Auger 3/5/14 @ 7:00 ▽		Cont'd dense Gravel wet interval atop dense Sandy Silt	SS	48 33 25	1450 80%			
55.0		Sandy & Clayey Silt - dense, moist, brown						
60.0		As above - dense, v. moist to wet, brown	SS	23 28 49	100%			

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 67.0'

MAXIM

73-10-98/DRIL-HW.DWG

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

MONITORING WELL/BORING NO. MW-20
SHEET 3 OF 3
LOCATION:

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 3/4/14 COMPLETED: 3/5/14
TIME: STARTED: 3 COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
60.0		Driller feels change to gravels at 62'					None Detected	
65.0		Gravel w/ Sandy Silt - wet, dense, brown	SS5	70 154/4		Auger @ 64' Spoon to 65'		
	TD	Gravel & Clayey Silt at end of spoon - wet, dense				Quit for day 3/4/14 @ 6PM		
10.0								
15.0								
20.0								
25.0								
30.0								

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DEPTH TO BOTTOM OF BORING 67.0'

MAXIM

7/3-10-98/DRIL-MW.DWG

PROJECT: NUMBER: 114-710303A
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-20
SHEET 1 OF 1
LOCATION: Well location in City parkland betw. Caddie & Turnberry Cts.

DATE: HOLE STARTED: 3/4/14
COMPLETED: 3/5/14

ELEVATIONS

Top of Protective Casing

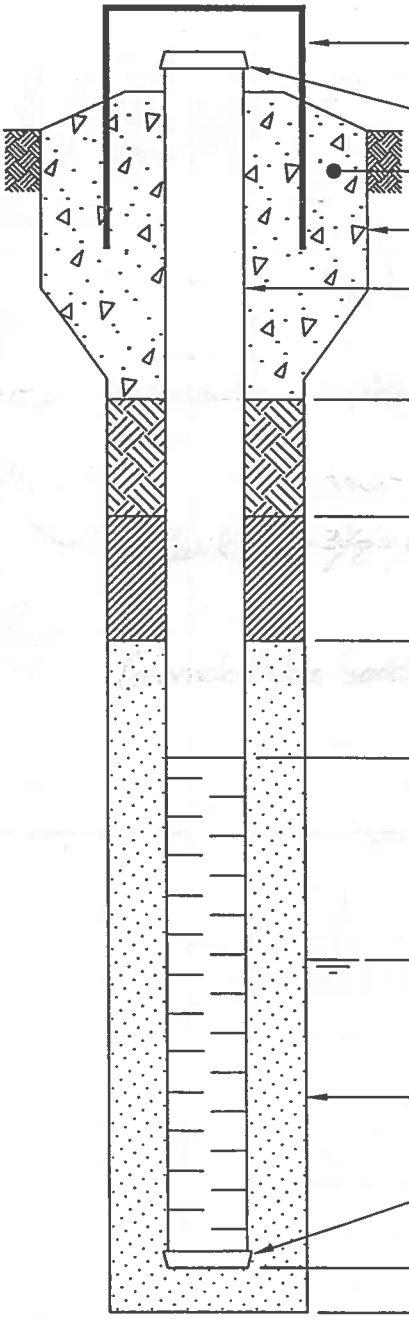
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



NOT TO SCALE

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: None
Secondary Seal Type:

Depth to Top of Bentonite Seal: 1.2'
Bentonite Seal Type: Kwik Plug 3/8" Chips

Depth to Top of Filter Pack: 48.0'
Filter Pack Type: Colorado Silica Sand #10-20

Depth to Top of Well Screen: 50.0'
PVC Well Screen Type: 2" diameter, Sch 40 0.01" Machine-Slotted PVC

Depth to Initial Static Water Level:
(Date)

Boring Diameter: 6"

PVC Cap Type: Threaded Well Pt. (Sch. 40)

Depth to Bottom of PVC Cap: 65'
Depth to Bottom of Boring: 67'

Cave-in between 67' and 65'

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

MAXIM

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

MONITORING WELL/BORING NO. MW-21
SHEET 1 OF 1
LOCATION: SE-most drill hole on Augusta Drive

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'Keefe w/ Mobile B-61 HSA
LOGGED BY: MF Pearson
REMARKS: Obs. Sch 20 PVC broken pipe in borehole at ~8" depth, ~1" diameter - irrigation pipe?

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 2/28/14 COMPLETED: 2/28/14
TIME: STARTED: 2/28/14 COMPLETED: _____

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		Silty Clay - moist, dk brown (w/ organic matter) (OL)	Grab		10 ppm	slow incr. (moisture?)		
5.0		Gravels beginning at 6.5'	SS	3 3 2	10 ppm	as above		
10.0 ▽		Gravel w/ Silty Sand and interbeds of silt - moist, light brown & gray brown (GM) Intercept GW @ 11.3'	SS	23 17 19	14 ppm	then decrease to 3 ppm	None Detected	
15.0		Gravel & Sand - wet, loose, brown GM/GP	SS	26 29 48	830 0 ppm			
20.0		TD						
25.0								
30.0								

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MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 18.0'

MAXIM TECHNOLOGIES INC

T/3-10-98/DRILL-MW.DWG

PROJECT: NUMBER: 114-710303A
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-2.1
SHEET 1 OF 1
LOCATION: SE-most well on Augusta Dr.

DATE: HOLE STARTED: 2/28/14
COMPLETED: 2/28/14

ELEVATIONS

Top of Protective Casing

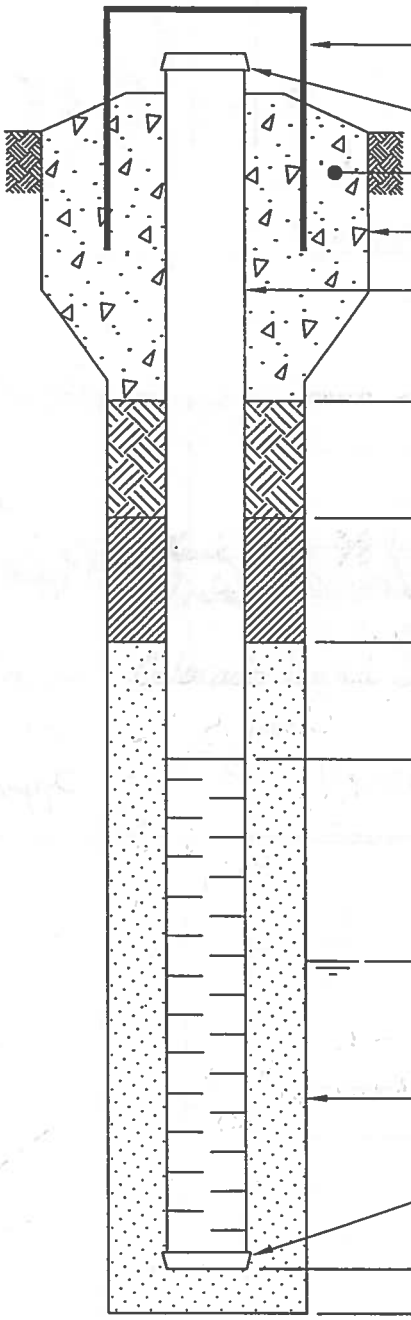
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



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" diameter, Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 1.2'
Bentonite Seal Type: Kwik Plug 3/8" Chips Hydrated
Depth to Top of Filter Pack: 6.5'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 7.5'
PVC Well Screen Type: 2" diameter, Sch 40 0.02" Machine-slotted PVC
Depth to Initial Static Water Level:
(Date)
Boring Diameter: 6"
PVC Cap Type: Threaded Well Point (Sch 40)
Depth to Bottom of PVC Cap: 17.5'
Depth to Bottom of Boring: 18'

NOT TO SCALE

Well developed w/ decon'd sub pump and disposable tubing

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

MAXIM

T/3-10-98/DRIL-1D.DWG

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

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

MONITORING WELL/BORING NO. MW-22
SHEET 1 OF 1
LOCATION: Midway on east leg of Augusta Drive

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 2/28/14 COMPLETED: 2/28/14
TIME: STARTED: 1140 COMPLETED: 1300

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		Clayey Silt - Firm, moist, dark brown					None	None
		Gravel - 2-3'	SS	2 2 3	0.5 ppm			
5.0						GW @ 6.2'		
		Gravels beginning at 6.5'						
		Gravel w/ silty sand - wet, loose, brown Driller initially measures GW at 8.0'	SS	14 11 5	2.9 ppm			
10.0								
			SS	7 26 23	NM			
15.0		Gravel and Sand - very fn. gr. sand, brown, loose						
	TD	TD @ 16.1' 17.0'						
20.0								
25.0								
30.0								

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HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 17.0'

MAXIM

/3-10-98/DRIL-HN.DVG

PROJECT: NUMBER: 114-710303A
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-22
SHEET 1 OF 1
LOCATION: Midway on East Leg of Augusta Dr.

DATE: HOLE STARTED: 2/28/14
COMPLETED: 2/28/14

ELEVATIONS

Top of Protective Casing

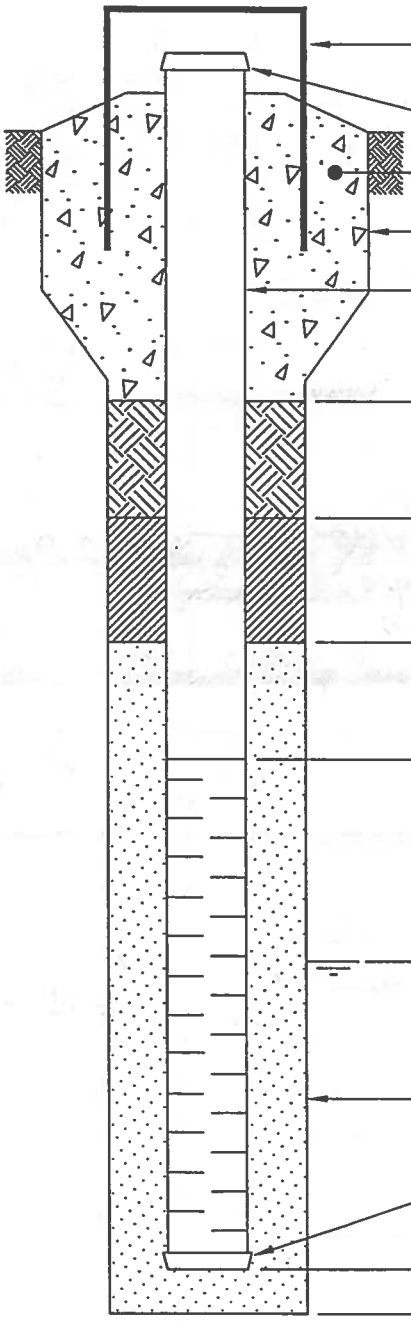
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



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" diameter, Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 1.2'
Bentonite Seal Type: Kwik Plug 3/8" Chips Hydrated
Depth to Top of Filter Pack: 5.5'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 6.0'
PVC Well Screen Type: 2" diameter, Sch. 40 0.01" Machine-slotted PVC
Depth to Initial Static Water Level:
(Date)
Boring Diameter: 6"
PVC Cap Type: Threaded Well Point (Sch 40)
Depth to Bottom of PVC Cap: 16.0'
Depth to Bottom of Boring: 17.0'

NOT TO SCALE

well developed w/ decon'd sub pump and disposeable tubi

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

MAXIM

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

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

MONITORING WELL/BORING NO. MW-23
SHEET 1 OF 1
LOCATION: On W side of Augusta Dr. - West Leg betw. residences 3209 & 3211 adjacent to golf course access
ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 3/3/14 COMPLETED: 3/3/14
TIME: STARTED: 1030 COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
0.0		Gravel to 1' & Silt 1'-2' then back to gravel at 2'					None Detected	
		Silt 3' Clayey Silt w/ scattered gravel - v. moist, dk brown (ML)	SS	3 3 4	1030 30%	0.0 ppm		
5.0 3/5/14 ▽		Gravel at 6.5'						
		Gravel w/ Silt and fn. gr. Sand - wet, loose, dk. brown (GM)	SS	8 9 16	1050 10%	0.0 ppm		
10.0		As above w/ lighter brown color (GM)	SS	7 16 23	1130 20%	0.0 ppm		
15.0		TD						
20.0								
25.0								
30.0								

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HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 17.0'

MAXIM

73-10-98/DRIL-MW.DVG

PROJECT: NUMBER: 114-710303A
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-23
SHEET 1 OF 1
LOCATION: Well on W leg of Augusta Dr.

DATE: HOLE STARTED: 3/3/14
COMPLETED: 3/3/14

ELEVATIONS

Top of Protective Casing

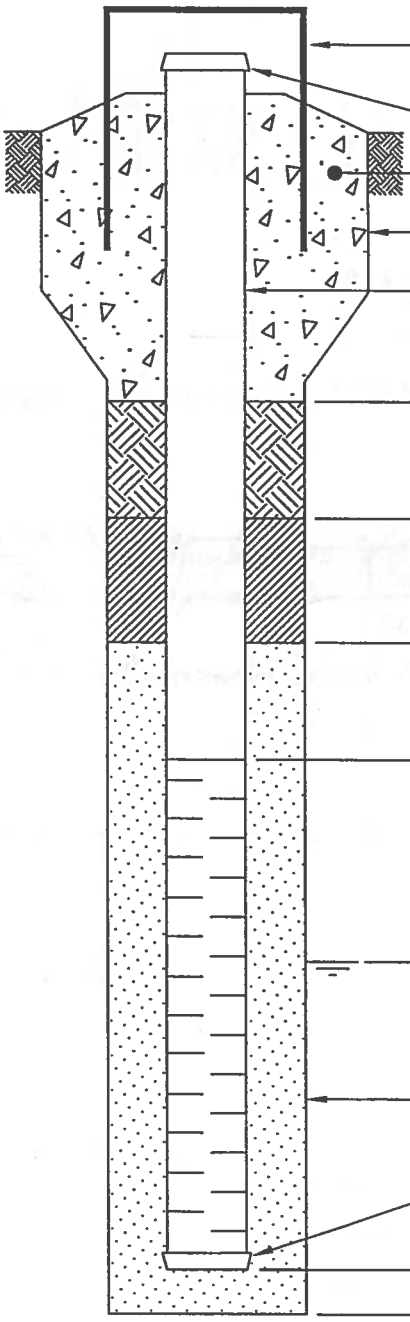
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



NOT TO SCALE

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" diameter, Sch 40
Depth to Top of Secondary Seal: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 1.2'
Bentonite Seal Type: Kwik Plug 3/8" Chips Hydrated
Depth to Top of Filter Pack: 5.5'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 6.0'
PVC Well Screen Type: 2" diameter, Sch 40 0.01" Machine-slotted PVC
Depth to Initial Static Water Level: 6.35 (Date 3/5/14)
Boring Diameter: 6"
PVC Cap Type: Threaded Well Pt. Sch 40
Depth to Bottom of PVC Cap: 16.0'
Depth to Bottom of Boring: 17.0'

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

MAXIM

3-10-98/DRIL-1D.DWG

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

DRILL TYPE: SOIL: ✓
ROCK:

DRILLED BY: O'Keefe using Foremost DR-24 Air Rotary
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL/BORING NO. MW-24
SHEET 1 OF 3
LOCATION: Well just S of Caddie Ct. & Story Mill Rd. Intersection

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 3/18/14 COMPLETED: 3/19/14
TIME: STARTED: 1445 COMPLETED: 1500

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
0.0		0-10' No sample collected			Cuttings collected every 5'		None Detected	
5.0								
10.0								
15.0		Silt, Brown moist adding H_2O to clear hose						
20.0		23' Silt, Brown with gravels Sub angular to 20mm						
25.0								
30.0								

CAL = CALIFORNIA
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MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 80.5'

MAXIM

73-10-98/DRIL-HN.DVG

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

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

MONITORING WELL/BORING NO. MW-24
SHEET 2 OF 3
LOCATION:

ELEVATION: TOP OF HOLE: (ft) GROUNDWATER:
DATE: STARTED: 3/18/14 COMPLETED: 3/19/14
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
30.0		Silt, Brown with gravels Sub-angular to 20 mm					None Detected	
35.0								
40.0		43' as above with decreasing gravels						
45.0								
50.0								
55.0		Silt, Brown with minor gravels sub angular, minor medium grain sand						
60.0								

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HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 80.5'

MAXIM

73-10-98/DRIL-HW.DWG

PROJECT: NUMBER: 114-7163031
NAME: Bozeman Landfill

MONITORING WELL/BORING NO. MW-24
SHEET 3 OF 3
LOCATION:

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft) GROUNDWATER:
DATE: STARTED: 3/18/14 COMPLETED: 3/19/14
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
60.0		61' Biggen gravels loaded on Rig Gravels rounded in Sand Brown medium to Coarse grain				- sample is wet from driller injection of water to 60'. Driller blows out hole and says "no water		
65.0		65' Silt Brown with sub angular gravel moist to sl. wet				No injection of water after 60'		
70.0		70 Gravels rounded @ 30 mm in Sand Brown fine to med grain ~~DRY~~ moist to sl. wet				None Detected		
3/21/14 ▼ 75.0		Silt w/ scattered gravel - brown, moist. ~~At 75' driller~~ At about 76' - drill into gravel section - tan gray, driller says making water from 77' ~~80' TD~~						
80.0	TD	77-80' Gravel - tan-gray, wet						
		TD 80.5'						
25.0								
30.0								

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MS = MODERATE SHEEN
HS = HEAVY SHEEN
= =
= =
= =
= =
= =

DEPTH TO BOTTOM OF BORING 80.5'

MAXIM

/3-10-98/DRIL-MW.DWG

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

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'Keefe using Foremost DR-24 Air Rotary
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL NO. MW-24
SHEET 1 OF 1
LOCATION: Well just S of Cattle Ct. & Story Mill Rd. Intersection

DATE: HOLE STARTED: 3/18/14
COMPLETED: 3/19/14

ELEVATIONS

Top of Protective Casing

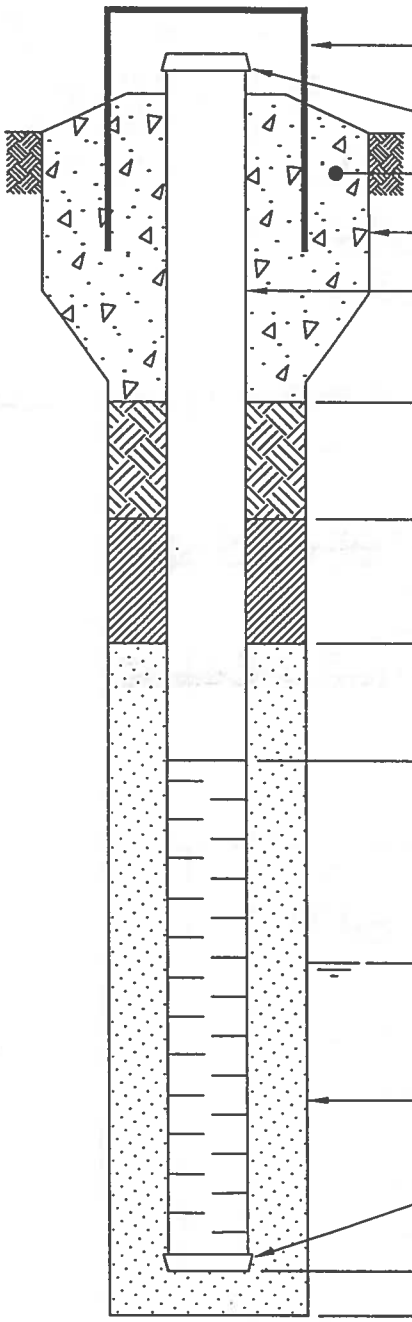
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



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: None
Secondary Seal Type:
Depth to Top of Bentonite Seal: 1.0'
Bentonite Seal Type: Kwik Plug 3/8" Chips
Depth to Top of Filter Pack: 58.5'
Filter Pack Type: Colorado Silica Sand #10-20
Depth to Top of Well Screen: 60.5'
PVC Well Screen Type: 2" diam., Sch 40 0.01" Machine-slotted PVC
Depth to Initial Static Water Level: 74.67 (Date 3/21/14)
Boring Diameter: 6"
PVC Cap Type: Threaded well pt. (Sch. 40)
Depth to Bottom of PVC Cap: 80.5'
Depth to Bottom of Boring: 80.5'

NOT TO SCALE

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

MAXIM

/3-10-98/DRIL-10.DWG

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

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

MONITORING WELL/BORING NO.: MW-25
SHEET 1 OF 3
LOCATION: Story Mill Rd Approx. 700 ft South of Caddie Ct. & Story Mill Intersection, on W side of Story Mill

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 4/23/14 COMPLETED: 4/23/14
TIME: STARTED: 830 COMPLETED: 1715

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	FIELD SCREENING RESULTS: ODOR	FIELD SCREENING RESULTS: STAINING
0.0					Recovery	Time	None Detected	
		Silty Clay - firm, moist, lt. brown likely part of road base or fill	SS	4 7 8 12	40%			
5.0								
		Clayey Silt - firm, moist, brown, organic matter	SS	4 5 9 10	50%			
10.0								
		As above, but w/ no organic matter	SS	4 3 4 7	70%			
15.0								
		At 18.8' change to Gravel in sandy silt & silt matrix - dense, moist, lt. brown grading downward to silt	SS	4 6 10 7	70%	920		
20.0		Silt to 23.7 then Gravel in Silty Sand matrix - loose, sl. moist, brn-gray	SS	12 23 20 23	60%	940		
25.0								
		Silt grading down to Sandy Silt/Silty Sand - dense, moist, lt. brown	SS	3 4 4 7	75%	1000		
30.0								

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CORE = CORE SAMPLE
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SS = SLIGHT SHEEN
MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING: 64.0'

MAXIM

1/3-10-98/DRIL-MW.DVG

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

MONITORING WELL/BORING NO. MW-25
SHEET 2 OF 3
LOCATION: Story Mill Rd

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft)
GROUNDWATER:
DATE: STARTED: 4/23/14 COMPLETED:
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	FIELD SCREENING RESULTS: OVA (FID) HEADSPACE	ODOR	STAINING
30.0					Recovery	Time	None Detected	
		Silt - trace clay and v.fn. gr. sand, moist, dense, lt. brown	SS S	4 6 6 8	70%	1020		
35.0		38.5-39.0' Clayey Silt - v.dense, sl. wet						
		39.0-39.7 Silty Sand - v. moist	SS S	4 4 5 8	80%	1045		
40.0		39.7- Clayey Sandy Silt - v. moist, lt. brn., dense						
		Sl. wet Clayey Silt w/ scattered gravel. Infer large gravel at spoon end - no further recovery. Drilling through scattered gravel & Silt	SSS	4 175/5	50%	1100		
45.0		Moist Clayey Silt w/ scattered gravel						
		Fn. & Med. gr. Sand - moist, sub angular gr. to gravel	SS S	14 16 23 42	80%	1135		
50.0		Sandy Silt - dense, moist, lt. brown						
		Sandy Silt w/ minor clay - dense, sl. wet						
		At 48.8' change to Silty Sand w/ Gravel - moist, lt. brown-gray	SSS	84 100/4	50%	1205		
55.0		Dense material - slow drilling						
		wet drill steel obs at 49.5'			60%	1330		
		Silty Sand w/ Gravel - wet, lt. brown, dense but loose due to saturation	SSS	59 150/1				
60.0								

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

Well Completion Specs →

DEPTH TO BOTTOM OF BORING 64.0'

MAXIM

73-10-98/DRIL-HW.DWG

PROJECT: NUMBER: 114-710303A
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-25
SHEET 1 OF 1
LOCATION: On Story Mill Rd

DATE: HOLE STARTED: 4/23/14
COMPLETED: 4/23/14

ELEVATIONS

Top of Protective Casing

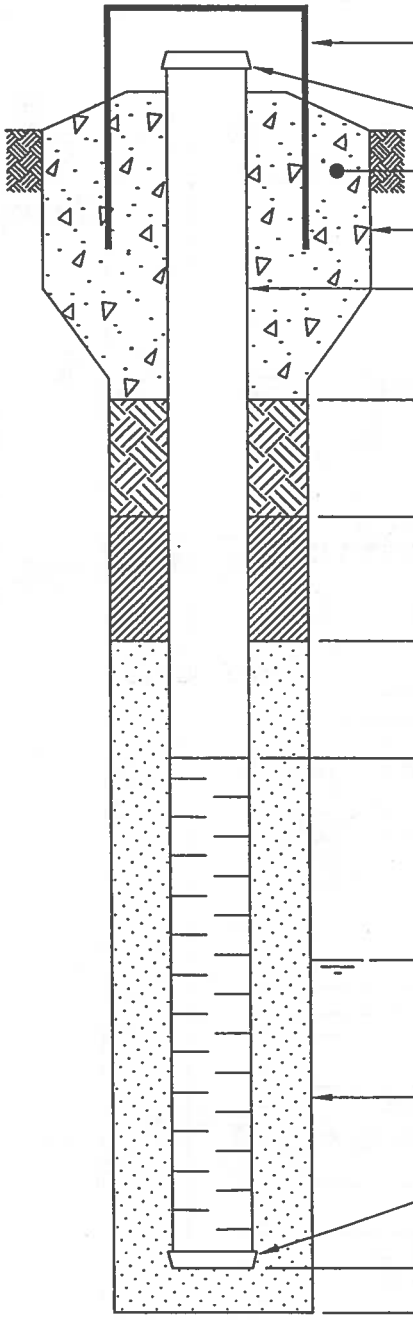
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



NOT TO SCALE

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: None
Secondary Seal Type:

Depth to Top of Bentonite Seal: 1.5
Bentonite Seal Type: EnviroPlug Medium Chips

Depth to Top of Filter Pack: 46.5'
Filter Pack Type: Colorado Silica Sand #10-20

Depth to Top of Well Screen: 48.0'
PVC Well Screen Type: 2" diam, Sch 40 0.01" Machine-Slotted PVC

Depth to Initial Static Water Level: 50.22'
(Date 4/29/14)

Boring Diameter: 6"

PVC Cap Type: Threaded Well Point (Sch 40)

Depth to Bottom of PVC Cap: 63.0'

Depth to Bottom of Boring: 64'
(Including Spoon)

63 1.5'

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

MAXIM

12-10-98/DRIL-1D.DWG

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

MONITORING WELL/BORING NO. MW-25
SHEET 3 OF 3
LOCATION:

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft) GROUNDWATER:
DATE: STARTED: 4/23/14 COMPLETED:
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
60.0					Recovery	Time	None Detected	
	TD	Poorly sorted Gravel in a Sandy Silt Matrix - wet, lt. brown, dense but loose due to saturation	SS	150/5	20%	1415		
65.0								
10.0								
15.0								
20.0								
25.0								
30.0								

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MS = MODERATE SHEEN
HS = HEAVY SHEEN
– = _____

DEPTH TO BOTTOM OF BORING 60'

MAT/2-10-98/DRILL-MW.ENG

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

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'Keefe Foremost DR-24 Air Rotary
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL/BORING NO. MW-26
SHEET 1 OF 2
LOCATION: Well at 2700 McIlhattan, S of driveway

ELEVATION: TOP OF HOLE: _____ (ft)
GROUNDWATER: _____
DATE: STARTED: 3/17/14 COMPLETED: 3/18/14
TIME: STARTED: 1330 COMPLETED: 12:00

Rig arrives at 1100
Observe drill sites and setup until 1330

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		1340 Start drilling Silt – brown, moist w/ scattered gravel					None Detected	
5.0					0.0			
10.0		Continued Silt w/ scattered gravel – brown, moist			1.4 slow incr.			
3/21/14 ▽ 15.0		At 12' color change brown to gray – gravel – slower drilling at 14' – heavier gravel – tan-gray, no fines, moist At 15.5' Incr. moisture in gravel/Silts			3.7			
20.0		Gravel in Sand & Silt matrix – light brown, very moist			0.0			
25.0		As above – moist			0.0			
30.0		Silt w/ scattered gravel – very moist, light brown			0.0			

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CORE = CORE SAMPLE
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HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 38.0'

MAXIM

1/3-10-98/DRIL-HW.DWG

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

MONITORING WELL/BORING NO. MW-26
SHEET 2 OF 2
LOCATION:

DRILL TYPE: SOIL:
ROCK:
DRILLED BY:
LOGGED BY:
REMARKS:

ELEVATION: TOP OF HOLE: (ft) GROUNDWATER:
DATE: STARTED: 3/17/14 COMPLETED: 3/18/14
TIME: STARTED: COMPLETED:

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS: HNU (PID) HEADSPACE	OVA (FID) HEADSPACE	ODOR	STAINING
30.0					0.0		None Detected	
35.0		Silt w/ scattered gravel – moist to very moist, brown			0.0	3/17/14 @ 1500 Measure to 35' for GW – none measured Stop @ 35' depth for day		
38.0	TD					3/18/14 @ 820 DTGW (below gs in steel) = 14.5'		
10.0								
15.0								
20.0								
25.0								
30.0								

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CON = CONTINUOUS SAMPLE
CORE = CORE SAMPLE
CA = SAMPLE SUBMITTED FOR CHEMICAL ANALYSIS
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MS = MODERATE SHEEN
HS = HEAVY SHEEN

DEPTH TO BOTTOM OF BORING 38.0'

MAXIM

73-10-98/DRIL-HW.DWG

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

DRILL TYPE: SOIL: ✓
ROCK:
DRILLED BY: O'Keefe Foremost DR-24 Air Rotary
LOGGED BY: MF Pearson
REMARKS:

MONITORING WELL NO. MW-26
SHEET 1 OF 1
LOCATION: Well at 2700 McIlhattan, S of driveway

DATE: HOLE STARTED: 3/17/14
COMPLETED: 3/18/14

ELEVATIONS

Top of Protective Casing

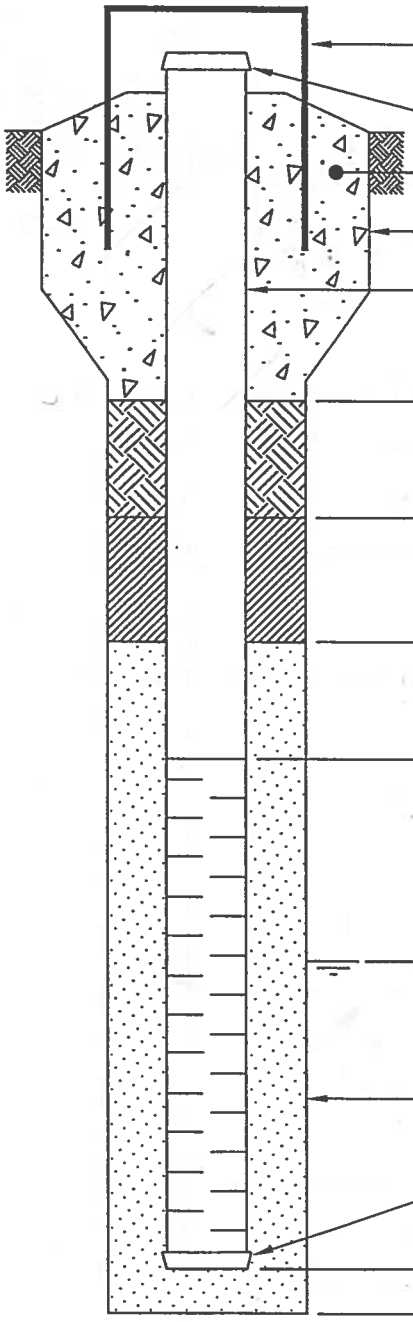
Top of PVC Casing

Top of Ground Surface

Groundwater

Bottom of Well Screen

Bottom of Boring



Protective Casing Type: Flush Mount, steel
Water Tight PVC Cap Type: PVC Well Plug
Surface Seal Type: Concrete
Surface Seal Dia.: ~12"
PVC Casing Type: 2" diameter, Sch 40

Depth to Top of Secondary Seal: None
Secondary Seal Type:

Depth to Top of Bentonite Seal: 1.0'
Bentonite Seal Type: Kwik Plug 3/8" Chips

Depth to Top of Filter Pack: 12.0'
Filter Pack Type: Colorado Silica Sand #10-20

Depth to Top of Well Screen: 13.0'
PVC Well Screen Type: 2" diameter, Sch 40, 0.01" Machined-slotted PVC pipe

Depth to Initial Static Water Level: 14.5'
(Date 3/18/14)

Boring Diameter: 6"

PVC Cap Type: Sch 40 PVC, Threaded well Point
Depth to Bottom of PVC Cap: 33.0'
Depth to Bottom of Boring: 38.0'

NOT TO SCALE

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

MAXIM

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 @1255 Station No. LF-2

Personnel: DW BR Weather: CLOUDY

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 13.30 = 6.3 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump [ ] Disposable bailer [✓] Spigot [ ] Other 2 BAILERS

6.3 ft. water in well x 0.653 gal./ft * = one casing volume 4.11 gals. x 3 = purge volume 12.34 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
1245	4.11	8.09	7.32	611	81.7	10.9
1250	8.22	8.74	7.27	617	87.0	11.13
1255	12.34	8.69	7.20	623	99.3	10.76
1300	—	9.14	7.07	627	113.9	11.08

DRY HOLE

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	3/27/14
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: 3/26/14 @ 1000 Station No. LF-3

Personnel: DW BQ Weather: RAINY / CLOUDY

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 NOT STEEL

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

Well Depth (ft. below measuring point): 37.5 - Depth to Water 13.22 = 24.28 ft. water in well

WELL EVACUATION

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

24.28 ft. water in well x 0.653 gal./ft * = one casing volume 15.85 gals. x 3 = purge volume 48 gals.

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

Pumping rate (gpm): 1 GAL/MIN

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
0926	START PUMPING					
0951	14.25	PURGED DRY				
1000	SAMPLE	9.70	7.11	709	253.4	8.24

DO measured: In-well [ ] In water bailed [ ] In water pumped [x] Other Final Parameter w/YSI via flow through cell

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	WaterLine	
pH	YSI 556	3/26/14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

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

Comments:

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @1525 Station No. MW-4

Personnel: DW BQ Weather: CLOUDY

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 19.86 = 18.14 ft. water in well

WELL EVACUATION

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

18.14 ft. water in well x 0.653 gal./ft * = one casing volume 11.8 gals. x 3 = purge volume 35.53 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): 0.4 GPM

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1335	BEGAN PURGING					
1413	12.0	9.62	6.90	1047	222.8	4.42
1454	24.0	9.88	6.84	1053	226.3	3.68
1525	36.0	9.82	6.76	1056	208.7	3.50
Dave - 1533	DH	9.39	6.75	1026	215.3	2.36

DO measured: In-well [ ] In water bailed [ ] In water pumped [X] Other MADE FLOW THRU CELL USING SMALL JAR OVERFLOW

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Waterline	—
pH	YSI 556	3/26/14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @1225 Station No. MW-6

Personnel: DW BQ Weather: Cloudy

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): 66.0 - Depth to Water 31.33 = 32.67 ft. water in well

WELL EVACUATION

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

32.67 ft. water in well x 0.163 gal./ft * = one casing volume 5.32 gals. x 3 = purge volume 15.9 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
1137						
1225	SAMPLE	COLLECTED				

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 [x]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [x]	Metals: dissolved [ ] or total [ ]	250 ml poly	HNO_3
Yes [ ] No [x]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [x]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [x] No [ ]	BAT 10MS ALKALS	" "	" "
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	3/26/14
SC		
ORP		
DO		

Decontamination

Liquinox: Yes [x] No [ ] Scrub: Yes [ ] No [ ]

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

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @ 1210 Station No. MW-6B

Personnel: DW BQ Weather: CLOUDY

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): 100.0 - Depth to Water 18.84 = 81.16 ft. water in well

WELL EVACUATION

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

81.16 ft. water in well x 0.163 gal./ft * = one casing volume 13.22 gals. x 3 = purge volume 39.68 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): 2 GPM

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1136	START PURGE					
1144	19.0	9.57	7.67	348	191.5	10.12
1154	38.0	10.08	7.44	348	202.9	9.70
1210	50.0	9.98	7.38	348	208.1	7.92
1210	SAMPLE				IN WELL	6.52
						1220

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

WELL SAMPLING

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

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

Sample Collected	Parameters	Sample Container	Preservative
Yes [ ] No [X]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [X]	Metals: dissolved [ ] or total [ ]	250 ml poly	HNO_3
Yes [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [X]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	CATIONS AN IONS	" "	"
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	3/26/14
SC		
ORP		
DO		

Decontamination

Liquinox: Yes [X] No [ ] Scrub: Yes [ ] No [ ]

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

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 0910 Station No. MW-8A

Personnel: DW BQ Weather: Cloudy

Well Locked? Yes [x] No [ ] Note Any Problems With Condition of Well: none

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

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

Well Depth (ft. below measuring point): 59.50 - Depth to Water 46.65 = 12.85 ft. water in well

WELL EVACUATION

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

12.85 ft. water in well x 0.163 gal./ft * = one casing volume 2.09 gals. x 3 = purge volume 6.28 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
905	2.0	7.70	6.82	1254	312.5	9.75
910 BAILED DRY		3.0	GAL PURGED			
930	—	9.06	6.79	1276	302.4	8.25

Down Hole

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 [x] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [x] 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 [x] No [ ]	CATIONS ANIONS	2 – 11 11	11 11
Yes [x] No [ ]	Alkalinity	11 11	11 11

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

Meter	Model No.	Calibration Date
Water level	Water Ind.	—
pH	YSI 556	3/27/14
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 @920 Station No. MW-8C

Personnel: DLJ Weather: cloudy

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): 103.0 - Depth to Water 42.6 = 60.4 ft. water in well

WELL EVACUATION

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

60.4 ft. water in well x 0.163 gal./ft * = one casing volume 9.84 gals. x 3 = purge volume 29.53 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
900	10.0	9.46	6.97	415	312.5	10.9
910	20.0	9.89	7.28	415	299.5	11.06
920	30.0	9.89	7.23	417	297.1	11.05

DO measured: In-well [ ] In water bailed [ ] In water pumped [X] Other ALL PARAM. MEASURED IN FLOW THROUGH CELL

WELL SAMPLING

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

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

Sample Collected	Parameters	Sample Container	Preservative
Yes [X] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [X]	Metals: dissolved [ ] or total [ ]	250 ml poly	HNO_3
Yes [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [X]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	Anions Cations	2 - 250ml poly	" "
Yes [X] No [ ]	Alkalinity	250ml poly	" "

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

Meter	Model No.	Calibration Date
Water level	Water Level	—
pH	YSI 556	3/27/14
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3-26-14 (No samples) Station No. MW-9A

Personnel: DW BQ Weather: CLOUDY

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): 39.0 - Depth to Water 27.48 = 11.52 ft. water in well

WELL EVACUATION

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

11.52 ft. water in well x 0.163 gal./ft * = one casing volume 1.87 gals. x 3 = purge volume 5.63 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	°C Temp	pH	NS SC	ORP	mg/L DO
DOWN HOLE 1305	2.0	9.53	6.89	984	200.7	0.54

DO measured: In-well [X] In water bailed [ ] In water pumped [ ] Other YSI ~~HL BAILED H2O~~ DOWN HOLE POST 1 CASING

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 [X]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [X]	Metals: dissolved [ ] or total [ ]	250 ml poly	HNO_3
Yes [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [X]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [X]			
Yes [ ] No [X]			

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	3/26/14
SC		
ORP		
DO		

Decontamination

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

Comments: REMOVED ONE CASING VOLUME AND THEN MEASURED PARAMETERS DOWN HOLE WITH YSI.

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3-27-14 @1220 Station No. MW-1B

Personnel: DW, BQ Weather: CLEAR, 30's

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

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): 13.5' - Depth to Water 1.40 = 12.1 ft. water in well

WELL EVACUATION

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

12.1 ft. water in well x 0.163 gal./ft * = one casing volume 1.97 gals. x 3 = purge volume 6.0 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
1148	BEGAN	BAILING				
1152	2.0	3.58	6.95	1236	21.5	4.31
1156	4.0	3.64	6.93	1242	15.7	2.79
1200	6.0	3.58	6.93	1245	12.2	2.39
1200	COLLECTED	SAMPLES				
1208	DOWN HOLE	3.80	6.92	1236	8.5	0.79

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

WELL SAMPLING

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

Sample Type: Natural [X] 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 [ ] FE, MG	250 ml poly	HNO_3
Yes [ ] No [X]	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	3-27-14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 @1025 Station No. MW-12

Personnel: DLJ Weather: CLOUDY

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 55.72 = 10.08 ft. water in well

WELL EVACUATION

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

10.08 ft. water in well x 0.163 gal./ft * = one casing volume 1.64 gals. x 3 = purge volume 4.92 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): _____

1010 BEGAN BAILING

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1014	1.64	11.12	6.54	981	103.4	2.70
1020	3.28	11.10	6.59	989	74.1	4.56
1024	4.92	10.64	6.50	989	61.4	3.80
1025	SAMPLED					
1035	—	11.88	6.44	989	55.9	0.55

DRILL HOLE

DO measured: In-well [x] In water bailed [x] In water pumped [ ] Other _____ 5.1%

WELL SAMPLING

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

Sample Type: Natural [x] 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 [ ] No [x]	Nitrate as N	250 ml poly	H_2SO_4
Yes [x] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [x] No [ ]	CATIONS/ANIONS	2 250 ml poly	" "
Yes [x] No [ ]	ALKALINITY	250 ml poly	" "

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	3-27-14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @ 1512 Station No. MW-13

Personnel: BQ, DW Weather: CLOUDY

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): 61.3 - Depth to Water 43.46 = 17.84 ft. water in well

WELL EVACUATION

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

17.84 ft. water in well x _____ gal./ft * = one casing volume 2.9 gals. x 3 = purge volume 9.0 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
1435	START BAILING					
1443	3.0	11.41	6.57	1063	230.0	3.21
1458	6.0	10.83	6.51	1075	226.2	3.15
1512	9.0	11.48	6.50	1070	212.4	3.75
1512	SAMPLE	VOC 11.72	6.40	1067	DOWN HOLE 214.1	0.49 1515

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

WELL SAMPLING

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

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

Sample Collected	Parameters	Sample Container	Preservative
Yes [X] 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	3-26-14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

Liquinox: Yes [X] No [ ] Scrub: Yes [ ] No [ ]

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

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @ 1745 Station No. MW-15

Personnel: DW BQ Weather: CLOUDY

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): 72.5 - Depth to Water 49.05 = 23.45 ft. water in well

WELL EVACUATION

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

23.45 ft. water in well x 0.163 gal./ft * = one casing volume 3.82 gals. x 3 = purge volume 11.46 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 °C	pH	SC	ORP	DO
1715	4.0	8.22	7.24	455	239.4	11.32
1730	8.0	7.74	7.14	451	247.8	11.00
1745	12.0	6.51	7.16	449	252.6	11.12
1745	COLLECTED	SAMPLE	NO DOWN HOLE TOO		DEEP AFTER	PURGE

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 [X] 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 [X] No [ ]	CAT IONS ANION	" "	" "
Yes [X] No [ ]	ALKALINITY	" "	" "

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	3/26/14
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/26/14 @ 1630 Station No. MW-16

Personnel: DW BQ Weather: CLOUDY

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): 40.0 - Depth to Water 25.64 = 14.36 ft. water in well

WELL EVACUATION

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

14.36 ft. water in well x 0.163 gal./ft * = one casing volume 2.34 gals. x 3 = purge volume 7.02 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): BAILING

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1630	COLLECTED SAMPLES					

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 [X] Duplicate [ ] Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [ ] No [X]	VOCs	3 – 40 ml vials	HCl
Yes [ ] No [X]	Metals: dissolved [ ] or total [ ]	250 ml poly	HNO_3
Yes [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [X]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	CATION ANION	250 ml poly	none
Yes [X] No [ ]	ALKALINITY	250 ml poly	none

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

Meter	Model No.	Calibration Date
Water level	Waterline 451 5556	3/26/14
pH		
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/25/14 @1648 Station No. MW-17

Personnel: DW BCR Weather: PARTLY CLOUDY

Well Locked? Yes [ ] No [ ] Note Any Problems With Condition of Well: CONCRETE AROUD TOP FALLING APART

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 75.60 = 9.4 ft. water in well

WELL EVACUATION

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

9.4 ft. water in well x 0.163 gal./ft * = one casing volume 1.53 gals. x 3 = purge volume 4.6 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	~~DO~~ ORP
1632	.5	10.76	6.58	937	1.64	-0.0
1637	1.75	10.08	6.63	911	1.36	-130.0
1648	3.25	10.27	6.64	896	1.44	-162.0

DO measured: In-well [ ] In water bailed [ ] In water pumped [ ] Other BAR. WATER VIA YSI DUST PURGE IN SAMPLE CUP

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 [ ]	CATION ANION	250 ml poly	NONE
Yes [ ] No [ ]	ALKALINITY	250 ml poly	NONE

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

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	YSI 556	3/25/14
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: 3/26/14 @ 855 Station No. MW-19

Personnel: DW BQ Weather: RAINY / CLOUDY

Well Locked? Yes [ ] No [ ] Note Any Problems With Condition of Well: CONCRETE AROUND WELL VERY LOOSE

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): 28.0 - Depth to Water 21.23 = 6.77 ft. water in well

WELL EVACUATION

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

6.77 ft. water in well x 0.163 gal./ft * = one casing volume 1.1 gals. x 3 = purge volume 3.3 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
0833						
0840	1.25	8.99	6.82	806	229.7	11.40
0847	2.3	8.70	7.01	829	234.0	10.39
0853	3.5	8.33	7.03	837	237.5	10.59
0855	SAMPLE				IN WELL 0913	10.40

DO measured: In-well [X] In water bailed [X] In water pumped [ ] Other FNL PAR, WFA, VIA YSI DOWN HOLE POST PURGE

WELL SAMPLING

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

Sample Type: Natural [X] 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 [ ] 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	3/26/14
pH	YSI 556	
SC		
ORP		
DO		

Decontamination

Liquinox: Yes [X] No [ ] Scrub: Yes [ ] No [ ]

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

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/25/14 @1540 Station No. MW-20

Personnel: DW BQ Weather: Partly Cloudy

Well Locked? Yes [ ] 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): 65.0' - Depth to Water 53.20 = 11.8 ft. water in well

WELL EVACUATION

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

11.8 ft. water in well x 0.163 gal./ft * = one casing volume 1.92 gals. x 3 = purge volume 5.77 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	°C Temp	pH	µS SC	ORP	mg/L DO
1515	2.0	12.17	6.85	1319	-210.4	2.58
1526	4.0	10.17	6.92	1313	-152.3	4.73
	~~6.0~~					
DOWN HOLE 1540	-	9.57	6.99	1352	-98.7	6.67

DO measured: In-well [X] In water bailed [X] In water pumped [ ] Other DOWN HOLE PAR. POST PURGE DOWN HOLE

WELL SAMPLING

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

Sample Type: Natural [X] 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 [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [X] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	CAT ION Anion	250 ml p/p	none
Yes [X] No [ ]	Alkalinity	250 ml poly	none

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	3/25/14
SC		
ORP		
DO		

Decontamination

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

~~BAILED WATER~~

Comments: BAILED WELL DRY @ 4.5 gal. 1532

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/28/14 @920 Station No. MW-21

Personnel: _____ Weather: MOSTLY CLOUDY

Well Locked? Yes [x] No [ ] Note Any Problems With Condition of Well: concrete has completely dispated

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): 17.5 - Depth to Water 9.39 = 8.11 ft. water in well

WELL EVACUATION

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

8.11 ft. water in well x 0.163 gal./ft * = one casing volume 1.3 gals. x 3 = purge volume 4.0 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
910	1.5	7.18	6.67	469	246.7	10.74
915	3.0	6.88	6.93	448	245.7	10.13
920	4.5	7.15	7.01	441	244.9	10.18
920	SAMPLES COLLECTED					
0925	DOWN HOLE	7.52	7.21	429	241.8	9.95

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

WELL SAMPLING

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

Sample Type: Natural [x] 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 [ ] No [x]	Nitrate as N	250 ml poly	H_2SO_4
Yes [x] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [x] No [ ]	CATION/ Anion	2-250 ml poly	none
Yes [x] No [ ]	Alkalinity	250ml poly	none

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	3/28/14
SC		
ORP		
DO		

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 @ 612 Station No. MW-22

Personnel: DW BC Weather: CLOUDY

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): 17.0 - Depth to Water 3.81 = 13.19 ft. water in well

WELL EVACUATION

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

13.19 ft. water in well x ~~2.15~~ 0.163 gal./ft * = one casing volume 2.15 gals. x 3 = purge volume 6.45 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 = $5.875 \times C^2$

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1505	2.15	7.78	7.07	734	106.1	7.12
1508	4.30	7.94	7.06	731	116.4	6.61
1512	6.45	7.97	7.05	719	125.7	6.75
1512	COLLECTED	SAMPLE AND	DUP-1			
1525	DOWN HOLE	8.44	7.07	689	146.3	6.62

DOWN HOLE

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

WELL SAMPLING

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

Sample Type: Natural [X] Duplicate [X] Other: DUP-1 TIME: 0800

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 [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [ ] No [X]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [ ] No [X]	CATION/ANION	2-250ml p.	none
Yes [ ] No [X]	ALKALINITY	250ml p.	none

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	3-27-14
SC	" "	" "
ORP	" "	" "
DO	" "	" "

Decontamination

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/14 @1610 Station No. MW-23

Personnel: DW BG Weather: CLOUDY

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): 16.0 - Depth to Water 5.49 = 10.51 ft. water in well

WELL EVACUATION

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

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

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

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
1553	BEGAN BAILING					
1558	1.75	5.45	7.19	520	182.9	7.42
1603	3.5	5.45	7.14	526	185.6	6.98
1608	5.25	5.54	7.18	526	187.0	7.03
1610	COLLECT SAMPLE DOWN HOLE	6.14	7.25	520	188.8	6.13

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

WELL SAMPLING

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

Sample Type: Natural [X] 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 [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [X] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	CATION ANION	2-250ml poly	none
Yes [X] No [ ]		250ml poly	none

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

Meter	Model No.	Calibration Date
Water level	Water Level	—
pH	YSI 556	3/27/14
SC		
ORP		
DO		

Decontamination

Liquinox: Yes [X] No [ ] Scrub: Yes [ ] No [ ]

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

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

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3-25-14 @1415 Station No. MW-24

Personnel: DW, BQ Weather: PARTLY CLOUDY 40's

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

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): 80.50' - Depth to Water 74.50' = 6.0 ft. water in well

WELL EVACUATION 1 GAL/MIN RATE

1324

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

6.0 ft. water in well x 0.163 gal./ft * = one casing volume 0.978 gals. x 3 = purge volume 2.93 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/MIN

EVACUATION DATA

Time	Cumulative Gallons	°C Temp	pH	µS SC	ORP	1338 DO
						13.50 mg/L 120.6%
1405	.25	10.06°	7.09	6016	186.5	11:24
1414	1.25	10.06	7.13	624	198.0	11:59

DO measured: In-well [ ] In water bailed [ ] In water pumped [X] Other YSI PAR. MEA. VIA FLOW THROUGH CELL

WELL SAMPLING

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

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

Sample Collected	Parameters	Sample Container	Preservative
Yes [X] No [ ]	VOCs	3 – 40 ml vials	HCl
Yes [X] No [ ]	Metals: dissolved ~~[ ]~~ or total [ ]	250 ml poly	HNO_3
Yes [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [X] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	Cations Anions	2-250ml poly	none
Yes [X] No [ ]	Alkalinity	250ml poly	none

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

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	YSI 556	3/25/14
SC		
ORP		
DO		

Decontamination

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

Comments:

GROUNDWATER SAMPLING LOG

26

Project: Bozeman Landfill Date: 5/27/14 @1415 Station No. MW-~~10~~

Personnel: DW BQ Weather: CLOUDY

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): 38.0' - Depth to Water 14.41 = 23.59 ft. water in well

WELL EVACUATION

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

23.59 ft. water in well x 0.163 gal./ft * = one casing volume 15.4 gals. x 3 = purge volume 46.2 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	°C Temp	pH	SC	ORP	mg/L DO
START PUMP 1342						
1353	15.5	9.46	7.04	690	135.4	8.82
1400 ~~1414~~	31.0	9.46	6.99	698	96.8	8.19
~~1425~~	~~38.5~~					
1415	46.5					
1425	DOWN HOLE	9.27	7.08	682	80.5	9.80

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

WELL SAMPLING

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

Sample Type: Natural [X] 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 [ ] No [X]	Nitrate as N	250 ml poly	H_2SO_4
Yes [X] No [ ]	pH, SC, sulfate, chloride	250 ml poly	None
Yes [X] No [ ]	CATION ANION	2-250ml p.	none
Yes [X] No [ ]	ALKALINITY	250ml p.	none

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

Meter	Model No.	Calibration Date
Water level	Waterline	
pH	YSI 556	3/27/14
SC		
ORP		
DO		

Decontamination

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

Comments: PUMPED WELL DRY AT 1410. 40.5 gal PURGE. D/(SW) WELL TO RECHARGE AND SAMPLE 1415

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/28/14 @105 Station No. MEADOWLARK SEEP

Personnel: DW ZR Weather: MOSTLY CLOUDY

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

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

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

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

WELL EVACUATION

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

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

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

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	FLOWING					
1013	—	8.86	6.73	997	215.1	9.12
1015	SAMPLE TIME					

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

WELL SAMPLING

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

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

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

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

Meter	Model No.	Calibration Date
Water level	Waterline	—
pH	YSI 556	3/28/14
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: 5/1/14 @ 1600 Station No. MW-17

Personnel: MFP Weather: Breeze, dry, 60°F

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

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

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

Well Depth (ft. below measuring point): 85.0 - Depth to Water 75.62 = 9.38 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.53 gals. x 3 = purge volume 4.6 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
_____	1.5	10.70	6.52	856	136	2.66
_____	3.1	10.09	6.62	867	-67.3	2.86
1600	5.0	10.72	6.59	878	-35	2.56
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Mini Flow Through in cup

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

Retrieval & measurement w/minimal aeration

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	5/1/14
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: 5/2/14@1230 Station No. MW-18

Personnel: MFP Weather: Wind, Dry, ~60°F

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

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

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

Well Depth (ft. below measuring point): 59.0' - Depth to Water 47.22 = 11.78 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 5.8 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
	1.9	11.75	6.67	1549	132.0	3.58
	4.0	11.40	6.66	1570	94.7	2.02
1230	6.0	11.46	6.65	1580	69.8	1.90
	7.0	11.05	6.63	1527	82.2	1.15 > Down Hole

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 [ ]	Tritium	1 L Glass	None

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	5/2/14
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: 5/1/14 @ 1350 Station No. MW-19

Personnel: MFP Weather: Warm, Dry

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

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): 28.0 - Depth to Water 21.36 = 6.64 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.1 gals. x 3 = purge volume 3.3 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	
	1.1	9.94	6.88	734	-	-	
	2.2	9.64	6.87	735	-	-	
1350	3.3	9.65	6.92	738	272	11.61	
1350	3.8	9.39	6.95	736	271	11.18	Down Hole

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	5/1/14
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: 5/2/14 @ 1130 Station No. MW-20

Personnel: MFP Weather: Breeze, Dry, ~55°F

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

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

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

Well Depth (ft. below measuring point): 65.0 - Depth to Water 52.98 = 12.02 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 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	11.10	6.74	1358	265	6.53
	4	~~9.93~~	7.01	1355	208	5.50
1130	6.0	10.08	7.11	1354	142	5.77
1130	6.3	9.44	7.08	1348	-12.8	-
1135	↓	9.39	7.10	1349	-38.0	3.65

Down hole

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	5/2/14
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: Duplicate collected & labelled "DUP" with a sample time of 1100

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 5/1/14 @1030 Station No. MW-21

Personnel: MFP Weather: Clear calm, 60° F

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: Water Line repair ongoing, cap needs concrete

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): 17.5 - Depth to Water 7.63 = 9.87 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.6 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	7.89	7.13	462	259.3	9.6	
	3.2	6.57	7.10	455	262.5	9.76	
1030	4.8	6.42	7.12	458	260.4	10.33	
	5.5	5.98	7.08	458	262.1	9.16	Down hole

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	5/1/14
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: 5/1/14 @ 1300 Station No. MW-22

Personnel: MFP Weather: Calm, 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): 17.0' - Depth to Water 3.11 = 13.89 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 2.27 gals. x 3 = purge volume 6.8 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	
	2.3	9.25	6.66	730	254	7.83	
	4.6	8.81	6.70	718	257	8.05	
	6.8	8.74	6.75	715	256	7.80	
1300	7.0	8.31	6.75	716	256	7.03	Down hole

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	5/1/14
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: 5/1/14 @1200 Station No. MW-23

Personnel: MFP Weather: Warm, Dry

Well Locked? Yes [✓] No [ ] Note Any Problems With Condition of Well: Good, Grout is OK around cover

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 4.62 = 11.38 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.8 gals. x 3 = purge volume 5.5 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
	1.8	7.36	6.76	512	220	8.10
	3.6	7.17	6.79	515	275	9.00
1200	5.5	7.24	6.83	520	223	8.93
	6.0	6.82	6.67	519	229	8.75
1220		6.71	6.89	518	231	7.51

Down hole

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	5/1/14
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: 5/2/14 @ 1400 Station No. MW-24

Personnel: MFP Weather: Breeze, Dry, 60°F

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

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

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

Well Depth (ft. below measuring point): 80.5' - Depth to Water 74.33 = 6.17 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 1.0 gals. x 3 = purge volume 3.0 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
	1	11.04	7.13	635	78.8	—
	2	10.09	7.34	628	124.3	12.0
1400	3.0	10.12	7.44	627	143.6	11.80

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	5/2/14
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: 5/2/14 @1530 Station No. MW-25

Personnel: MFP Weather: Breeze, Dry

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

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

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

Well Depth (ft. below measuring point): 63.0' - Depth to Water 50.22 = 12.78 ft. water in well

WELL EVACUATION

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

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

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

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
	2.1	10.32	7.10	600	162	-	
	4.2	9.85	7.13	566	75	9.75	
1530	6.3	9.75	7.23	564	38.1	9.65	
	7.0	9.00	7.27	541	-19.5	8.95	Down Hole

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	5/2/14
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: 5/1/14 @ 1450 Station No. MW-26

Personnel: MFP Weather: Warm, Dry

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

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

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

Well Depth (ft. below measuring point): 38.0' - Depth to Water 14.08 = 23.92 ft. water in well

WELL EVACUATION

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

_____ ft. water in well x _____ gal./ft * = one casing volume 3.9 gals. x 3 = purge volume 11.7 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): Pump Flow = 1 gal/30 sec Flow

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
1435	Start Pumping						Flow Through
240PM	5	9.98	6.80	698	277	8.44	Meter shut down
245PM	9.5	9.57	6.75	756	285	4.50	
1450	30	9.54	6.85	754	281.4	3.36	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 [ ] 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	5/1/14
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: Pump and Tubing used on MW-26 before (in Mar 2014) Decon'ed w/ hot H_2O/liquinox soln. and rinse with hot water – City of Boz water.

APPENDIX C

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

May 07, 2014

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

RE: Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 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.

Report revised to update Alkalinity values after a data review request was performed per client request 05/07/14.

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

Sincerely,

Samantha Rupe
samantha.rupe@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
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
Nebraska Certification #: Pace
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
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
Colorado Asbestos #:17119
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
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 #: ANTE
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.: 10261823

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10261823001	**LF-2**	Water	03/27/14 12:55	03/29/14 12:30
10261823002	**LF-3**	Water	03/26/14 10:00	03/29/14 12:30
10261823003	**MW-4**	Water	03/26/14 15:25	03/29/14 12:30
10261823004	**MW-6**	Water	03/26/14 12:25	03/29/14 12:30
10261823005	**MW-6B**	Water	03/26/14 12:10	03/29/14 12:30
10261823006	**MW-8A**	Water	03/27/14 09:10	03/29/14 12:30
10261823007	**MW-8C**	Water	03/27/14 09:20	03/29/14 12:30
10261823008	**MW-10**	Water	03/27/14 12:00	03/29/14 12:30
10261823009	**MW-12**	Water	03/27/14 10:25	03/29/14 12:30
10261823010	**MW-13**	Water	03/27/14 15:12	03/29/14 12:30
10261823011	**MW-15**	Water	03/27/14 17:45	03/29/14 12:30
10261823012	**MW-16**	Water	03/27/14 16:30	03/29/14 12:30
10261823013	**MW-17**	Water	03/25/14 16:48	03/29/14 12:30
10261823014	**MW-19**	Water	03/26/14 08:55	03/29/14 12:30
10261823015	**MW-20**	Water	03/25/14 15:40	03/29/14 12:30
10261823016	**MW-21**	Water	03/28/14 09:20	03/29/14 12:30
10261823017	**MW-22**	Water	03/27/14 15:12	03/29/14 12:30
10261823018	**MW-23**	Water	03/27/14 16:10	03/29/14 12:30
10261823019	**MW-24**	Water	03/25/14 14:15	03/29/14 12:30
10261823020	**MW-26**	Water	03/27/14 14:15	03/29/14 12:30
10261823021	**MCILHATTEN SEEP**	Water	03/28/14 10:15	03/29/14 12:30
10261823022	**TRIP BLANK**	Water		03/29/14 12:30
10261823023	**DUP-1**	Water	03/27/14 08:00	03/29/14 12:30

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SAMPLE ANALYTE COUNT

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10261823001	**LF-2**	EPA 8260B	LPM	61	PASI-M
10261823002	**LF-3**	EPA 8260B	LPM	61	PASI-M
10261823003	**MW-4**	EPA 6020	TT3	4	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10261823004	**MW-6**	EPA 6020	TT3	4	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10261823005	**MW-6B**	EPA 6020	TT3	4	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10261823006	**MW-8A**	EPA 6020	TT3	4	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10261823007	**MW-8C**	EPA 6020	TT3	4	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10261823008	**MW-10**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823009	**MW-12**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823010	**MW-13**	EPA 8260B	LPM	61	PASI-M
10261823011	**MW-15**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823012	**MW-16**	EPA 6020	TT3	4	PASI-M
		EPA 300.0	SKW	2	PASI-MT

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SAMPLE ANALYTE COUNT

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	PH1	3	PASI-M
10261823013	**MW-17**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	EB2	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823014	**MW-19**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823015	**MW-20**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	EB2	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823016	**MW-21**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823017	**MW-22**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823018	**MW-23**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823019	**MW-24**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	EB2	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823020	**MW-26**	EPA 6020	TT3	6	PASI-M

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SAMPLE ANALYTE COUNT

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10261823021	**MCILHATTEN SEEP**	EPA 8260B	LPM	61	PASI-M
10261823022	**TRIP BLANK**	EPA 8260B	LPM	61	PASI-M
10261823023	**DUP-1**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

General Information:
13 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.

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

General Information:
5 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/45056

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10261823003

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

- MS (Lab ID: 1651829)
  - Calcium, Dissolved
  - Magnesium, Dissolved
  - Sodium, Dissolved
- MSD (Lab ID: 1651830)
  - Calcium, Dissolved
  - Magnesium, Dissolved
  - Sodium, Dissolved

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

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

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

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

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

QC Batch: MSV/26732

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

- BLANK (Lab ID: 1651610)
  - Bromomethane
  - Iodomethane
- DUP (Lab ID: 1653112)
  - Bromomethane
  - Iodomethane
- DUP-1 (Lab ID: 10261823023)
  - Bromomethane
  - Iodomethane
- LCS (Lab ID: 1651611)
  - Bromomethane
  - Iodomethane
- LF-2 (Lab ID: 10261823001)
  - Bromomethane
  - Iodomethane
- LF-3 (Lab ID: 10261823002)
  - Bromomethane
  - Iodomethane
- MCILHATTEN SEEP (Lab ID: 10261823021)
  - Bromomethane
  - Iodomethane
- MS (Lab ID: 1653111)
  - Bromomethane
  - Iodomethane
- MW-10 (Lab ID: 10261823008)
  - Bromomethane
  - Iodomethane
- MW-12 (Lab ID: 10261823009)
  - Bromomethane
  - Iodomethane
- MW-13 (Lab ID: 10261823010)

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

QC Batch: MSV/26732

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

- Bromomethane
- Iodomethane

- MW-15 (Lab ID: 10261823011)
  - Bromomethane
  - Iodomethane
- MW-19 (Lab ID: 10261823014)
  - Bromomethane
  - Iodomethane
- MW-21 (Lab ID: 10261823016)
  - Bromomethane
  - Iodomethane
- MW-22 (Lab ID: 10261823017)
  - Bromomethane
  - Iodomethane
- MW-23 (Lab ID: 10261823018)
  - Bromomethane
  - Iodomethane
- MW-26 (Lab ID: 10261823020)
  - Bromomethane
  - Iodomethane
- MW-4 (Lab ID: 10261823003)
  - Bromomethane
  - Iodomethane
- MW-8A (Lab ID: 10261823006)
  - Bromomethane
  - Iodomethane
- TRIP BLANK (Lab ID: 10261823022)
  - Bromomethane
  - Iodomethane

QC Batch: MSV/26752

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

- LCS (Lab ID: 1653041)
  - 2-Butanone (MEK)
  - 2-Hexanone
  - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 1653248)
  - 2-Butanone (MEK)
  - 2-Hexanone
  - trans-1,4-Dichloro-2-butene

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

- BLANK (Lab ID: 1653040)
  - Bromomethane
  - Iodomethane

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

QC Batch: MSV/26752

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

- LCS (Lab ID: 1653041)
  - Bromomethane
  - Iodomethane
- LCSD (Lab ID: 1653248)
  - Bromomethane
  - Iodomethane
- MW-17 (Lab ID: 10261823013)
  - Bromomethane
  - Iodomethane
- MW-20 (Lab ID: 10261823015)
  - Bromomethane
  - Iodomethane
- MW-24 (Lab ID: 10261823019)
  - Bromomethane
  - Iodomethane

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/26752

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

- LCS (Lab ID: 1653041)
  - 2-Butanone (MEK)
  - 2-Hexanone
  - 4-Methyl-2-pentanone (MIBK)
  - Acrylonitrile
  - trans-1,4-Dichloro-2-butene

R1: RPD value was outside control limits.

- LCSD (Lab ID: 1653248)
  - Bromomethane

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

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

QC Batch: MSV/26752

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

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

Additional Comments:

Analyte Comments:

QC Batch: MSV/26732

1M: Post-analysis pH measurement indicates insufficient VOA sample preservation. Therefore, analysis was conducted outside the recognized method holding time.

- DUP-1 (Lab ID: 10261823023)
  - 1,2-Dichloroethane-d4 (S)
- MW-19 (Lab ID: 10261823014)
  - 1,2-Dichloroethane-d4 (S)
- MW-22 (Lab ID: 10261823017)
  - 1,2-Dichloroethane-d4 (S)
- MW-23 (Lab ID: 10261823018)
  - 1,2-Dichloroethane-d4 (S)

C0: Result confirmed by second analysis.

- TRIP BLANK (Lab ID: 10261823022)
  - Methylene Chloride

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

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

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

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

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

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

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

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

Method Blank:
All analytes were below the report limit in the method blank, 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/15294

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10261654001,10261823013

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

- MS (Lab ID: 1651560)
  - Chloride

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: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: Tetra Tech, Inc. - MT
Date: May 07, 2014

General Information:
12 samples were 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:

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PROJECT NARRATIVE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Method: **SM 2320B**
Description: 2320B Alkalinity
Client: Tetra Tech, Inc. - MT
Date: May 07, 2014

General Information:
18 samples were analyzed for SM 2320B. 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.

H1: Analysis conducted outside the recognized method holding time.
- DUP-1 (Lab ID: 10261823023)
- MW-22 (Lab ID: 10261823017)

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: WET/34908

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10261823003,10261909004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1650459)
  - Alkalinity, Total as CaCO3
- MSD (Lab ID: 1650460)
  - Alkalinity, Total as CaCO3

Additional Comments:

Analyte Comments:

QC Batch: WET/35408

2M: Sample had a high amount of sediment. Reported result is the analysis of the supernatant after the sediment was allowed to settle out. Results may be biased.
- DUP-1 (Lab ID: 10261823023)
  - Alkalinity, Total as CaCO3
- MW-22 (Lab ID: 10261823017)
  - Alkalinity, Total as CaCO3

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: LF-2 **Lab ID: 10261823001** Collected: 03/27/14 12:55 Received: 03/29/14 12:30 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		04/09/14 02:08	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:08	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:08	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:08	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 02:08	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:08	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:08	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:08	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 02:08	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 02:08	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:08	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:08	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 02:08	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 02:08	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:08	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:08	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:08	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:08	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 02:08	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:08	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 02:08	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:08	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:08	75-35-4	
cis-1,2-Dichloroethene	**0.37J**	ug/L	0.50	0.23	1		04/09/14 02:08	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:08	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 02:08	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 02:08	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 02:08	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:08	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:08	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:08	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:08	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:08	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:08	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 02:08	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:08	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:08	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:08	79-34-5	
Tetrachloroethene	**0.89**	ug/L	0.50	0.25	1		04/09/14 02:08	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.: 10261823

Sample: LF-2 **Lab ID: 10261823001** Collected: 03/27/14 12:55 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 02:08	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 02:08	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	79-00-5	
Trichloroethene	**0.16J**	ug/L	0.40	0.13	1		04/09/14 02:08	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:08	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 02:08	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 02:08	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:08	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:08	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 02:08	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 02:08	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	75-125		1		04/09/14 02:08	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		04/09/14 02:08	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		04/09/14 02:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: LF-3 **Lab ID: 10261823002** Collected: 03/26/14 10:00 Received: 03/29/14 12:30 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		04/09/14 00:54	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 00:54	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 00:54	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 00:54	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 00:54	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 00:54	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 00:54	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 00:54	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 00:54	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 00:54	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 00:54	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 00:54	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 00:54	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 00:54	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 00:54	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 00:54	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 00:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 00:54	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 00:54	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 00:54	110-57-6	
Dichlorodifluoromethane	**1.2**	ug/L	1.0	0.40	1		04/09/14 00:54	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 00:54	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 00:54	75-35-4	
cis-1,2-Dichloroethene	**2.0**	ug/L	0.50	0.23	1		04/09/14 00:54	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 00:54	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 00:54	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 00:54	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 00:54	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 00:54	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 00:54	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 00:54	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 00:54	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 00:54	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 00:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 00:54	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 00:54	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 00:54	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 00:54	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 00:54	79-34-5	
Tetrachloroethene	**2.4**	ug/L	0.50	0.25	1		04/09/14 00:54	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: LF-3 **Lab ID: 10261823002** Collected: 03/26/14 10:00 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 00:54	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 00:54	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	79-00-5	
Trichloroethene	**0.61**	ug/L	0.40	0.13	1		04/09/14 00:54	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 00:54	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 00:54	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 00:54	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 00:54	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 00:54	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 00:54	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 00:54	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		04/09/14 00:54	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		04/09/14 00:54	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1		04/09/14 00:54	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-4 **Lab ID: 10261823003** Collected: 03/26/14 15:25 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Lab Filtered	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Calcium, Dissolved	**142**	mg/L	0.40	0.084	10	04/08/14 10:12	04/10/14 09:18	7440-70-2	M1
Magnesium, Dissolved	**46.2**	mg/L	0.10	0.028	10	04/08/14 10:12	04/10/14 09:18	7439-95-4	M1
Potassium, Dissolved	**2.4**	mg/L	0.050	0.0083	1	04/08/14 10:12	04/09/14 14:36	7440-09-7	
Sodium, Dissolved	**20.8**	mg/L	0.050	0.018	1	04/08/14 10:12	04/09/14 14:36	7440-23-5	M1
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 01:19	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:19	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:19	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 01:19	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 01:19	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:19	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:19	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:19	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 01:19	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 01:19	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:19	108-90-7	
Chloroethane	**0.76J**	ug/L	1.0	0.50	1		04/09/14 01:19	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 01:19	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 01:19	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:19	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:19	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 01:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 01:19	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 01:19	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:19	110-57-6	
Dichlorodifluoromethane	**1.3**	ug/L	1.0	0.40	1		04/09/14 01:19	75-71-8	
1,1-Dichloroethane	**0.45J**	ug/L	0.50	0.25	1		04/09/14 01:19	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 01:19	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:19	75-35-4	
cis-1,2-Dichloroethene	**0.53**	ug/L	0.50	0.23	1		04/09/14 01:19	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 01:19	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 01:19	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 01:19	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 01:19	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 01:19	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:19	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:19	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:19	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 01:19	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:19	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	1634-04-4	

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.: 10261823

Sample: MW-4 **Lab ID: 10261823003** Collected: 03/26/14 15:25 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 01:19	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 01:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 01:19	79-34-5	
Tetrachloroethene	**1.0**	ug/L	0.50	0.25	1		04/09/14 01:19	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 01:19	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 01:19	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	79-00-5	
Trichloroethene	**0.86**	ug/L	0.40	0.13	1		04/09/14 01:19	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 01:19	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 01:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 01:19	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:19	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:19	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 01:19	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 01:19	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%.	75-125		1		04/09/14 01:19	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		04/09/14 01:19	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		04/09/14 01:19	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**15.3**	mg/L	1.0	0.50	1		04/09/14 04:19	16887-00-6	
Sulfate	**7.3**	mg/L	1.0	0.50	1		04/09/14 04:19	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**498**	mg/L	5.0	2.5	1		04/04/14 09:35		M1
Alkalinity,Bicarbonate (CaCO3)	**498**	mg/L	5.0	2.5	1		04/04/14 09:35		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 09:35		

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.: 10261823

Sample: MW-6 **Lab ID: 10261823004** Collected: 03/26/14 12:25 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Lab Filtered	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Calcium, Dissolved	**135**	mg/L	0.40	0.084	10	04/08/14 10:12	04/09/14 15:03	7440-70-2	
Magnesium, Dissolved	**39.6**	mg/L	0.10	0.028	10	04/08/14 10:12	04/09/14 15:03	7439-95-4	
Potassium, Dissolved	**1.8**	mg/L	0.050	0.0083	1	04/08/14 10:12	04/09/14 15:00	7440-09-7	
Sodium, Dissolved	**13.6**	mg/L	0.050	0.018	1	04/08/14 10:12	04/09/14 15:00	7440-23-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**8.0**	mg/L	1.0	0.50	1		04/09/14 04:50	16887-00-6	
Sulfate	**6.2**	mg/L	1.0	0.50	1		04/09/14 04:50	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**510**	mg/L	5.0	2.5	1		04/04/14 09:49		
Alkalinity,Bicarbonate (CaCO3)	**510**	mg/L	5.0	2.5	1		04/04/14 09:49		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 09:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-6B **Lab ID: 10261823005** Collected: 03/26/14 12:10 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**43.0**	mg/L	0.20	0.042	5	04/08/14 10:10	04/09/14 10:26	7440-70-2	
Magnesium, Dissolved	**17.8**	mg/L	0.010	0.0028	1	04/08/14 10:10	04/09/14 10:23	7439-95-4	
Potassium, Dissolved	**1.3**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:23	7440-09-7	
Sodium, Dissolved	**7.1**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 10:23	7440-23-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**1.7**	mg/L	1.0	0.50	1		04/09/14 05:22	16887-00-6	
Sulfate	**4.3**	mg/L	1.0	0.50	1		04/09/14 05:22	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**168**	mg/L	5.0	2.5	1		04/04/14 09:54		
Alkalinity,Bicarbonate (CaCO3)	**168**	mg/L	5.0	2.5	1		04/04/14 09:54		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 09:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-8A **Lab ID: 10261823006** Collected: 03/27/14 09:10 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Lab Filtered	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Calcium, Dissolved	**172**	mg/L	0.40	0.084	10	04/08/14 10:12	04/09/14 15:09	7440-70-2	
Magnesium, Dissolved	**65.0**	mg/L	0.10	0.028	10	04/08/14 10:12	04/09/14 15:09	7439-95-4	
Potassium, Dissolved	**2.3**	mg/L	0.050	0.0083	1	04/08/14 10:12	04/09/14 15:06	7440-09-7	
Sodium, Dissolved	**36.3**	mg/L	0.50	0.18	10	04/08/14 10:12	04/09/14 15:09	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 02:32	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:32	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:32	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:32	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 02:32	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:32	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:32	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:32	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 02:32	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 02:32	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:32	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:32	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 02:32	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 02:32	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:32	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:32	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:32	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 02:32	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:32	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 02:32	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:32	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:32	75-35-4	
cis-1,2-Dichloroethene	**0.95**	ug/L	0.50	0.23	1		04/09/14 02:32	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:32	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 02:32	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 02:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 02:32	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:32	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:32	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:32	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:32	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:32	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:32	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	1634-04-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-8A **Lab ID: 10261823006** Collected: 03/27/14 09:10 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 02:32	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:32	79-34-5	
Tetrachloroethene	**0.65**	ug/L	0.50	0.25	1		04/09/14 02:32	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 02:32	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 02:32	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	79-00-5	
Trichloroethene	**0.35J**	ug/L	0.40	0.13	1		04/09/14 02:32	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:32	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 02:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 02:32	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:32	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:32	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 02:32	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 02:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		04/09/14 02:32	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		04/09/14 02:32	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1		04/09/14 02:32	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**73.7**	mg/L	5.0	2.5	5		04/09/14 20:03	16887-00-6	
Sulfate	**52.6**	mg/L	5.0	2.5	5		04/09/14 20:03	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**483**	mg/L	5.0	2.5	1		04/04/14 10:06		
Alkalinity,Bicarbonate (CaCO3)	**483**	mg/L	5.0	2.5	1		04/04/14 10:06		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:06		

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.: 10261823

Sample: MW-8C **Lab ID: 10261823007** Collected: 03/27/14 09:20 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Lab Filtered	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Calcium, Dissolved	**51.0**	mg/L	0.40	0.084	10	04/08/14 10:12	04/09/14 15:15	7440-70-2	
Magnesium, Dissolved	**18.4**	mg/L	0.010	0.0028	1	04/08/14 10:12	04/09/14 15:12	7439-95-4	
Potassium, Dissolved	**1.1**	mg/L	0.050	0.0083	1	04/08/14 10:12	04/09/14 15:12	7440-09-7	
Sodium, Dissolved	**6.0**	mg/L	0.050	0.018	1	04/08/14 10:12	04/09/14 15:12	7440-23-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**5.2**	mg/L	1.0	0.50	1		04/09/14 20:34	16887-00-6	
Sulfate	**6.8**	mg/L	1.0	0.50	1		04/09/14 20:34	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**168**	mg/L	5.0	2.5	1		04/04/14 10:26		
Alkalinity,Bicarbonate (CaCO3)	**168**	mg/L	5.0	2.5	1		04/04/14 10:26		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-10 **Lab ID: 10261823008** Collected: 03/27/14 12:00 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**173**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:30	7440-70-2	
Iron, Dissolved	**3.6**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 10:47	7439-89-6	
Magnesium, Dissolved	**57.2**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:30	7439-95-4	
Manganese, Dissolved	**0.12**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 10:47	7439-96-5	
Potassium, Dissolved	**2.1**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:47	7440-09-7	
Sodium, Dissolved	**24.6**	mg/L	0.50	0.18	10	04/08/14 10:10	04/09/14 11:30	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 02:57	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:57	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:57	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:57	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 02:57	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:57	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:57	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:57	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 02:57	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 02:57	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:57	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 02:57	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 02:57	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 02:57	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:57	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:57	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:57	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 02:57	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:57	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 02:57	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:57	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:57	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 02:57	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:57	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 02:57	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 02:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 02:57	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 02:57	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:57	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:57	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:57	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:57	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 02:57	75-09-2	

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.: 10261823

Sample: MW-10 **Lab ID: 10261823008** Collected: 03/27/14 12:00 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 02:57	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 02:57	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 02:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 02:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 02:57	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 02:57	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 02:57	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	79-00-5	
Trichloroethene	**0.33J**	ug/L	0.40	0.13	1		04/09/14 02:57	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 02:57	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 02:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 02:57	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 02:57	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 02:57	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 02:57	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 02:57	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	75-125		1		04/09/14 02:57	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		04/09/14 02:57	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		04/09/14 02:57	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**68.3**	mg/L	5.0	2.5	5		04/09/14 21:37	16887-00-6	
Sulfate	**76.9**	mg/L	5.0	2.5	5		04/09/14 21:37	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**481**	mg/L	5.0	2.5	1		04/04/14 10:29		
Alkalinity,Bicarbonate (CaCO3)	**481**	mg/L	5.0	2.5	1		04/04/14 10:29		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:29		

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.: 10261823

Sample: MW-12 **Lab ID: 10261823009** Collected: 03/27/14 10:25 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**155**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:33	7440-70-2	
Iron, Dissolved	**4.7**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 10:50	7439-89-6	
Magnesium, Dissolved	**36.5**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:33	7439-95-4	
Manganese, Dissolved	**6.2**	mg/L	0.010	0.0027	20	04/08/14 10:10	04/10/14 08:25	7439-96-5	
Potassium, Dissolved	**1.7**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:50	7440-09-7	
Sodium, Dissolved	**13.9**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 10:50	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 03:46	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 03:46	107-13-1	
Benzene	**1.7**	ug/L	0.50	0.24	1		04/09/14 03:46	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 03:46	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 03:46	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 03:46	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 03:46	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 03:46	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 03:46	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 03:46	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 03:46	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 03:46	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 03:46	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 03:46	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 03:46	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 03:46	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 03:46	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 03:46	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 03:46	95-50-1	
1,4-Dichlorobenzene	**0.34J**	ug/L	0.50	0.25	1		04/09/14 03:46	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 03:46	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 03:46	75-71-8	
1,1-Dichloroethane	**1.2**	ug/L	0.50	0.25	1		04/09/14 03:46	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 03:46	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 03:46	75-35-4	
cis-1,2-Dichloroethene	**3.9**	ug/L	0.50	0.23	1		04/09/14 03:46	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 03:46	156-60-5	
1,2-Dichloropropane	**0.23J**	ug/L	4.0	0.20	1		04/09/14 03:46	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 03:46	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 03:46	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 03:46	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 03:46	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 03:46	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 03:46	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 03:46	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 03:46	75-09-2	

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.: 10261823

Sample: MW-12 **Lab ID: 10261823009** Collected: 03/27/14 10:25 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 03:46	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 03:46	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 03:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 03:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 03:46	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 03:46	109-99-9	
Toluene	**0.43J**	ug/L	0.50	0.22	1		04/09/14 03:46	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	79-00-5	
Trichloroethene	**0.25J**	ug/L	0.40	0.13	1		04/09/14 03:46	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 03:46	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 03:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 03:46	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 03:46	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 03:46	108-05-4	
Vinyl chloride	**19.7**	ug/L	0.20	0.10	1		04/09/14 03:46	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 03:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	75-125		1		04/09/14 03:46	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		04/09/14 03:46	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1		04/09/14 03:46	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**18.5**	mg/L	2.0	1.0	2		04/09/14 22:40	16887-00-6	
Sulfate	**14.8**	mg/L	2.0	1.0	2		04/09/14 22:40	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**584**	mg/L	5.0	2.5	1		04/04/14 10:33		
Alkalinity,Bicarbonate (CaCO3)	**584**	mg/L	5.0	2.5	1		04/04/14 10:33		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:33		

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.: 10261823

Sample: MW-13 **Lab ID: 10261823010** Collected: 03/27/14 15:12 Received: 03/29/14 12:30 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		04/09/14 04:35	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:35	107-13-1	
Benzene	**0.68**	ug/L	0.50	0.24	1		04/09/14 04:35	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 04:35	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 04:35	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:35	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:35	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:35	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 04:35	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 04:35	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:35	108-90-7	
Chloroethane	**1.9**	ug/L	1.0	0.50	1		04/09/14 04:35	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 04:35	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 04:35	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:35	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:35	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 04:35	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 04:35	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 04:35	95-50-1	
1,4-Dichlorobenzene	**0.58**	ug/L	0.50	0.25	1		04/09/14 04:35	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:35	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 04:35	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	0.50	0.25	1		04/09/14 04:35	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:35	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:35	75-35-4	
cis-1,2-Dichloroethene	**1.1**	ug/L	0.50	0.23	1		04/09/14 04:35	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:35	156-60-5	
1,2-Dichloropropane	**0.26J**	ug/L	4.0	0.20	1		04/09/14 04:35	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 04:35	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 04:35	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:35	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:35	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:35	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:35	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 04:35	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:35	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 04:35	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:35	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 04:35	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 04:35	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	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.: 10261823

Sample: MW-13 **Lab ID: 10261823010** Collected: 03/27/14 15:12 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 04:35	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 04:35	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	79-00-5	
Trichloroethene	**0.31J**	ug/L	0.40	0.13	1		04/09/14 04:35	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 04:35	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 04:35	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 04:35	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:35	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:35	108-05-4	
Vinyl chloride	**17.1**	ug/L	0.20	0.10	1		04/09/14 04:35	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 04:35	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		04/09/14 04:35	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		04/09/14 04:35	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		04/09/14 04:35	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: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-15 **Lab ID: 10261823011** Collected: 03/27/14 17:45 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**58.2**	mg/L	0.20	0.042	5	04/08/14 10:10	04/09/14 11:36	7440-70-2	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 10:53	7439-89-6	
Magnesium, Dissolved	**23.3**	mg/L	0.050	0.014	5	04/08/14 10:10	04/09/14 11:36	7439-95-4	
Manganese, Dissolved	**0.00046J**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 10:53	7439-96-5	
Potassium, Dissolved	**1.1**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:53	7440-09-7	
Sodium, Dissolved	**3.7**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 10:53	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 04:59	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:59	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:59	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 04:59	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 04:59	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:59	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:59	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:59	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 04:59	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 04:59	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:59	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 04:59	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 04:59	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 04:59	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:59	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:59	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 04:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 04:59	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 04:59	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:59	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 04:59	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:59	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:59	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 04:59	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:59	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 04:59	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 04:59	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 04:59	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 04:59	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:59	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:59	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:59	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 04:59	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 04:59	75-09-2	

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.: 10261823

Sample: MW-15 **Lab ID: 10261823011** Collected: 03/27/14 17:45 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 04:59	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 04:59	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 04:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 04:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 04:59	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 04:59	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 04:59	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 04:59	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 04:59	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 04:59	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 04:59	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 04:59	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 04:59	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 04:59	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 04:59	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		04/09/14 04:59	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		04/09/14 04:59	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		04/09/14 04:59	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**4.2**	mg/L	1.0	0.50	1		04/09/14 23:43	16887-00-6	
Sulfate	**13.5**	mg/L	1.0	0.50	1		04/09/14 23:43	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**188**	mg/L	5.0	2.5	1		04/04/14 10:38		
Alkalinity,Bicarbonate (CaCO3)	**188**	mg/L	5.0	2.5	1		04/04/14 10:38		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-16 **Lab ID: 10261823012** Collected: 03/27/14 16:30 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Lab Filtered	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Calcium, Dissolved	**132**	mg/L	0.40	0.084	10	04/08/14 10:12	04/09/14 15:21	7440-70-2	
Magnesium, Dissolved	**38.6**	mg/L	0.10	0.028	10	04/08/14 10:12	04/09/14 15:21	7439-95-4	
Potassium, Dissolved	**2.1**	mg/L	0.050	0.0083	1	04/08/14 10:12	04/09/14 15:18	7440-09-7	
Sodium, Dissolved	**14.8**	mg/L	0.050	0.018	1	04/08/14 10:12	04/09/14 15:18	7440-23-5	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**22.9**	mg/L	5.0	2.5	5		04/10/14 00:46	16887-00-6	
Sulfate	**14.0**	mg/L	5.0	2.5	5		04/10/14 00:46	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**446**	mg/L	5.0	2.5	1		04/04/14 10:42		
Alkalinity,Bicarbonate (CaCO3)	**446**	mg/L	5.0	2.5	1		04/04/14 10:42		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: MW-17 **Lab ID: 10261823013** Collected: 03/25/14 16:48 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**118**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:39	7440-70-2	
Iron, Dissolved	**0.015J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 10:56	7439-89-6	
Magnesium, Dissolved	**37.1**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:39	7439-95-4	
Manganese, Dissolved	**0.59**	mg/L	0.0050	0.0014	10	04/08/14 10:10	04/09/14 11:39	7439-96-5	
Potassium, Dissolved	**2.2**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:56	7440-09-7	
Sodium, Dissolved	**20.7**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 10:56	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/07/14 20:13	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:13	107-13-1	L3
Benzene	**0.38J**	ug/L	0.50	0.24	1		04/07/14 20:13	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 20:13	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/07/14 20:13	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:13	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:13	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:13	78-93-3	L3
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/07/14 20:13	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/07/14 20:13	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:13	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 20:13	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/07/14 20:13	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/07/14 20:13	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:13	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:13	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 20:13	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/07/14 20:13	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/07/14 20:13	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:13	110-57-6	L3
Dichlorodifluoromethane	**2.9**	ug/L	1.0	0.40	1		04/07/14 20:13	75-71-8	
1,1-Dichloroethane	**0.57**	ug/L	0.50	0.25	1		04/07/14 20:13	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:13	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:13	75-35-4	
cis-1,2-Dichloroethene	**24.5**	ug/L	0.50	0.23	1		04/07/14 20:13	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:13	156-60-5	
1,2-Dichloropropane	**0.35J**	ug/L	4.0	0.20	1		04/07/14 20:13	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/07/14 20:13	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/07/14 20:13	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:13	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:13	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:13	591-78-6	L3
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:13	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/07/14 20:13	98-82-8	
Methylene Chloride	**5.0**	ug/L	4.0	2.0	1		04/07/14 20:13	75-09-2	

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.: 10261823

Sample: MW-17 **Lab ID: 10261823013** Collected: 03/25/14 16:48 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:13	108-10-1	L3
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/07/14 20:13	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 20:13	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/07/14 20:13	79-34-5	
Tetrachloroethene	**15.9**	ug/L	0.50	0.25	1		04/07/14 20:13	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/07/14 20:13	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/07/14 20:13	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	79-00-5	
Trichloroethene	**5.9**	ug/L	0.40	0.13	1		04/07/14 20:13	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/07/14 20:13	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/07/14 20:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/07/14 20:13	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:13	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:13	108-05-4	
Vinyl chloride	**1.5**	ug/L	0.20	0.10	1		04/07/14 20:13	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/07/14 20:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%.	75-125		1		04/07/14 20:13	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		04/07/14 20:13	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		04/07/14 20:13	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**23.5**	mg/L	2.0	1.0	2		04/09/14 00:38	16887-00-6	
Sulfate	**22.2**	mg/L	2.0	1.0	2		04/09/14 00:38	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**389**	mg/L	5.0	2.5	1		04/03/14 12:48		
Alkalinity,Bicarbonate (CaCO3)	**389**	mg/L	5.0	2.5	1		04/03/14 12:48		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/03/14 12:48		

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.: 10261823

Sample: MW-19 **Lab ID: 10261823014** Collected: 03/26/14 08:55 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**99.1**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:42	7440-70-2	
Iron, Dissolved	**0.011J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 10:59	7439-89-6	
Magnesium, Dissolved	**38.5**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:42	7439-95-4	
Manganese, Dissolved	**0.042**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 10:59	7439-96-5	
Potassium, Dissolved	**2.5**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 10:59	7440-09-7	
Sodium, Dissolved	**21.5**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 10:59	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 01:43	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:43	107-13-1	
Benzene	**0.24J**	ug/L	0.50	0.24	1		04/09/14 01:43	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 01:43	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 01:43	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:43	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:43	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:43	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 01:43	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 01:43	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:43	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 01:43	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 01:43	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 01:43	74-87-3	
Cyclohexane	**3.2J**	ug/L	5.0	2.5	1		04/09/14 01:43	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:43	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 01:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 01:43	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 01:43	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:43	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 01:43	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 01:43	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:43	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 01:43	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 01:43	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 01:43	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 01:43	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 01:43	123-91-1	
Ethylbenzene	**0.27J**	ug/L	0.50	0.21	1		04/09/14 01:43	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:43	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:43	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:43	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 01:43	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 01:43	75-09-2	

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.: 10261823

Sample: MW-19 **Lab ID: 10261823014** Collected: 03/26/14 08:55 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 01:43	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 01:43	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 01:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 01:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 01:43	79-34-5	
Tetrachloroethene	**0.77**	ug/L	0.50	0.25	1		04/09/14 01:43	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 01:43	109-99-9	
Toluene	**1.2**	ug/L	0.50	0.22	1		04/09/14 01:43	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 01:43	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 01:43	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 01:43	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 01:43	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 01:43	76-13-1	
1,2,4-Trimethylbenzene	**0.59**	ug/L	0.50	0.25	1		04/09/14 01:43	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 01:43	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 01:43	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 01:43	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%.	75-125		1		04/09/14 01:43	17060-07-0	1M
Toluene-d8 (S)	98	%.	75-125		1		04/09/14 01:43	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		04/09/14 01:43	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**29.7**	mg/L	2.0	1.0	2		04/09/14 05:53	16887-00-6	
Sulfate	**40.5**	mg/L	2.0	1.0	2		04/09/14 05:53	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**443**	mg/L	5.0	2.5	1		04/04/14 11:54		
Alkalinity,Bicarbonate (CaCO3)	**443**	mg/L	5.0	2.5	1		04/04/14 11:54		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 11:54		

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.: 10261823

Sample: MW-20 **Lab ID: 10261823015** Collected: 03/25/14 15:40 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**176**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:45	7440-70-2	
Iron, Dissolved	**0.0091J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:02	7439-89-6	
Magnesium, Dissolved	**67.0**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:45	7439-95-4	
Manganese, Dissolved	**1.8**	mg/L	0.0050	0.0014	10	04/08/14 10:10	04/09/14 11:45	7439-96-5	
Potassium, Dissolved	**5.0**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:02	7440-09-7	
Sodium, Dissolved	**28.1**	mg/L	0.50	0.18	10	04/08/14 10:10	04/09/14 11:45	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**13.6J**	ug/L	20.0	10.0	1		04/07/14 20:38	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:38	107-13-1	L3
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:38	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 20:38	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/07/14 20:38	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:38	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:38	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:38	78-93-3	L3
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/07/14 20:38	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/07/14 20:38	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:38	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 20:38	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/07/14 20:38	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/07/14 20:38	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:38	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:38	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 20:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/07/14 20:38	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/07/14 20:38	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:38	110-57-6	L3
Dichlorodifluoromethane	**1.0**	ug/L	1.0	0.40	1		04/07/14 20:38	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:38	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:38	75-35-4	
cis-1,2-Dichloroethene	**0.32J**	ug/L	0.50	0.23	1		04/07/14 20:38	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:38	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/07/14 20:38	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/07/14 20:38	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/07/14 20:38	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 20:38	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:38	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:38	591-78-6	L3
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:38	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/07/14 20:38	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/07/14 20:38	75-09-2	

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.: 10261823

Sample: MW-20 **Lab ID: 10261823015** Collected: 03/25/14 15:40 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 20:38	108-10-1	L3
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/07/14 20:38	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 20:38	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 20:38	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/07/14 20:38	79-34-5	
Tetrachloroethene	**10.6**	ug/L	0.50	0.25	1		04/07/14 20:38	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/07/14 20:38	109-99-9	
Toluene	**0.30J**	ug/L	0.50	0.22	1		04/07/14 20:38	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	79-00-5	
Trichloroethene	**0.34J**	ug/L	0.40	0.13	1		04/07/14 20:38	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/07/14 20:38	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/07/14 20:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/07/14 20:38	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 20:38	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/07/14 20:38	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/07/14 20:38	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/07/14 20:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		04/07/14 20:38	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1		04/07/14 20:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		04/07/14 20:38	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**69.7**	mg/L	5.0	2.5	5		04/09/14 01:41	16887-00-6	
Sulfate	**81.3**	mg/L	5.0	2.5	5		04/09/14 01:41	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**534**	mg/L	5.0	2.5	1		04/03/14 13:12		
Alkalinity,Bicarbonate (CaCO3)	**534**	mg/L	5.0	2.5	1		04/03/14 13:12		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/03/14 13:12		

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.: 10261823

Sample: MW-21 **Lab ID: 10261823016** Collected: 03/28/14 09:20 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**63.2**	mg/L	0.20	0.042	5	04/08/14 10:10	04/09/14 11:48	7440-70-2	
Iron, Dissolved	**0.044J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:05	7439-89-6	
Magnesium, Dissolved	**16.6**	mg/L	0.010	0.0028	1	04/08/14 10:10	04/09/14 11:05	7439-95-4	
Manganese, Dissolved	**0.0026**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:05	7439-96-5	
Potassium, Dissolved	**1.3**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:05	7440-09-7	
Sodium, Dissolved	**9.4**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:05	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 05:24	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:24	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:24	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 05:24	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 05:24	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:24	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:24	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:24	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 05:24	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 05:24	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:24	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 05:24	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 05:24	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 05:24	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:24	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:24	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 05:24	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 05:24	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 05:24	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:24	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 05:24	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:24	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:24	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 05:24	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:24	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 05:24	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 05:24	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 05:24	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:24	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:24	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:24	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:24	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 05:24	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:24	75-09-2	

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.: 10261823

Sample: MW-21 **Lab ID: 10261823016** Collected: 03/28/14 09:20 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:24	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 05:24	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 05:24	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 05:24	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 05:24	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 05:24	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 05:24	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 05:24	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 05:24	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 05:24	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:24	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:24	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 05:24	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 05:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		04/09/14 05:24	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		04/09/14 05:24	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125		1		04/09/14 05:24	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**5.2**	mg/L	2.0	1.0	2		04/10/14 01:18	16887-00-6	
Sulfate	**19.4**	mg/L	2.0	1.0	2		04/10/14 01:18	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**285**	mg/L	5.0	2.5	1		04/04/14 11:59		
Alkalinity,Bicarbonate (CaCO3)	**285**	mg/L	5.0	2.5	1		04/04/14 11:59		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 11:59		

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.: 10261823

Sample: MW-22 **Lab ID: 10261823017** Collected: 03/27/14 15:12 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**98.9**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 11:51	7440-70-2	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:08	7439-89-6	
Magnesium, Dissolved	**28.9**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 11:51	7439-95-4	
Manganese, Dissolved	**0.00040J**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:08	7439-96-5	
Potassium, Dissolved	**1.4**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:08	7440-09-7	
Sodium, Dissolved	**20.5**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:08	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 05:48	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:48	107-13-1	
Benzene	**0.33J**	ug/L	0.50	0.24	1		04/09/14 05:48	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 05:48	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 05:48	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:48	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:48	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:48	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 05:48	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 05:48	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:48	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 05:48	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 05:48	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 05:48	74-87-3	
Cyclohexane	**3.1J**	ug/L	5.0	2.5	1		04/09/14 05:48	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:48	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 05:48	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 05:48	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 05:48	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:48	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 05:48	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:48	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:48	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 05:48	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:48	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 05:48	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 05:48	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 05:48	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 05:48	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:48	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:48	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:48	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 05:48	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 05:48	75-09-2	

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.: 10261823

Sample: MW-22 **Lab ID: 10261823017** Collected: 03/27/14 15:12 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 05:48	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 05:48	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 05:48	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 05:48	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 05:48	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 05:48	109-99-9	
Toluene	**0.48J**	ug/L	0.50	0.22	1		04/09/14 05:48	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 05:48	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 05:48	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 05:48	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 05:48	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 05:48	76-13-1	
1,2,4-Trimethylbenzene	**0.26J**	ug/L	0.50	0.25	1		04/09/14 05:48	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 05:48	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 05:48	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 05:48	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		04/09/14 05:48	17060-07-0	1M
Toluene-d8 (S)	100	%.	75-125		1		04/09/14 05:48	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125		1		04/09/14 05:48	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**13.3**	mg/L	5.0	2.5	5		04/10/14 03:24	16887-00-6	
Sulfate	**37.6**	mg/L	5.0	2.5	5		04/10/14 03:24	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**281**	mg/L	5.0	2.5	1		05/07/14 10:16		2M,H1
Alkalinity,Bicarbonate (CaCO3)	**281**	mg/L	5.0	2.5	1		05/07/14 10:16		H1
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		05/07/14 10:16		H1

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.: 10261823

Sample: MW-23 **Lab ID: 10261823018** Collected: 03/27/14 16:10 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**75.9**	mg/L	0.20	0.042	5	04/08/14 10:10	04/09/14 12:05	7440-70-2	
Iron, Dissolved	**0.012J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:11	7439-89-6	
Magnesium, Dissolved	**19.9**	mg/L	0.010	0.0028	1	04/08/14 10:10	04/09/14 11:11	7439-95-4	
Manganese, Dissolved	**0.00084**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:11	7439-96-5	
Potassium, Dissolved	**0.97**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:11	7440-09-7	
Sodium, Dissolved	**10.8**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:11	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 06:13	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:13	107-13-1	
Benzene	**0.24J**	ug/L	0.50	0.24	1		04/09/14 06:13	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 06:13	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 06:13	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:13	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:13	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:13	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 06:13	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 06:13	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:13	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 06:13	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 06:13	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 06:13	74-87-3	
Cyclohexane	**3.0J**	ug/L	5.0	2.5	1		04/09/14 06:13	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:13	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 06:13	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 06:13	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 06:13	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:13	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 06:13	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:13	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:13	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 06:13	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:13	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 06:13	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 06:13	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 06:13	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:13	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:13	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:13	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:13	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 06:13	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:13	75-09-2	

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.: 10261823

Sample: MW-23 **Lab ID: 10261823018** Collected: 03/27/14 16:10 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:13	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 06:13	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 06:13	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 06:13	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 06:13	109-99-9	
Toluene	**0.60**	ug/L	0.50	0.22	1		04/09/14 06:13	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 06:13	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 06:13	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 06:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 06:13	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:13	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:13	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 06:13	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 06:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		04/09/14 06:13	17060-07-0	1M
Toluene-d8 (S)	99	%.	75-125		1		04/09/14 06:13	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1		04/09/14 06:13	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**7.5**	mg/L	5.0	2.5	5		04/10/14 03:55	16887-00-6	
Sulfate	**19.6**	mg/L	5.0	2.5	5		04/10/14 03:55	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**570**	mg/L	5.0	2.5	1		04/04/14 10:57		
Alkalinity,Bicarbonate (CaCO3)	**570**	mg/L	5.0	2.5	1		04/04/14 10:57		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 10:57		

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.: 10261823

Sample: MW-24 **Lab ID: 10261823019** Collected: 03/25/14 14:15 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**78.7**	mg/L	0.20	0.042	5	04/08/14 10:10	04/09/14 12:08	7440-70-2	
Iron, Dissolved	**0.010J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:14	7439-89-6	
Magnesium, Dissolved	**24.7**	mg/L	0.050	0.014	5	04/08/14 10:10	04/09/14 12:08	7439-95-4	
Manganese, Dissolved	**0.11**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:14	7439-96-5	
Potassium, Dissolved	**1.8**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:14	7440-09-7	
Sodium, Dissolved	**16.2**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:14	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/07/14 21:03	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/07/14 21:03	107-13-1	L3
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 21:03	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 21:03	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/07/14 21:03	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/07/14 21:03	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 21:03	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 21:03	78-93-3	L3
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/07/14 21:03	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/07/14 21:03	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 21:03	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/07/14 21:03	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/07/14 21:03	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/07/14 21:03	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/07/14 21:03	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 21:03	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 21:03	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/07/14 21:03	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/07/14 21:03	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/07/14 21:03	110-57-6	L3
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/07/14 21:03	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/07/14 21:03	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 21:03	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/07/14 21:03	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 21:03	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/07/14 21:03	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/07/14 21:03	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/07/14 21:03	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/07/14 21:03	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/07/14 21:03	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/07/14 21:03	591-78-6	L3
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/07/14 21:03	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/07/14 21:03	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/07/14 21:03	75-09-2	

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.: 10261823

Sample: MW-24 **Lab ID: 10261823019** Collected: 03/25/14 14:15 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/07/14 21:03	108-10-1	L3
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/07/14 21:03	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/07/14 21:03	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/07/14 21:03	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/07/14 21:03	79-34-5	
Tetrachloroethene	**0.30J**	ug/L	0.50	0.25	1		04/07/14 21:03	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/07/14 21:03	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/07/14 21:03	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/07/14 21:03	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/07/14 21:03	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/07/14 21:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/07/14 21:03	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/07/14 21:03	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/07/14 21:03	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/07/14 21:03	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/07/14 21:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		04/07/14 21:03	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		04/07/14 21:03	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		04/07/14 21:03	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**29.8**	mg/L	2.0	1.0	2		04/09/14 03:47	16887-00-6	
Sulfate	**19.4**	mg/L	2.0	1.0	2		04/09/14 03:47	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**221**	mg/L	5.0	2.5	1		04/03/14 13:16		
Alkalinity,Bicarbonate (CaCO3)	**221**	mg/L	5.0	2.5	1		04/03/14 13:16		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/03/14 13:16		

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.: 10261823

Sample: MW-26 **Lab ID: 10261823020** Collected: 03/27/14 14:15 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**99.2**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 12:11	7440-70-2	
Iron, Dissolved	**<0.0080**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:24	7439-89-6	
Magnesium, Dissolved	**29.0**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 12:11	7439-95-4	
Manganese, Dissolved	**0.022**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:24	7439-96-5	
Potassium, Dissolved	**0.96**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:24	7440-09-7	
Sodium, Dissolved	**7.2**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:24	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 06:38	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:38	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:38	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 06:38	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 06:38	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:38	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:38	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:38	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 06:38	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 06:38	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:38	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 06:38	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 06:38	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 06:38	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:38	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:38	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 06:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 06:38	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 06:38	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:38	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 06:38	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:38	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:38	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 06:38	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:38	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 06:38	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 06:38	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 06:38	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 06:38	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:38	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:38	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:38	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 06:38	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 06:38	75-09-2	

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.: 10261823

Sample: MW-26 **Lab ID: 10261823020** Collected: 03/27/14 14:15 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 06:38	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 06:38	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 06:38	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 06:38	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 06:38	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 06:38	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 06:38	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 06:38	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 06:38	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 06:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 06:38	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 06:38	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 06:38	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 06:38	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 06:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%.	75-125		1		04/09/14 06:38	17060-07-0	
Toluene-d8 (S)	100	%.	75-125		1		04/09/14 06:38	2037-26-5	
4-Bromofluorobenzene (S)	107	%.	75-125		1		04/09/14 06:38	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**28.1**	mg/L	2.0	1.0	2		04/10/14 04:27	16887-00-6	
Sulfate	**29.3**	mg/L	2.0	1.0	2		04/10/14 04:27	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**269**	mg/L	5.0	2.5	1		04/04/14 11:05		
Alkalinity,Bicarbonate (CaCO3)	**269**	mg/L	5.0	2.5	1		04/04/14 11:05		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		04/04/14 11:05		

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.: 10261823

Sample: MCILHATTEN SEEP **Lab ID: 10261823021** Collected: 03/28/14 10:15 Received: 03/29/14 12:30 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		04/09/14 07:02	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:02	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:02	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 07:02	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 07:02	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:02	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:02	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:02	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 07:02	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 07:02	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:02	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 07:02	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 07:02	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 07:02	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:02	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:02	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 07:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 07:02	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 07:02	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:02	110-57-6	
Dichlorodifluoromethane	**0.83J**	ug/L	1.0	0.40	1		04/09/14 07:02	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:02	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:02	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 07:02	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:02	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 07:02	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 07:02	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 07:02	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:02	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:02	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:02	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:02	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 07:02	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:02	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 07:02	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 07:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 07:02	79-34-5	
Tetrachloroethene	**1.2**	ug/L	0.50	0.25	1		04/09/14 07:02	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.: 10261823

Sample: MCILHATTEN SEEP **Lab ID: 10261823021** Collected: 03/28/14 10:15 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 07:02	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/09/14 07:02	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	79-00-5	
Trichloroethene	**0.41**	ug/L	0.40	0.13	1		04/09/14 07:02	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 07:02	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 07:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 07:02	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:02	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:02	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 07:02	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 07:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%.	75-125		1		04/09/14 07:02	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		04/09/14 07:02	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		04/09/14 07:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: TRIP BLANK **Lab ID: 10261823022** Collected: Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**10.4J**	ug/L	20.0	10.0	1		04/08/14 23:15	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/08/14 23:15	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		04/08/14 23:15	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/08/14 23:15	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/08/14 23:15	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/08/14 23:15	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/08/14 23:15	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/08/14 23:15	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/08/14 23:15	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/08/14 23:15	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/08/14 23:15	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/08/14 23:15	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/08/14 23:15	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/08/14 23:15	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		04/08/14 23:15	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/08/14 23:15	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/08/14 23:15	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/08/14 23:15	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/08/14 23:15	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/08/14 23:15	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/08/14 23:15	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/08/14 23:15	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/08/14 23:15	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/08/14 23:15	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/08/14 23:15	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/08/14 23:15	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/08/14 23:15	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/08/14 23:15	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/08/14 23:15	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/08/14 23:15	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/08/14 23:15	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/08/14 23:15	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/08/14 23:15	98-82-8	
Methylene Chloride	**4.8**	ug/L	4.0	2.0	1		04/08/14 23:15	75-09-2	C0
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/08/14 23:15	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/08/14 23:15	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/08/14 23:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/08/14 23:15	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/08/14 23:15	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	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.: 10261823

Sample: TRIP BLANK **Lab ID: 10261823022** Collected: Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/08/14 23:15	109-99-9	
Toluene	**<0.22**	ug/L	0.50	0.22	1		04/08/14 23:15	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/08/14 23:15	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/08/14 23:15	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/08/14 23:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/08/14 23:15	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/08/14 23:15	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/08/14 23:15	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/08/14 23:15	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/08/14 23:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%.	75-125		1		04/08/14 23:15	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		04/08/14 23:15	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		04/08/14 23:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Sample: DUP-1 **Lab ID: 10261823023** Collected: 03/27/14 08:00 Received: 03/29/14 12:30 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								
Calcium, Dissolved	**98.7**	mg/L	0.40	0.084	10	04/08/14 10:10	04/09/14 12:14	7440-70-2	
Iron, Dissolved	**0.010J**	mg/L	0.050	0.0080	1	04/08/14 10:10	04/09/14 11:27	7439-89-6	
Magnesium, Dissolved	**28.6**	mg/L	0.10	0.028	10	04/08/14 10:10	04/09/14 12:14	7439-95-4	
Manganese, Dissolved	**0.00047J**	mg/L	0.00050	0.00014	1	04/08/14 10:10	04/09/14 11:27	7439-96-5	
Potassium, Dissolved	**1.4**	mg/L	0.050	0.0083	1	04/08/14 10:10	04/09/14 11:27	7440-09-7	
Sodium, Dissolved	**20.7**	mg/L	0.050	0.018	1	04/08/14 10:10	04/09/14 11:27	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		04/09/14 07:27	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:27	107-13-1	
Benzene	**0.30J**	ug/L	0.50	0.24	1		04/09/14 07:27	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 07:27	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	0.50	0.18	1		04/09/14 07:27	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:27	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:27	74-83-9	CL
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:27	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		04/09/14 07:27	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		04/09/14 07:27	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:27	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		04/09/14 07:27	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		04/09/14 07:27	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		04/09/14 07:27	74-87-3	
Cyclohexane	**3.0J**	ug/L	5.0	2.5	1		04/09/14 07:27	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:27	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 07:27	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		04/09/14 07:27	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		04/09/14 07:27	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:27	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		04/09/14 07:27	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:27	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:27	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		04/09/14 07:27	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:27	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		04/09/14 07:27	78-87-5	
cis-1,3-Dichloropropene	**<0.42**	ug/L	1.0	0.42	1		04/09/14 07:27	10061-01-5	
trans-1,3-Dichloropropene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<21.4**	ug/L	200	21.4	1		04/09/14 07:27	123-91-1	
Ethylbenzene	**<0.21**	ug/L	0.50	0.21	1		04/09/14 07:27	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:27	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:27	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:27	74-88-4	CL
Isopropylbenzene (Cumene)	**<0.12**	ug/L	0.50	0.12	1		04/09/14 07:27	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		04/09/14 07:27	75-09-2	

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.: 10261823

Sample: DUP-1 **Lab ID: 10261823023** Collected: 03/27/14 08:00 Received: 03/29/14 12:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		04/09/14 07:27	108-10-1	
Methyl-tert-butyl ether	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	1634-04-4	
2-Propanol	**<100**	ug/L	100	100	1		04/09/14 07:27	67-63-0	
n-Propylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	103-65-1	
Styrene	**<0.24**	ug/L	0.50	0.24	1		04/09/14 07:27	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.25**	ug/L	1.0	0.25	1		04/09/14 07:27	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.13**	ug/L	0.50	0.13	1		04/09/14 07:27	79-34-5	
Tetrachloroethene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	127-18-4	
Tetrahydrofuran	**<2.9**	ug/L	10.0	2.9	1		04/09/14 07:27	109-99-9	
Toluene	**0.47J**	ug/L	0.50	0.22	1		04/09/14 07:27	108-88-3	
1,1,1-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	71-55-6	
1,1,2-Trichloroethane	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	79-00-5	
Trichloroethene	**<0.13**	ug/L	0.40	0.13	1		04/09/14 07:27	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		04/09/14 07:27	75-69-4	
1,2,3-Trichloropropane	**<0.54**	ug/L	4.0	0.54	1		04/09/14 07:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.33**	ug/L	1.0	0.33	1		04/09/14 07:27	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		04/09/14 07:27	95-63-6	
Vinyl acetate	**<5.0**	ug/L	10.0	5.0	1		04/09/14 07:27	108-05-4	
Vinyl chloride	**<0.10**	ug/L	0.20	0.10	1		04/09/14 07:27	75-01-4	
Xylene (Total)	**<0.75**	ug/L	1.5	0.75	1		04/09/14 07:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		04/09/14 07:27	17060-07-0	1M
Toluene-d8 (S)	98	%.	75-125		1		04/09/14 07:27	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125		1		04/09/14 07:27	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**13.4**	mg/L	5.0	2.5	5		04/10/14 04:58	16887-00-6	
Sulfate	**37.7**	mg/L	5.0	2.5	5		04/10/14 04:58	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**274**	mg/L	5.0	2.5	1		05/07/14 10:20		2M,H1
Alkalinity,Bicarbonate (CaCO3)	**274**	mg/L	5.0	2.5	1		05/07/14 10:20		H1
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		05/07/14 10:20		H1

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.: 10261823

QC Batch: MPRP/44951 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10261823005, 10261823008, 10261823009, 10261823011, 10261823013, 10261823014, 10261823015, 10261823016, 10261823017, 10261823018, 10261823019, 10261823020, 10261823023

METHOD BLANK: 1647753 Matrix: Water
Associated Lab Samples: 10261823005, 10261823008, 10261823009, 10261823011, 10261823013, 10261823014, 10261823015, 10261823016, 10261823017, 10261823018, 10261823019, 10261823020, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	0.011J	0.040	04/09/14 10:17	
Iron, Dissolved	mg/L	<0.0080	0.050	04/09/14 10:17	
Magnesium, Dissolved	mg/L	<0.0028	0.010	04/09/14 10:17	
Manganese, Dissolved	mg/L	<0.00014	0.00050	04/09/14 10:17	
Potassium, Dissolved	mg/L	<0.0083	0.050	04/09/14 10:17	
Sodium, Dissolved	mg/L	<0.018	0.050	04/09/14 10:17	

LABORATORY CONTROL SAMPLE: 1647754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	1	1.0	102	80-120	
Iron, Dissolved	mg/L	1	1.1	111	80-120	
Magnesium, Dissolved	mg/L	1	1.1	109	80-120	
Manganese, Dissolved	mg/L	.08	0.081	101	80-120	
Potassium, Dissolved	mg/L	1	1.0	102	80-120	
Sodium, Dissolved	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1647755 1647756

Parameter	Units	10261823005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	43.0	1	1	44.1	43.8	102	77	75-125	.6	20	
Iron, Dissolved	mg/L		1	1	1.2	1.1	118	111	75-125	6	20	
Magnesium, Dissolved	mg/L	17.8	1	1	19.0	18.9	116	107	75-125	.4	20	
Manganese, Dissolved	mg/L		.08	.08	0.081	0.080	101	99	75-125	2	20	
Potassium, Dissolved	mg/L	1.3	1	1	2.2	2.2	95	96	75-125	.2	20	
Sodium, Dissolved	mg/L	7.1	1	1	8.1	8.1	106	100	75-125	.7	20	

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.: 10261823

QC Batch: MPRP/45056 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10261823003, 10261823004, 10261823006, 10261823007, 10261823012

METHOD BLANK: 1651827 Matrix: Water
Associated Lab Samples: 10261823003, 10261823004, 10261823006, 10261823007, 10261823012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	0.0096J	0.040	04/09/14 14:24	
Magnesium, Dissolved	mg/L	<0.0028	0.010	04/09/14 14:24	
Potassium, Dissolved	mg/L	0.014J	0.050	04/09/14 14:24	
Sodium, Dissolved	mg/L	0.019J	0.050	04/09/14 14:24	

LABORATORY CONTROL SAMPLE: 1651828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	1	1.0	101	80-120	
Magnesium, Dissolved	mg/L	1	1.1	107	80-120	
Potassium, Dissolved	mg/L	1	1.0	101	80-120	
Sodium, Dissolved	mg/L	1	1.1	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1651829 1651830

Parameter	Units	10261823003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	mg/L	142	1	1	151	150	908	866	75-125	.3	20	M1
Magnesium, Dissolved	mg/L	46.2	1	1	49.9	49.3	372	315	75-125	1	20	M1
Potassium, Dissolved	mg/L	2.4	1	1	3.2	3.2	88	84	75-125	1	20	
Sodium, Dissolved	mg/L	20.8	1	1	22.8	22.7	201	188	75-125	.5	20	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
150 N Ninth Street
Billings, MT 59101
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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: MSV/26732 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10261823001, 10261823002, 10261823003, 10261823006, 10261823008, 10261823009, 10261823010, 10261823011, 10261823014, 10261823016, 10261823017, 10261823018, 10261823020, 10261823021, 10261823022, 10261823023

METHOD BLANK: 1651610 Matrix: Water
Associated Lab Samples: 10261823001, 10261823002, 10261823003, 10261823006, 10261823008, 10261823009, 10261823010, 10261823011, 10261823014, 10261823016, 10261823017, 10261823018, 10261823020, 10261823021, 10261823022, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	1.0	04/08/14 22:50	
1,1,1-Trichloroethane	ug/L	<0.25	0.50	04/08/14 22:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	0.50	04/08/14 22:50	
1,1,2-Trichloroethane	ug/L	<0.25	0.50	04/08/14 22:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	04/08/14 22:50	
1,1-Dichloroethane	ug/L	<0.25	0.50	04/08/14 22:50	
1,1-Dichloroethene	ug/L	<0.24	0.50	04/08/14 22:50	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	04/08/14 22:50	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	04/08/14 22:50	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	04/08/14 22:50	
1,2-Dibromoethane (EDB)	ug/L	<0.13	0.50	04/08/14 22:50	
1,2-Dichlorobenzene	ug/L	<0.092	0.50	04/08/14 22:50	
1,2-Dichloroethane	ug/L	<0.21	0.50	04/08/14 22:50	
1,2-Dichloropropane	ug/L	<0.20	4.0	04/08/14 22:50	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	04/08/14 22:50	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	200	04/08/14 22:50	
2-Butanone (MEK)	ug/L	<2.5	5.0	04/08/14 22:50	
2-Hexanone	ug/L	<2.5	5.0	04/08/14 22:50	
2-Propanol	ug/L	<100	100	04/08/14 22:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	04/08/14 22:50	
Acetone	ug/L	<10.0	20.0	04/08/14 22:50	
Acrylonitrile	ug/L	<5.0	10.0	04/08/14 22:50	
Benzene	ug/L	<0.24	0.50	04/08/14 22:50	
Bromochloromethane	ug/L	<0.50	1.0	04/08/14 22:50	
Bromodichloromethane	ug/L	<0.18	0.50	04/08/14 22:50	
Bromoform	ug/L	<2.0	4.0	04/08/14 22:50	
Bromomethane	ug/L	<2.0	4.0	04/08/14 22:50	CL
Carbon disulfide	ug/L	<0.22	1.0	04/08/14 22:50	
Carbon tetrachloride	ug/L	<0.31	1.0	04/08/14 22:50	
Chlorobenzene	ug/L	<0.24	0.50	04/08/14 22:50	
Chloroethane	ug/L	<0.50	1.0	04/08/14 22:50	
Chloroform	ug/L	<0.50	0.50	04/08/14 22:50	
Chloromethane	ug/L	<0.50	4.0	04/08/14 22:50	
cis-1,2-Dichloroethene	ug/L	<0.23	0.50	04/08/14 22:50	
cis-1,3-Dichloropropene	ug/L	<0.42	1.0	04/08/14 22:50	
Cyclohexane	ug/L	<2.5	5.0	04/08/14 22:50	
Dibromochloromethane	ug/L	<0.25	1.0	04/08/14 22:50	
Dibromomethane	ug/L	<0.25	0.50	04/08/14 22:50	
Dichlorodifluoromethane	ug/L	<0.40	1.0	04/08/14 22:50	

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.: 10261823

METHOD BLANK: 1651610 Matrix: Water

Associated Lab Samples: 10261823001, 10261823002, 10261823003, 10261823006, 10261823008, 10261823009, 10261823010, 10261823011, 10261823014, 10261823016, 10261823017, 10261823018, 10261823020, 10261823021, 10261823022, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.21	0.50	04/08/14 22:50	
Iodomethane	ug/L	<2.0	4.0	04/08/14 22:50	CL
Isopropylbenzene (Cumene)	ug/L	<0.12	0.50	04/08/14 22:50	
Methyl-tert-butyl ether	ug/L	<0.25	0.50	04/08/14 22:50	
Methylene Chloride	ug/L	<2.0	4.0	04/08/14 22:50	
n-Hexane	ug/L	<5.0	10.0	04/08/14 22:50	
n-Propylbenzene	ug/L	<0.25	0.50	04/08/14 22:50	
Styrene	ug/L	<0.24	0.50	04/08/14 22:50	
Tetrachloroethene	ug/L	<0.25	0.50	04/08/14 22:50	
Tetrahydrofuran	ug/L	<2.9	10.0	04/08/14 22:50	
Toluene	ug/L	<0.22	0.50	04/08/14 22:50	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	04/08/14 22:50	
trans-1,3-Dichloropropene	ug/L	<0.25	0.50	04/08/14 22:50	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	10.0	04/08/14 22:50	
Trichloroethene	ug/L	<0.13	0.40	04/08/14 22:50	
Trichlorofluoromethane	ug/L	<0.12	0.50	04/08/14 22:50	
Vinyl acetate	ug/L	<5.0	10.0	04/08/14 22:50	
Vinyl chloride	ug/L	<0.10	0.20	04/08/14 22:50	
Xylene (Total)	ug/L	<0.75	1.5	04/08/14 22:50	
1,2-Dichloroethane-d4 (S)	%.	95	75-125	04/08/14 22:50	
4-Bromofluorobenzene (S)	%.	102	75-125	04/08/14 22:50	
Toluene-d8 (S)	%.	97	75-125	04/08/14 22:50	

LABORATORY CONTROL SAMPLE: 1651611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.4	97	75-125	
1,1,1-Trichloroethane	ug/L	20	18.9	94	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	74-125	
1,1,2-Trichloroethane	ug/L	20	20.2	101	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.4	97	56-133	
1,1-Dichloroethane	ug/L	20	18.7	94	75-125	
1,1-Dichloroethene	ug/L	20	19.1	95	70-125	
1,2,3-Trichloropropane	ug/L	20	20.1	100	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.7	98	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	50.5	101	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	21.7	108	75-125	
1,2-Dichlorobenzene	ug/L	20	19.8	99	75-125	
1,2-Dichloroethane	ug/L	20	18.5	92	75-125	
1,2-Dichloropropane	ug/L	20	20.2	101	75-125	
1,4-Dichlorobenzene	ug/L	20	19.2	96	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	415	104	73-128	
2-Butanone (MEK)	ug/L	100	109	109	64-126	
2-Hexanone	ug/L	100	111	111	69-127	

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.: 10261823

LABORATORY CONTROL SAMPLE: 1651611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/L	200	191	95	57-132	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	71-125	
Acetone	ug/L	100	116	116	66-131	
Acrylonitrile	ug/L	200	203	102	68-127	
Benzene	ug/L	20	19.1	96	75-125	
Bromochloromethane	ug/L	20	19.0	95	75-125	
Bromodichloromethane	ug/L	20	20.5	102	75-125	
Bromoform	ug/L	20	19.2	96	70-125	
Bromomethane	ug/L	20	9.1	45	30-150	CL
Carbon disulfide	ug/L	20	18.9	94	60-125	
Carbon tetrachloride	ug/L	20	19.1	96	68-129	
Chlorobenzene	ug/L	20	18.8	94	75-125	
Chloroethane	ug/L	20	19.1	96	68-133	
Chloroform	ug/L	20	19.6	98	75-125	
Chloromethane	ug/L	20	17.2	86	57-140	
cis-1,2-Dichloroethene	ug/L	20	19.5	98	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.1	101	75-125	
Cyclohexane	ug/L	100	94.6	95	57-127	
Dibromochloromethane	ug/L	20	20.5	102	75-125	
Dibromomethane	ug/L	20	21.6	108	75-125	
Dichlorodifluoromethane	ug/L	20	18.8	94	50-134	
Ethylbenzene	ug/L	20	19.5	97	75-125	
Iodomethane	ug/L	20	10	50	30-150	CL
Isopropylbenzene (Cumene)	ug/L	20	20.6	103	73-125	
Methyl-tert-butyl ether	ug/L	20	18.6	93	75-125	
Methylene Chloride	ug/L	20	18.8	94	75-125	
n-Hexane	ug/L	50	49.6	99	30-150	
n-Propylbenzene	ug/L	20	19.4	97	72-125	
Styrene	ug/L	20	21.1	106	75-125	
Tetrachloroethene	ug/L	20	20.3	101	71-125	
Tetrahydrofuran	ug/L	200	220	110	70-125	
Toluene	ug/L	20	18.3	92	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	73-125	
trans-1,3-Dichloropropene	ug/L	20	19.3	96	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	52.1	104	63-127	
Trichloroethene	ug/L	20	19.9	99	75-125	
Trichlorofluoromethane	ug/L	20	22.0	110	70-128	
Vinyl acetate	ug/L	20	19.9	100	59-131	
Vinyl chloride	ug/L	20	19.7	98	70-130	
Xylene (Total)	ug/L	60	58.1	97	75-125	
1,2-Dichloroethane-d4 (S)	%.			91	75-125	
4-Bromofluorobenzene (S)	%.			98	75-125	
Toluene-d8 (S)	%.			96	75-125	

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.: 10261823

MATRIX SPIKE SAMPLE: 1653111

Parameter	Units	10261609002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	20	19.3	97	74-131	
1,1,1-Trichloroethane	ug/L	<0.25	20	21.1	106	73-139	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	20	20.1	100	72-125	
1,1,2-Trichloroethane	ug/L	<0.25	20	19.9	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	20	23.5	117	68-150	
1,1-Dichloroethane	ug/L	<0.25	20	20.4	102	73-132	
1,1-Dichloroethene	ug/L	<0.24	20	22.1	111	71-142	
1,2,3-Trichloropropane	ug/L	<0.54	20	20.6	103	74-125	
1,2,4-Trimethylbenzene	ug/L	<0.25	20	19.3	97	72-136	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	50	51.2	102	66-127	
1,2-Dibromoethane (EDB)	ug/L	<0.13	20	21.3	106	75-125	
1,2-Dichlorobenzene	ug/L	<0.092	20	19.2	96	75-125	
1,2-Dichloroethane	ug/L	<0.21	20	19.3	96	68-128	
1,2-Dichloropropane	ug/L	<0.20	20	21.0	105	74-131	
1,4-Dichlorobenzene	ug/L	<0.25	20	18.4	92	73-125	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	400	410	102	64-137	
2-Butanone (MEK)	ug/L	<2.5	100	115	115	56-140	
2-Hexanone	ug/L	<2.5	100	116	116	63-132	
2-Propanol	ug/L	<100	200	235	105	30-150	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	100	111	111	69-128	
Acetone	ug/L	20.4	100	118	97	57-143	
Acrylonitrile	ug/L	<5.0	200	212	106	50-149	
Benzene	ug/L	<0.24	20	20.5	102	75-129	
Bromochloromethane	ug/L	<0.50	20	19.5	97	75-126	
Bromodichloromethane	ug/L	<0.18	20	21.2	106	75-128	
Bromoform	ug/L	<2.0	20	18.8	94	66-130	
Bromomethane	ug/L	<2.0	20	11.1	56	30-150	CL
Carbon disulfide	ug/L	0.47J	20	22.6	111	56-140	
Carbon tetrachloride	ug/L	<0.31	20	21.0	105	69-148	
Chlorobenzene	ug/L	<0.24	20	18.8	94	75-125	
Chloroethane	ug/L	<0.50	20	20.1	101	71-143	
Chloroform	ug/L	<0.50	20	20.9	104	75-126	
Chloromethane	ug/L	<0.50	20	18.2	91	55-150	
cis-1,2-Dichloroethene	ug/L	<0.23	20	20.9	105	75-130	
cis-1,3-Dichloropropene	ug/L	<0.42	20	19.4	97	72-129	
Cyclohexane	ug/L	<2.5	100	114	114	56-150	
Dibromochloromethane	ug/L	<0.25	20	20.1	101	73-129	
Dibromomethane	ug/L	<0.25	20	21.3	106	75-125	
Dichlorodifluoromethane	ug/L	<0.40	20	21.2	106	70-150	
Ethylbenzene	ug/L	<0.21	20	19.7	98	75-128	
Iodomethane	ug/L	<2.0	20	11.5	58	30-150	CL
Isopropylbenzene (Cumene)	ug/L	<0.12	20	20.3	102	75-131	
Methyl-tert-butyl ether	ug/L	<0.25	20	19.0	95	74-128	
Methylene Chloride	ug/L	<2.0	20	19.9	99	69-125	
n-Hexane	ug/L	<5.0	50	49.3	99	30-150	
n-Propylbenzene	ug/L	<0.25	20	19.4	97	72-131	
Styrene	ug/L	<0.24	20	20.2	101	75-128	
Tetrachloroethene	ug/L	<0.25	20	20.8	104	68-140	

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.: 10261823

MATRIX SPIKE SAMPLE: 1653111

Parameter	Units	10261609002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrahydrofuran	ug/L	<2.9	200	203	102	65-131	
Toluene	ug/L	<0.22	20	19.0	95	75-129	
trans-1,2-Dichloroethene	ug/L	<0.21	20	21.6	108	70-136	
trans-1,3-Dichloropropene	ug/L	<0.25	20	19.1	96	71-125	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	50	54.6	109	57-136	
Trichloroethene	ug/L	<0.13	20	20.2	101	72-135	
Trichlorofluoromethane	ug/L	<0.12	20	25.0	125	75-150	
Vinyl acetate	ug/L	<5.0	20	20.4	102	55-132	
Vinyl chloride	ug/L	<0.10	20	22.5	113	73-150	
Xylene (Total)	ug/L	<0.75	60	58.1	97	75-129	
1,2-Dichloroethane-d4 (S)	%.				102	75-125	
4-Bromofluorobenzene (S)	%.				102	75-125	
Toluene-d8 (S)	%.				97	75-125	

SAMPLE DUPLICATE: 1653112

Parameter	Units	10261609003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	<0.25		30	
1,1,1-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	<0.13		30	
1,1,2-Trichloroethane	ug/L	<0.25	<0.25		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	<0.33		30	
1,1-Dichloroethane	ug/L	<0.25	<0.25		30	
1,1-Dichloroethene	ug/L	<0.24	<0.24		30	
1,2,3-Trichloropropane	ug/L	<0.54	<0.54		30	
1,2,4-Trimethylbenzene	ug/L	<0.25	<0.25		30	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	<2.0		30	
1,2-Dibromoethane (EDB)	ug/L	<0.13	<0.13		30	
1,2-Dichlorobenzene	ug/L	<0.092	<0.092		30	
1,2-Dichloroethane	ug/L	<0.21	<0.21		30	
1,2-Dichloropropane	ug/L	<0.20	<0.20		30	
1,4-Dichlorobenzene	ug/L	<0.25	<0.25		30	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	<21.4		30	
2-Butanone (MEK)	ug/L	<2.5	<2.5		30	
2-Hexanone	ug/L	<2.5	<2.5		30	
2-Propanol	ug/L	<100	<100		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	<2.5		30	
Acetone	ug/L	<10.0	<10.0		30	
Acrylonitrile	ug/L	<5.0	<5.0		30	
Benzene	ug/L	<0.24	<0.24		30	
Bromochloromethane	ug/L	<0.50	<0.50		30	
Bromodichloromethane	ug/L	<0.18	<0.18		30	
Bromoform	ug/L	<2.0	<2.0		30	
Bromomethane	ug/L	<2.0	<2.0		30	CL
Carbon disulfide	ug/L	<0.22	<0.22		30	
Carbon tetrachloride	ug/L	<0.31	<0.31		30	
Chlorobenzene	ug/L	<0.24	<0.24		30	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

SAMPLE DUPLICATE: 1653112

Parameter	Units	10261609003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloroethane	ug/L	<0.50	<0.50		30	
Chloroform	ug/L	<0.50	<0.50		30	
Chloromethane	ug/L	<0.50	<0.50		30	
cis-1,2-Dichloroethene	ug/L	<0.23	<0.23		30	
cis-1,3-Dichloropropene	ug/L	<0.42	<0.42		30	
Cyclohexane	ug/L	<2.5	<2.5		30	
Dibromochloromethane	ug/L	<0.25	<0.25		30	
Dibromomethane	ug/L	<0.25	<0.25		30	
Dichlorodifluoromethane	ug/L	<0.40	<0.40		30	
Ethylbenzene	ug/L	<0.21	<0.21		30	
Iodomethane	ug/L	<2.0	<2.0		30	CL
Isopropylbenzene (Cumene)	ug/L	<0.12	<0.12		30	
Methyl-tert-butyl ether	ug/L	<0.25	<0.25		30	
Methylene Chloride	ug/L	<2.0	<2.0		30	
n-Hexane	ug/L	<5.0	<5.0		30	
n-Propylbenzene	ug/L	<0.25	<0.25		30	
Styrene	ug/L	<0.24	<0.24		30	
Tetrachloroethene	ug/L	<0.25	<0.25		30	
Tetrahydrofuran	ug/L	<2.9	<2.9		30	
Toluene	ug/L	<0.22	<0.22		30	
trans-1,2-Dichloroethene	ug/L	<0.21	<0.21		30	
trans-1,3-Dichloropropene	ug/L	<0.25	<0.25		30	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	<5.0		30	
Trichloroethene	ug/L	<0.13	<0.13		30	
Trichlorofluoromethane	ug/L	<0.12	<0.12		30	
Vinyl acetate	ug/L	<5.0	<5.0		30	
Vinyl chloride	ug/L	<0.10	<0.10		30	
Xylene (Total)	ug/L	<0.75	<0.75		30	
1,2-Dichloroethane-d4 (S)	%.	97	97	.2		
4-Bromofluorobenzene (S)	%.	103	104	1		
Toluene-d8 (S)	%.	98	98	.2		

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.: 10261823

QC Batch: MSV/26752 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10261823013, 10261823015, 10261823019

METHOD BLANK: 1653040 Matrix: Water
Associated Lab Samples: 10261823013, 10261823015, 10261823019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.25	1.0	04/07/14 18:07	
1,1,1-Trichloroethane	ug/L	<0.25	0.50	04/07/14 18:07	
1,1,2,2-Tetrachloroethane	ug/L	<0.13	0.50	04/07/14 18:07	
1,1,2-Trichloroethane	ug/L	<0.25	0.50	04/07/14 18:07	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.33	1.0	04/07/14 18:07	
1,1-Dichloroethane	ug/L	<0.25	0.50	04/07/14 18:07	
1,1-Dichloroethene	ug/L	<0.24	0.50	04/07/14 18:07	
1,2,3-Trichloropropane	ug/L	<0.54	4.0	04/07/14 18:07	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	04/07/14 18:07	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	04/07/14 18:07	
1,2-Dibromoethane (EDB)	ug/L	<0.13	0.50	04/07/14 18:07	
1,2-Dichlorobenzene	ug/L	<0.092	0.50	04/07/14 18:07	
1,2-Dichloroethane	ug/L	<0.21	0.50	04/07/14 18:07	
1,2-Dichloropropane	ug/L	<0.20	4.0	04/07/14 18:07	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	04/07/14 18:07	
1,4-Dioxane (p-Dioxane)	ug/L	<21.4	200	04/07/14 18:07	
2-Butanone (MEK)	ug/L	<2.5	5.0	04/07/14 18:07	
2-Hexanone	ug/L	<2.5	5.0	04/07/14 18:07	
2-Propanol	ug/L	<100	100	04/07/14 18:07	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	04/07/14 18:07	
Acetone	ug/L	<10.0	20.0	04/07/14 18:07	
Acrylonitrile	ug/L	<5.0	10.0	04/07/14 18:07	
Benzene	ug/L	<0.24	0.50	04/07/14 18:07	
Bromochloromethane	ug/L	<0.50	1.0	04/07/14 18:07	
Bromodichloromethane	ug/L	<0.18	0.50	04/07/14 18:07	
Bromoform	ug/L	<2.0	4.0	04/07/14 18:07	
Bromomethane	ug/L	<2.0	4.0	04/07/14 18:07	CL
Carbon disulfide	ug/L	<0.22	1.0	04/07/14 18:07	
Carbon tetrachloride	ug/L	<0.31	1.0	04/07/14 18:07	
Chlorobenzene	ug/L	<0.24	0.50	04/07/14 18:07	
Chloroethane	ug/L	<0.50	1.0	04/07/14 18:07	
Chloroform	ug/L	<0.50	0.50	04/07/14 18:07	
Chloromethane	ug/L	<0.50	4.0	04/07/14 18:07	
cis-1,2-Dichloroethene	ug/L	<0.23	0.50	04/07/14 18:07	
cis-1,3-Dichloropropene	ug/L	<0.42	1.0	04/07/14 18:07	
Cyclohexane	ug/L	<2.5	5.0	04/07/14 18:07	
Dibromochloromethane	ug/L	<0.25	1.0	04/07/14 18:07	
Dibromomethane	ug/L	<0.25	0.50	04/07/14 18:07	
Dichlorodifluoromethane	ug/L	<0.40	1.0	04/07/14 18:07	
Ethylbenzene	ug/L	<0.21	0.50	04/07/14 18:07	
Iodomethane	ug/L	<2.0	4.0	04/07/14 18:07	CL
Isopropylbenzene (Cumene)	ug/L	<0.12	0.50	04/07/14 18:07	
Methyl-tert-butyl ether	ug/L	<0.25	0.50	04/07/14 18:07	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

METHOD BLANK: 1653040 Matrix: Water
Associated Lab Samples: 10261823013, 10261823015, 10261823019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methylene Chloride	ug/L	<2.0	4.0	04/07/14 18:07	
n-Hexane	ug/L	<5.0	10.0	04/07/14 18:07	
n-Propylbenzene	ug/L	<0.25	0.50	04/07/14 18:07	
Styrene	ug/L	<0.24	0.50	04/07/14 18:07	
Tetrachloroethene	ug/L	<0.25	0.50	04/07/14 18:07	
Tetrahydrofuran	ug/L	<2.9	10.0	04/07/14 18:07	
Toluene	ug/L	<0.22	0.50	04/07/14 18:07	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	04/07/14 18:07	
trans-1,3-Dichloropropene	ug/L	<0.25	0.50	04/07/14 18:07	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	10.0	04/07/14 18:07	
Trichloroethene	ug/L	<0.13	0.40	04/07/14 18:07	
Trichlorofluoromethane	ug/L	<0.12	0.50	04/07/14 18:07	
Vinyl acetate	ug/L	<5.0	10.0	04/07/14 18:07	
Vinyl chloride	ug/L	<0.10	0.20	04/07/14 18:07	
Xylene (Total)	ug/L	<0.75	1.5	04/07/14 18:07	
1,2-Dichloroethane-d4 (S)	%.	105	75-125	04/07/14 18:07	
4-Bromofluorobenzene (S)	%.	100	75-125	04/07/14 18:07	
Toluene-d8 (S)	%.	99	75-125	04/07/14 18:07	

LABORATORY CONTROL SAMPLE & LCSD: 1653041 1653248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.7	18.9	108	95	75-125	14	20	
1,1,1-Trichloroethane	ug/L	20	24.0	21.4	120	107	73-125	11	20	
1,1,2,2-Tetrachloroethane	ug/L	20	23.2	19.8	116	99	74-125	16	20	
1,1,2-Trichloroethane	ug/L	20	22.3	19.7	111	98	75-125	12	20	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.0	19.9	100	99	56-133	.6	20	
1,1-Dichloroethane	ug/L	20	22.5	20.3	112	102	75-125	10	20	
1,1-Dichloroethene	ug/L	20	22.4	20.1	112	101	70-125	11	20	
1,2,3-Trichloropropane	ug/L	20	23.9	19.8	119	99	75-125	19	20	
1,2,4-Trimethylbenzene	ug/L	20	22.3	19.4	112	97	75-125	14	20	
1,2-Dibromo-3-chloropropane	ug/L	50	59.9	52.4	120	105	70-125	13	20	
1,2-Dibromoethane (EDB)	ug/L	20	23.6	21.1	118	106	75-125	11	20	
1,2-Dichlorobenzene	ug/L	20	22.3	19.1	111	95	75-125	15	20	
1,2-Dichloroethane	ug/L	20	23.0	20.2	115	101	75-125	13	20	
1,2-Dichloropropane	ug/L	20	23.2	20.1	116	100	75-125	15	20	
1,4-Dichlorobenzene	ug/L	20	21.0	18.6	105	93	75-125	12	20	
1,4-Dioxane (p-Dioxane)	ug/L	400	454	411	114	103	73-128	10	20	
2-Butanone (MEK)	ug/L	100	145	123	145	123	64-126	17	20	CH,L0
2-Hexanone	ug/L	100	142	117	142	117	69-127	19	20	CH,L0
2-Propanol	ug/L	200	228	197	114	98	57-132	15	20	
4-Methyl-2-pentanone (MIBK)	ug/L	100	134	111	134	111	71-125	19	20	L0
Acetone	ug/L	100	118	108	118	108	66-131	9	20	
Acrylonitrile	ug/L	200	263	226	132	113	68-127	15	20	L0
Benzene	ug/L	20	22.9	20.3	115	101	75-125	12	20	

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

LABORATORY CONTROL SAMPLE & LCSD: 1653041 1653248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Bromochloromethane	ug/L	20	21.6	18.8	108	94	75-125	14	20	
Bromodichloromethane	ug/L	20	24.1	21.3	121	106	75-125	13	20	
Bromoform	ug/L	20	22.5	19.6	112	98	70-125	14	20	
Bromomethane	ug/L	20	8.1	10.7	40	53	30-150	28	20	CL,R1
Carbon disulfide	ug/L	20	24.0	21.6	120	108	60-125	11	20	
Carbon tetrachloride	ug/L	20	24.3	20.6	122	103	68-129	16	20	
Chlorobenzene	ug/L	20	21.0	18.5	105	92	75-125	13	20	
Chloroethane	ug/L	20	22.0	20.8	110	104	68-133	6	20	
Chloroform	ug/L	20	23.5	20.8	117	104	75-125	12	20	
Chloromethane	ug/L	20	19.9	18.4	100	92	57-140	8	20	
cis-1,2-Dichloroethene	ug/L	20	21.9	20.0	110	100	75-125	9	20	
cis-1,3-Dichloropropene	ug/L	20	23.3	20.7	117	103	75-125	12	20	
Cyclohexane	ug/L	100	105	99.8	105	100	57-127	5	20	
Dibromochloromethane	ug/L	20	22.9	20.4	114	102	75-125	11	20	
Dibromomethane	ug/L	20	22.7	20.4	113	102	75-125	10	20	
Dichlorodifluoromethane	ug/L	20	18.2	18.9	91	94	50-134	4	20	
Ethylbenzene	ug/L	20	21.8	19.5	109	97	75-125	12	20	
Iodomethane	ug/L	20	10.9	11.6	55	58	30-150	6	20	CL
Isopropylbenzene (Cumene)	ug/L	20	23.0	20.1	115	100	73-125	14	20	
Methyl-tert-butyl ether	ug/L	20	22.5	20.1	112	101	75-125	11	20	
Methylene Chloride	ug/L	20	21.8	19.8	109	99	75-125	9	20	
n-Hexane	ug/L	50	38.3	44.4	77	89	30-150	15	20	
n-Propylbenzene	ug/L	20	22.3	19.3	112	97	72-125	14	20	
Styrene	ug/L	20	23.5	20.5	117	102	75-125	14	20	
Tetrachloroethene	ug/L	20	22.2	19.5	111	98	71-125	13	20	
Tetrahydrofuran	ug/L	200	230	203	115	102	70-125	13	20	
Toluene	ug/L	20	20.6	18.2	103	91	75-125	13	20	
trans-1,2-Dichloroethene	ug/L	20	22.9	20.6	115	103	73-125	11	20	
trans-1,3-Dichloropropene	ug/L	20	22.5	20.0	113	100	75-125	12	20	
trans-1,4-Dichloro-2-butene	ug/L	50	70.4	60.7	141	121	63-127	15	20	CH,L0
Trichloroethene	ug/L	20	21.4	19.2	107	96	75-125	11	20	
Trichlorofluoromethane	ug/L	20	23.6	22.5	118	112	70-128	5	20	
Vinyl acetate	ug/L	20	25.3	22.2	126	111	59-131	13	20	
Vinyl chloride	ug/L	20	23.0	21.5	115	108	70-130	7	20	
Xylene (Total)	ug/L	60	65.4	57.2	109	95	75-125	13	20	
1,2-Dichloroethane-d4 (S)	%.				106	105	75-125			
4-Bromofluorobenzene (S)	%.				101	103	75-125			
Toluene-d8 (S)	%.				99	98	75-125			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: MT/15294 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10261823003, 10261823004, 10261823005, 10261823013, 10261823014, 10261823015, 10261823019

METHOD BLANK: 1651557 Matrix: Water
Associated Lab Samples: 10261823003, 10261823004, 10261823005, 10261823013, 10261823014, 10261823015, 10261823019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	04/08/14 19:55	
Sulfate	mg/L	<0.50	1.0	04/08/14 19:55	

LABORATORY CONTROL SAMPLE: 1651558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.3	93	90-110	
Sulfate	mg/L	10	10.2	102	90-110	

MATRIX SPIKE SAMPLE: 1651560

Parameter	Units	10261654001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	<1.0	10	9.5	88	90-110	M1
Sulfate	mg/L	<5.0	10	11.0	98	90-110	

MATRIX SPIKE SAMPLE: 1651953

Parameter	Units	10261823013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	23.5	10	33.9	104	90-110	
Sulfate	mg/L	22.2	10	32.4	101	90-110	

SAMPLE DUPLICATE: 1651562

Parameter	Units	10261654002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	<1.0	0.71J		20	
Sulfate	mg/L	<5.0	2.4	.09	20	

SAMPLE DUPLICATE: 1651954

Parameter	Units	10261823015 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	69.7	69.8	.3	20	
Sulfate	mg/L	81.3	81.6	.3	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: MT/15308 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10261823006, 10261823007, 10261823008, 10261823009, 10261823011, 10261823012, 10261823016, 10261823017, 10261823018, 10261823020, 10261823023

METHOD BLANK: 1653145 Matrix: Water
Associated Lab Samples: 10261823006, 10261823007, 10261823008, 10261823009, 10261823011, 10261823012, 10261823016, 10261823017, 10261823018, 10261823020, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	04/09/14 19:00	
Sulfate	mg/L	<0.50	1.0	04/09/14 19:00	

LABORATORY CONTROL SAMPLE: 1653146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.2	92	90-110	
Sulfate	mg/L	10	9.8	98	90-110	

MATRIX SPIKE SAMPLE: 1653159

Parameter	Units	10261823007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.2	10	14.8	95	90-110	
Sulfate	mg/L	6.8	10	16.7	99	90-110	

MATRIX SPIKE SAMPLE: 1653161

Parameter	Units	10261823011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	4.2	10	13.7	95	90-110	
Sulfate	mg/L	13.5	10	23.9	104	90-110	

SAMPLE DUPLICATE: 1653160

Parameter	Units	10261823009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	18.5	18.2	1	20	
Sulfate	mg/L	14.8	14.6	1	20	

SAMPLE DUPLICATE: 1653162

Parameter	Units	10261823016 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	5.2	5.2	.3	20	
Sulfate	mg/L	19.4	19.4	.2	20	

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: WET/34868 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10261823013, 10261823015, 10261823019

METHOD BLANK: 1648305 Matrix: Water
Associated Lab Samples: 10261823013, 10261823015, 10261823019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.5	5.0	04/03/14 12:13	
Alkalinity,Bicarbonate (CaCO3)	mg/L	<2.5	5.0	04/03/14 12:13	

LABORATORY CONTROL SAMPLE & LCSD: 1648306 1648307

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.6	41.5	104	104	90-110	.2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1648308 1648309

Parameter	Units	10261529008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	254	40	40	295	299	103	113	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1648310 1648311

Parameter	Units	10261640006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	208	40	40	253	252	111	108	80-120	.4	30	

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: WET/34908 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10261823003, 10261823004, 10261823005, 10261823006, 10261823007, 10261823008, 10261823009, 10261823011, 10261823012, 10261823014, 10261823016, 10261823017, 10261823018, 10261823020, 10261823023

METHOD BLANK: 1650456 Matrix: Water
Associated Lab Samples: 10261823003, 10261823004, 10261823005, 10261823006, 10261823007, 10261823008, 10261823009, 10261823011, 10261823012, 10261823014, 10261823016, 10261823017, 10261823018, 10261823020, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.5	5.0	04/04/14 09:21	
Alkalinity,Bicarbonate (CaCO3)	mg/L	<2.5	5.0	04/04/14 09:21	

LABORATORY CONTROL SAMPLE & LCSD: 1650457 1650458

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.3	41.0	103	102	90-110	.6	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1650459 1650460

Parameter	Units	10261823003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	498	40	40	553	551	136	133	80-120	.2	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1650461 1650462

Parameter	Units	10261909004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	48.1	40	40	85.4	81.5	93	84	80-120	5	30	

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QUALITY CONTROL DATA

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

QC Batch: WET/35408 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10261823017, 10261823023

METHOD BLANK: 1673483 Matrix: Water
Associated Lab Samples: 10261823017, 10261823023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.5	5.0	05/07/14 07:54	

LABORATORY CONTROL SAMPLE & LCSD: 1673484 1673485

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.2	41.5	103	104	90-110	.7	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1673486 1673487

Parameter	Units	10265329038 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	66.4	40	40	105	107	97	101	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1673488 1673489

Parameter	Units	10265329052 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	56.6	40	40	96.1	97.3	99	102	80-120	1	30	

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.: 10261823

Sample: MW-10 **Lab ID: 10261823008** Collected: 03/27/14 12:00 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-7.23 ± 127 (224) C:NA T:NA**	pCi/L	04/07/14 06:12	10028-17-8	

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.: 10261823

Sample: MW-12 **Lab ID: 10261823009** Collected: 03/27/14 10:25 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-44.5 ± 123 (223) C:NA T:NA**	pCi/L	04/10/14 20:07	10028-17-8	

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.: 10261823

Sample: MW-15 **Lab ID: 10261823011** Collected: 03/27/14 17:45 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**0.000 ± 134 (236) C:NA T:NA**	pCi/L	04/10/14 21:09	10028-17-8	

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.: 10261823

Sample: MW-17 **Lab ID: 10261823013** Collected: 03/25/14 16:48 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-104 ± 123 (228) C:NA T:NA**	pCi/L	04/10/14 22:10	10028-17-8	

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.: 10261823

Sample: MW-19 **Lab ID: 10261823014** Collected: 03/26/14 08:55 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-72.6 ± 115 (211) C:NA T:NA**	pCi/L	04/10/14 23:11	10028-17-8	

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.: 10261823

Sample: MW-20 **Lab ID: 10261823015** Collected: 03/25/14 15:40 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**87.7 ± 127 (213) C:NA T:NA**	pCi/L	04/11/14 00:12	10028-17-8	

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.: 10261823

Sample: MW-21 **Lab ID: 10261823016** Collected: 03/28/14 09:20 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-60.5 ± 120 (218) C:NA T:NA**	pCi/L	04/11/14 01:14	10028-17-8	

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.: 10261823

Sample: MW-22 **Lab ID: 10261823017** Collected: 03/27/14 15:12 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-51.3 ± 128 (231) C:NA T:NA**	pCi/L	04/11/14 02:15	10028-17-8	

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.: 10261823

Sample: MW-23 **Lab ID: 10261823018** Collected: 03/27/14 16:10 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-98.5 ± 126 (233) C:NA T:NA**	pCi/L	04/11/14 03:16	10028-17-8	

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.: 10261823

Sample: MW-24 **Lab ID: 10261823019** Collected: 03/25/14 14:15 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-146 ± 124 (234) C:NA T:NA**	pCi/L	04/11/14 04:18	10028-17-8	

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.: 10261823

Sample: MW-26 **Lab ID: 10261823020** Collected: 03/27/14 14:15 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-54.0 ± 128 (232) C:NA T:NA**	pCi/L	04/11/14 05:19	10028-17-8	

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.: 10261823

Sample: DUP-1 **Lab ID: 10261823023** Collected: 03/27/14 08:00 Received: 03/29/14 12:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**-51.6 ± 129 (232) C:NA T:NA**	pCi/L	04/11/14 06:20	10028-17-8	

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.: 10261823

QC Batch: RADC/19267 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 10261823009, 10261823011, 10261823013, 10261823014, 10261823015, 10261823016, 10261823017, 10261823018, 10261823019, 10261823020, 10261823023

METHOD BLANK: 713117 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Tritium	-47.2 ± 117 (213) C:NA T:NA	pCi/L	04/10/14 19:06	

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.: 10261823

QC Batch: RADC/19195 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 10261823008

METHOD BLANK: 710342 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Tritium	-33.4 ± 134 (239) C:NA T:NA	pCi/L	04/06/14 13:53	

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

BATCH QUALIFIERS

Batch: MSV/26752

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M	Post-analysis pH measurement indicates insufficient VOA sample preservation. Therefore, analysis was conducted outside the recognized method holding time.
2M	Sample had a high amount of sediment. Reported result is the analysis of the supernatant after the sediment was allowed to settle out. Results may be biased.
C0	Result confirmed by second analysis.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

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

QUALIFIERS

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

ANALYTE QUALIFIERS

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
H1	Analysis conducted outside the recognized method holding time.
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.
R1	RPD value was outside control limits.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10261823005	MW-6B	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823008	MW-10	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823009	MW-12	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823011	MW-15	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823013	MW-17	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823014	MW-19	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823015	MW-20	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823016	MW-21	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823017	MW-22	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823018	MW-23	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823019	MW-24	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823020	MW-26	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823023	DUP-1	EPA 3020	MPRP/44951	EPA 6020	ICPM/19561
10261823003	MW-4	EPA 3020	MPRP/45056	EPA 6020	ICPM/19563
10261823004	MW-6	EPA 3020	MPRP/45056	EPA 6020	ICPM/19563
10261823006	MW-8A	EPA 3020	MPRP/45056	EPA 6020	ICPM/19563
10261823007	MW-8C	EPA 3020	MPRP/45056	EPA 6020	ICPM/19563
10261823012	MW-16	EPA 3020	MPRP/45056	EPA 6020	ICPM/19563
10261823001	LF-2	EPA 8260B	MSV/26732		
10261823002	LF-3	EPA 8260B	MSV/26732		
10261823003	MW-4	EPA 8260B	MSV/26732		
10261823006	MW-8A	EPA 8260B	MSV/26732		
10261823008	MW-10	EPA 8260B	MSV/26732		
10261823009	MW-12	EPA 8260B	MSV/26732		
10261823010	MW-13	EPA 8260B	MSV/26732		
10261823011	MW-15	EPA 8260B	MSV/26732		
10261823013	MW-17	EPA 8260B	MSV/26752		
10261823014	MW-19	EPA 8260B	MSV/26732		
10261823015	MW-20	EPA 8260B	MSV/26752		
10261823016	MW-21	EPA 8260B	MSV/26732		
10261823017	MW-22	EPA 8260B	MSV/26732		
10261823018	MW-23	EPA 8260B	MSV/26732		
10261823019	MW-24	EPA 8260B	MSV/26752		
10261823020	MW-26	EPA 8260B	MSV/26732		
10261823021	MCILHATTEN SEEP	EPA 8260B	MSV/26732		
10261823022	TRIP BLANK	EPA 8260B	MSV/26732		
10261823023	DUP-1	EPA 8260B	MSV/26732		
10261823003	MW-4	EPA 300.0	MT/15294		
10261823004	MW-6	EPA 300.0	MT/15294		
10261823005	MW-6B	EPA 300.0	MT/15294		
10261823006	MW-8A	EPA 300.0	MT/15308		
10261823007	MW-8C	EPA 300.0	MT/15308		
10261823008	MW-10	EPA 300.0	MT/15308		
10261823009	MW-12	EPA 300.0	MT/15308		

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: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10261823011	**MW-15**	EPA 300.0	MT/15308		
10261823012	**MW-16**	EPA 300.0	MT/15308		
10261823013	**MW-17**	EPA 300.0	MT/15294		
10261823014	**MW-19**	EPA 300.0	MT/15294		
10261823015	**MW-20**	EPA 300.0	MT/15294		
10261823016	**MW-21**	EPA 300.0	MT/15308		
10261823017	**MW-22**	EPA 300.0	MT/15308		
10261823018	**MW-23**	EPA 300.0	MT/15308		
10261823019	**MW-24**	EPA 300.0	MT/15294		
10261823020	**MW-26**	EPA 300.0	MT/15308		
10261823023	**DUP-1**	EPA 300.0	MT/15308		
10261823008	**MW-10**	EPA 906.0	RADC/19195		
10261823009	**MW-12**	EPA 906.0	RADC/19267		
10261823011	**MW-15**	EPA 906.0	RADC/19267		
10261823013	**MW-17**	EPA 906.0	RADC/19267		
10261823014	**MW-19**	EPA 906.0	RADC/19267		
10261823015	**MW-20**	EPA 906.0	RADC/19267		
10261823016	**MW-21**	EPA 906.0	RADC/19267		
10261823017	**MW-22**	EPA 906.0	RADC/19267		
10261823018	**MW-23**	EPA 906.0	RADC/19267		
10261823019	**MW-24**	EPA 906.0	RADC/19267		
10261823020	**MW-26**	EPA 906.0	RADC/19267		
10261823023	**DUP-1**	EPA 906.0	RADC/19267		
10261823003	**MW-4**	SM 2320B	WET/34908		
10261823004	**MW-6**	SM 2320B	WET/34908		
10261823005	**MW-6B**	SM 2320B	WET/34908		
10261823006	**MW-8A**	SM 2320B	WET/34908		
10261823007	**MW-8C**	SM 2320B	WET/34908		
10261823008	**MW-10**	SM 2320B	WET/34908		
10261823009	**MW-12**	SM 2320B	WET/34908		
10261823011	**MW-15**	SM 2320B	WET/34908		
10261823012	**MW-16**	SM 2320B	WET/34908		
10261823013	**MW-17**	SM 2320B	WET/34868		
10261823014	**MW-19**	SM 2320B	WET/34908		
10261823015	**MW-20**	SM 2320B	WET/34868		
10261823016	**MW-21**	SM 2320B	WET/34908		
10261823017	**MW-22**	SM 2320B	WET/34908		
10261823017	**MW-22**	SM 2320B	WET/35408		
10261823018	**MW-23**	SM 2320B	WET/34908		
10261823019	**MW-24**	SM 2320B	WET/34868		
10261823020	**MW-26**	SM 2320B	WET/34908		

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303A.700 Bozeman LF
Pace Project No.: 10261823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10261823023	**DUP-1**	SM 2320B	WET/34908		
10261823023	**DUP-1**	SM 2320B	WET/35408		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3

1728860

Section A
Required Client Information:
Company: TETRA TECH
Address: 851 BRIDGER Dr. Ste. 6 BOZEMAN MT
Email To: MARK.PEARSON@tetratech.com
Phone: 406 582-8780 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:
Report To:
Copy To:
Purchase Order No.:
Project Name: BOZEMAN LANDFILL
Project Number: 114-710303A.TXD

Section C
Invoice Information:
Attention: Mark Pearson
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Samantha Pope
Pace Profile #:

REGULATORY AGENCY
- NPDES
- ☒ GROUND WATER
- DRINKING WATER
- UST
- RCRA
- OTHER ________

Site Location STATE: MT

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N) → VOCs - See attached for list

See Attached

Collected: Composite Start date year: 2014 (2013 struck out)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	VOC method 8260	Metals Fe Mg	Dissolved metals	Tritium	Cations	Anions	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./Lab I.D. 10261823
1	LF-2			3/27	1255				3				X						X								001
2	LF-3			3/26	1000				3				X						X								002
3	MW-4			3/26	1525				6				X						X				X	X	X		003
4	~~[illegible]~~																										
5	MW-6			3/26	1225				3														X	X	X		004
6	MW-6B			3/26	1210				3														X	X	X		005
7	~~[illegible]~~																										
8	MW-8A			3/27	910				6				X						X				X	X	X		006
9	MW-8C			3/27	920				3														X	X	X		007
10	~~[illegible]~~																										
11	MW-10			3/27	1200				8			X	X						X		X	X	X	X	X		008
12	~~MW~~																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
All samples shipped in 6 coolers	B Dunn [signature]	3/28/14	1400	Fed Ex			0.2			
				[signature] Pace MT	3/29/14	1230	0.4	Y	Y	Y
							0.0			
						0.3, 1.2	0.4			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Brooks Dunntance
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 3/28/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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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.

1728861

Section A Required Client Information:

Company:	TETRA TECH
Address:	851 Borders Dr. Ste. 6 Bozeman, MT 59715
Email To:	mark.pearson@tetratech.com
Phone: 406-582-8780	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	
Project Name:	BOZEMAN LANDFILL
Project Number:	114-710303A.700

Section C Invoice Information:

Attention:	Mark Pearson
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Samantha Pope
Pace Profile #:	

REGULATORY AGENCY: ☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	VOC	Dissolved Metals	Tertiary Cations	Anions	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-12			3/27	1055				8			X	X						X	X	X	X	X	X		009
2	MW-13			3/26	1512				3				X						X							010
3	~~MW-14~~																									
4	MW-15			3/26	1745				8			X	X						X	X	X	X	X	X		011
5	MW-16			3/26	1630				3													X	X	X		012
6	MW-17			3/25	1648				8			X	X						X	X	X	X	X	X		013
7	MW-19			3/26	855				8			X	X						X	X	X	X	X	X		014
8	MW-20			3/25	1540				8			X	X						X	X	X	X	X	X		015
9	MW-21			3/28	920				8			X	X						X	X	X	X	X	X		016
10	MW-22			3/27	1512				8			X	X						X	X	X	X	X	X		017
11	MW-23			3/27	1610				8			X	X						X	X	X	X	X	X		018
12	MW-24			3/25	1415				8			X	X						X	X	X	X	X	X		019

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)
All samples shipped in 6 coolers	B. Quintana	3/29/14	1400	FED EX			0.2			
				Brooks Quintana	3/29/14	1230	0.4	Y	Y	Y
							0.0			
						0.3,1.2	0.4			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brooks Quintana

SIGNATURE of SAMPLER: B. Quintana

DATE Signed (MM/DD/YY): 3/29/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical
www.pacelabs.com

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

Page: 3 of 3

1728862

Section A
Required Client Information:
- Company: Tetra Tech
- Address: 851 Bridger Dr. Ste 6, Bozeman, MT 59715
- Email To: mark.pearson@tetratech.com
- Phone: 406-582-8780
- Fax:
- Requested Due Date/TAT:

Section B
Required Project Information:
- Report To:
- Copy To:
- Purchase Order No.:
- Project Name: Bozeman Landfill
- Project Number: 114-710302A-700

Section C
Invoice Information:
- Attention: Mark Pearson
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Samantha Rupe
- Pace Profile #:

REGULATORY AGENCY
- NPDES
- ✓ GROUND WATER
- DRINKING WATER
- UST
- RCRA
- OTHER

Site Location STATE: MT

Section D
Required Client Information

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

MATRIX CODE (see valid codes to left); SAMPLE TYPE (G=GRAB C=COMP); COLLECTED: COMPOSITE START (DATE, TIME), COMPOSITE END/GRAB (DATE, TIME); 2014

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	Start DATE	Start TIME	End DATE	End TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	VOC	Dissolved Metals	Tritium	Cations	Anions	Alkalinity	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 10261823
1	MW-26			3/27	1415				8			X	X						X	X	X	X	X	X		020
2																										
3	McIlhatten Seep			3/28	1015				3				X						X							021
4	~~Blank~~ TRIP BLANK			2/3					2										X							022
5	DUP-1			3/27	900				8			X	X						X	X	X	X	X	X		023
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
All samples shipped in	B. Quintance	3/28/14	1400	Fed Ex			0.2			
				[signature] Pace	3/29/14	1230	0.4	Y	Y	Y
6 coolers							0.0			
						03.12	0.4			

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Brooks Quintance
- SIGNATURE of SAMPLER: B. Quintance
- DATE Signed (MM/DD/YY): 3/28/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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

Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #: WO# : 10261823

10261823

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

Tracking Number: See SCUR Exception form

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

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

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

Cooler Temp Read: See SCUR Exception form **Date and Initials of Person Examining Contents:** VMT 3/29/14

Cooler Temp Corrected: **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. Full set to are filtered - see below
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: H_2O	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes	☐ No	☐ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☒ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) MVT 3/31/14	☒ Yes	☐ No		Initial when completed: Lot # of added preservative:
Samples checked for dechlorination?	☐ Yes	☐ No	☒ N/A	14.
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Present? lot; 0203143RUF	☒ Yes	☐ No	☐ N/A	16. See SCUR Exception form for which TRB arrived with which cooler.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

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

Person Contacted: (1) Date/Time:

Comments/Resolution: MW4, MW16, MW8A, MW8C & MW16 will need to be filtered & prep at lab.

(2) MW8B rec containers for a full set but only logged in what was on the CoC

(3) MW17 - 1-40ml vial Broken at lab

Project Manager Review: **Date:** 3-31-14

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/#
7983-7492-1766 0.2	MW-22, MW-4, MW-6B	CS, TB, TRB
	MW-20	117712 > Trip Blank container #s 117713
-1685 0.4	MW-12, MW-19, MW-21	CS, TB
-1505 0.0	MW-8A, MW-23, ~~B~~ DUP-1 5/5/14	CS, TB
	MW-13, LF-2, LF-3	
-1891 0.4	MW-26, MW-10, ~~MW-8C~~ 5/5/14	CS, TB,
	MW-22, MW-16	TRB
	McIlmattan Seep	117711 > Trip Blank container #'s 117710
-2063 1.2	MW-17, MW-24,	TB, CS
	MW-21	
-1593 0.3	MW-15, MW-10, MW-6	CS, TB
	MW-6B	
CS - custody sealed, TB - Temp Blank, TRB - Trip Blank		

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

ANALYTICAL RESULTS

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

Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		12/26/13 14:32	67-64-1	
Acrylonitrile	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	107-13-1	
Benzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	71-43-2	
Bromochloromethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:32	74-97-5	
Bromodichloromethane	**<0.18**	ug/L	1.0	0.18	1		12/26/13 14:32	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	78-93-3	
Carbon disulfide	**<0.22**	ug/L	1.0	0.22	1		12/26/13 14:32	75-15-0	
Carbon tetrachloride	**<0.31**	ug/L	1.0	0.31	1		12/26/13 14:32	56-23-5	
Chlorobenzene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	108-90-7	
Chloroethane	**<0.50**	ug/L	1.0	0.50	1		12/26/13 14:32	75-00-3	
Chloroform	**<0.50**	ug/L	0.50	0.50	1		12/26/13 14:32	67-66-3	
Chloromethane	**<0.50**	ug/L	4.0	0.50	1		12/26/13 14:32	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		12/26/13 14:32	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		12/26/13 14:32	96-12-8	
Dibromochloromethane	**<0.25**	ug/L	1.0	0.25	1		12/26/13 14:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.13**	ug/L	0.50	0.13	1		12/26/13 14:32	106-93-4	
Dibromomethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	74-95-3	
1,2-Dichlorobenzene	**<0.092**	ug/L	0.50	0.092	1		12/26/13 14:32	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		12/26/13 14:32	110-57-6	
Dichlorodifluoromethane	**<0.40**	ug/L	1.0	0.40	1		12/26/13 14:32	75-71-8	
1,1-Dichloroethane	**<0.25**	ug/L	0.50	0.25	1		12/26/13 14:32	75-34-3	
1,2-Dichloroethane	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:32	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	0.50	0.24	1		12/26/13 14:32	75-35-4	
cis-1,2-Dichloroethene	**<0.23**	ug/L	0.50	0.23	1		12/26/13 14:32	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/L	0.50	0.21	1		12/26/13 14:32	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/L	4.0	0.20	1		12/26/13 14:32	78-87-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
602 S 25th Street
Billings, MT 59101-4549
(406)254-7226

ANALYTICAL RESULTS

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

Matrix: Water

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

REPORT OF LABORATORY ANALYSIS

List of Analyses
March 2014 Groundwater Monitoring Event
Bozeman Landfill, Bozeman, Montana
Project No. 114-710303A Task 700

Container	Number of Containers	Field Filtered	No Preservative	HNO3 Preservative	HCL Preservative	Analysis
250 ml Poly	1		x			None, Extra sample
250 ml Poly	1		x			Alkalinity
250 ml Poly	1		x			Anions : Cl, SO4,CO3, HCO3
250 ml Poly	1	x		x		Cations: Ca, Mg, Na, K Other: Fe, Mn
1 L Glass	2		x			Tritium
40 ml VOA	3				x	VOC Method 8260 Low Level

Include w/ COC!

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

Shipping (circle):	UPS (Fed Ex)
Tracking #:	6021 2783 1087, 1102
Client:	Tetra Tech
Due Date:	11-Apr-2014
Pace WO:	10261823
Project Manager:	Samantha Rupe

MT to MN Sample Transfer Condition Upon Receipt Form

ANALYSIS REQUESTED

Method Number & Description	Container Type	# of Bottles	Number of Samples	Preservative Yes or No	Verify Arrival Date & Initials
Tests		53 0			
8260 VOC	VG9H	56	19	Yes	RT 4-1-14
Trip Blank	VG9H	2/4	1	Yes	"
Alkalinity	BP3U	18	18	No	"
Dissolved Metals	BP3N	13	13	Yes	"
Lab Filtered Metals	BP3N	10	5	(Yes) No	"

REPORTING REQUIREMENTS/ADDITIONAL COMMENTS

MINNESOTA SAMPLE RECEIPT INFORMATION

IR Gun (circle): 80512447, 80A912167504, 72337080 Correction Factor: -0.3 Sample Matrix: WT

Cooler Temp Read (°C): 1.0 2.9 Cooler Temp Corrected (°C): 0.5 & 2.9 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 #:	
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
[signature]	3/31/14	1600	[signature]	4/1/14	942

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ **Date:** _____

Comments/Resolution: _____

Project Manager Review: [signature] **Date:** 4-1-14

@ KRS 3/31/14

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

May 19, 2014

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

RE: Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Dear Mark Pearson:
Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 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,

Samantha Rupe
samantha.rupe@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
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
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
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
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Pennsylvania Certification IDs
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
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Billings, MT 59101
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SAMPLE SUMMARY

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10265966001	**MW-17**	Water	05/01/14 16:00	05/06/14 10:35
10265966002	**MW-18**	Water	05/02/14 12:30	05/06/14 10:35
10265966003	**MW-19**	Water	05/01/14 13:50	05/06/14 10:35
10265966004	**MW-20**	Water	05/02/14 11:30	05/06/14 10:35
10265966005	**MW-21**	Water	05/01/14 10:30	05/06/14 10:35
10265966006	**MW-22**	Water	05/01/14 13:00	05/06/14 10:35
10265966007	**MW-23**	Water	05/01/14 12:00	05/06/14 10:35
10265966008	**MW-24**	Water	05/02/14 14:00	05/06/14 10:35
10265966009	**MW-25**	Water	05/02/14 15:30	05/06/14 10:35
10265966010	**MW-26**	Water	05/01/14 14:50	05/06/14 10:35
10265966011	**DUP**	Water	05/02/14 11:30	05/06/14 10:35
10265966012	**TRIP BLANK**	Water		05/06/14 10:35

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SAMPLE ANALYTE COUNT

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10265966001	**MW-17**	EPA 8260B	LPM	61	PASI-M
10265966002	**MW-18**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		EPA 906.0	SLA	1	PASI-PA
		SM 2320B	PH1	3	PASI-M
10265966003	**MW-19**	EPA 8260B	LPM	61	PASI-M
10265966004	**MW-20**	EPA 8260B	LPM	61	PASI-M
10265966005	**MW-21**	EPA 8260B	LPM	61	PASI-M
10265966006	**MW-22**	EPA 8260B	LPM	61	PASI-M
10265966007	**MW-23**	EPA 8260B	LPM	61	PASI-M
10265966008	**MW-24**	EPA 8260B	LPM	61	PASI-M
10265966009	**MW-25**	EPA 6020	TT3	6	PASI-M
		EPA 8260B	LPM	61	PASI-M
		EPA 300.0	SKW	2	PASI-MT
		SM 2320B	PH1	3	PASI-M
10265966010	**MW-26**	EPA 8260B	LPM	61	PASI-M
10265966011	**DUP**	EPA 8260B	LPM	61	PASI-M
10265966012	**TRIP BLANK**	EPA 8260B	LPM	61	PASI-M

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PROJECT NARRATIVE

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Tetra Tech, Inc. - MT
Date: May 19, 2014

General Information:
2 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.

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Method: **EPA 8260B**
Description: 8260B MSV Low Level
Client: Tetra Tech, Inc. - MT
Date: May 19, 2014

General Information:
12 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.

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

QC Batch: MSV/27055

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10265834002

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

- MS (Lab ID: 1678319)
  - 1,2-Dibromo-3-chloropropane
- MSD (Lab ID: 1678320)
  - 1,2-Dibromo-3-chloropropane
  - Chloroethane

Additional Comments:

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PROJECT NARRATIVE

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Method: **EPA 300.0**
Description: 300.0 IC Anions
Client: Tetra Tech, Inc. - MT
Date: May 19, 2014

General Information:
2 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.

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 Bozeman Landfill
Pace Project No.: 10265966

Method: **EPA 906.0**
Description: 906.0 Tritium
Client: Tetra Tech, Inc. - MT
Date: May 19, 2014

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:

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Method: **SM 2320B**
Description: 2320B Alkalinity
Client: Tetra Tech, Inc. - MT
Date: May 19, 2014

General Information:
2 samples were analyzed for SM 2320B. 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.

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

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-17 **Lab ID: 10265966001** Collected: 05/01/14 16:00 Received: 05/06/14 10:35 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		05/13/14 07:51	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 07:51	107-13-1	
Benzene	**0.079J**	ug/L	0.50	0.073	1		05/13/14 07:51	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 07:51	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 07:51	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 07:51	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 07:51	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 07:51	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 07:51	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 07:51	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 07:51	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 07:51	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 07:51	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 07:51	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 07:51	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 07:51	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 07:51	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 07:51	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 07:51	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 07:51	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 07:51	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 07:51	110-57-6	
Dichlorodifluoromethane	**2.0**	ug/L	1.0	0.50	1		05/13/14 07:51	75-71-8	
1,1-Dichloroethane	**0.74**	ug/L	0.50	0.077	1		05/13/14 07:51	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 07:51	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 07:51	75-35-4	
cis-1,2-Dichloroethene	**27.6**	ug/L	0.50	0.11	1		05/13/14 07:51	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 07:51	156-60-5	
1,2-Dichloropropane	**0.19J**	ug/L	4.0	0.10	1		05/13/14 07:51	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 07:51	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 07:51	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 07:51	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 07:51	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 07:51	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 07:51	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 07:51	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 07:51	98-82-8	
Methylene Chloride	**5.1**	ug/L	4.0	2.0	1		05/13/14 07:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 07:51	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 07:51	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 07:51	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 07:51	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 07:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 07:51	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 07:51	79-34-5	
Tetrachloroethene	**16.0**	ug/L	0.50	0.099	1		05/13/14 07:51	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-17 **Lab ID: 10265966001** Collected: 05/01/14 16:00 Received: 05/06/14 10:35 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		05/13/14 07:51	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 07:51	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 07:51	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 07:51	79-00-5	
Trichloroethene	**5.8**	ug/L	0.40	0.084	1		05/13/14 07:51	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 07:51	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 07:51	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 07:51	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 07:51	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 07:51	108-05-4	
Vinyl chloride	**2.3**	ug/L	0.20	0.20	1		05/13/14 07:51	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 07:51	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%.	75-125		1		05/13/14 07:51	17060-07-0	
Toluene-d8 (S)	103	%.	75-125		1		05/13/14 07:51	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		05/13/14 07:51	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-18 **Lab ID: 10265966002** Collected: 05/02/14 12:30 Received: 05/06/14 10:35 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								
Calcium, Dissolved	**228000**	ug/L	800	168	20	05/15/14 13:31	05/16/14 10:41	7440-70-2	
Iron, Dissolved	**0.74**	mg/L	0.050	0.0080	1	05/15/14 13:31	05/16/14 10:38	7439-89-6	
Magnesium, Dissolved	**83600**	ug/L	200	56.9	20	05/15/14 13:31	05/16/14 10:41	7439-95-4	
Manganese, Dissolved	**2.6**	mg/L	0.010	0.0027	20	05/15/14 13:31	05/16/14 10:41	7439-96-5	
Potassium, Dissolved	**2950**	ug/L	50.0	8.3	1	05/15/14 13:31	05/16/14 10:38	7440-09-7	
Sodium, Dissolved	**17900**	ug/L	50.0	18.2	1	05/15/14 13:31	05/16/14 10:38	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		05/13/14 11:37	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 11:37	107-13-1	
Benzene	**0.66**	ug/L	0.50	0.073	1		05/13/14 11:37	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 11:37	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:37	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:37	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:37	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:37	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 11:37	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 11:37	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 11:37	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 11:37	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 11:37	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 11:37	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:37	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:37	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 11:37	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 11:37	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 11:37	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 11:37	95-50-1	
1,4-Dichlorobenzene	**0.99**	ug/L	0.50	0.25	1		05/13/14 11:37	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 11:37	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 11:37	75-71-8	
1,1-Dichloroethane	**0.56**	ug/L	0.50	0.077	1		05/13/14 11:37	75-34-3	
1,2-Dichloroethane	**0.16J**	ug/L	0.50	0.093	1		05/13/14 11:37	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 11:37	75-35-4	
cis-1,2-Dichloroethene	**18.5**	ug/L	0.50	0.11	1		05/13/14 11:37	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 11:37	156-60-5	
1,2-Dichloropropane	**0.49J**	ug/L	4.0	0.10	1		05/13/14 11:37	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 11:37	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:37	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 11:37	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 11:37	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 11:37	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:37	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:37	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 11:37	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:37	75-09-2	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-18 **Lab ID: 10265966002** Collected: 05/02/14 12:30 Received: 05/06/14 10:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:37	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 11:37	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 11:37	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 11:37	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 11:37	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 11:37	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 11:37	79-34-5	
Tetrachloroethene	**0.87**	ug/L	0.50	0.099	1		05/13/14 11:37	127-18-4	
Tetrahydrofuran	**9.8J**	ug/L	10.0	0.98	1		05/13/14 11:37	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:37	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 11:37	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 11:37	79-00-5	
Trichloroethene	**0.38J**	ug/L	0.40	0.084	1		05/13/14 11:37	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 11:37	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 11:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 11:37	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 11:37	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 11:37	108-05-4	
Vinyl chloride	**3.3**	ug/L	0.20	0.20	1		05/13/14 11:37	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 11:37	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%.	75-125		1		05/13/14 11:37	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		05/13/14 11:37	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		05/13/14 11:37	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**103**	mg/L	5.0	2.5	5		05/07/14 22:44	16887-00-6	
Sulfate	**3.4**	mg/L	1.0	0.50	1		05/08/14 12:59	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**762**	mg/L	5.0	2.5	1		05/14/14 15:40		
Alkalinity,Bicarbonate (CaCO3)	**762**	mg/L	5.0	2.5	1		05/14/14 15:40		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		05/14/14 15:40		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-19 **Lab ID: 10265966003** Collected: 05/01/14 13:50 Received: 05/06/14 10:35 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		05/13/14 08:16	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 08:16	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 08:16	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 08:16	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:16	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:16	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:16	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:16	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 08:16	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 08:16	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 08:16	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 08:16	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 08:16	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 08:16	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:16	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:16	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 08:16	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 08:16	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 08:16	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 08:16	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 08:16	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 08:16	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 08:16	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 08:16	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 08:16	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 08:16	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:16	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 08:16	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 08:16	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 08:16	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 08:16	123-91-1	
Ethylbenzene	**0.18J**	ug/L	0.50	0.096	1		05/13/14 08:16	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 08:16	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:16	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:16	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 08:16	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:16	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 08:16	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 08:16	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 08:16	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 08:16	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 08:16	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 08:16	79-34-5	
Tetrachloroethene	**0.80**	ug/L	0.50	0.099	1		05/13/14 08:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-19 **Lab ID: 10265966003** Collected: 05/01/14 13:50 Received: 05/06/14 10:35 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		05/13/14 08:16	109-99-9	
Toluene	**0.90**	ug/L	0.50	0.11	1		05/13/14 08:16	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 08:16	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 08:16	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 08:16	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 08:16	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 08:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 08:16	76-13-1	
1,2,4-Trimethylbenzene	**0.27J**	ug/L	0.50	0.25	1		05/13/14 08:16	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 08:16	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 08:16	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 08:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%.	75-125		1		05/13/14 08:16	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		05/13/14 08:16	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1		05/13/14 08:16	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-20 **Lab ID: 10265966004** Collected: 05/02/14 11:30 Received: 05/06/14 10:35 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		05/13/14 10:21	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 10:21	107-13-1	
Benzene	**0.69**	ug/L	0.50	0.073	1		05/13/14 10:21	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 10:21	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:21	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:21	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:21	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:21	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 10:21	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 10:21	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 10:21	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 10:21	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 10:21	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 10:21	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:21	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:21	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 10:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 10:21	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 10:21	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 10:21	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 10:21	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 10:21	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 10:21	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 10:21	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 10:21	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 10:21	75-35-4	
cis-1,2-Dichloroethene	**0.15J**	ug/L	0.50	0.11	1		05/13/14 10:21	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 10:21	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 10:21	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 10:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:21	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 10:21	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 10:21	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 10:21	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:21	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:21	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 10:21	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:21	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 10:21	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 10:21	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 10:21	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 10:21	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 10:21	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 10:21	79-34-5	
Tetrachloroethene	**9.4**	ug/L	0.50	0.099	1		05/13/14 10:21	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-20 **Lab ID: 10265966004** Collected: 05/02/14 11:30 Received: 05/06/14 10:35 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		05/13/14 10:21	109-99-9	
Toluene	**0.22J**	ug/L	0.50	0.11	1		05/13/14 10:21	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 10:21	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 10:21	79-00-5	
Trichloroethene	**0.33J**	ug/L	0.40	0.084	1		05/13/14 10:21	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 10:21	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 10:21	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 10:21	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 10:21	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 10:21	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 10:21	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 10:21	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%.	75-125		1		05/13/14 10:21	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		05/13/14 10:21	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		05/13/14 10:21	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-21 **Lab ID: 10265966005** Collected: 05/01/14 10:30 Received: 05/06/14 10:35 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		05/13/14 08:41	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 08:41	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 08:41	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 08:41	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:41	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:41	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:41	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:41	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 08:41	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 08:41	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 08:41	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 08:41	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 08:41	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 08:41	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:41	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:41	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 08:41	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 08:41	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 08:41	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 08:41	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 08:41	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 08:41	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 08:41	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 08:41	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 08:41	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 08:41	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:41	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 08:41	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 08:41	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 08:41	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:41	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 08:41	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 08:41	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 08:41	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:41	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:41	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 08:41	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 08:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 08:41	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 08:41	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 08:41	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 08:41	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 08:41	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 08:41	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 08:41	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 08:41	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-21 **Lab ID: 10265966005** Collected: 05/01/14 10:30 Received: 05/06/14 10:35 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		05/13/14 08:41	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 08:41	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 08:41	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 08:41	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 08:41	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 08:41	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 08:41	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 08:41	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 08:41	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 08:41	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 08:41	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 08:41	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%.	75-125		1		05/13/14 08:41	17060-07-0	
Toluene-d8 (S)	103	%.	75-125		1		05/13/14 08:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1		05/13/14 08:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-22 **Lab ID: 10265966006** Collected: 05/01/14 13:00 Received: 05/06/14 10:35 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		05/13/14 09:06	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 09:06	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 09:06	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 09:06	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:06	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:06	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:06	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:06	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 09:06	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:06	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 09:06	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:06	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 09:06	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 09:06	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:06	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:06	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 09:06	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 09:06	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 09:06	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 09:06	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 09:06	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:06	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 09:06	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:06	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 09:06	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 09:06	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:06	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 09:06	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 09:06	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 09:06	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:06	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 09:06	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 09:06	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:06	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:06	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:06	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 09:06	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:06	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 09:06	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 09:06	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:06	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 09:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 09:06	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 09:06	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-22 **Lab ID: 10265966006** Collected: 05/01/14 13:00 Received: 05/06/14 10:35 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		05/13/14 09:06	109-99-9	
Toluene	**0.52**	ug/L	0.50	0.11	1		05/13/14 09:06	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 09:06	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:06	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 09:06	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 09:06	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 09:06	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 09:06	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 09:06	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 09:06	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 09:06	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 09:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%.	75-125		1		05/13/14 09:06	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		05/13/14 09:06	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		05/13/14 09:06	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-23 **Lab ID: 10265966007** Collected: 05/01/14 12:00 Received: 05/06/14 10:35 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		05/13/14 09:31	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 09:31	107-13-1	
Benzene	**0.20J**	ug/L	0.50	0.073	1		05/13/14 09:31	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 09:31	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:31	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:31	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:31	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:31	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 09:31	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:31	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 09:31	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:31	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 09:31	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 09:31	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:31	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:31	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 09:31	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 09:31	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 09:31	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 09:31	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 09:31	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:31	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 09:31	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:31	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 09:31	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 09:31	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:31	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 09:31	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 09:31	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 09:31	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:31	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 09:31	123-91-1	
Ethylbenzene	**0.35J**	ug/L	0.50	0.096	1		05/13/14 09:31	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:31	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:31	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:31	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 09:31	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:31	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 09:31	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 09:31	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:31	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 09:31	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:31	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 09:31	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 09:31	127-18-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-23 **Lab ID: 10265966007** Collected: 05/01/14 12:00 Received: 05/06/14 10:35 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		05/13/14 09:31	109-99-9	
Toluene	**0.97**	ug/L	0.50	0.11	1		05/13/14 09:31	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 09:31	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:31	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 09:31	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 09:31	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 09:31	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 09:31	76-13-1	
1,2,4-Trimethylbenzene	**0.39J**	ug/L	0.50	0.25	1		05/13/14 09:31	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 09:31	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 09:31	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 09:31	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%.	75-125		1		05/13/14 09:31	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		05/13/14 09:31	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		05/13/14 09:31	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-24 **Lab ID: 10265966008** Collected: 05/02/14 14:00 Received: 05/06/14 10:35 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		05/13/14 10:46	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 10:46	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 10:46	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 10:46	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:46	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:46	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:46	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:46	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 10:46	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 10:46	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 10:46	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 10:46	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 10:46	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 10:46	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:46	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:46	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 10:46	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 10:46	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 10:46	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 10:46	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 10:46	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 10:46	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 10:46	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 10:46	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 10:46	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 10:46	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:46	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 10:46	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 10:46	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 10:46	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:46	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 10:46	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 10:46	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 10:46	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:46	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:46	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 10:46	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 10:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 10:46	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 10:46	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 10:46	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 10:46	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 10:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 10:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 10:46	79-34-5	
Tetrachloroethene	**0.36J**	ug/L	0.50	0.099	1		05/13/14 10:46	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-24 **Lab ID: 10265966008** Collected: 05/02/14 14:00 Received: 05/06/14 10:35 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		05/13/14 10:46	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 10:46	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 10:46	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 10:46	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 10:46	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 10:46	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 10:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 10:46	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 10:46	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 10:46	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 10:46	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 10:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%.	75-125		1		05/13/14 10:46	17060-07-0	
Toluene-d8 (S)	103	%.	75-125		1		05/13/14 10:46	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1		05/13/14 10:46	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-25 **Lab ID: 10265966009** Collected: 05/02/14 15:30 Received: 05/06/14 10:35 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								
Calcium, Dissolved	**70700**	ug/L	800	168	20	05/15/14 13:31	05/16/14 10:47	7440-70-2	
Iron, Dissolved	**0.013J**	mg/L	0.050	0.0080	1	05/15/14 13:31	05/16/14 10:44	7439-89-6	
Magnesium, Dissolved	**20300**	ug/L	10.0	2.8	1	05/15/14 13:31	05/16/14 10:44	7439-95-4	
Manganese, Dissolved	**0.45**	mg/L	0.010	0.0027	20	05/15/14 13:31	05/16/14 10:47	7439-96-5	
Potassium, Dissolved	**2520**	ug/L	50.0	8.3	1	05/15/14 13:31	05/16/14 10:44	7440-09-7	
Sodium, Dissolved	**18200**	ug/L	50.0	18.2	1	05/15/14 13:31	05/16/14 10:44	7440-23-5	
8260B MSV Low Level	Analytical Method: EPA 8260B								
Acetone	**<10.0**	ug/L	20.0	10.0	1		05/13/14 11:11	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 11:11	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 11:11	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 11:11	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:11	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:11	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:11	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:11	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 11:11	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 11:11	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 11:11	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 11:11	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 11:11	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 11:11	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:11	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:11	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 11:11	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 11:11	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 11:11	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 11:11	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 11:11	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 11:11	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 11:11	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 11:11	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 11:11	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 11:11	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:11	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 11:11	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 11:11	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 11:11	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:11	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 11:11	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 11:11	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 11:11	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:11	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:11	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 11:11	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 11:11	75-09-2	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-25 **Lab ID: 10265966009** Collected: 05/02/14 15:30 Received: 05/06/14 10:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level	Analytical Method: EPA 8260B								
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 11:11	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 11:11	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 11:11	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 11:11	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 11:11	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 11:11	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 11:11	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 11:11	127-18-4	
Tetrahydrofuran	**<0.98**	ug/L	10.0	0.98	1		05/13/14 11:11	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 11:11	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 11:11	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 11:11	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 11:11	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 11:11	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 11:11	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 11:11	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 11:11	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 11:11	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 11:11	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 11:11	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%.	75-125		1		05/13/14 11:11	17060-07-0	
Toluene-d8 (S)	103	%.	75-125		1		05/13/14 11:11	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1		05/13/14 11:11	460-00-4	
300.0 IC Anions	Analytical Method: EPA 300.0								
Chloride	**8.4**	mg/L	1.0	0.50	1		05/08/14 14:02	16887-00-6	
Sulfate	**13.6**	mg/L	1.0	0.50	1		05/08/14 14:02	14808-79-8	
2320B Alkalinity	Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	**258**	mg/L	5.0	2.5	1		05/14/14 16:35		
Alkalinity,Bicarbonate (CaCO3)	**258**	mg/L	5.0	2.5	1		05/14/14 16:35		
Alkalinity,Carbonate (CaCO3)	**<2.5**	mg/L	5.0	2.5	1		05/14/14 16:35		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-26 **Lab ID: 10265966010** Collected: 05/01/14 14:50 Received: 05/06/14 10:35 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		05/13/14 09:56	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 09:56	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 09:56	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 09:56	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:56	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:56	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:56	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:56	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 09:56	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:56	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 09:56	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 09:56	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 09:56	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 09:56	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:56	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:56	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 09:56	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 09:56	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 09:56	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 09:56	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 09:56	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:56	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 09:56	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:56	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 09:56	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 09:56	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:56	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 09:56	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 09:56	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 09:56	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:56	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 09:56	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 09:56	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 09:56	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:56	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:56	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 09:56	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 09:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 09:56	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 09:56	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 09:56	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 09:56	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 09:56	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:56	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 09:56	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 09:56	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-26 **Lab ID: 10265966010** Collected: 05/01/14 14:50 Received: 05/06/14 10:35 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		05/13/14 09:56	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 09:56	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 09:56	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 09:56	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 09:56	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 09:56	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 09:56	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 09:56	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 09:56	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 09:56	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 09:56	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 09:56	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%.	75-125		1		05/13/14 09:56	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		05/13/14 09:56	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1		05/13/14 09:56	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: DUP **Lab ID: 10265966011** Collected: 05/02/14 11:30 Received: 05/06/14 10:35 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		05/13/14 12:02	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 12:02	107-13-1	
Benzene	**0.44J**	ug/L	0.50	0.073	1		05/13/14 12:02	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 12:02	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 12:02	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 12:02	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 12:02	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 12:02	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 12:02	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 12:02	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 12:02	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 12:02	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 12:02	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 12:02	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 12:02	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 12:02	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 12:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 12:02	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 12:02	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 12:02	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 12:02	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 12:02	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 12:02	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 12:02	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 12:02	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 12:02	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 12:02	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 12:02	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 12:02	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 12:02	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 12:02	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 12:02	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 12:02	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 12:02	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 12:02	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 12:02	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 12:02	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 12:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 12:02	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 12:02	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 12:02	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 12:02	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 12:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 12:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 12:02	79-34-5	
Tetrachloroethene	**9.4**	ug/L	0.50	0.099	1		05/13/14 12:02	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: DUP **Lab ID: 10265966011** Collected: 05/02/14 11:30 Received: 05/06/14 10:35 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		05/13/14 12:02	109-99-9	
Toluene	**0.15J**	ug/L	0.50	0.11	1		05/13/14 12:02	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 12:02	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 12:02	79-00-5	
Trichloroethene	**0.22J**	ug/L	0.40	0.084	1		05/13/14 12:02	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 12:02	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 12:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 12:02	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 12:02	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 12:02	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 12:02	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 12:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%.	75-125		1		05/13/14 12:02	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		05/13/14 12:02	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		05/13/14 12:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: TRIP BLANK **Lab ID: 10265966012** Collected: Received: 05/06/14 10:35 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		05/13/14 04:33	67-64-1	
Acrylonitrile	**<1.0**	ug/L	10.0	1.0	1		05/13/14 04:33	107-13-1	
Benzene	**<0.073**	ug/L	0.50	0.073	1		05/13/14 04:33	71-43-2	
Bromochloromethane	**<0.15**	ug/L	1.0	0.15	1		05/13/14 04:33	74-97-5	
Bromodichloromethane	**<0.11**	ug/L	0.50	0.11	1		05/13/14 04:33	75-27-4	
Bromoform	**<2.0**	ug/L	4.0	2.0	1		05/13/14 04:33	75-25-2	
Bromomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 04:33	74-83-9	
2-Butanone (MEK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 04:33	78-93-3	
Carbon disulfide	**<0.12**	ug/L	1.0	0.12	1		05/13/14 04:33	75-15-0	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		05/13/14 04:33	56-23-5	
Chlorobenzene	**<0.066**	ug/L	0.50	0.066	1		05/13/14 04:33	108-90-7	
Chloroethane	**<0.17**	ug/L	1.0	0.17	1		05/13/14 04:33	75-00-3	
Chloroform	**<0.20**	ug/L	0.50	0.20	1		05/13/14 04:33	67-66-3	
Chloromethane	**<0.34**	ug/L	4.0	0.34	1		05/13/14 04:33	74-87-3	
Cyclohexane	**<2.5**	ug/L	5.0	2.5	1		05/13/14 04:33	110-82-7	
1,2-Dibromo-3-chloropropane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 04:33	96-12-8	
Dibromochloromethane	**<0.086**	ug/L	0.50	0.086	1		05/13/14 04:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.097**	ug/L	0.50	0.097	1		05/13/14 04:33	106-93-4	
Dibromomethane	**<0.18**	ug/L	0.50	0.18	1		05/13/14 04:33	74-95-3	
1,2-Dichlorobenzene	**<0.082**	ug/L	0.50	0.082	1		05/13/14 04:33	95-50-1	
1,4-Dichlorobenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 04:33	106-46-7	
trans-1,4-Dichloro-2-butene	**<5.0**	ug/L	10.0	5.0	1		05/13/14 04:33	110-57-6	
Dichlorodifluoromethane	**<0.50**	ug/L	1.0	0.50	1		05/13/14 04:33	75-71-8	
1,1-Dichloroethane	**<0.077**	ug/L	0.50	0.077	1		05/13/14 04:33	75-34-3	
1,2-Dichloroethane	**<0.093**	ug/L	0.50	0.093	1		05/13/14 04:33	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/L	0.50	0.13	1		05/13/14 04:33	75-35-4	
cis-1,2-Dichloroethene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 04:33	156-59-2	
trans-1,2-Dichloroethene	**<0.15**	ug/L	0.50	0.15	1		05/13/14 04:33	156-60-5	
1,2-Dichloropropane	**<0.10**	ug/L	4.0	0.10	1		05/13/14 04:33	78-87-5	
cis-1,3-Dichloropropene	**<0.088**	ug/L	0.50	0.088	1		05/13/14 04:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 04:33	10061-02-6	
1,4-Dioxane (p-Dioxane)	**<28.7**	ug/L	200	28.7	1		05/13/14 04:33	123-91-1	
Ethylbenzene	**<0.096**	ug/L	0.50	0.096	1		05/13/14 04:33	100-41-4	
n-Hexane	**<5.0**	ug/L	10.0	5.0	1		05/13/14 04:33	110-54-3	
2-Hexanone	**<2.5**	ug/L	5.0	2.5	1		05/13/14 04:33	591-78-6	
Iodomethane	**<2.0**	ug/L	4.0	2.0	1		05/13/14 04:33	74-88-4	
Isopropylbenzene (Cumene)	**<0.068**	ug/L	0.50	0.068	1		05/13/14 04:33	98-82-8	
Methylene Chloride	**<2.0**	ug/L	4.0	2.0	1		05/13/14 04:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<2.5**	ug/L	5.0	2.5	1		05/13/14 04:33	108-10-1	
Methyl-tert-butyl ether	**<0.078**	ug/L	0.50	0.078	1		05/13/14 04:33	1634-04-4	
2-Propanol	**<50.0**	ug/L	100	50.0	1		05/13/14 04:33	67-63-0	
n-Propylbenzene	**<0.077**	ug/L	0.50	0.077	1		05/13/14 04:33	103-65-1	
Styrene	**<0.064**	ug/L	0.50	0.064	1		05/13/14 04:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 04:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.075**	ug/L	0.50	0.075	1		05/13/14 04:33	79-34-5	
Tetrachloroethene	**<0.099**	ug/L	0.50	0.099	1		05/13/14 04:33	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 Bozeman Landfill
Pace Project No.: 10265966

Sample: TRIP BLANK **Lab ID: 10265966012** Collected: Received: 05/06/14 10:35 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		05/13/14 04:33	109-99-9	
Toluene	**<0.11**	ug/L	0.50	0.11	1		05/13/14 04:33	108-88-3	
1,1,1-Trichloroethane	**<0.17**	ug/L	0.50	0.17	1		05/13/14 04:33	71-55-6	
1,1,2-Trichloroethane	**<0.10**	ug/L	0.50	0.10	1		05/13/14 04:33	79-00-5	
Trichloroethene	**<0.084**	ug/L	0.40	0.084	1		05/13/14 04:33	79-01-6	
Trichlorofluoromethane	**<0.12**	ug/L	0.50	0.12	1		05/13/14 04:33	75-69-4	
1,2,3-Trichloropropane	**<1.2**	ug/L	4.0	1.2	1		05/13/14 04:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<0.16**	ug/L	1.0	0.16	1		05/13/14 04:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.25**	ug/L	0.50	0.25	1		05/13/14 04:33	95-63-6	
Vinyl acetate	**<0.13**	ug/L	10.0	0.13	1		05/13/14 04:33	108-05-4	
Vinyl chloride	**<0.20**	ug/L	0.20	0.20	1		05/13/14 04:33	75-01-4	
Xylene (Total)	**<0.20**	ug/L	1.5	0.20	1		05/13/14 04:33	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%.	75-125		1		05/13/14 04:33	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		05/13/14 04:33	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		05/13/14 04:33	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 Bozeman Landfill
Pace Project No.: 10265966

QC Batch: MPRP/45933
QC Batch Method: EPA 3020
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10265966002, 10265966009

METHOD BLANK: 1681904 Matrix: Water
Associated Lab Samples: 10265966002, 10265966009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Calcium, Dissolved	ug/L	<8.4	40.0	05/16/14 10:00	
Iron, Dissolved	mg/L	<0.0080	0.050	05/16/14 10:00	
Magnesium, Dissolved	ug/L	<2.8	10.0	05/16/14 10:00	
Manganese, Dissolved	mg/L	<0.00014	0.00050	05/16/14 10:00	
Potassium, Dissolved	ug/L	<8.3	50.0	05/16/14 10:00	
Sodium, Dissolved	ug/L	<18.2	50.0	05/16/14 10:00	

LABORATORY CONTROL SAMPLE: 1681905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	ug/L	1000	1040	104	80-120	
Iron, Dissolved	mg/L	1	1.1	106	80-120	
Magnesium, Dissolved	ug/L	1000	1060	106	80-120	
Manganese, Dissolved	mg/L	.08	0.079	99	80-120	
Potassium, Dissolved	ug/L	1000	1010	101	80-120	
Sodium, Dissolved	ug/L	1000	1110	111	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1681906 1681907

Parameter	Units	10265918021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved	ug/L	0.20 mg/L	1000	1000	1260	1160	106	95	75-125	9	20	
Iron, Dissolved	mg/L	ND	1	1	1.1	1.1	111	114	75-125	2	20	
Magnesium, Dissolved	ug/L	0.033 mg/L	1000	1000	1130	1090	110	106	75-125	3	20	
Manganese, Dissolved	mg/L	0.97 ug/L	.08	.08	0.083	0.081	102	99	75-125	3	20	
Potassium, Dissolved	ug/L	ND	1000	1000	1070	1020	105	99	75-125	5	20	
Sodium, Dissolved	ug/L	0.12 mg/L	1000	1000	1180	1130	106	102	75-125	4	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

QC Batch: MSV/27055 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10265966001, 10265966002, 10265966003, 10265966004, 10265966005, 10265966006, 10265966007, 10265966008, 10265966009, 10265966010, 10265966011, 10265966012

METHOD BLANK: 1678317 Matrix: Water
Associated Lab Samples: 10265966001, 10265966002, 10265966003, 10265966004, 10265966005, 10265966006, 10265966007, 10265966008, 10265966009, 10265966010, 10265966011, 10265966012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.10	0.50	05/13/14 03:43	
1,1,1-Trichloroethane	ug/L	<0.17	0.50	05/13/14 03:43	
1,1,2,2-Tetrachloroethane	ug/L	<0.075	0.50	05/13/14 03:43	
1,1,2-Trichloroethane	ug/L	<0.10	0.50	05/13/14 03:43	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.16	1.0	05/13/14 03:43	
1,1-Dichloroethane	ug/L	<0.077	0.50	05/13/14 03:43	
1,1-Dichloroethene	ug/L	<0.13	0.50	05/13/14 03:43	
1,2,3-Trichloropropane	ug/L	<1.2	4.0	05/13/14 03:43	
1,2,4-Trimethylbenzene	ug/L	<0.25	0.50	05/13/14 03:43	
1,2-Dibromo-3-chloropropane	ug/L	<2.0	4.0	05/13/14 03:43	
1,2-Dibromoethane (EDB)	ug/L	<0.097	0.50	05/13/14 03:43	
1,2-Dichlorobenzene	ug/L	<0.082	0.50	05/13/14 03:43	
1,2-Dichloroethane	ug/L	<0.093	0.50	05/13/14 03:43	
1,2-Dichloropropane	ug/L	<0.10	4.0	05/13/14 03:43	
1,4-Dichlorobenzene	ug/L	<0.25	0.50	05/13/14 03:43	
1,4-Dioxane (p-Dioxane)	ug/L	<28.7	200	05/13/14 03:43	
2-Butanone (MEK)	ug/L	<2.5	5.0	05/13/14 03:43	
2-Hexanone	ug/L	<2.5	5.0	05/13/14 03:43	
2-Propanol	ug/L	<50.0	100	05/13/14 03:43	
4-Methyl-2-pentanone (MIBK)	ug/L	<2.5	5.0	05/13/14 03:43	
Acetone	ug/L	<10.0	20.0	05/13/14 03:43	
Acrylonitrile	ug/L	<1.0	10.0	05/13/14 03:43	
Benzene	ug/L	<0.073	0.50	05/13/14 03:43	
Bromochloromethane	ug/L	<0.15	1.0	05/13/14 03:43	
Bromodichloromethane	ug/L	<0.11	0.50	05/13/14 03:43	
Bromoform	ug/L	<2.0	4.0	05/13/14 03:43	
Bromomethane	ug/L	<2.0	4.0	05/13/14 03:43	
Carbon disulfide	ug/L	<0.12	1.0	05/13/14 03:43	
Carbon tetrachloride	ug/L	<0.17	1.0	05/13/14 03:43	
Chlorobenzene	ug/L	<0.066	0.50	05/13/14 03:43	
Chloroethane	ug/L	<0.17	1.0	05/13/14 03:43	
Chloroform	ug/L	<0.20	0.50	05/13/14 03:43	
Chloromethane	ug/L	<0.34	4.0	05/13/14 03:43	
cis-1,2-Dichloroethene	ug/L	<0.11	0.50	05/13/14 03:43	
cis-1,3-Dichloropropene	ug/L	<0.088	0.50	05/13/14 03:43	
Cyclohexane	ug/L	<2.5	5.0	05/13/14 03:43	
Dibromochloromethane	ug/L	<0.086	0.50	05/13/14 03:43	
Dibromomethane	ug/L	<0.18	0.50	05/13/14 03:43	
Dichlorodifluoromethane	ug/L	<0.50	1.0	05/13/14 03:43	
Ethylbenzene	ug/L	<0.096	0.50	05/13/14 03:43	
Iodomethane	ug/L	<2.0	4.0	05/13/14 03:43	

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

METHOD BLANK: 1678317 Matrix: Water

Associated Lab Samples: 10265966001, 10265966002, 10265966003, 10265966004, 10265966005, 10265966006, 10265966007, 10265966008, 10265966009, 10265966010, 10265966011, 10265966012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.068	0.50	05/13/14 03:43	
Methyl-tert-butyl ether	ug/L	<0.078	0.50	05/13/14 03:43	
Methylene Chloride	ug/L	<2.0	4.0	05/13/14 03:43	
n-Hexane	ug/L	<5.0	10.0	05/13/14 03:43	
n-Propylbenzene	ug/L	<0.077	0.50	05/13/14 03:43	
Styrene	ug/L	<0.064	0.50	05/13/14 03:43	
Tetrachloroethene	ug/L	<0.099	0.50	05/13/14 03:43	
Tetrahydrofuran	ug/L	<0.98	10.0	05/13/14 03:43	
Toluene	ug/L	<0.11	0.50	05/13/14 03:43	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	05/13/14 03:43	
trans-1,3-Dichloropropene	ug/L	<0.11	0.50	05/13/14 03:43	
trans-1,4-Dichloro-2-butene	ug/L	<5.0	10.0	05/13/14 03:43	
Trichloroethene	ug/L	<0.084	0.40	05/13/14 03:43	
Trichlorofluoromethane	ug/L	<0.12	0.50	05/13/14 03:43	
Vinyl acetate	ug/L	<0.13	10.0	05/13/14 03:43	
Vinyl chloride	ug/L	<0.20	0.20	05/13/14 03:43	
Xylene (Total)	ug/L	<0.20	1.5	05/13/14 03:43	
1,2-Dichloroethane-d4 (S)	%.	111	75-125	05/13/14 03:43	
4-Bromofluorobenzene (S)	%.	104	75-125	05/13/14 03:43	
Toluene-d8 (S)	%.	104	75-125	05/13/14 03:43	

LABORATORY CONTROL SAMPLE: 1678318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.4	97	75-125	
1,1,1-Trichloroethane	ug/L	20	19.0	95	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	15.9	80	74-125	
1,1,2-Trichloroethane	ug/L	20	17.4	87	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.4	87	56-133	
1,1-Dichloroethane	ug/L	20	17.2	86	75-125	
1,1-Dichloroethene	ug/L	20	16.8	84	70-125	
1,2,3-Trichloropropane	ug/L	20	16.4	82	75-125	
1,2,4-Trimethylbenzene	ug/L	20	16.3	82	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	70-125	
1,2-Dibromoethane (EDB)	ug/L	20	18.1	90	75-125	
1,2-Dichlorobenzene	ug/L	20	15.8	79	75-125	
1,2-Dichloroethane	ug/L	20	19.0	95	75-125	
1,2-Dichloropropane	ug/L	20	18.3	92	75-125	
1,4-Dichlorobenzene	ug/L	20	15.5	78	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	368	92	73-128	
2-Butanone (MEK)	ug/L	100	87.1	87	64-126	
2-Hexanone	ug/L	100	82.5	83	69-127	
2-Propanol	ug/L	200	152	76	57-132	
4-Methyl-2-pentanone (MIBK)	ug/L	100	81.2	81	71-125	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

LABORATORY CONTROL SAMPLE: 1678318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	84.3	84	66-131	
Acrylonitrile	ug/L	200	164	82	68-127	
Benzene	ug/L	20	18.0	90	75-125	
Bromochloromethane	ug/L	20	17.3	87	75-125	
Bromodichloromethane	ug/L	20	20.0	100	75-125	
Bromoform	ug/L	20	19.2	96	70-125	
Bromomethane	ug/L	20	20.3	101	30-150	
Carbon disulfide	ug/L	20	14.5	73	60-125	
Carbon tetrachloride	ug/L	20	18.1	91	68-129	
Chlorobenzene	ug/L	20	16.5	82	75-125	
Chloroethane	ug/L	20	23.4	117	68-133	
Chloroform	ug/L	20	19.1	95	75-125	
Chloromethane	ug/L	20	19.6	98	57-140	
cis-1,2-Dichloroethene	ug/L	20	16.7	84	75-125	
cis-1,3-Dichloropropene	ug/L	20	15.7	79	75-125	
Cyclohexane	ug/L	100	76.8	77	57-127	
Dibromochloromethane	ug/L	20	18.5	92	75-125	
Dibromomethane	ug/L	20	18.4	92	75-125	
Dichlorodifluoromethane	ug/L	20	21.4	107	50-134	
Ethylbenzene	ug/L	20	16.5	83	75-125	
Iodomethane	ug/L	20	19.5	98	30-150	
Isopropylbenzene (Cumene)	ug/L	20	17.3	87	73-125	
Methyl-tert-butyl ether	ug/L	20	17.3	87	75-125	
Methylene Chloride	ug/L	20	18.7	93	75-125	
n-Hexane	ug/L	50	34.5	69	30-150	
n-Propylbenzene	ug/L	20	16.4	82	72-125	
Styrene	ug/L	20	17.4	87	75-125	
Tetrachloroethene	ug/L	20	16.4	82	71-125	
Tetrahydrofuran	ug/L	200	164	82	70-125	
Toluene	ug/L	20	16.9	84	75-125	
trans-1,2-Dichloroethene	ug/L	20	15.9	79	73-125	
trans-1,3-Dichloropropene	ug/L	20	18.5	92	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	41.6	83	63-127	
Trichloroethene	ug/L	20	16.2	81	75-125	
Trichlorofluoromethane	ug/L	20	19.0	95	70-128	
Vinyl acetate	ug/L	20	19.3	96	59-131	
Vinyl chloride	ug/L	20	20.0	100	70-130	
Xylene (Total)	ug/L	60	49.8	83	75-125	
1,2-Dichloroethane-d4 (S)	%.			105	75-125	
4-Bromofluorobenzene (S)	%.			98	75-125	
Toluene-d8 (S)	%.			99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1678319 1678320

Parameter	Units	10265834002 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	20	20	20.5	20.8	102	104	74-131	2	30	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1678319 1678320

Parameter	Units	10265834002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	21.8	21.3	109	107	73-139	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.3	20.3	101	102	72-125	.3	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.1	19.7	100	99	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	22.4	21.7	112	108	68-150	3	30	
1,1-Dichloroethane	ug/L	ND	20	20	19.7	19.8	99	99	73-132	.1	30	
1,1-Dichloroethene	ug/L	ND	20	20	18.5	19.3	93	97	71-142	4	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.7	20.8	104	104	74-125	.4	30	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	19.6	20.1	96	98	72-136	2	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	69.6	69.8	139	140	66-127	.3	30	M1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	19.7	19.7	99	99	75-125	.04	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.1	16.7	86	83	75-125	3	30	
1,2-Dichloroethane	ug/L	ND	20	20	21.5	21.6	107	108	68-128	.5	30	
1,2-Dichloropropane	ug/L	ND	20	20	20.7	21.0	104	105	74-131	1	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	16.8	15.8	84	79	73-125	6	30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	400	366	100	91	64-137	9	30	
2-Butanone (MEK)	ug/L	ND	100	100	111	115	111	115	56-140	3	30	
2-Hexanone	ug/L	ND	100	100	119	122	119	122	63-132	3	30	
2-Propanol	ug/L	ND	200	200	177	220	88	110	30-150	22	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	110	112	110	112	69-128	2	30	
Acetone	ug/L	ND	100	100	106	104	101	100	57-143	1	30	
Acrylonitrile	ug/L	ND	200	200	203	209	102	105	50-149	3	30	
Benzene	ug/L	ND	20	20	20.0	20.2	100	101	75-129	1	30	
Bromochloromethane	ug/L	ND	20	20	18.2	18.2	91	91	75-126	.09	30	
Bromodichloromethane	ug/L	ND	20	20	23.3	23.3	116	116	75-128	.1	30	
Bromoform	ug/L	ND	20	20	22.0	22.4	110	112	66-130	2	30	
Bromomethane	ug/L	ND	20	20	22.5	25.4	112	127	30-150	12	30	
Carbon disulfide	ug/L	ND	20	20	16.7	16.9	83	85	56-140	2	30	
Carbon tetrachloride	ug/L	ND	20	20	22.3	21.3	111	106	69-148	5	30	
Chlorobenzene	ug/L	ND	20	20	18.0	18.1	90	90	75-125	.3	30	
Chloroethane	ug/L	ND	20	20	24.7	29.2	123	145	71-143	17	30	M1
Chloroform	ug/L	ND	20	20	20.9	22.0	105	110	75-126	5	30	
Chloromethane	ug/L	ND	20	20	22.4	21.7	112	109	55-150	3	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.7	20.4	93	102	75-130	9	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.5	17.3	87	87	72-129	1	30	
Cyclohexane	ug/L	ND	100	100	90.5	87.0	90	87	56-150	4	30	
Dibromochloromethane	ug/L	ND	20	20	20.9	21.2	104	106	73-129	2	30	
Dibromomethane	ug/L	ND	20	20	21.9	20.9	109	105	75-125	5	30	
Dichlorodifluoromethane	ug/L	ND	20	20	26.1	24.4	130	122	70-150	7	30	
Ethylbenzene	ug/L	ND	20	20	19.0	19.5	95	98	75-128	3	30	
Iodomethane	ug/L	ND	20	20	16.8	18.8	84	94	30-150	11	30	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	19.2	18.6	94	91	75-131	4	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	19.6	19.4	98	97	74-128	.7	30	
Methylene Chloride	ug/L	ND	20	20	19.5	18.7	97	93	69-125	4	30	
n-Hexane	ug/L	ND	50	50	30.4	28.4	61	57	30-150	7	30	
n-Propylbenzene	ug/L	ND	20	20	17.4	16.4	85	81	72-131	6	30	
Styrene	ug/L	ND	20	20	16.6	16.2	83	81	75-128	2	30	
Tetrachloroethene	ug/L	ND	20	20	17.0	16.3	85	81	68-140	5	30	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1678319 1678320

Parameter	Units	10265834002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Tetrahydrofuran	ug/L	ND	200	200	186	181	93	90	65-131	3	30	
Toluene	ug/L	ND	20	20	18.5	18.7	91	92	75-129	1	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	17.9	19.0	89	95	70-136	6	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.0	20.1	100	100	71-125	.2	30	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	55.8	53.9	112	108	57-136	3	30	
Trichloroethene	ug/L	ND	20	20	17.4	17.7	87	89	72-135	2	30	
Trichlorofluoromethane	ug/L	ND	20	20	25.5	23.1	127	116	75-150	10	30	
Vinyl acetate	ug/L	ND	20	20	24.9	25.4	124	127	55-132	2	30	
Vinyl chloride	ug/L	ND	20	20	22.6	22.0	113	110	73-150	3	30	
Xylene (Total)	ug/L	ND	60	60	60.7	59.9	101	100	75-129	1	30	
1,2-Dichloroethane-d4 (S)	%.						106	106	75-125			
4-Bromofluorobenzene (S)	%.						100	101	75-125			
Toluene-d8 (S)	%.						97	98	75-125			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

QC Batch: MT/15514
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10265966002, 10265966009

METHOD BLANK: 1674117 Matrix: Water
Associated Lab Samples: 10265966002, 10265966009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	1.0	05/07/14 18:32	
Sulfate	mg/L	<0.50	1.0	05/07/14 18:32	

LABORATORY CONTROL SAMPLE: 1674118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Sulfate	mg/L	10	10.8	108	90-110	

MATRIX SPIKE SAMPLE: 1674119

Parameter	Units	10265585003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	11000 ug/L	10	21.9	109	90-110	
Sulfate	mg/L	531000 ug/L	500	1020	98	90-110	

SAMPLE DUPLICATE: 1674120

Parameter	Units	10265966002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	103	102	.9	20	
Sulfate	mg/L	3.4	3.3	3	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

QC Batch: WET/35567 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10265966002, 10265966009

METHOD BLANK: 1679891 Matrix: Water
Associated Lab Samples: 10265966002, 10265966009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<2.5	5.0	05/14/14 11:14	
Alkalinity,Bicarbonate (CaCO3)	mg/L	<2.5	5.0	05/14/14 11:14	
Alkalinity,Carbonate (CaCO3)	mg/L	<2.5	5.0	05/14/14 11:14	

LABORATORY CONTROL SAMPLE & LCSD: 1679892 1679893

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	41.2	41.6	103	104	90-110	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1679894 1679895

Parameter	Units	10266008002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	148	40	40	184	184	92	92	80-120	.04	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1679896 1679897

Parameter	Units	10266036001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	40.4	40	40	79.8	79.8	99	99	80-120	.06	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1679898 1679899

Parameter	Units	10266036003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	16.4	40	40	57.6	57.6	103	103	80-120	.07	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1679900 1679901

Parameter	Units	10266036009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	21.7	40	40	61.0	61.2	98	99	80-120	.2	30	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Billings, MT 59101
(406)254-7226

ANALYTICAL RESULTS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Sample: MW-18 **Lab ID: 10265966002** Collected: 05/02/14 12:30 Received: 05/06/14 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Tritium	EPA 906.0	**23.6 ± 130 (228)** **C:NA T:NA**	pCi/L	05/16/14 07:38	10028-17-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

QC Batch: RADC/19800 Analysis Method: EPA 906.0
QC Batch Method: EPA 906.0 Analysis Description: 906.0 Tritium
Associated Lab Samples: 10265966002

METHOD BLANK: 730234 Matrix: Water
Associated Lab Samples:

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Tritium	63.6 ± 120 (204) C:NA T:NA	pCi/L	05/15/14 23:29	

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

ANALYTE QUALIFIERS

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710303A Bozeman Landfill
Pace Project No.: 10265966

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10265966002	**MW-18**	EPA 3020	MPRP/45933	EPA 6020	ICPM/20009
10265966009	**MW-25**	EPA 3020	MPRP/45933	EPA 6020	ICPM/20009
10265966001	**MW-17**	EPA 8260B	MSV/27055		
10265966002	**MW-18**	EPA 8260B	MSV/27055		
10265966003	**MW-19**	EPA 8260B	MSV/27055		
10265966004	**MW-20**	EPA 8260B	MSV/27055		
10265966005	**MW-21**	EPA 8260B	MSV/27055		
10265966006	**MW-22**	EPA 8260B	MSV/27055		
10265966007	**MW-23**	EPA 8260B	MSV/27055		
10265966008	**MW-24**	EPA 8260B	MSV/27055		
10265966009	**MW-25**	EPA 8260B	MSV/27055		
10265966010	**MW-26**	EPA 8260B	MSV/27055		
10265966011	**DUP**	EPA 8260B	MSV/27055		
10265966012	**TRIP BLANK**	EPA 8260B	MSV/27055		
10265966002	**MW-18**	EPA 300.0	MT/15514		
10265966009	**MW-25**	EPA 300.0	MT/15514		
10265966002	**MW-18**	EPA 906.0	RADC/19800		
10265966002	**MW-18**	SM 2320B	WET/35567		
10265966009	**MW-25**	SM 2320B	WET/35567		

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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

1728863

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TetraTech	Report To:	Attention: Deb Lloyd
Address: 321 Bridger Dr., Ste 6	Copy To:	Company Name:
		Address:
Email To: mark.pearson@tetratech.com	Purchase Order No.:	Pace Quote Reference:
Phone: 582-8780 Fax:	Project Name: Bozeman Landfill	Pace Project Manager: Samantha Rupp
Requested Due Date/TAT:	Project Number: 114-7103032	Pace Profile #:

REGULATORY AGENCY

NPDES ✓ GROUND WATER DRINKING WATER

UST RCRA OTHER

Site Location STATE: MT

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: 8260 (VOCs)	Fe & Mn	Cations	Anions	Alk	Chloride, Sulfate	Tritium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 10265966
1	MW-17			5/1	1600				3									✓	✓								001
2	18			5/2	1230				8									✓	✓	✓	✓	✓	✓	✓			002
3	19			5/1	1350				3									✓	✓								003
4	20			5/2	1130				1									✓	✓								004
5	21			5/1	1030													✓	✓								005
6	22			5/1	1300													✓	✓								006
7	23			5/1	1200													✓	✓								007
8	24			5/2	1400				↓									✓	✓								008
9	25			5/2	1530				6									✓	✓	✓	✓	✓	✓				009
10	26			5/1	1450				3									✓	✓								010
11	DUP			5/2	1130				3									✓	✓								011
12	Trip Blank			3/17	—				2									✓	✓								012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1 cooler shipped overnight to Pace in Billings, MT	Mark Pearson / TetraTech Fed Ex	5/5/14	1500	Malcolm - Pace	5/6/14	1035	

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark Pearson

SIGNATURE of SAMPLER: Mark Pearson DATE Signed (MM/DD/YY): 5/5/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MT-C-184-rev.03	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt

Client Name: TT-Boz

Project #: WO#: 10265966

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

Tracking Number: 6021 2783 4373

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

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

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

Cooler Temp Read: 0.2 **Date and Initials of Person Examining Contents:** MW 5/6/14

Cooler Temp Corrected: 0.2 **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. ☐ HNO_3 ☐ 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: MA Lot # of added preservative: MA
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present? SK 5-6-14	☑ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): LT031214-36uP				

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: CL **Date:** 5-6-14

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: MN Sample Transfer Form	Revised Date: 01May2014
	Document Number: F-MT-C-179-rev.06	Page: 1 of 1
		Issuing Authority: Pace Minnesota Quality Office

Shipping (circle):	UPS Fed Ex
Tracking #:	1,021 2783 5152
Client:	Tetra Tech
Due Date:	19-May-2014
Pace WO:	10265966
Project Manager:	Samantha Rupe

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 VOC's	VG9H	33	001-011	Yes	
Trip Blank	VG9H	2	012	Yes	
Dissolved Metals	BP3N	2	002 and 009	Yes	
Alkalinity	BP3U	2	002 and 009	No	

REPORTING REQUIREMENTS/ADDITIONAL COMMENTS

MINNESOTA SAMPLE RECEIPT INFORMATION

IR Gun (circle): 80512447, B88A912167504, 72337080 Correction Factor: +0.2		Sample Matrix:	WT
Cooler Temp Read (°C): 0.9	Cooler Temp Corrected (°C): 1.1	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 #:	Not visible
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
[signature] Pace	5/6/14	1600	[signature] Pace	5-7-14	920

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ **Date:** _____

Comments/Resolution: _____

Project Manager Review: [signature] **Date:** 5-7-14